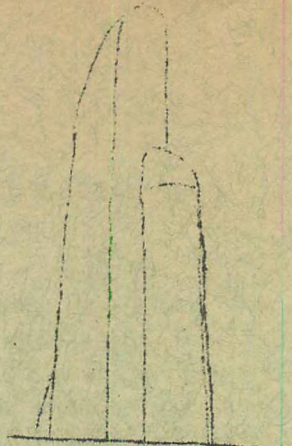
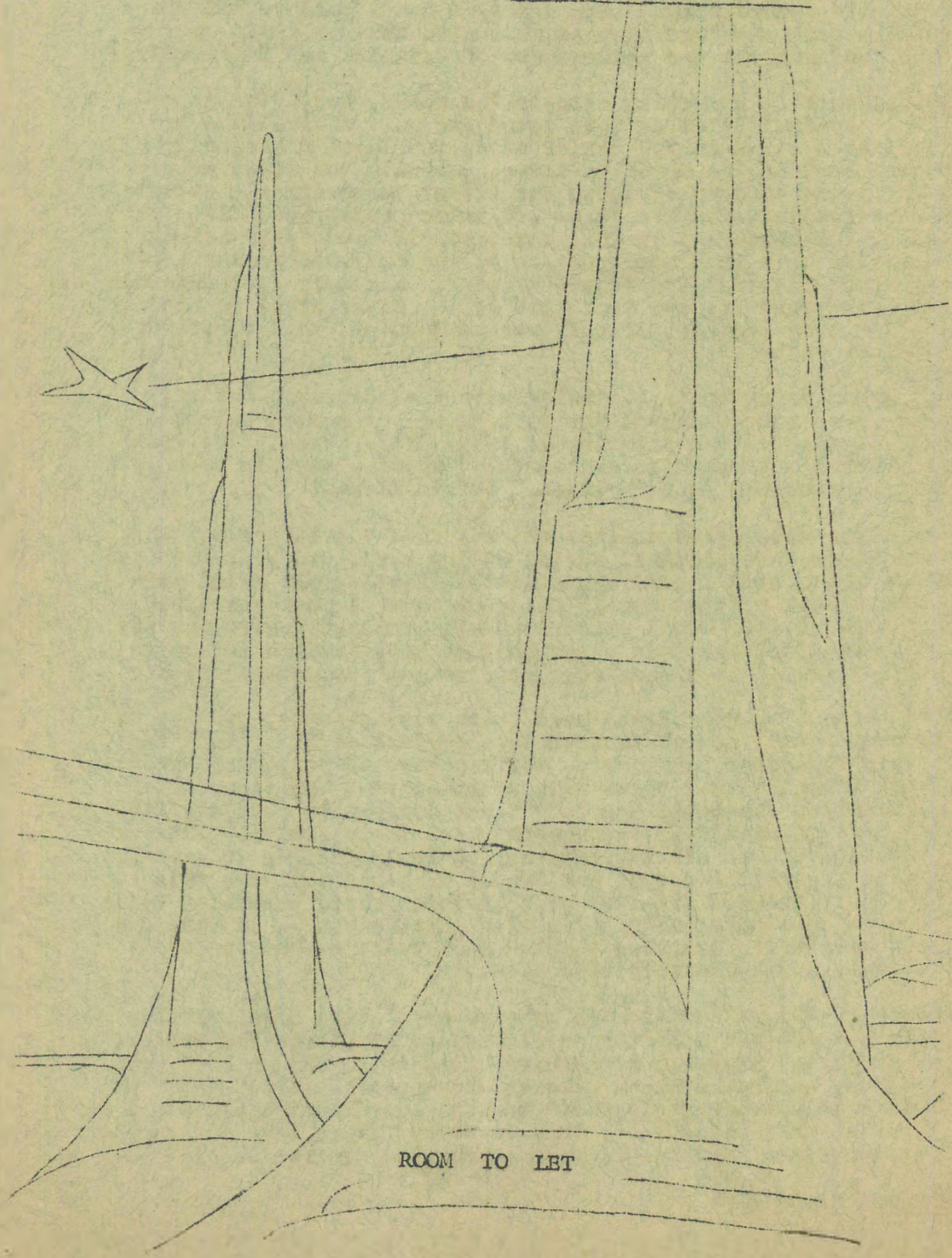


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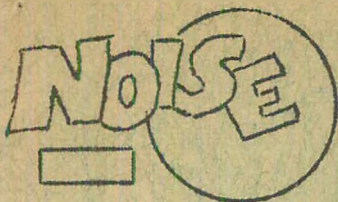


MARCH '65



ROOM TO LET





## SOME THOUGHTS ON A FEW PROBLEMS....

First, I should emphasize that what's said here does not mean that I intend to stop publishing g2, or that I expect to give any less attention to it. For one thing, I have a rather nebulous idea in mind for a new Series; in fact, I've been sort of sneaking into it with that "Future Specs" airplane a few issues back, and with the "Spaceport" article last-ish. I want to do a Series on the Near Future; now, on such things as overpopulation; automation, politics, economic readjustment, crime, war, benefits to Earth from space exploration....in short, the works! It's a subject big enuff to fill a half-dozen thick books. But so was the Starship Series. I can only expect to scratch the surface, here and there, filling perhaps a dozen issues of g2 with some rather enjoyable speculation. (And again, I don't believe today's s-f has done anywhere near as good with this as could be done, and suffers the consequence of dullness and ineptitude.)

But... there's something else in the works, too. The astronomical illos in this issue are part of it. They're the last 2 illos in the series of 4, the first 2 having appeared back in the November issue. As with the first pair, I had twice as many of these run off at the printer's as were needed for this month's g2 -- 100 extra copies which I've put aside, for now. And in LOX, here, you'll find Fritz Leiber admitting he's kept some portion of the Starship Series as reference material for future writing. Earlier, Poul Anderson also mentioned keeping that illo of the Ridge Stars on hand for the same purpose. Proof enough, I think, that the thing has some value.

But I was never quite satisfied with that Starship Series; there were some things about it I never got worked out too well -- such as the charting of those Ridge Stars. The issue in which I attempted to explain that was the one Ron Bennett's review described as a "headache" -- and it was!

And there were other aspects which I didn't even get to: which suns would have planets, worlds of any kind, and what good are those which aren't even approximately Earthtype? Fritz mentions a book written specifically on that; I must certainly get hold of it. But I also noted his admitted preference for a "popularized" article based on that book, though not quite so technical. So I have even more reason for wanting it!

One thing I've been doing here (with some success, judging by your comments) almost amounts to a revival of an ancient and nearly forgotten language -- the language of pictograph-writing. Every language that began with that, ancient Egyptian, modern Chinese and Japanese, has long since evolved to more stylized ideographic writing. Pictographs have their limits. They're no substitute at all for mathematics in expressing and communicating physical concepts and ideas; math can nail the thing down precisely or even pinpoint each instance where precision fails. You can do simple bookkeeping with pictographs -- it was done, and quite well, too, for thousands of years -- but you can't navigate a jet aircraft with them.

However, the mathematically precise navigation of a starship is a fit subject only for an electronic computer; for most of us armchair Starship Commanders, it's quite enough of a problem just understanding a general and much-simplified "how" of things -- not precisely "how" to ten places past the decimal point -- and, believe me, this is every bit as true for the person writing science-fiction as for the one reading it!



I think I've managed to prove that pictographs are quite good for that, at times. With them, it isn't too technical.

So the upshot seems obvious: I must publish. This is good, red meat for a modest reference work that's been needed and will be quite useful when it exists. There are some few additional chapters I'd like put into it: postulates of interstellar civilizations, for example -- one based on Sublight Travel as opposed to one based on Faster-Than-Light Travel; and a bit deeper delving into Relativity Theory, more in fun than in seriousness; and something on starship drives.

From here&now, it looks to be some hundred pages, mostly mimeographed though with some heavy-stock multilith illos, in a limited edition of perhaps 100 copies. The price won't be negligible; I should at least try to make back the costs of the thing. But I don't see it as being any more of a project than this, certainly not as material suitable for professional book publication -- there's simply not that much of a market for it.

Naturally, what I'm fishing for here is your suggestions and comments!

\*\*\*\*\*

g2 ..this being Volume 4, Number 6 (of 12) of a fanzine we claim is "published monthly" (if not oftener) and comes from Joe&Robbie Gibson, 5380 Sobrante Ave., El Sobrante, California - 94803. Its somewhat notorious policy is "subscription only"--but the rates aren't bad:

Stateside - 3/25¢, 6/50¢ or 12 for \$1.

Europe - 3 for 1/9, 6 for 3/6 or 12 for 7/-.

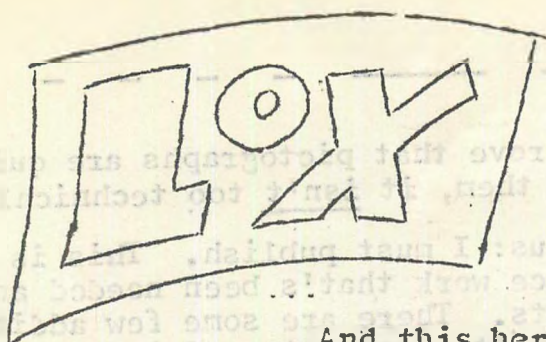
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- ( ✓ ) Your sub expires with Vol. 5 No. 3.
- ( ) Your sub expires with this issue.
- ( ) I wish to #&%\*! you would renew the sub you let expire last issue.
- ( ) Sample copy; we do this occasionally.

\*\*\*\*\*

Fannish Noise: With regard to my support for Eill Donaho, and my conclusions and statements regarding this past TAFF campaign (none of which I regret), I have always tried to practice the old adage: "If you're going to make errors, don't make small ones." Fandom now has the TAFF winner it wants; and possibly, also the TAFF it wants. And I'm rather relieved to feel no further concern for it, whether the future proves my "alarums" right or not.





...And this here is what we call a "letter-column" or "lettercol" in which are to be found many interesting and delightful "letters of comment" or "locs".... No, they are not called LOX. That is just a name we have given it in this particular fan magazine, or fanzine, which is called gee - squared and thus, obviously has nothing to do with Intelligence. As I was saying, LOX is a rather wellknown term around launching pads, rocket motor test-stands, and things of that nature. It usually refers to Liquid Oxygen. Guys will smoke cigars and show Boy Scouts how to light campfires around stacks of wood boxes labeled "High Explosive" but roll in a frosty tank of LOX and everybody suddenly remembers something they forgot in the nearest concrete bunker. LOX is that kind of stuff.

We have decided after much cogitation and admiration of navels (McQuown should do an article on that!) that we should have LOX only in every other month's issue. This has not worked out so well yet that we can say it's a resounding success -- month-before-last's issue was a 40-page letterzine! But at least we've got the right name for the lettercol, and in future we shall no doubt find solutions to its many other perplexing difficulties. For example;-

Lastish, I stated somewhat brashly that I had not received enough locs to have filled a lettercol in that issue, so perhaps we'd have just enough locs received for this issue. Of course, I hadn't yet run off lastish on the crankbox, hadn't collated, stapled, addressed, stamped and mailed it off.

In fact, I shall probably get around to doing that this next week. Meanwhile, I have 8 or 9 locs that've just come in....

Yep. I yam starting on this lettercol for the March issue before the Feb. ish even has staples in it. And I'm starting this bit of LOX without really knowing quite how I'm going to cope with it -- except that it simply can't become another 40-page monster! I must be firm. Resolute. And diabolical if necessary.

Actually, I just can't wait to get started here. Y'see, one of the first letters we received was...well, it's the first one I'm gonna print here. Read on, mes amis.



FRITZ LEIBER, Santa Monica, Calif.:

Although I haven't always had the courtesy to tell you so, I've been enjoying g2 immensely, especially the Great Ridge Stars Tour (that got me back to field astronomy again) and the recent piece on the development of airplanes with its compelling on-the-spot depiction of WWI aircraft, their pilots, and the learn-while-you-fly-fight-and-flop system of instruction.

About THE WANDERER and Sam Russell's well-put questions about the extrapolations in it. Well, first a bit about the ways I research any science-fiction, science-fantasy, or even fantasy yarn.

Research fantasy? Sure. And I don't just mean an occasional peek into Frazier's GOLDEN BOUGH or Murray's THE GOD OF THE WITCHES and THE WITCH CULT IN WESTERN EUROPE, or that medieval sexually psychopathic THE HAMMER AGAINST WITCHES, or Martin Gardner's wonderfully up-to-date and suggestive FACTS AND FALLACIES IN THE NAME OF SCIENCE. But the do-it-yourself sort of thing too. Not that I've yet wasted any time on stenchies and incantations, but, to give a couple of examples, for THE MIRROR WORLD I faced together two big but adjustable mirrors, got between them and studied reflections by day and by night (with a candle), counted reflections of reflections up to 16 or 17, calculated their distances (multiples of the distance between the mirrors with a half distance to start with), and so on. For the Fafhrd-Mouser tale WHEN THE SEA KING'S AWAY, I peered down into water through almost-submerged top-open tall glasses and bottom-plugged glass tubes and did a little (not much) underwater swimming.

- + All right, I think I see what you mean. You didn't split
- + the Moon in half and drop through the crack, doing research
- + for THE WANDERER -- it was only a small-sized mountain. In
- + a NASA flick done for USIA, which we viewed at Poul Anderson's
- + this past Fridaynite (Poul scripted it) I noticed the Gemini
- + capsule does have "windshields" (that's "windcreens" in
- + Sterling areas, isn't it?) and aren't you glad you didn't
- + "invent" periscopes for your Lunar bus??

The references to witchcraft suggest an analogy. There used to be what they called hedge-wizards. They'd never read THE BOOK OF THOTH in the original Egyptian or AL AZIF in the primal Arabic and they didn't have access to a good astrolabe ((+then I don't want 'em piloting my starship+)) and their alembics were lop-sided, but they got along pretty well with MOTHER NIGHTSHADE'S BOOK OF SIMPLES, PROF PESKYN'S PEEKS INTO THE NECRONOMICON, RABBI BLOODSWEAT'S THE KARALA FOR GOYS and rule-of-thumb astrology and Rule of Keep Your Eyes Open Period.

Well, I'm a hedge-scientist or hedge-researcher. Meaning I read PLANETS FOR MAN by Dole and Asimov, Random House 1964 (just about the best companion yet to the Great Ridge Stars Tour and one that will be much used by some science-fictioneers in picking a suitable F2 to K1 star for their planet)...I read that popularization rather than the book on which it was based: Dole's RAND Corporation Research Study HABITABLE PLANETS FOR MAN. ((+That's One.+)) I shamelessly consult Martin Gardner's recent RELATIVITY FOR THE MILLIONS, which incidentally has a good summary of the recent state of the controversy between the finite, positively curved, exploding universe characters like Gamov and the infinite and everlasting universe boys like Hoyle; there I discovered I needn't be bound by calculations of the total mass of the cosmos such



..as Eddington's estimate of the total number of electrons in it ((+But it's such a fascinating equation with that big hole that if you could only fill--+)); however Gamov remains almost my dean of authorities with his THE CREATION OF THE UNIVERSE; ONE, TWO, THREE...INFINITY; etc. ((+That's Two.+))

So in spite of having edited SCIENCE DIGEST for twelve years and written considerable science for THE UNIVERSITY OF KNOWLEDGE, I only try to keep up with the news releases of Science Service and read parts of Scientific American. Once in a great while I do a bit of hedge-research: for THE SNOW-BANK ORBIT I discovered the polestars of Uranus (Aldebaran and Antares) by getting the date of its last polar presentation (axis aimed at Earth) and checking the Ephemeris for that year for which first-magnitude star lay nearest Uranus and its antipodes in the celestial globe.

Once in a while I fire off a question at some non-hedge (formal garden?) scientist like Sidney Coleman at Harvard Physics Labs, or Gene DuFresne at the Fermi Institute (his and Anders' recent book on meteorites is very good) or Ann DuFresne heading the F.D.A. Institute at Georgetown University or my old geologist-astronomer friend Franklin McKnight at the U. of Buffalo, but they generally come back with a wilder speculation than my own rather than a "Firm Answer" (it generally turns out there isn't one to the sort of question I ask).

For instance (now we get to THE WANDERER) an Earth-mass planet appears out of hyperspace near Luna. How long before this intruder is raising on Earth the 80-times-Luna's tides it would raise? I couldn't find the beginning of an answer anywhere, so I found myself deciding four days for Earth and 40 minutes for the Moon, which fitted my story as it developed (I didn't know how long the story was going to last until I was more than halfway through it). Of course the accelerations at which Moon and Earth would fall into their new orbits were easily calculated ((+yeah, sure+))--4 feet a second for Luna, a twentieth of an inch a second for Earth, the one cumulating in a couple of hours, the other in ten days. Also, I made the Wanderer Earth-volume and Earth-mass both for symmetry and because it made it easy to calculate the orbits they would take up--19 days around a central point. ((+That's Three.+)) Still, I did make a plain guess on how fast tidal reverberations would maximize. If there was a solid sourcebook I overlooked, someone can use it for another story.

- + You didn't, unless I miss my guess (and I'll comment on it
- + here; but my One, Two, Three--Inevitably means my other
- + comments will be tacked onto the end, here). The missing
- + factor is the total volume of water to be affected by such
- + suddenly-imposed gravitational pull. And nobody knows how
- + much water Earth has, both liquid and solid (ice), altho a
- + number of meteorologists would most certainly like to know.
- + It might settle their little controversy about whether the
- + world's getting warmer or colder. We've got the effects of
- + changing climate; but without that one factor, it's rather
- + difficult to determine just which way the effects are show-
- + ing the climate has changed! So everybody's guessing.

I spent about a year of solid work on THE WANDERER, spread over two and a half years. While I was still reading up and making notes, I sold SCIENCE DIGEST a short article (2500 words, about their maximum) called THE MIGHTY TIDES--a small financial dividend on the novel, though gratefully received. I read a lot of books on just the tides, but

found most useful BBB AND FLOW, Albert Defant, U. of Mich. Press, 1958; WAVES AND TIDES, R. Russell and D. Macmillan, Hutchinson's, 1954; and particularly THE TIDE, Harry A. Marmer, Appleton, 1926; in the last is by far the best statement I could find of the analysis of the tides of Earth into huge vibrating bands, or stationary waves, thousands of miles long, crossing each other, sometimes reinforcing each other, sometimes damping each other out--an analysis mostly worked out by Dr. R. A. Harris of the U.S. Coast and Geodetic Survey--an old analysis, but still unrefuted as far as I can discover. Earth tides are still mostly known empirically--the records of harbor masters and pilots stretching hundreds and thousands of years into the past (and often closely guarded commercial and military secrets--England's wild tides were one of her great bulwarks against invasion, as even Julius Caesar discovered to his sorrow. ((Of course, the Norsemen had even worse tides where they came from!+)) More modern scientists have come up with some fine theoretical analyses--such as that a planet would have to be all ocean more than ten miles deep to have its tidal bumps poised directly under its satellite rather than lagging a half day or so behind (different for each tidal station, by hours) as on Earth; all very fine, but no help in my story. (Once I start off in that direction I'm like an M.D. trying to diagnose the hypothetical digestive ailments of a hypothetical creature from some coffee grounds someone dumped in the toilet bowl.)

I picked up most of the locales of the story for their tidal peculiarities: the extreme tides of the Bristol Channel, especially near Avonmouth; the Severn and its bore; the Amazon and its bore, the Pororoca; the shallowness and unusual once-a-day tides of the Gulf of Tonkin off Vietnam; the mixed tides of our own California coast with its high highs alternating with low highs--same for the high lows and low lows; the 20-foot Pacific tides off Nicaragua, and so on. Naturally I had to make tide tables for all these areas, covering the three days of the story. Along with this I had to make, for the same areas, an hour-by-hour ephemeris of the Wanderer's changing faces (as it rotated) and of its and the sun's risings, meridian transits, and settings--it came out to a sizable chart.

Now, as to Sam Russell's questions.

A. I give the Wanderer Earth-mass in its tidal effects on Earth. Yet it is an artificial planet, honey-combed with rooms, some miles across. How can these two premises agree? How can a hunk of styrofoam weigh as much as a like-size hunk of granite or iron?

Well, the answer isn't tricky or brilliant. It depends on super-science, but I think it is quite sufficient. ((That's Four.+)) The inertia pistol or gravity gun, the final inertia-less leaping about of the Wanderer and the Stranger, Don's guess at the bottom of page 102, Rama Joan's at the bottom of page 105, even Tigerishka's irreverent "Hot and cold running gravity in every stateroom" (p. 248)--all these make it clear that the Wanderer's engineers are able to turn on or off beamed gravity- and momentum-fields of limited size. It's assumed that such fields are used inside the Wanderer at all times, though I'd guess they'd also use super-strength construction materials--along the line of those hairs of crystallized iron as much as 100 times stronger than steel widely reported on the past ten years. I also assume that the Wanderer's Captain or Chief Engineering Officer decides to turn on a general normal one-G field around the Wanderer during its three-day stay near Earth, locally supplementing this field to speed the crack-up of Luna. This may seem arbitrary, yet consider: a planet playing hide-and-seek



with cosmic cops would probably have as one rule: "When in true space, adopt the gravity normal for a natural planet of Wanderer-volume"--just one of those stinkin' little battle rules like "Don't show yourself at a skyline." Of course, they might have been smarter to paint atop their sky an Earth-planet-type camouflage, but they were tired and making mistakes and probably also motivated by bravado. Remember, I nowhere attempt to probe the mind of a Wanderer-scientist, or even an Earth-scientist, for that matter--I look mostly through the eyes of littler naiver people, like myself. Even Tigerishka describes herself as only a servant, a very small potato, even if quite a feline patootie (p.260).

B. If the light of most suns is already choked in by surrounding planets, fields, and other starlight-conserving devices, and we still seeing only their ancient light, how is it that we are still seeing stars on the farther rim of the Milky Way, while not seeing many of the central stars (blocked off from us by the dark nebula of the Coal Sack, according to conventional theory)? ((+And that's--umm--Five.+))

Well, maybe planetizing starts toward the center of galaxies, where stars are thicker and intelligence to be expected sooner and oftener. Also, Tigerishka likely exaggerated somewhat--you know, like an oldtimer returning to Southern California and saying, "MiGod! they got high-rise apartments all the way from Santa Barbara to San Diego!" Factually largely untrue; feelingfully true.

C. (this one not asked by Sam but someone else). Is there enough material in the Milky Way or other galaxies or the whole cosmos to build enough planets to blot out the stars? We already have the main answer: little mass needed to make artificial planets; also massless "fields" and other reflective devices to turn back sunlight. Once again: superscience; but darn it, they'd have that. Also, this is a field where "the facts" are subject to big change at short notice. It's not ten years since galactic distances had to be multiplied by two due to a reinterpretation of the data about Cepheid Variables.

D (my own question--one o' many). What about the one percent of stars--Red Giants, White Dwarfs--outside the Main Sequence and also the 8 or 9 percent of O, B, and A super-hot short-lived stars in the Sequence, unable or unlikely to grow planets naturally (according to the very recent theory which has decided that practically all Double Stars can grow planets. Formerly an sf writer was flunked by knowledgeable fans if he did such a thing.)

Well, stars unable to grow planets could still be artificially planetized. Or maybe they'll still be shining--lonely rare beacons--when all the F, G, K, and M stars are planetized to capacity--and also life supported by reactors and matter-converters swarming on or around. the possibly more numerous and massive, hypothesized but as yet largely undetected dark bodies in the cosmos.

Here I break off with an incredulous sigh. All amazing, to be sure, but there's a new amazing hypothesis of this sort out every year from the temples of cosmological research and speculation. Me, I still find more honest wonder in, say, the long-known point that the tidally-deforming powers of bodies varies inversely as the cube of the distance between them. So that if Luna were riding in an orbit 2,500 miles above Earth's surface, she wouldn't be subjected to tidally deforming forces just 100 times greater, or even 10,000 times (square), but one



million times (cube). No wonder Saturn got her rings.

I think most science-fiction writers give Galactic civilizations (and Cosmic ones) super-scientific powers at most fractionally "explained." True, I'd say, of Heinlein's HAVE SPACESUIT --WILL TRAVEL. ((+Yep. It's when I can detect that their galactic or cosmic concepts are at most, only fractionally explored and thought out that my gorge begins to rise.+))

Also, good science fiction is never really hurt because it happens to be based on scientific concepts and hypotheses then accepted, now discarded or on the way to the dump heap. Both Smith's LENSEMEN tales and Stapledon's LAST AND FIRST MEN and STARMAKER are still just as good reading, though written on the assumption that planetary systems were exceedingly rare--in fact, Smith made that nice invention of galaxies that had collided to justify a high percentage of planets in the Milky Way and Andromeda. Actually, even Stapledon's predictions for the immediate political and military and social future in LAST AND FIRST MEN are still very good, even though 1925 to 1965 has been very different from what he predicted--so much so that this section of the book was cut from the omnibus volume (a mistake, I assert). The point is that a great many of his predictions are coming true, on a different time-schedule and in different patterns: Russia is on the way to becoming a buffer between America and China, France is re-growing her old antagonism to England, Germany is outwardly docile once more with the old superman ambitions churning deep inside, America continues to develop an outwardly hedonistic, inwardly puritanic way of life with income and possessions the measure of success, and so on.

One little point more about THE WANDERER: My little diagrams on pages 68 and 116 should be rotated each 90 degrees counter-clockwise and the diagram on page 127 a full 180 degrees. These corrections I duly made in the galleys but were duly ignored by the printer.

+ Well, at least you didn't have the whole schematic come out as  
+ an inverse "mirror-image" of what it should be, the way it did  
+ for me the first time I attempted to chart the Ridge Stars!

+ But a very strong point occurs to me, from all this, which we  
+ should stress first and foremost -- in fact, I doubt that it  
+ could ever be stressed too strongly. In any kind of writing  
+ involving technical subjects for a science-fiction novel or  
+ even for some fanzine like this one, we are always having to  
+ try not to be too technical. Most of the readers won't like  
+ it, if we do.

+ Because of that, I could not dwell too lovingly on specific  
+ WWI aircraft when writing about them. Not only do few readers  
+ know the difference between a Farnham Shorthorn and a Vickers  
+ Gun Bus, but most of them couldn't care less. Nor that maybe  
+ a third of the Nieuport Scouts were "lost in flames" when the  
+ mechanicians were trying to start their rotary engines for the  
+ morning warm-up. Nor that Spads had to be flown onto the  
+ ground, when landing them, and had the disconcerting habit  
+ of blurping their radiators like overhot coffee percolators  
+ when throttled back for the descent -- throwing scalding hot  
+ water back into the pilot's face, so he had to lean over the  
+ side to see where the ground was. And that's nothing to the  
+ experiences of civilian pilots during the 30's, or even today.  
+ But no--such trivia would delight only a few science-fiction  
+ fans. I could use only enough of these technical facts to  
+ sketch the history of aircraft. And do it sketchily.



+ And consequently, I found it quite natural that in THE WANDERER  
 + you didn't fully extrapolate all the technical aspects of your  
 + background. Most readers would've been bored stiff. For the  
 + few who wanted to speculate, enough clues were there to get  
 + them started. And that's all they should ask for, really.  
 + But this thing takes a bit of doing, which the Deep Science  
 + Boys don't always appreciate. For example:-

+ One. The Dole and Asimov book is one I'd heard about several  
 + times, but hadn't found. I had to make do with whatever ref-  
 + erences they probably used for the book, plus some few Scien-  
 + tific American articles on suns that might have planets. And  
 + there, I found it much too technical, much too deep and com-  
 + plex, to be simply tossed into my Ridge Stars Tour with a few  
 + offhand comments. So I pulled a deliberate switch, tossed in  
 + a totally incoherent sun and planet, and watched the wails of  
 + anguish pour in -- you can do that in a fanzine. But I'm  
 + going to have to get hold of PLANETS FOR MAN, that's all.

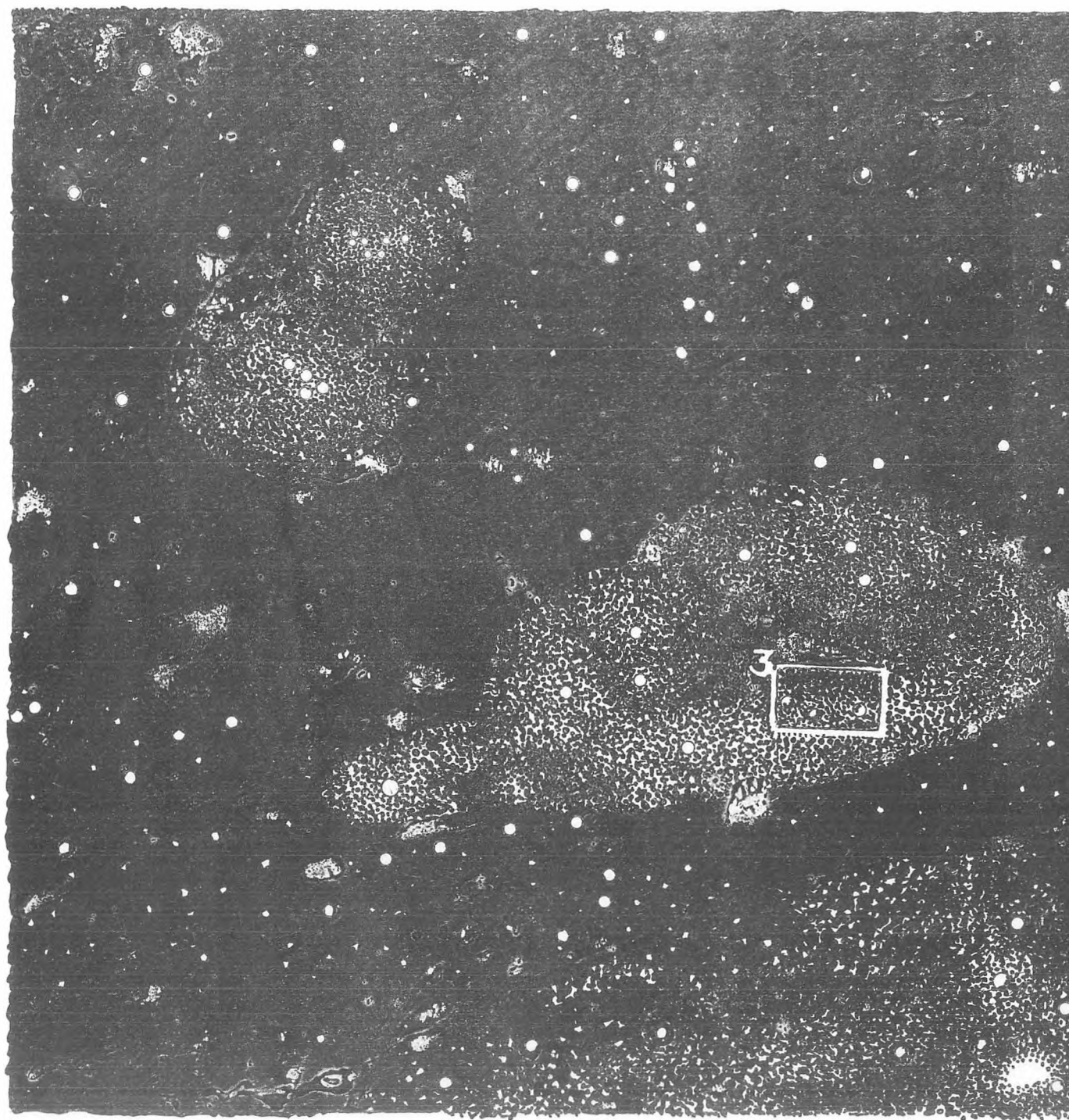
+ Two. Speculation by "authorities" like Hoyle and Gamow is  
 + too often treated as gospel, I think; and there's been too  
 + little of it done by s-f writers and fans, themselves -- after  
 + all, the "authorities" don't hold any exclusive rights to it!  
 + When I first ran into that finite, positively curved universe  
 + there was also much about a negatively curved universe analo-  
 + gous to being inside a merry-go-round...and I got to it with  
 + a s-f fan's indoctrination of "coexisting universes" and  
 + "alternate time-tracks" which are little more than gibberish  
 + to a trained scientific-minded chap. So I began to wonder.  
 + But here, again, you and I and maybe five other readers of  
 + this fanzine might have us a good chat, all to ourselves.

+ Three. Hadn't it occurred to you that what was easier for  
 + you would also be easier, and far more preferable for its  
 + serious aspects, for the Wanderer's engineers? I thought  
 + they deliberately gave the Wanderer the same mass and volume  
 + as Earth so it would be easier for them to calculate the  
 + results! It seemed feasible for them to do that for every  
 + planet they approached. Cosmic cops-and-robbers aside, since  
 + the Wanderer has a totally artificial, field-induced "mass"  
 + and its crew are cosmic "juvenile delinquents" who think only  
 + of themselves, why shouldn't they? (And y'know, with matter-  
 + converters, the actual mass becomes a variable if it's a  
 + matter/energy conversion!)

+ Four. There is super-science and "super-science"; it gets  
 + its bad name when a story merely has rayguns or gravity  
 + pistols in lieu of swords or Colt six-shooters, with no real  
 + basis for their existence. But when a writer extrapolates  
 + gravity pistols from honest fact and plausibly sound theory,  
 + and employs them with such knowledge, that's an entirely dif-  
 + ferent shooting match. And of course, you did that. Also,  
 + you knew perfectly that gravity isn't determined simply by  
 + the size of a planet or sun, that it's compounded from mass  
 + and density -- therefore, anyone who could "control gravity"  
 + could conceivably alter mass and density at will, within  
 + quite a broad range. With that, the Wanderer could've as  
 + readily been a soap bubble or solid lead, all other consid-  
 + erations aside. As I said, the clues were there.

+ Five. My understanding of the question was: if the Coal  
 + Sack denotes suns that civilization has engulfed now, how  
 + the devil could it gobble up all the stars between there and  
 + Earth to reach our Solar System in just 200 years? And  
 + the answer would be simply that we're seeing the Coal Sack  
 + as it was nearly 30,000 years ago -- it's that far to the









2

"CELESTIAL BACKWOODS"—  
BETWEEN THE SPIRAL ARMS,  
GIANT SUNS SCATTER IN CON-  
STELLATIONS BEHIND SMALL  
CLUSTERS OF NEARBY  
SUNS —



3

ALONG "THE RIDGE"---

- ARROW DENOTES  
SOLAR SYSTEM -





11

+ center of the galaxy -- which not only means those suns were  
+ engulfed that long ago, but every star nearer us would still  
+ be seen unless, and only if your civilization engulfed it at  
+ at an earlier date than its lightyear-distance from us. The  
+ chances would seem incredibly small that they'd expand out  
+ to us on so precise a timetable that we'd see them coming,  
+ with stars slowly disappearing, one by one, toward us.\*\* It's  
+ much more likely, with "hyperspace" travel, that they'd have  
+ reached stars just 1,000 lightyears from us perhaps only 500  
+ years in the past. And besides, even if the most distant  
+ stars on the other side of the galactic whirlpool got en-  
+ gulfed 10,000 years ere we do, their light will still be  
+ visible and seemingly unchanged for the next sixty or seventy  
+ thousand years. (\*\*So we've scattered "nebulae" instead.)  
+  
+ But it's all made twice as intriguing since you didn't enter  
+ the minds of any of the Wanderer's scientists, and haven't  
+ made any flat statement on their super-science which you'd  
+ have to stand by. I find your reasoning as justifiable as  
+ any of the notions I'd already reached about it --(though  
+ I would confess to liking mine better, in some particulars)  
+ -- but the story's the same whether we argue all night! Not  
+ a word of it needs changing.  
+  
+ Which isn't even half the fun that book is!

FRANCIS O'NEILL, 40, Greenfield Crescent, Wishaw, Lanarkshire,  
Scotland:

I liked g2 very much, it's definitely different from the  
common run of the mill type of fanzine. The article (Dec. ish)  
on the "AIRPLANE" is well written and easily understood. It  
achieves the main aim which it set out to do -- to present an  
article which is technical while still promoting the interest  
of non-technical readers.

+ The technical bone of the matter is that aircraft are a good,  
+ if definitely limited antigravity device -- in that they do  
+ the job at least part-way -- but it wasn't quickly or easily  
+ learned. The meat and potatoes is how those facts reveal  
+ just how truly remarkable some men have been. And can be.  
+ And very likely will be. We may be plagued by hatreds from  
+ the past, but we've got more than that out of it.

I'm jealous of you out there in that foreign country of  
yours basking in the sunshine, while over here the snow has not  
so long since melted and the weather isn't the same two days  
running. However, I will say one thing --- to camp in snow  
in the hills is very enjoyable--even when the temp. is 22°  
below (Fahrenheit of course). However that is by -- I hope --  
and in another 3 or 4 months we should see the Sun about  
5 times a week.

+ There's good skiing in season within a day's drive of here,  
+ and snow on Mt. Shasta most of the year round, but I've had  
+ my bit of all that. Picnic tables in campsite parks make  
+ good shelter when benches and top are heaped over with snow.  
+ Scoop out the bit of snow underneath, crawling in from the  
+ end, and unroll your bedding on the mattress of last autumn's  
+ leaves or pine needles; then I'd suggest a hike down to the  
+ Lodge for a platter of 2-inch-thick charbroiled steak and a  
+ tankard of beer by the hot blaze of a giant stone fireplace.  
+ With that, you can perish reasonably happily.



ASIDE... Briefly, it seems I should address a regretfully sharp note to Derek Nelson: Your caustic comment gave me some small pain, Mr. Nelson. I distinctly recall mentioning Mr. Alexander Graham Bell with respect to the invention of ailerons and their use by a friend of his, a Mr. Curtis. Now, is it at all possible that you didn't know Mr. Bell was a Canadian? Or had you the temerity to assume I didn't know it??

--oOo--

RICK BROOKS, R.R. #1, Fremont, Indiana 46737:

Got your forty page letterzine Thurs. Got your card on TAFF a couple days earlier. ((+Can't say you weren't warned.+))

Which brings up my feelings on TAFF. ((+Use the lava-tory there in the bathroom; don't mind splattering the counter, it's tile.+)) I am not voting this year. I don't know any of the candidates. I've read the novel of Carr's that Ace published. I haven't read anything by Donaho or Root.

+ Rick, cherish this moment, savour it; and for ghod's sake, don't forget it. Others would counsel you to have patience, in a few years' time you'll know more about any fan who's nominated for TAFF than is ever told on the backside of a ballot. And that's not true. Sometimes I know nothing about those TAFF candidates, myself. So stick around a few years, and then let's both give 'em hell about that.

I'd be willing to vote for someone like you or Buck Coulson, or (to a lesser extent) George Scithers, whose personality comes out in your zines.

+ I wish to hell Scithers would let me know when he does things like that!

All the stuff I have on the TAFF candidates is second hand, tho.

Oh yes, have you heard my great con rotation plan? Its main basis is the fact that we do not want the con falling into the hands of fringe fans. Since a fringe fan is obviously a fan who lives on the fringes of the continent, we should hold all conventions in the mid-west.

+ By George, I think that's an excellent idea!

I would like to read your write-up on THE WANDERER sometime. ((+On second thot, I should probably wait until after it's won the Hugo.+)) I rather liked the book, more for what Lieber tried than for what he accomplished.

On page 32 you have succeeded in making my paragraphing look worse than it is. I frankly hadn't thought that that was possible. ((+Now you know!+))

At mid-terms, or rather just after, I was carrying three A's (Chem II, Calc I, and English Comp I) and a B (Econ I). In English Comp I, we switched from rules to writing at mid-term. I got a C on my first paragraph. These paragraphs (5) count 2/3 of the English grade. I would love to keep my A in Calc, but it is getting a little hard to keep up with.

+ I don't envy young people in college today at all, nor the society which assumes they must all have college to "prepare" for it -- and I can remember when it was considered an accomplishment to have graduated from high-school.



Misha MCQUOWN, 613 W. Pensacola St., Tallahassee 32304:

The Lantana CAP squadron had a beautiful Stearman biplane, black with yellow wings which I always wanted to get my hands on. God, that was a pretty hunk of thing, and it flew all over the place, upside down, sideways, every way but backwards. I dunno but what it might have done that, later.

+ Go back and steal it. We've a cow-pasture over the hill...

JOHN BOSTON, 816 South First St., Mayfield, Kentucky 42066:

While you and Stan Woolston are industriously boiling off the surface layers of gas giants, allow me to ask a small question: what's in it for us? ((+Who's "us"?+)) Lebensraum? Not by a long shot. ((+Alrite, but who is?+)) Just keeping the population level of Earth constant, allowing for a more or less constant birth rate, would involve shipping off 110 people a minute. As long as we are limited to spaceships made of metal and powered with some sort of mineral or chemical fuel we can't very well do that. ((+Sho' nuff. Why, we ain't even got Los Angeles moved yet!+)) What good would it do to relieve the population pressure if we shot most of what's left of our resources into space along with the emigrants?

+ My sentiments, exactly! Nuts to Earth's population -- let's  
+ grab one o' them metal spaceships and get us to hell outta  
+ here! Besides, who needs 110 people a minute??

But there's another angle to the picture--that of the emigrants themselves. It's not unlikely that large numbers of people would be moved to leave the Earth not to make room for more on the home planet but to get away from the infernal crowding. ((+How many Chinese left China in the past 100 years?+)) The only trouble is that boiling off a gas giant would be a project of tremendous magnitude, requiring vast resources of men and money; the only ones who could afford such a venture would be governments--whether national, planetary, or interplanetary--and immensely wealthy individuals. ((+Then you believe any interstellar civilization we'd build can't be any better than we know how to build today?+)) There wouldn't be too much incentive for a government to involve itself in any such project, except for military purposes or possibly some sort of interstellar "manifest destiny." ((+Whose gov'mint?+)) Natural resources? Just about the only things worth carting home over hundreds and thousands of light-years of space would be the very heaviest elements, which you wouldn't be too likely to find in the gas giants. Or would you? How constant are those density figures? What are the chances--- ((+CHOP! See here, Boston, the density figures given for any sun, world or satellite in space refer to the mean density of that body. As for carting home (and where's "home" gonna be?) any kind of material cargo, outside of maybe "seetee" ore, you'd need less power to create the stuff with matter-converters right where you are. Now quote me the value of some new idea or concept (completely new to us, that is) that a world with its special problems had to develop, and has been thoroughly tested and proven by them. And tell me how we go about getting it cheap.+))

....Would it not be simpler just to boil off enough of the stuff to provide the planet with proper gravitation rather than boil off the planet down to the core and then have to build the core back up again? You might wind up with a very large planet with



Earth-normal gravity, but what's wrong with that?....

- + You've been reading too much science-fiction, gaddammit!
- + What kinda pasturage'll you get for walking beefsteaks in
- + a methane-saturated topsoil? I say blast the whole poison-
- + soaked shell off, and then put back the kind of minerals
- + you want, how you want 'em, even if you make 'em yourself.

Then, of course, you'd have to figure out what to do to make the thing livable. It would probably have to be a bottom-up job; even if the planet had any life swimming around in the muck and murk, it would probably be killed off when you started trimming the planet down to size. In any case, the chances of its usability as a basis for an ecology compatible with Terrestrial life would be about as great as your chances of catching tobacco mosaic or Dutch elm disease. So you'd have to start with the simplest bacteria, to convert the atmosphere into something more or less usable and start building up a decent soil...

- + How much time you got? Your low-density world would need
- + so much greater mass to achieve an Earth-normal surface
- + gravity, and give you so much greater inertia to cope with,
- + that its "escape velocity" would be fantastically high;
- + once you got there, you'd have a sweet time getting off.
- + Check out Saturn with its nice, low 1.17 surface gravity --
- + but with 22 miles per second "escape velocity" as compared
- + to Earth's 7 m.p.s.; go read, man! And when you're making
- + a world livable, check first to see if your people are accus-
- + tomed to a totally natural 19th Century Earth environment,
- + a 90% natural/10% artificial 20th Century Earth environment,
- + or a totally artificial future-world environment -- becuz,
- + chum, that last one may support several thousand times as
- + big a population without overcrowding.....

.....Tell you what--I'll let you and Stan in on the ground floor. Boston, Gibson and Woolston: Terraformers. Has a nice ring to it, what?

- + ....On the other hand, who needs 1.0 surface gravity? With
- + a low-density world, you might have only  $\frac{1}{4}$ th g and still--
- + with its mass-inertia, with its "escape velocity"--have a
- + world that holds water! Hey, now!!
- + John, I'm not putting you down by chopping out these hunks
- + of speculation, though to me you're lagging behind just a
- + bit with nitrogen-fixing bacteria and things of that nature;
- + but don't you see how we're groping in the dark, here? We
- + don't know any of the answers--except answers we'd do well
- + to question mercilessly! This is unexplored territory.

Science fiction a way of thinking? ((Go ahead; I won't interrupt once.)) Ideally, yes; practically, not nearly so much as we'd like it to be. The particular "way of thinking" of science fiction is unfortunately more or less confined to a field of literature, one dealing with spaceships and time travel and robots and the like. There are exceptions, of course; Mark Twain's A Connecticut Yankee in King Arthur's Court is one of them, and occasionally a "mainstream" novel will show a faint tinge of it--for example, Fail-Safe. I think it ties in with C. P. Snow's "two cultures" idea. Among the lit'ry set there seems to be still an immense distrust of things scientific and of scientific methods. What you hear from their corner most often is beardmuttering about "dehumanizing" and the like. Consequently there is very little of this "way of thinking" outside what must be termed the science fiction

field. (Now that I mention it, there's not too much inside it, either.) Stories with a certain approach and stories with certain subject matter are all lumped together and tossed into the ghetto. And what borderline sf stories have made a big splash in the lit'ry world? Why, those which support the conception of science as something to be feared: On the Beach, Fail-Safe, Triumph (and Dr. Strangelove). People who have little knowledge of science and its methods ignore the idea that men are going to kill men with science; they fear science rather than other men. Oh, you won't find very many admitting to a fear of science; they know very well such a fear is wholly irrational. But as a deep-seated emotional attitude, this fear has great influence on their behavior and their thinking.

Ah, well; it's the only game in town.

- + For that concluding remark, John, I offer you a counter-
- + proposal to your "Terraformers": You take 'em on that side,
- + since I want absolutely nothing to do with that lit'ry mob,
- + while I deal with this side: (and hadn't you noticed this?)
- + a good many scientists also have this "fear of science"
- + attitude -- tho, of course, it's usually with regard to every
- + other field of science except their own! Currently, this
- + "Doomsday" attitude has been very noticeable in the sundry
- + authoritative pronouncements of what results we may expect
- + from The Coming of Automation. Like how we're all bound to
- + be terribly demoralized by not having to work (wherever we
- + can damn' well find work) for a living, how it promotes the
- + shiftless concept that "the world owes us a living" since
- + it will be "giving us something for nothing" -- pure and
- + simple fear of Automation, fear of science, without bothering
- + to really study it, analyze it; find that one little catch
- + to the scheme. And inevitably, the first serious researcher
- + who discovers and reveals the answer to the problem will be
- + denounced and ridiculed. Furthermore, since the public so
- + sheepishly persists in believing only what it's taught, the
- + "Doomsday" prophets will very likely be proved "right" during
- + the initial periods of automation. There'll be hell to pay.
- + But it occurs to me that your lit'ry set have other, equally
- + bad attitudes to be held accountable for, besides a fear of
- + science. The concepts they choose to perpetrate regarding
- + social, political and economic doctrines are very often false
- + and emotionally biased. Asimov has called modern s-f "socio-
- + logical science-fiction" and applauded this as a truly progres-
- + sive development of the field; I would temper this with the
- + admonition that we should each make a very cautious appraisal
- + of the kind of "sociology" that's being fed to us. Some of
- + it stinks. And it will most certainly continue to stink so
- + long as any Milford School of Approved Writers can success-
- + fully emulate a pseudo-"lit'ry set" by regurgitating such
- + concepts and having s-f readers swallow them whole.
- + Those social, political and economic doctrines could be a
- + great step forward if they were subjected to the same criti-
- + cally searching "way of thinking" with which s-f has produced
- + so many gadgets in the past. I'm in favor of it. But I don't
- + see it happening until we, as readers, are as discriminating
- + with these concepts as we've become with the gadgets.
- + And today's s-f hasn't given much to discriminate about, yet.
- + Any writer who gave us much would be pioneering, never an
- + easy task. And there's damned little to indicate he'd be
- + thanked for it, much less that he'd find a ready market for
- + his book. What the field really lacks is one good editor.
- + And things are bound to get worse before they get better.



16

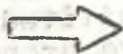
More From MCQUOWN:

I'll make this short, since you've obviously had it with LOC's for awhile. ((+That was rather a lot of 'em -- some even weren't mentioned, such as Wim Struyck's last, tho I appreciated them as much as the others -- but the file's nearly empty now.+) )

The script is about in the middle of the first rough. ((+This is for that movie venture Misha's got onto.+) ) We're working slowly because Bill is busy in school - doing a film for the art department - and I'm stymied until he does a little more so I can start working on the dialog. Hopefully, we'll have it done by mid-April. Due to the incredibly low budget, there will be only twelve days' shooting time, so should have it in the can by the end of May. Distribution for West Coast is not in the offing, unless we can sell second run to another distributor. I shall put out the Word where it will be as soon as I know.

I hope I can do some sort of thing for you on various modes of dress. It interests me, and maybe we can find something we agree on.

+ There now, you'll not be  
+ having to repeat it all,  
+ later. I knew you were  
+ busy, that it was a bad  
+ time to ask you for any  
+ fanzine article. But  
+ there's no critical hur-  
+ ry for it, either. As  
+ for it being something  
+ we agree on, I really  
+ want something you agree  
+ with -- I'm only one of  
+ the readers of this zine.  
+ Another one, Lew Grant  
+ (whose loc I haven't room  
+ for, this time) says he  
+ would also like you to do  
+ an article on that.

On the ad: 

Out of print now: Vol. 1 No.5,  
7 and 10; Vol.2 No. 4; Vol. 3  
No. 6 //Only 1 left: V1#4, V2  
#12// This is "last call" for  
back-issues, the last time  
this ad will appear -- and the  
last offer at these prices.  
Also, as stated last time, I've  
got some big envelopes and the  
legal-size issues (2 or more)  
will not be folded. There are  
absolutely no back-issues left  
of Volume 4 (including this)  
since our distribution now takes  
the entire run of each issue.

ROBERT P. BROWN, S.S. Aloha State, Yokohama, Japan:

Regular ferry boat, here again. However, shipping Saigon this voyage.

Last year around May or June the "Rust Bucket" was sent to the Gulf & East Coast via Hawaiian Ports. Going to cuss like H- if they pull that stunt this year!

The wife forwarded your card in her letter here. 40 pages! Wow!

+ None of the postcards were returned for "no forwarding ad-  
+ dress" and nobody's complained yet that they didn't receive  
+ the issue (or previous ones, for that matter) though I've  
+ heard one instance where the PO was damned late about deli-  
+ very and another where the zine was emasculated enroute.  
+ It will be the last "big" issue I do for a long while, tho.  
+  
+ And this ends LOX for this time. Right here, this issue is  
+ big enough, even tho we're awaiting momentous news from South  
+ Bend (which we'll not mention until positive no untoward event  
+ has prevented its happening) and there hasn't been time for  
+ any loc's to arrive on lastish. ((Continued on backpage:))



### MOST BACK ISSUES AVAILABLE

All copies will be mailed "Printed Matter" rates, with single copies folded, stapled and addressed in the usual manner. Two or more copies will be sent in a manila envelope with the early lettersize issues mailed flat, the present legal-size issues folded (crosswise, not lengthwise). The price is a flat 20¢ each, unless otherwise indicated in this listing. All sales will be on a first-come-first-served basis, cash or checks only; money sent for issues already sold out will be refunded. Prices are effective to May 1st, 1965.

#### Lettersize issues (actual measurement 8½ x 10):

##### Volume 1

- No. 1 (June 1961) = out of print.
- No. 2 (July 1961) = out of print.
- No. 3 (August '61) = out of print.
- No. 4 (Sept. '61) = 3 copies available.
- No. 5 (Oct. 1961) = 1 copy available.
- No. 6 (Nov. 1961) = 5 copies; has first illo of a teardrop starship, if anyone cares...
- No. 7 (Dec. 1961) = 1 copy available.
- No. 8 (Jan. 1962) = out of print.
- No. 9 (Feb. 1962) = 5 copies available.
- No. 10 (March '62) = 2 copies available.
- No. 11 (April '62) = 6 copies available.
- No. 12 (May 1962) = 3 copies; Early Fandom's Great Air-War...

##### Volume 2

- No. 1 (June 1962) = 5 copies available.
- No. 2 (July 1962) = 15 copies available.
- No. 3 (Nov. 1962) = 7 copies available.
- No. 4 (Dec. 1962) = 1 copy only; has The Old Taffers' Club.
- No. 5 (Jan. 1963) = 5 copies available.
- No. 6 (Feb. 1963) = 19 copies; Robbie's Tales of Her Flying Daze -- price: 30¢ each.

#### Legal-size issues (8½ x 13 or 14):

##### Volume 2

- No. 7 (April '63) = out of print.
- No. 8 (May 1963) = 4 copies available; 17 pp.; East Bay Cons.
- No. 9 (June 1963) = 5 copies; 16 pp.; Star Drives, Ships&Men.
- No. 10 (July '63) = 5 copies; 20 pp.; All-Letterzine issue.
- No. 11 (Aug. '63) = 9 copies; 12 pp.; More on FTL (not Laney).
- \*No. 12 (Sept. '63) = 2 copies; 18 pp.; Beginning of the Starship Series -- Building the Indecontaminable.

##### Volume 3

- \*No. 1 (Oct. 1963) = 3 copies; 20 pp.; Shanghaiing 500 fans...
- \*No. 2 (Nov. 1963) = 5 copies; 14 pp.; All-Letterzine issue.
- \*No. 3 (Dec. 1963) = 9 copies; 16 pp.; Around Regulus.
- \*No. 4 (Jan. 1964) = 5 copies; 20 pp.; Charting our star-cluster.
- \*No. 5 (Feb. 1964) = 3 copies; 18 pp.; drawing of our cluster.
- \*No. 6 (March '64) = 1 copy, mimeo; 16 pp.; In Hyades Cluster.
- \*No. 7 (April '64) = 10 copies; 22 pp.; mimeo, On Relativity, w/multilith illos Approaching Pleiades.
- \*No. 8 (May 1964) = 5 copies; 22 pp.; In Pleiades Cluster.
- \*No. 9 (June 1964) = 4 copies; 18 pp.; Bail-Out from starship.
- \*No. 10 (July '64) = 3 copies; 14 pp.; End of Starship Series.
- No. 11 (Aug. '64) = 21 copies; Precon Report; price 15¢ each.
- No. 12 (Sept. '64) = out of print.

Issues marked (\*) are the Starship Series.

In addition, there was a Special Issue ("Sneary For TAFF") in December 1962 which is out of print. Also, the No. 1 issue of Volume 4 is out of print. The number of copies available as listed here is as of November 1964, and do not reflect subsequent sales. Query first, if you wish, but I can answer only if I have time. Sorry, but I just don't have a lot of it.



If there's any large response to lastish (or any large, belated response to the 40-page monster which preceded that slim, if potent bombshell) we will be forced to have LOX in next month's issue. We won't be able to suspend it until the May ish, as planned, else that might give us another monster letterzine. But no such large or belated response is anticipated, so the lettercol will most likely hit print again, two months from now as planned, in the May issue.

But at least we aren't still a month behind schedule. We can relax, now, and not be bringing this thing out every two weeks because we're late and the January issue came out in February and all....

A most int'resting fanzine we've rec'd. of late (and it sometimes is, too) is DYNATRON 24 from a certain Roy Tackett of 915 Green Valley Road NW, Albuquerque, New Mexico - 87107 - and costs five unused four-cent stamps (US) the copy. This advt. is not only an unpd. advt. but it wasn't even solicited, much less requested; the fact is, this is an unprintable good fanzine and Roy Tackett is a censored good editor ... and I'm saying this about an issue with a pome and fanfiction piece I'll never bother to read! The lettercol is one in which Roy-San takes 16 pages to print 16 loc's (if any were overlong, he chopped them neat&smooth) and his own interjected replies are short, fast and generally humorous or good-humored. The result is sprightly reading. But I don't envy him, either; he can't use that method on some subject fans generally don't know much about, haven't that much about, and are neither very well-read nor very well prepared to discuss constructively. And where an editor must needs instruct, he's just as likely to obstruct. I don't envy me much, either.

But as I type this, early in March, I have absolutely no idea what may be in the next issue of g2. Anyway, it will probably be out sometime near the end of April, and will most likely be about the same size as this, in number of pages.....###



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