NEW WORLDS SCIENCE FICTION

No. 99

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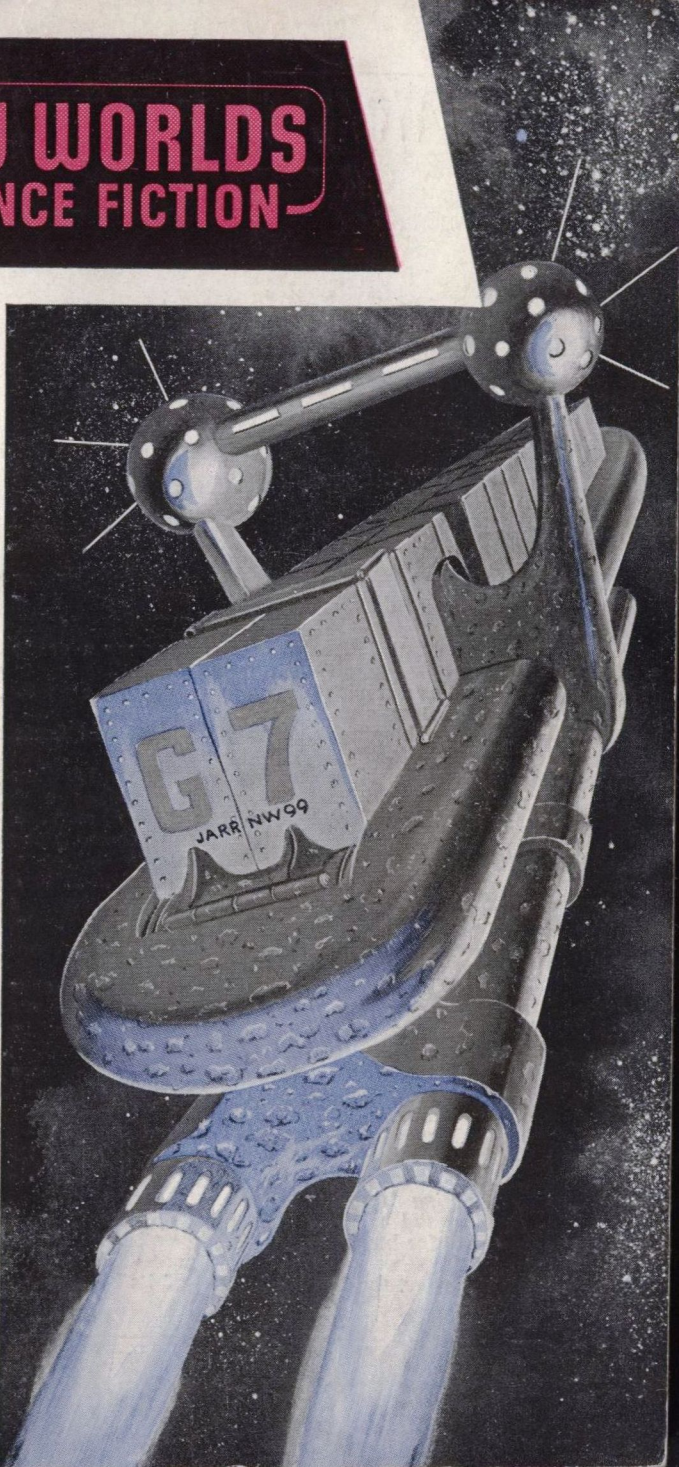

Sam Moskowitz

New Jersey U.S.A.

"Science fiction has always been my avocation," writes Sam Moskowitz, America's foremost bibliographer of the genre, "and as a result of 27 years of reading, collecting and research on fantasy and science fiction, I have made a speciality of history, biography, literary criticism and business analysis of the field."

Born in Newark forty years ago, he discovered *Wonder Stories* **in March 1933, which contained a story by British author John Beynon (now known to us as "John Wyndham"). Thereafter he became interested in the various group activities going on in and around New York and organized and directed the First World S-F Convention held there in 1939, continuing to direct or assist in conventions and conferences over the years until in 1955, at the 13th World S-F Convention in Cleveland, he was awarded a plaque "for services rendered to science fiction conventions."**

He has been author, literary agent, consultant, editor and publisher in the medium: editing the celebrated but ill-fated Gernsback magazine *Science Fiction Plus;* **two anthologies; editing and publishing Dr. David H. Keller's collection of stories,** *Life Everlasting;* **writing the now famous** *The Immortal Storm,* **a history of science fiction fandom published in 1954, and scores of articles, the most successful being his "Studies In Science Fiction" running currently in our sister magazine** *Science Fantasy,* **which are being readied for book publication, As a consultant he selects the monthly classical reprints for** *Amazing Stories.*

A good background in the food business and an unexpected talent for business analysis and statistical interpretation resulted in the post of Editorial Director of *Quick Frozen Foods Magazine,* **the leading journal of its kind in America.**

NEW WORLDS SCIENCE FICTION

VOLUME 33

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Editor : JOHN CARNELL

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TWO SHILLINGS AND SIXPENCE

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Missing . . .

With this issue of *New Worlds Science Fiction* a large but indeterminate number of new readers join us as we commence North American distribution of the magazine. To many Canadian and American readers the sight of No. 99 on their news-stands is going to be something of a surprise as the last numbered issue they would have seen is No. 5—only four months ago ! This apparent Time warp needs some explanation and the following will also bring the rest of our British and international readership up-to-date on publishing events.

In the May issue this year (No. 94) I announced that this magazine was appearing in North America, printed and published in New York by Great American Publications, Inc. The first issue had appeared in January, dated March, yet before that issue was officially off the stands we were informed that sales did not warrant continuing with the publication and it was being cancelled. However, we were informed, four more issues were in production and the magazine would not cease until No. 5. At the same time we learned that Great American were cancelling other titles they published.

Another peculiarity of this business deal was the fact that nowhere on the American edition was there any reference to the magazine being of British origin ; the publisher even credited one of his staff editors as the official editor of the magazine, although the issues were edited and made up from our London office. Still more peculiar was the fact that American bibliophile Sam Moskowitz had been commissioned to write a special editorial for the first American edition, pointing up the origin of the magazine. For reasons we never learned this was effectively killed before the first issue went to press but we are publishing it herewith as a Guest Editorial for the benefit of North American readers who never saw it.

Subsequently we have learned that Great American have apparently gone out of business and we leave readers to draw their own conclusions.

Previous to the venture we had made arrangements as long ago as October 1959 to distribute the three Nova magazines in North America but cancelled *New Worlds* from the plan on the assumption that an American printed and distributed edition would reach a far wider reading audience. As this particular

. . . Links

magazine has been held in high esteem by the many Americans and Canadians who have subscribed to it over the years—a Canadian edition was distributed in 1956-57 but eventually ceased because of dock strikes and delayed cargoes—we felt that it deserved the benefit of national distribution.

So, with the failure of the grandiose scheme through no fault of our own, we revert to the original plan of distributing independently on a smaller scale and *New Worlds* joins *Science Fantasy* and *Science Fiction Adventures* in North America where the latter two magazines have already become established

New readers with this issue arrive just in time to celebrate with ourselves the publication next month of our All-Star 100th edition, but we do not rest content there. There are some fine stories lined up for forthcoming issues—" Trial Run," a long novelette by John Rackham will appear in No. 101 and in the following issue a new John Brunner serial, " Put Down This Earth," commences ; certainly one of his finest novels to date.

One last word to our new readership. Over its fifteen years of existence, *New Worlds* has moulded many literary reputations for new British writers whose names are now well known in North America. Scores of its stories have been reprinted or anthologised in USA, many of its serials have later been published as books on both sides of the Atlantic. By any standard you will find it a fairly good magazine, primarily with an international flavour—our European and Australiasian readership totals nearly as much as home consumption, which, indeed, is something to boast about.

Finally, we have a regular letter section, *Postmortem*, (not in this issue owing to lack of space). Its pages are open to everyone with anything worthwhile to say about science fiction in general and criticisms and suggestions regarding this magazine in particular.

Our only request is that if you like the magazine—spread the news about it as far as possible.

John Carnell.

Offering an intelligent (but not quite humanoid) alien a job in a large departmental store would automatically pose numerous problems—especially if the outcome of such public relations had a direct bearing upon the future friendship with the alien's home world.

THE APPRENTICE

by JAMES WHITE

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one

Up until eleven-thirty a.m. Arthur Richard Nicholson, the Personnel Manager of Coop's department store, had had a fairly average day. As well as the usual quota of paperwork he had dealt with two Hardware salesmen guilty of repeated unpunctuality, granted a Shoe man some time off on compassionate grounds, and sternly reprimanded a couple who had been caught necking in Dispatch the previous day. The incident had occurred during their lunch break, there had been no previous misdemeanors and they were due to be married in three weeks, so all that Nicholson could do in the circumstances was to give them a stiff Time-and-place-for-everything lecture and send them back to their respective departments. He was enjoying that warm, pleasant and positive feeling of one who both enjoys and is completely on top of one's job when the sound of feet and voices came through to him from the outer office.

The voices were too low to be identifiable, but the other sound—the quick, irregular thudding of four feet on the waiting room carpet—told him that Harnrigg was in trouble again. All his pleasure was swept away by a wave of irritation so violent that it fell just a little short of rage. Striding across to the connecting door he yanked it open and snapped, " Come inside please. And sit down. Those who can," he added sourly.

The trio which filed into his office was comprised of Redmond, the ground floor Supervisor, a good-looking salesgirl whose make-up had been wrecked by tears, and Harnrigg. Harnrigg entered last, clumping softly across the carpet to stand between the chairs taken by Redmond and the girl. Watching the being, Nicholson could not decide whether it resembled a furry walrus with hooves or an outsize skunk with arms. Harnrigg's physical aspect was centaur-like—four legs, two arms and a head which had eyes, nose and mouth in the usual positions. In addition it possessed a dark brown furry pelt, dramatically marked by a broad white line which ran along the spine and into the tail, which was large and bushy. Chest and arms were almost man-like, and were topped by a head which might have come from a furry sealion. The most obvious features were the eyes, which were very large and sad.

Part of the sadness might be due to the fact that Harnrigg was some thirty-seven light-years from home.

" What's the trouble this time ?" Nicholson said harshly, before his annoyance could become tinged with sympathy.

Redmond cleared his throat. He said, " Horse-play at the Music counter, I'm afraid. Miss Clarke and Mr. Harnrigg were, er, dancing to one of the demonstration tapes. My arrival startled them, they lost balance and a display stand was knocked over, by Harnrigg's tail. Estimated cost of damage seven pounds, three shillings and sixpence. Including tax."

Some of the other floor supervisors would have elaborated on a case like this for fifteen minutes or more, but Redmond was the type who preferred assisting misplaced shoppers or placating children who had lost their mamas to putting his staff on the carpet. That had been one of Nicholson's reasons for placing Harnrigg on Redmond's floor ; only the more serious misdemeanors would be reported, and maybe he would get a rest from this extra-terrestrial apprentice and his troubles.

But that, apparently, was not to be.

" Well ?" he said sharply to Harnrigg and the girl.

" I . . . I'm sorry, Mr. Nicholson," Miss Clarke said, on the verge of tears again. " We were only tapping our feet. At . . at first, that is. When I saw how the music was affecting Harnrigg . . . I mean, there were no customers about . . ."

" It was my fault entirely," Harnrigg broke in, his tremendous bass voice filling the office. " I like Earth music very much, and this piece was such that some form of rhythmic physical movement was forced on me. I asked Miss Clarke if she would teach me to boop-jog."

" I see," said Nicholson.

It was common knowledge that Harnrigg's race derived intense enjoyment from Earthly music—their culture, although very advanced in many ways, was musically starved. Placing the being at that counter had seemed like a good idea. The Clarke girl had not objected, and it was Nicholson's private conviction that the people who bought the currently popular boop-jog recordings—which accounted for ninety per cent of the counter's business—were so far gone already that being served by a furry centaur would not even make them blink. Working so close to all that music should have made Harnrigg very happy.

Apparently it had made him delirious.

Nicholson breathed slowly in and out, then addressed the girl. His remarks varied little from those used on similar occasions so many times in the past. Miss Clarke was a fully-trained member of the selling staff and should be aware of the behaviour expected of one in her position. As well as being courteous, personally tidy and conscientious in her duties an assistant was required to show good example to trainees placed in her charge—even, or especially, when the apprentice in question was an extra-terrestrial. Miss Clarke should be ashamed of herself for agreeing to a junior's request instead of actively discouraging it, Nicholson concluded, and the damage which had resulted forced him to take an extremely serious view of the affair.

Stopping just short of pronouncing sentence, he turned to Harnrigg.

". . . And as for you," he went on scathingly, " I can only say that I am disappointed and very angry. You came here seeking a job which would let you meet Earth people and see

the planet, and insisting that no special privileges be accorded you—you wanted to be treated as one of the boys. Well, I can tell you that if you were being treated as one of the boys on this occasion you would have been on the street five minutes ago !

" Wait outside, both of you," he concluded grimly. " I have to discuss this matter with your Floor Supervisor."

When Miss Clarke and the centaur had gone, both men went for their cigarette cases. Redmond was slightly faster on the draw and so lost. The air had grown pleasantly opaque between them before Nicholson spoke again.

" I know Harnrigg's record," he said, sighing. " Is there anything previous against the girl ?"

Redmond shook his head.

" What do you advise doing with these . . . these boop-joggers ?" Nicholson asked impatiently. " For my part I'd run them out, Harnrigg anyway. It isn't anything personal, I'm a bit sorry for the awkward so-and-so to tell the truth, but I *liked* this job before he came. And if we fire him the girl will have to go also. We can't play favourites."

Redmond killed and brutally mutilated the remains of his cigarette in the ashtray. He said, " I suppose not."

" There are people here whom I dislike," Nicholson went on defensively, " but their jobs are essential to the smooth running of the store, and that is what counts with me. But this Harnrigg character has caused nothing but trouble . . ."

" I know," Redmond put in quietly. " But he grows on one, and the trouble wasn't always his fault. And the Clarke girl is very good at her job. Also, we lose a lot more than seven pounds a day in Receiving due to breakages or faulty packing, and worse things than a spot of surruptitious dancing go on here which we never get to know about, officially."

" Whose side are you on ?" said Nicholson irritably.

Redmond grinned. " Theirs."

Nicholson rose and headed for the outer office, then changed his mind and sat down again. He felt angry, indecisive and discontented with everybody and everything. He could ascribe no reasons for these feelings, although they seemed to have been with him more and more frequently since Harnrigg had arrived. But that was sheer coincidence, Nicholson told himself ; he couldn't go blaming the apprentice for his moodiness and fits of bad temper. At least not all of them.

This was a simple problem which, minus the extra-terrestrial trimmings, Nicholson had dealt with many times in the past—quickly, fairly and as a matter of course. He could not see why he was getting so worked up over this one. Maybe the job was becoming too much for him . . .

Angrily Nicholson forced his thoughts into more constructive channels. He cleared his throat and prepared to rid himself both of the problem and this soft-hearted floorwalker who insisted on acting like a defence counsel when it was his duty to side with the prosecution.

" Tell them they're suspended until Friday, pending my final decision on their case," Nicholson said briskly. " That will give them a couple of days to stew in their own juice. On Friday give them a good lecture. And none of your fatherly, more-in-sorrow-than-in-anger routines, d'you here ? Make them squirm ! Tell them I'll be watching them very closely after this and that . . . Oh, you know what to say as well as I do.

" My reason for suspending them," he ended, " is to have time to find another spot for Harnrigg."

When Redmond and the others had gone Nicholson tried to work himself into a pleasant, engaging and forceful frame of mind. He was going to try selling Harvey of the Toy department the idea of taking Harnrigg into his section again.

The Toy buyer was a ' good boss '—in his staff's eyes. Discipline in his department was non-existent, so far as Nicholson knew, and this—even if he had not known Harvey personally—made it plain that the Buyer was easy-going, kindly and generally of the type who takes in stray cats. Nicholson hoped that his good nature would extend to centaurs.

" Oh *no* !" Harvey protested when Nicholson phoned him. " I had him the first two weeks he came here and that was precisely two weeks too long ! I've nothing personal against him, but he's *awkward.* Some of the children are frightened by him, and others want to ride him like a donkey, which frightens their parents. Apparently you drummed this customer-is-always-right stuff into him so thoroughly that he was willing to give a kid a ride around the department if it would help him sell a doll's house. With really big stuff, like the higher priced model railways, the ride might last half an hour.

" Some of my girls thought this an unfair advantage," Harvey added reflectively. " Harnrigg was ' way ahead of them with commission . . .'

" There will be no donkey rides this time, ' Nicholson said. " That I promise."

"Even so, sir, it wouldn't be a good idea," Harvey demurred. " Space behind my counters is cramped and with the Christmas stocks coming in it will be more so. We'd trip over him and he'd break things. I'll take him if you insist, but I'd as soon not . . ."

When Nicholson let the receiver drop a few minutes later he had decided that Harvey's objections were sound and that he could not impose on the other's good nature by inflicting him with Harnrigg again. His next call was to Furniture.

While waiting for Fielding, the Furniture buyer, to be brought to the phone Nicholson visualised the great department which covered nearly all of the Fourth floor. There was a big central aisle along which was ranked lines of tables, couches and assorted dining- and bedroom-suites. The side aisles were wide also, being designed to accommodate customers as well as salesmen, though there were a few awkward corners here and there. Nicholson was becoming adept at estimating Harnrigg's powers of manoevurability in any given space, and he decided that there would be a few scratched surfaces resulting before the e-t got used to the place, but then what was the Polishing Shop for ? He prepared to be very charming to the Furniture buyer.

" I won't have him !" Fielding burst out before Nicholson had completed the first sentence. ' " I don't want that hairy brute dancing about in my department. Oh, yes, I heard all about it. You should have fired him !"

Fielding had stomach trouble and it showed in his disposition. Nicholson did not like him as a person, but he forced himself to use a mild tone as he said, " I doubt if there will be any more dancing. And Fielding, yours is one of the few departments where he could turn around without breaking something . . ."

" I won't have him near me ! Why the blazes doesn't he go home !"

For a moment Nicholson was tempted to exert his authority by telling Fielding that he was getting Harnrigg whether he liked it or not. But he knew that if he did that Fielding would, unconsciously or otherwise, make the extra-terrestrial suffer for

it, and that would not be fair to the being. His thought as he replaced the receiver was that Furniture was spacious enough for the centaur to work comfortably, but its Buyer's mind was on the narrow side.

The Radio and TV department he considered and dismissed at once, also China, Electrical and the other sections which dealt in valuable and easily damaged merchandise. Jewellery, Cosmetics and Lingerie were out also ; besides being cramped for space, Harnrigg would have looked ridiculous in those surroundings. Gent's Outfitting and Mantles would have been ideal—their Buyers raised no objections and the floor space between their stock fixtures was ample—but Nicholson had to look at it from the customer's point of view. In those departments the assistant was often the arbiter in matters of fit, style and appearance, and what customer would believe an assistant whose dress consisted only of a watch and four hoof protectors! The Pharmacy required special training, as did many of the other departments. And the Grocery, of course, was out. Nicholson had discovered within a few days of his arrival that the sight of meat, even tinned meat, made Harnrigg ill.

After about an hour's solid telephoning Nicholson had the possibilities narrowed down to three ; Blankets, Garden implements and Carpets. But the Buyers concerned were not very co-operative. They had nothing personal against the e-t, but all were men close to retiring age who ran good, paying departments, and they were too set in their ways to welcome a disturbing influence like Harnrigg.

Somewhere in this vast establishment, Nicholson told himself, there must be a hole into which this particular square peg would fit with a resounding click. The selling end was beginning to look hopeless, but the store employed a small army of clerical and maintenance staff. There were repairmen, painters, carpenters and cleaners. He knew that Harnrigg would qualify for the last category, because no qualifications were necessary. And he would be working alone, too, which meant that he would be less likely to get into trouble. Making Harnrigg a cleaner seemed the ideal solution.

But would he take a job like that ?

two

At the initial interview Harnrigg had told him that he wanted to meet people and see the sights of Earth, and that he would work hard to earn the money to do so. He further stated that it was a point of honour with him that he earn what money he received, and he wanted no special privileges. Clearly Harnrigg was a proud type, despite the donkey rides and the boop-jogging.

And another point which Nicholson had to consider was the fact of his origin. Contact had been made with his species ten years previously, but even now there was only a handful of his race on Earth at any given time. Which meant that, despite the request that no special consideration be given him, Harnrigg was in effect a guest of the planet.

One did not set one's guests to polishing floors and mopping out washrooms.

Nicholson was still trying to find the answer, and was rapidly losing his temper in the process, when his phone rang. The volume, timbre and general abrasive quality of the voice beating out at him from the ear-piece identified the caller as Hammond, the Store Manager himself.

" Nicholson ! I hear you suspended our extra-terrestrial, and may fire him. Why ?"

" Er, some disciplinary action seemed necessary . . ." Nicholson began.

" Disciplinary action my foot !" Hammond's voice blared. " You were told to find a place here where he could work both happily and efficiently, and that is your *job* ! The fact that Harnrigg is an e-t may entail a little more work for you, but that is all. You don't have to fold up under it and fire him because he is too much trouble."

The voice became quieter, but with a dangerous edge to it as Hammond went on ; " This is the first time one of Harnrigg's race has come here to work at an ordinary job. Previously they have all been ivory tower types. As I've already explained to you, his presence at the store is publicity for us of the most valuable and subtle kind. We aren't using him as part of some cheap advertising stunt, but are instead employing him as an ordinary member of the staff. He has trade union protection, shares in sickness and superannuation benefits, and receives the usual apprentice's wages. This, in the public eye, demonstrates our initiative, farsightedness and racial tolerance. We do not want to lose him."

" I've been trying . . ." began Nicholson again.

" Obviously not hard enough !" Hammond snapped, and hung up.

Nicholson banged down his own receiver with a force which threatened to shatter the plastic. So he wasn't trying hard enough! What *had* he been doing for the past hour? Bouncing out of his chair he stamped out of the office, his emotional thermostat swinging from simmering anger to boiling rage. He was fed up with this job, the store and everyone in it. He was going out to lunch before he hit somebody.

During the meal Nicholson calmed down a little, but his feeling of angry discontent would not leave him. Which was strange because he usually enjoyed his work, even on the bad days. Nicholson had always preferred dealing with people as people rather than as the necessary adjuncts to increasing business, and had sought promotion in the administrative rather than the selling side. Well, he had risen as far as it was possible to go in that end, and he realised now that it was a dead one.

If he had not been so scared of the more competitive, dog-eat-dog atmosphere of the selling side he might have been in Hammond's place today. Instead he had aimed for security and a series of small gains with the result that, despite his exalted title, he was little more than a glorified floorwalker.

By the time Nicholson got back from lunch he was as fed up with himself as he was with everyone else.

There was a spaceman waiting in his office.

" Good afternoon," said Nicholson respectfully. Sight of the trim black uniform with the tight, silver-edged beret and Surgeon-commander's insignia gave him a funny feeling in his chest. It was like meeting Royalty. *The things this man has seen*, Nicholson thought ; *the places he's been* . . . Despite the port being only twenty miles away, this was the first time he had spoken to a Space officer.

" My name is Telford," said the visitor, smiling and getting to his feet. " Friends, including a mutual acquaintance called Harnrigg, shorten it to Joe."

Harnrigg again ! Abruptly the aura of glamour died from around the Commander and to Nicholson he became just another man intent on prodding him in a particularly sore spot. He brought his lips together and waited for the other to go on.

Telford ignored his expression and said cheerfully, " Harnrigg has to bunk at the spaceport—none of the hotel or boarding house people will accept members of his race as guests, I'm ashamed to say. When I saw him wandering about during working hours I asked what was wrong. He wouldn t tell me. What *is* wrong ?"

In spite of the light tone it was obvious that the Commander was deeply concerned for the alien. So instead of telling the other that it was none of his unprintable business, which was what he felt like doing, Nicholson gave him a quiet, objective *resume* of the apprentice's record to date.

". . . I suppose I could suffer having him here because of the prestige," Nicholson went on, " but none of the department heads want him, which means he isn't going to have a happy time no matter where I send him. I'm beginning to think that staying here is a punishment he doesn't deserve. '

" He isn't a criminal," said Telford drily, " in case you were wondering."

" I know that !" Nicholson snapped. Irritably he went on, " He is a fairly normal type, not too young, unmarried and with itchy feet. The Earth team on his planet distributed a lot of illustrated literature, translated copies of the National Geographic and such, and he fell in love with Niagra Falls or the Matterhorn. I've had several long interviews with him, you know, and once I had to listen to him being homesick for a solid hour. Now, of course, I'm kept busy straightening out the trouble he causes to do anything but snarl at him.

" But wouldn't it be kinder," Nicholson went on seriously, " to take him out of this place ? There are very few centaurs on Earth at the moment, and all except Harnrigg seem to be getting the red carpet treatment. Why not send him on a conducted tour as a goodwill gesture, then pack him off home ? Why does he have to *work* ? '

Telford leaned forward to give emphasis to his reply. He said soberly, " Because Harnrigg is perhaps the most important centaur to visit us to date, and he must earn his keep."

" But if he s such a VIP . . ."

" He isn't. On the contrary, Harnrigg is a very ordinary, not-too-intelligent and slightly maladjusted type . . ."

I agree with you there, Nicholson said under his breath. But this spaceman was talking in circles. Despite the awe he felt for the other's rank and profession, he wanted to tell the Commander to talk sense.

Nicholson tried not to fidget as Telford rambled off the point and began talking about Earth's first contacts with the centaur race. It was the sort of thing which Nicholson had read about and seen many times, but viewed from a very different angle to the TV features and newspapers, and gradually he began to realise that the Commander *had* been talking sense.

During the years which followed the first contact scientists and other great minds of both races had exchanged visits, Telford explained, and those exchanges were still going on. The beings concerned, both centaur and human, were very much aware of their responsibilities and were careful not to do or say anything which might offend the other party. And because they were sane and highly intelligent beings dedicated to the idea that only peace should reign between the two races, these people displayed a code of ethics which was *not* representative of their respective planets of origin . . .

". . . A fair analogy," Telford went on drily, " would be that of an old-time Captain of a warship visiting a foreign port. The Mayor and other leading citizens are impressed and delighted by the charm, politeness and friendliness of the Captain and his officers, and because of this they feel more than favourably inclined towards his country of origin.

" Then the ship's crew get twelve hours shore leave and wreck the place !"

The Commander sat back and continued more quietly ; "At present a millionaire could not afford the trip to the centaur planet, but twenty years from now a man in your own position could do so at least once in his life-time. Thousands of people will be visiting each other's planets then, and they will be *ordinary* people—not the hand-picked and ultra-tolerant bunch of idealists who make the trips now. Friction will occur, misunderstanding, possibly war.

" We are hoping," Telford ended, " that by presenting the worst with the best facets of our respective cultures from the very beginning, both sides will have a fuller understanding of each other by the time the stage of a mass exchange of tourists is reached."

" I see," said Nicholson, getting to his feet. He felt that he had to walk around, or do some physical exercise, to relieve the excitement building up inside him. That a problem of such vast scope, affecting as it did the future wellbeing of two whole solar systems, was being discussed in *his* office—might even be solved, in part at least, in his office . . .!

Nicholson sat down again. He laughed nervously, then said, " So Harnrigg is an average alien, holding down an ordinary job, so that he is forced to mix with ordinary Earth-people. It's nice to be in the picture. But I can't help feeling sorry for my centaur opposite number, with an Earthman apprentice to contend with."

" They're aren't any, yet," the Commander said morosely. " Oh, we've had volunteers, but they're the starry-eyed idealist type—they aren't average at all ! The kind we want is the person who is a good mixer, fairly adaptable and even-tempered. When I mentioned the worst and the best back there I didn't mean that we were going to use criminals or hopeless psychotics. We want average people, and we'll get them. But Harnrigg is our immediate problem.

" Or one of them," Telford added with an uncomfortable glance at Nicholson. " You see, he has three friends."

" On Earth ?"

The Commander shook his head. " It happened during the first week he was at the store, before he began to get into trouble. He was enthusiastic about the place and wrote letters home to that effect. Three of his friends decided that they would like to work on Earth also, and asked our mission there if this could be arranged. As this fitted in nicely with our plans, we arranged it. They'll be arriving in ten weeks."

" Not . . . here ?" said Nicholson, aghast.

Telford nodded, and began to speak very rapidly. Coop's store had been chosen for Harnrigg not, the Commander stated with great emphasis, because its live-wire Store Manager had pulled strings, but because it was the largest on the planet and offered the widest variety of openings for an alien who would almost certainly have trouble adapting to any kind of Earth job. What was perhaps more important, it was a pleasant and easy firm to work for. This in turn was due chiefly to its Personnel Manager, who had also been investigated thoroughly and passed with flying colours. It was due to Nicholson rather than Hammond that the e-t was here, and if Coop's was the best possible choice for the first alien apprentice it followed that the other three should at least serve there for a short time to acclimatise themselves. He did not have to stress the importance of the situation which was being worked out here, and they were very sorry that the problem had been dumped in Nicholson's lap, but the decision had been taken at a very high level that he was one of the few people qualified to handle it.

Meanwhile, what was he intending to do about Harnrigg?

Nicholson did not reply for a few minutes. He was thinking that this Surgeon-Commander was a very smooth operator, and reminding himself that the other's rank could apply equally to doctors or psychologists in the space service. Telford had begun by dazzling him with the scope and importance of the problem, then stabbed him in the back with the news that three more centaurs were coming, and had ended by deftly anesthetizing the wound with a hefty shot of flattery.

Nicholson did not like to be flattered by people he considered more important than himself; it made him uncomfortable unless, or until, he could demonstrate both to his own and the other party's satisfaction that it had not been flattery but deserved praise he had received. Which meant that Telford had him neatly backed into a corner. But part of his demonstration must be to show the Commander that he could fight back even in corners, and that in his own fashion he was something of a psychologist, too.

He said; "If I tell you what I intend doing with Harnrigg we will discuss it awhile, during which you will say that there is no point waiting until Friday before bringing him back to work. Then I will find that by some odd coincidence you happen to have Harnrigg with you, waiting downstairs. Wouldn't it save time if you brought him up, Commander? Then I could show you what I'm going to do."

Telford looked startled but not discomfited. He left the office without a word.

To be honest Nicholson did not know which of the three possible openings—Blankets, Garden Implements and Carpets—would best suit the extra-terrestrial. He had intended using the time Telford was away to make the final decision. But then something which the other had said, something about experiencing the worst with the best, set his mind off on a tangent. Hitherto he had been trying to fit Harnrigg into departments where the work and people suited him. But suppose he put him in a tough section, one where the work was hard and unpleasant and his colleagues anything but friendly, for a while? That way Harnrigg might appreciate the good departments more, and behave accordingly. He would place him with Fielding, or better yet, in the Dugout.

When the Commander and Harnrigg returned, Nicholson came straight to the point. He said, " Mr Harnrigg, I'm sending you to the Dugout. That, in case you don't know it already, is the section in the basement near the TV repair workshops which services the air-conditioning system, the elevator motors, and sundry other jobs. In charge are a Senior and Junior Maintenance Engineer, the rest of the personnel being unskilled.

" I must warn you that some of these people are likely to feel antagonistic towards you," Nicholson went on briskly. " They are that type. Also, you will hear things, figures of speech which will puzzle you perhaps. Don't go asking what they mean, just forget them if you can—they will be of the type never used in polite company."

The expression in Harnrigg's eyes, the only features not covered by a concealing mask of fur, told Nicholson that the e-t had heard all about the Dugout, and that he wasn't a bit happy about being sent there. Nicholson decided that it was time to soft pedal a little.

" The move is temporary," he continued in a slightly warmer tone, " and your conduct will determine your length of stay in that department. Frankly, I want you out of my hair for a while until I can decide how exactly your background, physique and disposition can be best used by this organisation for the benefit of all concerned."

" I understand, sir," Harnrigg boomed. Even when he was being submissive his voice almost rattled the windows.

" Very well," said Nicholson. " Go to Mr. Redmond, who will introduce you to your new section. And on the way down will you be good enough to call on Miss Clarke's Buyer and tell him that I would like her notified to re-start in the morning. You may go."

Harnrigg left and Nicholson made the few phone-calls necessary to arrange the transfer. The Commander waited patiently until he had finished before speaking.

" What's so terrible about your Dugout ?" he asked.

Nicholson thought for a moment, then said : " The people, chiefly. When something goes wrong they have to work hard, very hard, but major breakdowns are rare. This means that they also have more leisure time during working hours than anyone else, and as they are tucked away in an inaccessible corner of the store the result is that they do pretty much as they like . . ."

Gambling went on almost constantly, Nicholson explained, and there wasn't a thing he could do about it. The Dugout had an Early Warning system, fitted by one of the electricians who had a fondness for poker, which was fool-proof, and the Floor Supervisors had long ago given up the idea of catching them at it. Nicholson did not mind a little surruptitious card-playing during lunchtimes, providing it was for pennies and he didn't catch anyone at it, but the sums which changed hands in the Dugout were too large to be ignored. Nicholson would have fired practically everybody in the section, including the two engineers, if he could only have caught them at it.

But he could not, no matter how hard or how often he tried. All that he could do was to see that the Dugout was staffed by people who would not be hurt too badly by its lawless environment ; men without dependent relatives who wouldn't mind losing most of their wages in a game, or other undesirables of one sort or another who had not misbehaved seriously enough to be fired.

". . . I am hoping it will teach him two lessons," Nicholson summed up. " The first is to make him appreciate the good spots he's been in by putting him in a rough one. The second . . . well, the Dugout men do practically every ' Don't ' in the Staff Rule Book and get away with it. Maybe the association will teach him how to get out of trouble after he's got into it."

" And that," said the Commander as he rose to his feet, " takes care of that." He shook hands with Nicholson, dropped a card onto the desk and turned to go. " If you need information on his home planet, or anything at all, let me know. Good afternoon."

three

For a long time Nicholson sat staring at the door through which the Commander had passed, planning his next moves. Several department heads would have to be sold the idea of taking centaurs into their sections, and starting tomorrow he would begin applying the good old butter. Departmental Buyers were always wanting something—more staff, their sections redecorated, extra display space for slow-selling goods —and if necessary Nicholson could wangle these things for them. For a return favour, of course. It was sheer blackmail, a scandalous abuse of his authority, but Nicholson did not care.

They could say what they liked about him, but gradually they would all get the idea that employing an e-t in their departments paid dividends.

Harnrigg was here already. Three others were expected shortly, and Nicholson felt it in his bones that there would be more to come. He *had* to make openings for them, the things Telford had told him made it imperative.

Perhaps it would be wiser to get Hammond's backing before he brought pressure on his Buyers. The Store Manager was interested in e-ts only for their prestige value, which was very considerable, and didn't give a fig for the attendant personnel problems. Providing Nicholson put it to him properly first, Hammond would shout down any of his Buyer's objections to e-t's as assistants.

The store, Nicholson thought, grimly, was due for one hell of a shaking up.

Nicholson came out of his semi-trance to find that the background noises of the store had died away. It was closing time. He reached for his hat and coat, and with the physical act of donning them put the problems of Harnrigg and the store out of his mind. He was a firm believer in the principle of never taking one's work home with one. But as he was in the bus which took him out to the place where his car was parked, the centaur problem returned briefly.

He wondered if the human race would ever reach the stage of tolerance and understanding which would see an extra-terrestrial fighting his way onto the public transport during rush hour on a wet night. If that ever happened, Nicholson knew, there would never be a war.

Nothing happened next day, or on the one following . The weekend came and still Harnrigg had not got himself into trouble—or any that Nicholson knew about, at least. On Sunday Nicholson drove out to the spaceport, partly on impulse and partly because he had always wanted to have a closer look at the ships and now he had a name to drop which might get him past the outer gate. He was pleasantly surprised. Telford must have been expecting him to call and had left word with the guards that Nicholson was assisting him in an important project and was to be admitted at any time. The tarmac, so far as Nicholson was concerned, could have been so much red carpet.

The Commander was a very important person, Nicholson realised as Telford met him and straightaway suggested a tour of the port ; one of the rare ones who did not make their importance obvious.

The Commander took him through one of the larger interstellar ships, showing him the hyperdrive engines, the sleeping recreational quarters, and ending in the control room. Because he probably knew that that was what Nicholson wanted most badly to do, he indicated an acceleration chair—the Captain's—and asked him to sit down. Taking the Astrogator's position himself he began to talk about some of the problems of navigation over interstellar distances. He made no attempt to ' talk down ' to Nicholson, or be off-hand about his job or duties, or to show off. It was obvious that to Telford this ship was wonderful and the places he had been were wonderful. Nicholson's wonder was a pale thing by comparison, because to the Commander's feeling there was added a complete understanding.

When they finally left the ship two hours later Telford began talking about Harnrigg's home world. Nicholson had seen the pictures, of course ; the strange, fleecy trees, seas that were like blue milk, and the fantastic cloud effects. But Telford's quiet, expressive voice gave the remembered pictures new depth and colour. For several minutes Nicholson was so entranced that he lost track of where they were going, and suddenly found himself on another world.

" These are the quarters used by Harnrigg and other visiting centaurs," the Commander explained as Nicholson stared around him, trying to identify objects in that peculiarly alien room. " He's paying a call on the crew of the centaur vessel on Apron Six, but I have a standing invitation here. I thought that if you saw the sort of conditions he was used to it might assist you in helping him to adapt. There are other rooms through that door. Look around."

The dissimilarities were what Nicholson noticed first. The largeness of the rooms to accommodate a being who was much less manoeuvrable than a human ; the low, wide doors and the fact that there were tables in the usual places but no chairs whatsoever. Harnrigg's kind could relax quite comfortably on their feet, and if necessary go to sleep on them. Nicholson was very pleased with himself when after only two minutes in one

of the rooms he identified a large square of brightly coloured foam rubber set flush with the floor as being a bed.

There were books, a TV and pictures scattered about in comfortable disorder. Most of the pictures were of people rather than places. To Nicholson, who could not tell one centaur from another, they seemed to be all of the same person. But there was one landscape, or seascape—the famous Three Islands taken just after sunrise. A copy was in practically every home on Earth, including Nicholson's, yet he still got a kick out of looking at it.

As the Commander was taking him back to the main gate Nicholson said suddenly, " I can't understand why anyone would want to leave a world like that."

" Oh, I don't know," said Telford, grinning. " We have a few attractions, too. Like snow, or moonlight, or boop-jog . . ."

Nicholson did not sleep very well that night—he was too excited by all the things he had seen and by the knowledge that he was taking part in an extremely important project. His departmental store seemed to be an unlikely place to work out centaur-human sociological problems, but that was exactly what was happening. Harnrigg's presence in the store was an exciting challenge to Nicholson in his capacity as Personnel Manager. He had been in a rut lately and had been subject to fits of bad temper, moodiness and dissatisfaction. Now, however, with a job ahead of him which would take everything he had, he should be happy.

But for no clear reason Nicholson felt as discontented as ever.

On Monday morning he began laying the groundwork for bringing in more e-t's. It was a gradual process, involving personal visits to department heads instead of the customary phone calls, carefully dropped words and half-promises, and the peculiar mixture of threats, cajolery and near-blackmail which would, he hoped, culminate in certain people being backed into positions where they could not say ' No ' to what he wanted. He became so absorbed in it that Wednesday came and went before he realised that Harnrigg had been almost a week in his new section without getting into trouble. He felt that this was too good to be true.

There was still no news of Harnrigg, good or bad, by Thursday evening. But on Friday morning Redmond phoned.

" Harnrigg wants to see you," said the floor supervisor in a strained voice. " He, ah, it looks like he has the mange."

A horrible picture of the centaur running about like an outsize, mangy dog, of some terrible extra-terrestrial disease running rife among the staff, culminating in an army of Health men closing and quarantining the store, rose up before him. The picture was making him sweat when he remembered that centaur and humans were supposed to be immune to each other's germs. That made him feel better. He said, " What does he want ?"

Nicholson heard Redmond relaying the question and the booming voice of the e-t as he replied. Apparently Harnrigg's superior had not liked having a centaur landed on him and had taken it out on the e-t by setting him to checking elevator cables—a particularly messy job. Harnrigg had performed this work satisfactorily, but the detergents he had been forced to use to clean up his fur afterwards had bleached his coat, causing unsightly patches of grey and yellow to form. He wanted to know if it would be possible for him to be supplied with protective overalls like the other maintenance staff ?

" Certainly," said Nicholson, relieved. " Send him along to Tailoring. They'll have to make him a set, and I can foresee snags. But there is no need to see me personally about a matter like that."

" He wants to see you about a personal matter also," said Redmond a few seconds later.

Nicholson did some careful thinking before he replied. He didn't mind giving Harnrigg some of his time, or even a lot of his time. But a point which the e-t was probably not aware of was that, in his current workmates' eyes, people who visited Personnel Manager's office for anything but a ticking off were suspect. Nicholson did not want them to get the idea that Harnrigg was telling tales.

" Send him to be measured," said Nicholson at last. " I'll be down in Tailoring shortly and will see him there."

Twenty minutes later Nicholson arrived in the tailoring department to see Harnrigg rolling about on his back on the floor while two assistants alternately chewed their pencils and made notes. When Nicholson appeared the centaur rolled onto his side, then struggled to his feet, displaying in the process his bleached and scraggy coat.

" We've finished the measuring, sir, and are working out how best to fasten the garment," the senior assistant explained to Nicholson. " We think he should lie on his back, pull on the hind legs, then the forelegs and finally the arms. Once upright he can fasten the garment, which will join along his back. The tail was a problem, but we've decided that it will have to be tied so as to lie flat along the spine. This, Harnrigg assures us, will cause him no discomfort. There will be two pockets in the breast and two special tool pockets on each flank."

Nicholson nodded his approval and the salesman went on enthusiastically, " It takes eleven and a half yards of material for him ! Why can't we get all these centaurs interested in wearing clothes while visiting Earth ? While in Rome and all that, you know. With a suit that takes four times the usual amount of material, and costs four times the price, think of the—"

" Commission ?" said Nicholson drily, then : " It's an idea, but not in my department, I'm afraid. Mention it to your Buyer, or if you're feeling very brave, to Mr. Hammond. And now I'd like to have a word alone with Mr. Harnrigg."

The salesman and interested observers in the vicinity moved out of earshot, and Nicholson turned to the centaur. He said, " Something is bothering you ?"

Harnrigg wagged his head up and down. He made several attempts to say something, failed to get past the second word, then gave up. The expression in his eyes was of confusion and mute appeal. Nicholson thought that he knew what might be the matter, and felt himself warming to this four-legged apprentice who was far too human for his own comfort.

Choosing his words carefully, Nicholson said, " Everything which goes on down there is known to me sooner or later—but by hearsay several times removed so that I cannot take official action on what I hear. For instance, someone brought in a bottle of whisky three days ago and one of the electricians got so drunk that he was unable to clock out until eight-thirty. And to add insult to alcoholism the so-and-so claimed, and will almost certainly be paid, overtime for those extra hours. I also know, unofficially, about the gambling which goes on. So if you are afraid of implicating someone by telling me your trouble, I can listen unofficially, too.

" Did they clean you out ?" Nicholson ended bluntly. " Are you short of money ?"

" Oh, *no* !" Harnrigg exclaimed, then in response to Nicholson's frantic signal, forced his voice down to a loud, discordant whisper. " Somebody started the rumour that my race is telepathic and they won't let me play."

" You were lucky," said Nicholson. " But what *is* the trouble ?"

Apparently there wasn't any so far as Harnrigg himself was concerned. In the apprentice's own words it was a problem belonging to two other people whom Harnrigg felt obliged to help. One, a young mechanic called Sinclair who worked with him, had become emotionally involved with a female in Hosiery. They were going steady and saving up—at least, the girl was saving up ; Mr. Sinclair found it impossible to give up his poker and betting on horses. In Harnrigg's opinion, if Sinclair could be transferred to a department where it wasn't so easy to slip out to the bookies and where there was no poker game this, together with the stabilising influence his girl was exerting, would have a beneficial affect both on his character and future hopes of promotion.

" I see," said Nicholson when he had finished. " Did he ask you to do this for him ?"

Harnrigg shook his head. " He would prefer to stay where he is. I found out about it because Mr. Sinclair and a few others sometimes discuss this sort of problem with me. I'm supposed to have an objective viewpoint where human Love is concerned. Taking the long-term view I decided that transferring Sinclair away from Maintenance would be a good thing."

Well, Well, thought Nicholson. This was a completely unexpected development. Harnrigg had been sent to Maintenance as a punishment, and now there were indications that the e-t was intent in showing his irresponsible colleagues the error of their ways—the salvageable ones, anyway. And his self-confidence had increased almost to the point of impertinence.

Nicholson was about to put him in his place when he saw the hurrying figure of Redmond approaching, closely followed by Chambers, the Soft Furnishing's buyer. Both their faces were red.

They began talking at once while they were still a dozen dozen yards away from Nicholson, Chambers complaining and demanding and the floor supervisor trying to tone down the other's demands and complaints. Nicholson suggested that they all go to his office and discuss the matter less publicly, but Chambers wouldn't have that ; he wanted a showdown right now. This sort of thing had been happening too often, and he was here to demand their instant dismissal.

Gradually Nicholson began to understand what all the shouting was about. Two members of the Soft Furnishings sections—of opposite genders, Chambers explained delicately —had been sent into their stockroom to check off a delivery. An hour later Chambers had gone into the stockroom and had been horrified to find them in a compromising position. On being pressed for details Chambers stated that they had been holding hands. Chambers had very strict views.

" Send them up to my office," Nicholson said with a sigh. " I'll deal with them there."

" Fire them !" Chambers cried. " Make an example of them ! There's far too much of this goes on . . ."

" I don't think such drastic action is necessary," Redmond put in, and began developing an argument along those lines. Within seconds the two men were yelling at each other. Nicholson thought that the whole argument was disgraceful and highly undignified, and was unthinkingly about to make matters worse by shouting at them to shut up, when Harnrigg chimed in.

" If I might make an observation," he said in a conversational tone for him, but which drowned out everyone else with sheer dicibels, " a store of this size represents a system of check and balance similar, though on a smaller scale, to the ecological balance of a continent or planet. If one factor is removed or forcibly suppressed, the state of imbalance which occurs can have far-reaching and perhaps drastic effects. Causing large numbers of people of opposite genders to work in close proximity and then inhibiting the attraction which they feel appears to me to be an unnatural practice, and one likely to seriously upset the ecological balance of the store . . ."

Chambers had gone plum-red with rage and Redmond's face was only a shade lighter—from suppressed laughter, Nicholson suspected. But Harnrigg was warming to his subject and his tone was no longer conversational. Possibly there were a few

people at the other end of the building who could not hear him now, but Nicholson doubted it.

". . . Take Jewellery, for instance, whose Buyer keeps a special room where members of the staff can chose engagement rings—in secret, if they prefer it that way, and most do. The Buyer takes care of store personnel himself which proves that the staff trade must make up a fair proportion of his total turnover. According to a breakdown of last year's trading figures, which I read a few days ago, engagement ring sales to store employees accounted for five and one-quarter per cent of . . ."

Nicholson gave Harnrigg's flank a thump with his fist in an attempt to make him shut up, but was ignored.

". . . I am not advocating unrestrained lovemaking," the extra-terrestrial went on in stentorian tones. " Only that certain minimal physical contact, when people are unfortunate enough to be caught at it, should not be considered an offence of such gravity as to require dismissal. If this were so the staff would not patronise the Jewellery department, the trading figures would go down and the Buyer would not be pleased.

" Neither would Mr. Hammond."

The silence which followed was broken by someone at the other end of the department clapping their hands. Nicholson glared in that direction and the applause ended abruptly. Before Chambers could get in a counterblast he said hurriedly, " Mr. Harnrigg, you are being insubordinate, return to your section ! And I suggest that you go back to your department also, Mr. Chambers. You, Mr. Redmond, bring the two offenders to my office in half an hour."

As Nicholson was leaving, the floor supervisor caught up with him and kept pace for a few yards. Redmond said, " Man, that was lovely ! And bringing Hammond into it at the end was a masterstroke. I'll be afraid to tick off an apprentice for bad writing now in case I upset the ecological balance—"

" That's enough, Redmond," Nicholson said sharply, and moved away. A situation was developing which smelled to high heaven, Harnrigg was headed into very serious trouble, and the matter was urgent enough for Nicholson to forget to be polite.

four

Basically the extra-terrestrial was a nice type. His concern and his attempts to gain a transfer for the man Sinclair proved that, and there had been other pointers. And to want to come to Earth in the first place meant that he had a good deal of the impractical visionary in him, otherwise he would have stayed comfortably at home. Altogether, Nicholson put him down as a kindly but suggestible type. Which was why his role of champion of the oppressed workers had Nicholson worried.

No store likes agitators, extra-terrestrial or otherwise.

To Nicholson, who had become adapt at reading between the lines, it was plain that somebody was gunning for Harnrigg. And they were doing the job so subtly that he was powerless to stop it.

Harnrigg had settled in and been accepted by the rough characters of Maintenance—his agitation for overalls rather than a transfer proved that. He had made friends down there, although there must still be some who did not like him for one reason or another. Forbidding him to play poker suggested an almost superstitious distrust on someone's part, and superstition and hatred were almost synonymous. That same person or persons had also learned that Harnrigg was suggestible, excitable and believed everything he was told. Perhaps it was a case of malicious humour and nothing else. But somebody in Maintenance was pretending to be Harnrigg's friend while busily feeding him with the ideas which must ultimately get him fired.

Back in his office Nicholson decided to adopt Harnrigg's suggestion and transferred Sinclair to Garden Implements. Maintenance was no place for a young man saving up to be married, and the Buyer of his new department would be delighted to have him—which would, incidentally, make his resistance to taking a centaur into his section that much lower. There was always trouble with motorised lawn-mowers and such which the purely sales personnel could not handle properly. When that item was attended to, Redmond arrived with the two hand-holders. This was, despite Chambers' attempt to make a production number of it, a routine matter. He read the riot act over them at some length and transferred the culprits to widely separate departments and with lunch breaks which did not overlap. He was feeling in a vicious

mood. He was thinking to blazes with the Jewellery Buyer's engagement rings !

According to Telford, and Nicholson agreed implicitly with the Commander, the extra-terrestrial apprentice was a test case. His reactions to the average people, and their reactions to him, were pointers to where their respective cultures were heading when unrestricted contact became possible. The alternatives were friendship or distrust ; Peace, or eventual War. It was crazy that a matter of such tremendous importance should depend on the workings of some malicious jokester's mind. There must be *something* he could do.

On impulse Nicholson phoned Maintenance and asked for the Chief. In his best official voice he told the other that the apprentice Harnrigg had been down there mainly as a punishment, that the e-t must have learned his lesson by now and that he was considering moving him out again.

" He's doing all right," the Maintenance chief replied after a lengthy pause. " Naturally he got underfoot at first, but now I think he likes being here."

" Let me speak to Harnrigg, please," said Nicholson, and when the apprentice came on, repeated substantially the same words.

He got nowhere ; Harnrigg liked it in Maintenance. It was an exciting department, full of colourful characters, and if it was at all possible he did not want to be moved. Nicholson replaced the receiver with unnecessary force.

There were three ways only in which he could transfer a member of the staff ; by permission or at the request of a department head, at the request of the person wanting the transfer, or if the person concerned had misbehaved and was being transferred for disciplinary reasons. Harnrigg's Chief wanted him to stay. Harnrigg wanted to stay, and since going to Maintenance he had kept out of trouble. Nicholson's hands were therefore tied, and the unknown joker who was angling Harnrigg into trouble would have a free hand.

He decided to call Telford.

"I didn't know there was so much cloak and dagger stuff went on in a store," the Commander said in awe after Nicholson had given him the details of what had been happening over the past few days. " I'm afraid I can't help, I'm just not qualified to cope with Borgia-type intrigues on this scale. You are.

" But have you considered," he went on, " that Harnrigg might be an agitator ? We have 'em so why shouldn't the Centaurs ?"

" You're a *big* help !" said Nicholson witheringly ; then, " I prefer, considering the issues at stake, to give Harnrigg the benefit of the doubt."

Nicholson hesitated for a moment, then went on, " One thing has been bothering me, however. I know, of course, that Harnrigg's race are not telepathic. But since he came here I've noticed a change in my feelings towards things in general. I used to like this job very much and now, well, I don't know. The effect seems to increase the more I see of him. Could there be some subtle emanation given off by members of his race which—"

" *No* !" Telford snapped. It was the first time Nicholson had known him to show anger. " Start talking like that and next thing you know people will be saying they eat babies, or worse . . ."

" I didn't mean it like that . . ." began Nicholson.

" Sorry, I know you didn't," Telford replied. " But talk like that from a person in your position can do great harm. However," he went on in a quieter voice, " I don't suppose you spoke to anyone else about this, so there's no harm done. But to answer your question, the feelings stem from your proximity to Harnrigg and all that he implies—a different planetary background, living conditions, customs and people. It's the sort of feeling that used to make young men run away to sea. It isn't Harnrigg's fault, or yours. You are bound to feel a little dissatisfaction with your mundane job when you think of where he comes from."

" I am not just a *little* dissatisfied," said Nicholson, with feeling.

" Is that so ?" said Telford, and laughed quietly. " The fault dear Brutus, lies not in us but in the stars," he misquoted, and hung up.

Two days later Harnrigg got into, of all thing, a religious argument. It began in the Time Office when he was clocking for lunch and developed so quickly that the e-t dismissed the special truck which took him to and from the spaceport so as to continue it in the canteen.

Over the preceding five years the staff canteen had remained the same size while the number of employees had increased by

fifty per cent, so the obstruction and disorganisation Harnrigg caused must have been considerable. Nicholson expected the catering Manageress to be beating his door down within minutes of the e-t's arrival there, but no. Apparently tea had been spilled on him and tightly-rolled balls of paper, thrown by other apprentices, had zeroed in on his soup—hazards which everyone had to face in the canteen—without inducing a reaction, or even distracting him from the argument. Some of the canteen girls called him a hulking great horse and others thought it a great pity that all he could eat was pea soup and cheese sandwiches, and was he diabetic or something?

The Catering Manageress made only a faint, ritual protest by telephone, and when Harnrigg went to the canteen next day to continue the debate one of the aisles between tables had been specially widened for him.

But as the days went on the arguments which Harnrigg got into increased in frequency and fervour. He would argue about anything. At the same time he was not opinionated, and would willingly admit that he was wrong if the other party could prove it—which was rare. He argued indiscriminately, excitedly and innocently, as if this wonderful method of investigating another being's thought processes was a toy which he could not bear to put down. Harnrigg ranting against Income Tax or giving advice—usually very good advice—to love-lorn human salesgirls was not a serious matter, but he was just as likely to pick more explosive subjects.

For three weeks Nicholson sweated, trying desperately to put the brakes on Harnrigg's enthusiasm, and hoping that the arguments would stay confined to lower strata personnel. For if Harnrigg picked on a floor supervisor or Buyer . . .

In the middle of the fourth week, it happened.

Redmond, who had tried unsuccessfully to intervene, gave Nicholson the details. Harnrigg had been talking to Harvey, the easy-going Buyer of the Toys, about the ideal working conditions in Maintenance and had stated that relatively the staff in Toys were cowed and oppressed. Harvey had taken the remark to be a personal insult and, for the first time in seven years, had lost his temper. For ten minutes he matched Harnrigg decibel for decibel, and had proved to the e-t's complete satisfaction that his staff literally walked on him, and that if there were any oppressed minorities in this department it was himself and his charge assistant.

". . . Harnrigg apologised humbly then," Redmond went on, " and Harvey mumbled something about having a headache and he probably needed glasses. Everything would have been all right then if Harnrigg hadn't insisted on abasing himself further. He said that if he ever came back to Toys he would be a model worker for Mr. Harvey. That he realised only now how much people had played on Mr. Harvey's good nature. And when his friends arrived he would see to it, if they came to Mr. Harvey's department, that they would be the same . . ."

" Oh, no," said Nicholson faintly.

" Harvey asked what friends," Redmond continued. "When Harnrigg told him, the ceiling was all that kept him from going into orbit. Now its all over the store. Every buyer in the place is up in arms, there's talk of running Harnrigg out, and of calling for a strike if other centaurs are brought in. Did you know that we're getting fifty more centaurs ?"

" Yes !" said Nicholson savagely. " But nobody else was supposed to know, yet. And it is three, not fifty. Try and spread *that* around, will you. And get that unprintable Harnrigg up here at once !"

Telford or no Telford, Nicholson was going to go to war. And now, not in a century hence.

" Why did you have to blab about your friends coming ?" Nicholson yelled before Harnrigg was past the door. "You must have known I wanted that kept quiet until I had places for them. Now the staff are hostile as well as the buyers and your friends are already on the way ! Where the blazes am I going to put them when they do come . . .?"

" Two of them," said Harnrigg timidly, " are interested in TV. They are repairmen—hams—rather than qualified engineers, but they could talk knowledgably about the new sets that we're getting. Since Earth has begun to copy our full-colour TV system the manufacturers are making a big thing out of the fact that the designs originated on our planet, and advertising their extra-terrestrial origin for all they're worth, I thought that it might tie in nicely with the advertising to have two centaurs selling the sets . . ."

When Harnrigg had taken his rhetorical question literally and started answering it, Nicholson had been too startled to interrupt. Then the sense of the other's words began to penetrate and his rage cooled slightly, even though he realised

that this was the effect that Harnrigg must be striving for. Dammit, he thought, the four-legged so-and-so is *handling* me . . .!

He opened his mouth for a blast that would cut Harnrigg down to size again, but instead said, " What about the other one ?"

" I don't know, sir," Harnrigg replied a little awkwardly. " You see, the third one is a girl."

Nicholson choked. He wondered wildly if he was going to be plagued with hand-holding centaurs, too. But before he could develop that thought further the phone rang. It was the Store Manager. Hammond wanted to know what all this was about the store importing cheap labour from the stars, the union district organiser was in his office threatening strike action, and what the blazes had Nicholson done *now* . . .?

Covering the mouthpiece, Nicholson said, " Get out !" Then he began replying to the S.M.'s questions one by one.

five

Next day feelings were still running high, though not against Harnrigg personally. There was a tension in the air that almost gave it a static charge and the staff were being too polite, keeping too busy and prone to gather too much into small, whispering groups. Some sort of diversion was needed.

Using as his reason the fact that Harnrigg no longer returned to the spaceport each midday, and in the circumstances not to build one would be needless cruelty, Nicholson requested and was granted permission to instal washroom facilities for Harnrigg in the basement. The Maintenance section were to handle the job and work was to begin immediately. When that word got out practically everyone in the store found an excuse to visit the basement to see what a centaur washroom consisted of. But Harnrigg must have made some very good friends in Maintenance, because only men actually engaged on the installation were allowed near the place, and they were as evasive as Scotsmen on the subject of what goes on underneath the kilt.

But the staff had something to speculate on, and the humorists among them had a field day which lasted the best part of a week. Nicholson was able to use that time to scotch the exaggerated rumours which had been going about, and even

to regain some of the ground he had lost with the anti-centaur Buyers. He was working on the head of the Radio and TV department when the PA broke off its background music with the announcement that he was wanted in the Store Manager's office.

Commander Telford and the S.M. were there when he arrived.

" I met the Commander as he was coming in," Hammond said half-accusingly, " and brought him here. He was going to wait for you in your office, imagine that ! " The implication in his tone was that such an important person must feel slighted at having to wait in Nicholson's small and relatively dingy office. " This is Surgeon-Commander Telford, the Director of a group studying centaur-human relations and the man responsible for Harnrigg and the others coming here. Commander Telford, this is my Personal Manager, Mr. Nichol—"

" Hi, Joe," said Nicholson, solely for the purpose of seeing what affect such familiarity towards a space Commander would have on the S.M. Hammond was stricken speechless, and Nicholson could not say whether he was more shocked by the familiarity or by the fact that his Personal Manager was on first name terms with the other.

" Hello, Arthur," said Telford, catching the ball neatly. " I have just been telling your chief that my group has decided that for the next four or five years Coop's store will receive all centaur immigrants. They will probably arrive at the rate of three a year. But only, you understand, if we are assured that they will be reasonably happy working here. Can you absorb that number in your . . .?"

" He'll have to !" Hammond broke in. " It's his job to do so, and if he falls down on it I can find another Personnel Manager."

Telford looked uncomfortable. He said, " I don't think he can be blamed too much for failing to solve what is a unique and extremely difficult problem." He turned to Nicholson. " How have you been making out ?"

Nicholson knew that he would have exerted himself to the utmost on the problem purely for the reasons which Telford had given him, and Hammond's threat of the sack only angered him. If he hadn't had what he thought was the answer to the problem, now would have been the perfect time to duck out of it by telling Hammond what to do with his job. But Nicholson

had been doing some heavy thinking over the past few days and he thought he had the problem licked. The whole thing could go sour on him at any time, of course, especially if there was another set-back like the one a week ago. Harnrigg had to stay out of trouble until Nicholson put his plan into effect.

But it was a nice feeling to have a part in stopping a war, even one that was a century off and might never have happened anyway . . .

He was on the point of answering Telford's question when the S.M.'s intercom bleeped and an excited voice shouted, " Sir ! I can't find Mr. Nicholson and there's a riot in the Dugout ! They've locked the door but you can hear them all over the ground floor, Harnrigg anyway. Mr. Redmond says will he send for an ambulance, and the Police . . .?"

" *No* !" Nicholson yelled, before Hammond could react. " Stay right where you are, I'm coming down !" Cursing horribly he headed for the elevator, with Telford and the S.M. close behind him.

The man who had phoned met them on the ground floor and ran with them towards the basement stairs. He said breathlessly, " Mr. Redmond is trying to get through to them. Why can't I get some of the men and help him break down the door ? H-Harnrigg's gone mad ! Listen to him, he must be murdering all around him. No lousy centaur is going to—"

" Don't do or say anything until I know what has happened !" Nicholson snapped at him. " It may not be what it seems . . ."

The noise of human shouts was loud even here, and the sounds which Harnrigg was making were something which Nicholson had never heard him make before, and thanked God for it. Altogether it sounded like a bloody massacre, and Nicholson thought that his last remark had been stupid. But still he clung to the hope that the violence going on under his feet was some mistake, that he was dreaming or that there would be an innocent explanation.

Redmond did not hear them as they came down the stairs. He had thoughtfully sent to Hardware for an axe and had just about finished demolishing the door. It swung open as they came level with him.

Harnrigg was in the middle of a struggling, punching mob of Maintenance staff, invisible but deafeningly audible. There

were a few bodies lying about on the fringe of the mob, most of them holding their heads, and one man was crawling about on his hands and knees and splattering the floor with blood from his nose. There was a lot of loose money and spilled playing cards on the floor, too. But he was relieved to see that so far nobody had been killed.

" Stop this !" Nicholson thundered. " Stop at once !"

Nobody heard him. Harnrigg was making too much noise.

" They're killing him !" Telford shouted into his ear, and dived into the struggling mass of bodies. Redmond and Nicholson followed, forming the wings of a flying V. Nicholson did not waste time trying to separate any of the fighters, he merely shoved them out of the way or tripped them up. Telford and the floor supervisor were less sneaky in their approach and suffered considerably ; both had split lips by the time they reached Harnrigg.

The e-t was prancing furiously about, his heavy tail protruding from the tatters of his new overalls and whipping about viciously. The furry covering made it resemble a sandbag rather than a club as a weapon, Nicholson thought as i. thumped him in the back and knocked him to his kneest Harnrigg was also flailing away with both hands and roaring his head off. Nicholson shouted again but still could not make himself heard. Telford caught his eye, shook his head viciously, and dived across Harnrigg's back.

Nicholson saw his hands prodding rapidly into the fur along Harnrigg's spine, then he balled one of his fists suddenly and swung it down. Harnrigg jerked convulsively, keeled over onto his side and lay gazing along the floor with a bewildered expression in his eyes.

" That's dirty fighting !" yelled a burly maintenance man, and swung at Telford. The Commander ducked sideways and the blow skidded off his cheek-bone. Nicholson shouted, " Quiet ! That's enough !" This time they heard him.

" Redmond, get the medical kit," Nicholson said briskly. " And any of you men who have been injured, line up here and we'll have a look at you. Commander, will you attend to the ones on the floor ?"

" I'm a psychologist, mostly," Telford growled, fingering his raw cheek. But he moved to obey. Nicholson returned to the shattered door to speak to the Store Manager. This was a horrible mess, and what little hope there was in it lay in him being able to handle it alone. He had to get rid of the S.M.

" I don't want you to think I'm ordering you around, sir," he said respectfully, " but I need someone at the head of the stairs to keep everybody out until I can find out exactly what has happened. Someone with authority, a level head and the power to command obedience and confidence, who can quell any tendency towards panic among the staff up there . . ."

When Hammond left, Redmond came up to him. He said, " None of the men are hospital cases. Apparently we arrived before things got out of hand."

Before he could reply, Telford came across to report. " Bloody noses, minor cuts and bruises is all," the Commander said soberly. " Cold compresses, sticking plaster and aspirin is what they need. But how will this affect the Harnrigg business?"

The extra-terrestrial came wobbling over to them at that point, apparently none the worse for Telford's judo punch. He began, " I'm sorry, Mr. Nicholson . . ."

" Not another word !" said Nicholson sharply. He pointed to a door leading into a large storeroom and snapped, " Go in there and wait. You men with nothing wrong with you, wait there also. When we've attended to your friends I'm going to get to the bottom of this." He turned and began applying surgical tape to the face of no less a person than the junior maintenance engineer of the section. As the man was turning to go he added, " I don't want it to be said that I was unfair about this business, that I questioned any of you while you were still dazed or otherwise mentally confused. So I'm going to give you all fifteen minutes to gather your wits so that you may realise the seriousness of your position.

" You are all," he went on grimly, " guilty of two crimes which, together with dishonesty, make up the three which bring with them the penalty of instant dismissal ; fighting, and gambling for money. The penalty applies to human and non-humans alike."

A few minutes later the rest of the men had been taped up and sent into the storeroom with the others. A rising hum of talk came through the thick door, frequently interspersed with Harnrigg's louder tones, reached a crescendo, died and rose again. Nicholson paced up and down nervously, kicking at the loose cards and money lying around on the floor, and not daring to think much beyond the next fifteen minutes.

The noise coming through the door was building up to a new high.

" It's a pity it didn't work out," Telford said sadly. " You tried hard, I know, but even I know that a store can't have this sort of thing going on. You'll fire him, of course, but don't you think you'd better keep an eye on those people in there ? You said yourself that most of them will lose their jobs over this, and if they decide that Harnrigg is the cause of it they might turn nasty. If they injure him seriously it could mean the first Interstellar Incident . . ."

Nicholson walked up and down again without speaking, then he said, " Look around, you can almost *see* what happened. I bet they let him play poker for the first time, and he had beginner's luck—otherwise there would have been no fight. Somebody, a loser of course, remembered that rumour about him being telepathic and accused him of cheating, maybe hit him. But Harnrigg has a lot of friends down here, so the riot started. Trouble is, will I be able to prove all this ?

" You see," Nicholson went on quickly before Telford could speak, " this wasn't the usual sort of fracas where anything goes. There were no boots, clubs or hooves used, only fists. Apparently even his enemies did not want to hurt him too much You remember that character who slugged you because you gave him that rabbit punch in the back ? If rough types like those could mutually agree to rules for a free fight maybe they could agree—"

" *Listen* to them !" said Telford urgently. " Even if the worst of them didn't want to hurt him then, now it's different. Now they're all going to be fired. They'll kill him for sure !"

Nicholson shook his head. " I know what I'm doing, I think," he said worriedly. " Anyway, their fifteen minutes are up."

When he entered the storeroom the Maintenance staff were ranged against the opposite wall, with Harnrigg slightly front and centre. Obviously he was to be their spokesman. Considering his growing reputation for winning arguments recently, Nicholson thought drily, the e-t was the only logical choice. If Harnrigg couldn't talk them out of this fix nobody could.

Harnrigg made the opening move.

" This trouble is entirely my fault, sir," he said miserably. " It came about through my ignorance, and also through the mistaken kindness of my friends here . . ."

" I'm getting a little tired of hearing that everything is

entirely your fault," Nicholson broke in. " Maybe it pleases you to be a martyr, I don't know, but the free-for-all we have just witnessed was not being fought solely by you, and the gambling which preceded it required more than one participant."

" But we weren't gambling," Harnrigg boomed passionately. His eyes were large and soft and sincere. " I brought the playing cards in with me seeking instruction in their use, and thought that perhaps some of my friends would be able to help. My interest is purely academic, I assure you. Commander Telford knows that we have nothing resembling cards on my home planet."

Telford nodded dumbly. Redmond seemed in danger of choking to death at the thought of the Maintenance people merely *explaining* cards to anyone. And Nicholson was thinking, *What a beautiful liar he is. If only he can keep it up.*

" There was a large amount of money lying around," Nicholson said coldly. " Proof, I submit, of gambling."

" It must have been shaken out of our pockets during the fighting—"

" So there was fighting ?"

Harnrigg shook his head ponderously. " Not exactly, sir. Fighting among the staff is an offence punishable by instant dismissal, I understand. But I am intensely curious about all forms of Earthly activities, not only music, literature and drama. Car-racing, for instance, chess, and the theory of cards. I realise now that I should not have talked my friends into demonstrating for me during working hours, but out of politeness to an extra-terrestrial they agreed.

" You see, sir, just recently I've become interested in boxing . . ."

" You mean to say," said Nicholson witheringly, " that all these people were merely showing you how to *box* ?"

Harnrigg remained silent, but all the battered and bloody faces behind him nodded or otherwise signalled assent.

Nicholson kept sternly to his role of Public Prosecutor, but one who was forced by circumstances to break off the cross-questioning temporarily. Inwardly he was jubilant. He said, " This story appears somewhat fantastic, but I haven't the time to go into obvious flaws at the moment. Mr. Hammond is upstairs trying to keep the staff from leaving in panic, they

don't know what has been happening here and suspect that you are running berserk. It is more important, just now, that I help him calm them down. But rest assured that I'll get to the bottom of this. The day after tomorrow I'll hold a full investigation which will last, if necessary, for a week !"

As Nicholson was heading towards the basement stairs again and mentally preparing for a session of high-pressure soft-pedalling of the incident with Hammond, Telford said, "I don't understand. You . . . you don't believe him ?"

" Of course not," said Nicholson, grinning. " But by the day after tomorrow I'll have no choice. Maintenance people stick together, and the electricians next door are as bad. Comes the investigation I bet there will be a dozen electrical boys ready to swear blind that a few minutes before we broke in, everyone in here was either teaching Harnrigg how to play patience or discussing the last Killer Colgan fight, or both.

" I'll have to transfer him again, of course."

Telford shook his head numbly. " Then he isn't being fired? There's still a chance then. But have you found a place for him yet ?"

Nicholson sent Redmond on ahead, then said, " I was about to tell you that I had the answer to the whole centaur business when the riot started. I'm going to transfer him all around the store, a couple of weeks to every department in turn. *Everyone* is going to have experience of centaurs and he's going to experience every job. If I think it necessary I'll make him do the round two or three times."

" But you can't keep moving him around constantly," Telford objected. " That's not finding him a position."

" No," Nicholson agreed. " But it is necessary training for the job I have in mind for him. If we're going to be flooded with centaurs I need an advisor who knows the jobs from the centaur point of view. And he's good with humans, too, he has a nice blend of sypathy and objectivity in his approach to their problems. That is why, eventually, I'll make him Assistant Personnel Manager."

They were at the bottom of the stairs. Telford halted him with a hand on his arm and said warmly, " Neat, Arthur, very neat. I think you've got it. But . . . but don't you realise that if what you say is true about him handling humans, you've worked yourself out of a job ?"

Nicholson shrugged. " I don't think I care."

Telford squeezed his arm. He said, " And I think I know why. But don't worry, if necessary I'll give you a job myself. You would have to take a demotion, of course . . ."

The Store Manager, Redmond and assorted members of the sales staff were crowded around the head of the stairs, and Hammond was glaring down at him impatiently. That was why he did not realise the implications behind Telford's parting words until later.

". . . But you'll be too far away for anyone in Coop's to hear about your drop in status. And anyway, I don't suppose that you'll remain an apprentice any longer than Harnrigg did."

James White

THE LITERARY LINE-UP

Next month's All-Star 100th issue is somewhat difficult to write about, there being no fewer than eight fine stories either written specially for the issue or chosen as best short stories submitted during the past six months. The cover story, " Sitting Duck " by William F. Temple takes precedence solely because Brian Lewis decided on that story to illustrate ; John Wyndham's " The Emptiness Of Space " claims considerable distinction because it is the final story in the " Troon " series, written specially for *New Worlds* and does not appear in the book version *The Outward Urge.*

The other six stories, however, deserve equal merit, and it will be interesting to see how readers rate them. All these stories are illustrated by Arthur Thomson with (we hope) a new type of magazine decor—and look for a slightly different cover design too.

Need we say more than—don't miss *this* issue !

Story ratings for No. 95 were :

1. Chronopolis - - - - - J. G. Ballard
2. Out-Patient - - - - - - James White
3. Pursuit Missile - - - - - Philip E. High
4. Soldiers Running - - - - Brian W. Aldiss
5. Creatures, Incorporated - - - Larry Maddock

Microphotography and candid camera work go hand in hand in the latest Colin Kapp story, which shows his originality in plot development. Incidentally, look out for his "The Glass Of Iargo" next month in the All-Star 100th issue.

THE EXPOSING EYE

by COLIN KAPP

"Spike Mickle," I said. "Photo Research Services."

The aide took the card with a frown and stared curiously at my leather jacket from which water, as if from a gutter, still dripped incontinently onto the floor. He retreated hastily from the hall, while I, incensed by his disapproval, traced muddy footprints round the parquet. Four minutes and a deficit of mud ended the game and restored my lack of faith in human nature.

The aide came back. "Prince Morahn is expecting you. Will you kindly leave your coat in the hall."

I hung my coat in the appointed place and followed him. At the door he turned contemptuously.

"*And* leave the hat," he said.

"The hat," said I, "is a friend of mine. Stays where t'is."

"Take it off," he said icily, "before it crawls off of its own accord."

I removed the hat also and looked questioningly at my boots. His unspoken reply was a look of pure, unvarnished hatred.

Whoever designed the palace knew well how to impress. Once I worked on movies, and knew all the tricks of lighting

and decor to heighten an effect. None of that here, no plasterboard or papier-mache ; this was genuine marble, stone and wood, unending corridors, burnished and bright. The prince, without doubt, was a man of taste, and having taste in our alleycat times can prove expensive. Ergo : the prince was a rich man measured even against the standards of aristocracy. The case began to look interesting.

Renjavic, Prince Morahn, was a heavy man, surly, blue-jowled, and with that aura of overriding power which one associates with captains of major industry. Moreover he was a man of the world and not likely to be easily worked-over by a haphazard operator. That his present series of troubles had slipped in under his guard was indeed gratifying and betrayed the hand of no ordinary crook.

" Mickle," I said. " Photo Research."

He ground my hand in a fleshy vise-like trap. " Thank you for coming so soon ! I regret having to fly you from London at such short notice but I want to follow a trail while it's still hot. Add a percentage for inconvenience to your bill."

I assured him I would do just that, and he opened the safe and took out a crumpled tabloid newspaper.

" You're wondering why I sent for you ?"

" No," said I. " Even a photographer can read these days. It helps when you're mixing the hypo. The *Daily Watcher* is sitting on your tail."

He flung the tabloid on the couch beside me.

" You're damn right it is ! Look at the filthy rag. Talk about gutter press—sewer press would be a better name."

" Or cess-pool," I supplied.

"Precisely! Look at the headlines and then see the pictures."

I did. It was a strong line even for the *Daily Watcher*. Inwardly I smiled at the thought of the conclave of lawyers and expediency men who must have debated the form of the article before the copy went to press. They had produced a a peach !

ROYAL CLANDESTINE LOVE-AFFAIR
INTIMATE PICTURES AND DETAILS OF PLAYBOY'S LOVE NEST.

roared the headlines. The followup was tame. ' Informed circles ' reported a budding romance between Renjavic, Prince Morahn, and Lady Lesley on the shores of Lake Trecomo. It was a beautiful tongue-in-cheek effort worded through the eye of a very small needle, and appeared to negate the headline

except for a rider which, apparently innocently, reported that Princess Morahn, Renjavic's legal wife, was currently residing in Barcelona.

But the pictures were different. Talk about candid camera ! They were spy-shots taken inside the palace and were intimate to the last detail. This is not to say they were indecent—for even in this ratrace age there is still a limit to what even a tabloid dare print without police action—but they showed Renjavic and Lady Lesley apparently just about to enter into some highly compromising situations. Having due regard for public ethics I have no doubt the issue sold very well.

" Why don't you sue them ?" I asked.

" Be your age," said Renjavic, sourly. " They wouldn't have gone to print unless they'd raked up enough muck to ensure I had a highly uncomfortable time in court. No, the damage is done now and I can chalk this lot up to experience. My motive is a simple one of revenge. I want you to find out how it was possible for these photographs to be taken, and by whom."

" You have no idea at all ?" I asked. This was a chink in Renjavic's armour which I had not expected to find.

" Blast you, no !" said the prince. " I've heard of photo-spy setups before but I hadn't realized they could operate inside a man's home undetected and with that degree of precision."

" You're the victim of an evil age," I said sadly. " There's money in scandal publishing and money in the candid camera. Where there's money there's an incentive to refinement of equipment to do the job. I doubt if you'd recognise a spy camera if I gave you one."

" Very probably." Renjavic was bitter. " But you would, that's why you're here. I want to know who put eyes in my room and how it was done. When I'm through with the culprit I don't think they'll care to try it again. Lesley and I—well, we've never made a secret of our friendship, but it makes my blood boil to think of the poisonous swines who attempt to capitalize on human emotions."

" There are," I assured him, " some very evil eyes behind a camera."

We had met before, this prince and I, though I doubt if he remembers. On my first assignment for Pan-Atlantis Press I got a shot of him clouting a nightclub hostess with a bottle. Then he clouted me with the bottle and smashed the camera whilst I was still listening to the birds. That ended my career

with Pan-Atlantis and I had to walk from Berlin through to Paris with less than the price of one good meal in my pocket. Times have changed, but photographers, like proverbial elephants, have very long memories.

The further door opened suddenly and a girl walked in. Even if I hadn't seen the photographs in the paper I should have recognized her from popular description. Lady Lesley was undoubtedly one of the most charming and provocative women on this stretch of the coast, if not in Europe. Perhaps the most impressive feature was her air of genuine innocence and a complete lack of that superficiality and adulteration which some call sophistication. Whether this trait was innate or cultivated it was difficult to guess, but she carried herself with the grace of a queen yet with the naivety and humility of something holy. The conflict between her attraction and her piety split me right down the centre with a crevice which would take a long time to heal. I began to hate Renjavic immensely.

The prince strode to her and took her hand with an out-of-place tenderness.

" There's somebody I want you to meet. This is Spike Mickle of Photo Research. He's flown over to give us a hand with the spy photographs."

I managed to mumble " Hullo !" and she gave me a smile which made me feel as if I'd recited something rather wonderful.

" I'm sure we're causing Mr. Mickle a great deal of trouble," said she in a tinkle of a voice which did strange things to my stomach. " He must be a very busy man."

" Not too busy to help in a case like this." I laid on the charm thickly. " Preventing the misuse of photography is as important to me as the development of new artistic photographic techniques."

She accepted this piece of stickiness as though it was the purest homespun philosophy. I nearly got to believing it myself.

" You must be wonderfully clever," she said. " I can always tell by the set of the eyes."

At that precise moment it wasn't cleverness which had caused my eyes to set, but rather a slight fuzziness due to staring too long without pausing to blink.

" I know this must all be most distressing for you," I said, " so I shall try to complete my investigations with the minimum of intrusion. Nevertheless I would appreciate a few wor

with you when I have something to work on. I have a line of approach which I feel certain will bring results."

" I'm sure you have," said she.

This type of room was once called stately. Perhaps the description still holds true. Decorated with taste and elegance, it held a peace and serenity which lacked definition in a society crazy for speed and sensation. It was a negation of the brash madness and the sordidity of the popular idols, a touch of the old world projected out of its own time. It was hell to a modern like myself.

" Well," said Prince Morahn, " what do you think ?"

" How," I said, " is going to be difficult to figure if this is the room where the photographs were taken."

" How do you arrive at that ?"

" Work it out for yourself. This room is about as private as a public abbatoir where a photo-spy is concerned. Too much bric-a-bac and too many windows. It's a gift. Remember they could photograph you through a door or a heavy curtain using a spyhole only half a millimeter in diameter. If they sat in that tree out yonder they could get a good image of you on the couch by using a line of sight through the top-lights and off the big mirror over there. By using infra-red or an image intensifier they could still take you even though the room was dark and you couldn't see a hand in front of your face."

" I begin to see what I'm up against," he said bitterly. " You reckon the shots were taken from outside ?"

" No, they bear the hallmarks of a micro-camera, which suggests a planted spy-camera on the inside. The photographs have been carefully selected to pass the Press Council censor. The Council never pass more than forty per cent of the candid shots submitted for their inspection, so I reckon that close on a thousand shots were taken to produce those five acceptable poses."

Renjavic sweated slightly and scanned the walls with agitation. " But I thought . . ."

" Don't be naive," said I. " They only published five, but you don't sit around behind a spy camera and wait for the birdies. You plant it with a time switch or some likely form of trigger and come back in a week to see what you've caught. Ninety-eight times out of a hundred you snap an empty room or your object's not in focus. On a hundred length magazine you may have two shots of what you were after, and at least

one of them may be too hot to sell. If the *Daily Watcher* published five then the chances are they wasted eight hundred and ninety-five. It could easily be four times that figure unless they had a very selective trigger."

Renjavic was appalled. " I'd no idea."

" That gives you a measure of what you're up against," I said maliciously. " You're too damn trusting. Photographically speaking this house is wide open."

" Not any more," said Renjavic curtly.

" No ?" I snapped a button off of my lapel. " That's a fair sample of a modern micro-camera. It has a twelve shot magazine and a fixed focus of seven feet. Since I've been here I've used every exposure and you haven't spotted me once. If you don't believe me go get a photo-lab to open it up and develop. You'll find your safe combination on the film and several shots of yourself and Lady Lesley. Do you still say the house isn't wide open ?"

He looked up with fear and anger in his eyes.

" This is monstrous ! How can they make a camera quite that small ?"

" Simple. The outer shell is of opticron plastic which has the property of multiple refraction. It acts as a high-definition lens system yet looks as innocuous as a pearl button. The film is inserted in an annular groove at the back, and the shutter, prism and operating spring are buried inside."

" It still looks like a button to me."

I broke the back open and showed him. His jaw dropped satisfactorily.

" And is there no defence against these filthy eyes ?"

" Hardly," said I, a little surprised. " You can render a room proof against atomic radiation, dust, mice, extraneous noise, sin, disease and death ; but if a press photographer is determined to take a snapshot therein there's nothing you can do."

" But this is incredible ! Am I always to be dogged by photo-maniacs spying on my private life ?"

" Not necessarily. At the moment you're news but tomorrow it will be somebody else's turn to get the treatment. Photographers are all alike—they need to eat occasionally. If they can turn your picture into ready cash they'll disguise themselves as loofas and hide in the bathroom, but when your news value is ended they wouldn't look at you through the wrong end of a Wratten filter."

Three day's searching got me precisely nowhere. Angular checks demonstrated that the particular shots in question had not been obtained through the windows, and I was now certain that this was an inside job. The detection of a modern spy camera, even in the area of a single room, can itself be a formidable task, involving the careful dissection of clocks, chandeliers and ornaments, and the minutest inspection of every inch of wall and ceiling. I once found a camera in the eye of a doll owned by an eccentric lady at Bath, and there is a standard line for inclusion in lighting fittings.

More to the point was the fact that the news of my impending arrival would almost certainly have resulted in the removal of the offending apparatus by the operator concerned, and I was probably wasting my time looking for something no longer present. Except for the fact that Renjavic was paying I should have written the whole matter off as a poor proposition.

Renjavic found my failure exasperating.

" I may be a bit dense," he said impatiently, " but from observing the photographs why can't we just trace back the camera angle ? That must at least give us an idea of the direction in which the camera was located."

" Try it," I invited, " then I'll tell you the flaw in your reasoning."

He chose the largest photograph, studied it for a while, then began moving chairs until he had his head in a position where the angles looked the same. Continuing the line of sight he arrived at a point in space which was obviously not the location of the elusive camera.

" Now explain how it's done," he said heavily.

" Simple. The original of this photograph was on a three-dimensional negative. To forestall your approach they took the precaution of projecting the tri-di image in a gelatine tank and re-photographing it from a different angle. You'll notice some retouching on the vertical edges of the furniture. That's the trouble with altering a tri-di angle—some of the information isn't there. You have to fill it in by hand. Also you get haloes due to altered parallex, which explains why they had to insert another print into the corner."

" All right," he said, " do it your way. But if you know what's good for you, you'll find that camera and quick."

" There's more than one way to cook a cat," said I. " The camera may no longer be here. I'm going back to London to

try a colour recombination on these pictures. By using an electronic scanner, and a computer which accounts for the colour response of the film, we can separate the shades and densities which are due to colour sensitivity from those due to light intensities. Once we have this basic separation we can re-work it through colour filters to produce a colour print. In any case we don't know what grade of film was used so it's a case of working-over different stocks until we get a true response."

"Is that possible?"

"Possible but expensive. This is a rather complex case because there were several stages of process before the picture got into print. Nevertheless, I think it can be done."

"So it takes a small fortune to produce a colour print," said Renjavic drily. "What do we do with it when it's done?"

"Colour is information. Given a true-colour print we can work on lighting angles, eliminate the effect of retouching, find the time of day by reference to shadows and the colour-temperature of the light, and determine the day of the week by the clothes you were wearing. By noting the colour correction we have to make for the lens we should be able to tell what type of camera was used, and from the data on the film tock we shall know if the material was purchased in this country or brought in from abroad. With a bit of luck it will tell us where the camera was located and when and how the photographs were taken."

"I misjudged you," said Renjavic. "I was beginning to think you didn't know your job. There's a hint of genius in this, Mickle. Where, when and how—everything but who." He flexed his powerful hands menacingly. "I should very much like to know who."

On my return things were in a deadly humour. The *Daily Watcher* had printed two more of the infamous photographs, and Renjavic was in the mood for murder. So was I. In London I'd chanced to do a little research on Prince Morahn, and a less savoury record had seldom sullied my microfilm. Th thought of someone so charming as Lady Lesley being kept by a character like Renjavic did nothing to improve my blood pressure. Now more than ever I was determined to make him pay.

My trip to London had not been wasted, though it had resulted in a paradox rather than a solution. I had the information, but it didn't make sense. By reconstructing camera-

angles in a tri-di matrix frame I could place the position of the spy camera to within an inch. But no two pictures gave the same co-ordinates of position ! Something was wrong. A spy camera can be concealed in a room, true enough, but it's a hell of a spy camera which can remain undetected after apparently occupying seven different positions in the space of a few days.

I toyed with the idea that Renjavic might have set the whole hing up as a joke. But the man, inherently, had no sense of humour, and anyway when he saw the size of my bill the laugh would be on him. I turned the question over in my mind on the train all the way from Toulouse, but had to confess myself baffled. Not until the fabulous beaches of Lake Trecomo stood out against the background of cool waters did the solution occur to me. It was tough to swallow but there was an element of humour which made it palatable. Indeed, by the time we reached Trecomo I thought it very, very funny, in a bitter sort of way.

" All right," said Renjavic, with more than a hint of arrogance, " now tell me where the camera is."

I threw the sheets of calculations on the table in front of him and stood my ground.

" Give me an hour to transpose the co-ordinates to distances within the room and you shall have your answer."

" For your sake I advise you to produce," said Renjavic. " I'll have somebody's scalp for this and I'm not particular whose."

The whole affair was getting deep under his skin, and his temper was beginning to override his sense of expediency. I didn't strictly need the time, for I already knew what I wanted to know, but I did need time for something else. Anyway I don't stand for being pushed around by characters like Morahn, prince or otherwise. I grew out of that a long time ago.

Both Renjavic and Lady Lesley came back within the hour, he seething with pent-up malice, and she white and strained as though the continuing ordeal was sapping the reserve of sunshine which nourished her disposition.

" Well ?" demanded Renjavic.

" I know where it was," said I. " What's more I've a feeling it's still there. Up in the cornice."

I moved the steps for Renjavic to have a look.

" My God ! Help me to get it out."

" Let me try," said I. " There may be a spring."

I was unsuccessful. " No dice !" I said. " The catch must be concealed."

" Then break it." Renjavic handed me a paper knife and a heavy brass paperweight. Lady Lesley hovered in the rear, taut with apprehension, as though we were uncovering a bomb. The plaster broke away under the driven blade revealing a cavity beyond.

" Is it there ?" asked Morahn impatiently.

" Can't feel it. I think it fell down." I put my hand inside the cavity and felt around. " Ah ! I have something."

The small tri-di camera which I extracted was about the size of a pack of matches, large for a spy camera but not excessive when you consider a two-thousand exposure magazine, automatic iris, and a built-in repeater time switch.

" So that's the swinish thing !" said Renjavic, Prince Morahn.

" Three one-millimeter t.d. lenses," I pointed out. " Fitted through minute holes in the plaster. Even close up they didn't amount to much more than a few flyspots on the decor."

" Could there be a second one also ?"

" Very doubtful," said I. " The risks attached to recharging this one undetected would be formidable. If you want my opinion this must be an inside job. It would take the best part of an hour to charge that with tri-di stock and put it up again. Further than that I'm not prepared to say. How well do you know your aide ?"

That just about wrapped it up. Morahn, roaring like a bull, went to bull his aide into submission and left Lady Lesley and I together for a while. She slipped over to me quietly and pressed a delicate hand into mine.

" I can't thank you enough for what you've done," she said coyly.

" No," said I, " I don't suppose you can."

She took her hand back sharply. " Why did you say it like that ?"

" The camera in the wall. It never was there. The hole behind the plaster was there all right—there always is a hole behind that sort of cornice—but no camera."

" But I saw . . . "

" No. I scratched lines on the plaster earlier and palmed the camera when I broke the wall. Until a few minutes ago the camera was in my pocket."

" Then how were the pictures taken ?"

" If you like I'll tell you. In London I checked with friends at the office of the *Daily Watcher*. They wouldn't say where they got the pictures but they did lend me the negatives for a few hours. I made blowups from them and really went to town.

" I was struck by the excellent soft-focus effect, as though they'd been taken through a piece of net or tulle. Nobody goes in for artistry with a spy camera so I guessed the effect was accidental rather than deliberate. But what sort of accident would produce an effect like that ?

" I tried photographing through everything from diffusion lenses to greased slides and way back to silk and mutton cloth. Nothing gave me quite the same softness of tone. I was nearly back to Trecomo when the answer clicked. A light dusting of powder on a front-aluminized mirror would have precisely that effect. Now all I needed was to look for a micro-camera which picked up the image off of a dusty mirror. Do you mind if I see your powder compact ?"

" I'll see you in hell !"

" I look forward to the possibility," I said, " but never mind. I've already got your compact here. See, now—a camera in the base of the compact which takes the image off the mirror at forty-five degrees. You open the lid and leave it casually on a table. Once every few minutes it takes a shot of the love-nest and when you've finished you make to powder your nose, close it up, and empty the magazine someplace else. Am I wrong ?"

A line of pain spread across her brow.

" No," she said resignedly, " you're not wrong. I took those pictures three months ago. It was a deliberate attempt to get money. Later I regretted it and tried to get them back. I couldn't. I had to sit and watch him suffer and suffer with him. Hell ! You could have turned me over to Renjavic, yet you choose to cover up for me. Why did you do that ?"

" It's like this," said I. " Somebody once said that cameras never lie. Basically it's a truism. Cameras don't lie—only photographers lie when they see a truth but portray a falsehood. When you've spent as many hours as I have behind

a viewfinder you learn to detect the truth and the fiction just by the sight of it. That's how I know you really love him, blast you !"

She put her hand into mine. It was only a touch but it might as well have been a kiss.

" Mickle," says I, " you're getting old. Time was when you'd have come out of a situation like this with a nice fat pay-check *and* the girl. Now you're so soft you're going to settle for the money and wish the maid good hunting."

She smiled. I don't know what it was about that smile ; perhaps a thirsting for life, perhaps a surfeit of those imaginings which promise a future so rare it never can come wholly true. It was irresistible. I began to feel sorry even for Renjavic.

So I spared her because she was so young and so charming and such a very polished liar. The photographs were not three weeks old, let alone three months ; I know from the angles of the sunlight on the floor. And my mood wasn't one of altruism, either. She had dainty claws into Renjavic which were more ruinous than the barbed fangs of a tigress. Given time she would bring him down more surely and more cruelly than any scheme of mine, and that would be my great revenge. There was a touch of poetic justice interspersed with jungle law. And just a hint of sadness.

Ah ! and I nearly forgot. The aide got the blame for the spy photos. Renjavic searched his room and found a camera and some very compromising film. The aide still swears they were planted there, but who would do a thing like that ? Which all goes to prove that if you've a sinister development which needs fixing just call in Spike Mickle, he'll know what to do. The address is on the camera at the back of your bathroom mirror.

Colin Kapp

Article

In the cold sober light of scientific analysis and experimentation many of the standard ideas used in science fiction are being recognised as no longer wild but perfectly feasible. Not only that but some of them are a lot nearer fruition than you would suppose.

ANYONE AT HOME?

by KENNETH JOHNS

Star-to-star relay systems, stellar empires, megawatt radio beams and unmanned probes with complex computer brains crossing interstellar space to contact alien races—these, and the probability of advanced extra-solar cultures rising and collapsing at the rate of two a year, read like science fiction.

Yet, if this is your belief, you couldn't be more wrong. They are serious ideas being put forward in sober scientific journals, along with the suggestion that they should be experimentally tested. Of course, some of them are tried and true standbys of science fiction; but they now find themselves in strange company. Scientists are catching on to the fact that imagination unlimited holds the key to tomorrow, that ridiculing or ignoring new and unproved ideas is as absurd as claiming that rockets are useless in airless space or that space travel is utter bilge.

Since satellites and planet probes hit the skies—and the headlines—there has been a rush to jump on the extrapolation band-wagon, in a strictly scientific manner, of course. Van Vogtian epics are out; but there's nothing to stop scientists

expressing the bare bones of their science fiction plots in the form of " papers." It is an interesting point that Dr. Asimov's Laws of Robotics now could well be considered seriously in a staid, academic journal such as *Nature*.

Whether it be spaceships landing in the Old Testament or aliens tracking our radio emissions back to Earth, the new look in science shouldn't be deprecated, since it does denote a welcome and much-needed broadening of outlook. That many of these " brand-new revolutionary " ideas are old hat to science fiction shouldn't cause any science fiction enthusiast to be smug. Rather, he should be a little concerned over the basic mores of science that it has taken so long for the learned men of science to catch on to the fact that science fiction has been pointing out certain ideas and ways of possible research, which have been poo-poohed, until this late date.

They said if you travelled at thirty miles an hour you'd be suffocated. All right, so this is an old story. What is appalling is the rigidly closed-mind attitude of conventional science. A speck of light has now appeared in these latest serious proposals about some of science fiction's fantastic notions.

Take the old problem of why we have yet to make " first contact " with a technologically superior, extra-terrestrial race and give it a first approximation brush up, in a strictly scientific manner, of course.

Logic and experimental evidence during the last decade have all pointed to life originating spontaneously wherever conditions are suitable and where there is sufficient time for the laws of probability to get to work. With our present limited knowledge, the most suitable conditions of which we are aware to give rise to a form of life we might hope to recognise are those on an Earth-type planet orbiting a Sol-type star with a natural radiation level not far different from our own.

The probability of life being widespread in the Galaxy, we believe, has been increased by Alfvén's recent theory of the origin of the solar system. This theory suggests that every Sol-type star should as a matter of course have a system of planets similar to our family of planets. We cannot as yet detect small extra-solar planets, although this may be possible photo-electrically for the nearer stars when a medium-size telescope is mounted in space; but there is indirect evidence that such planetary systems do exist around Sol-type stars.

When the speeds of rotation of stars are spectroscopically measured, it is found that the more massive, hotter, brighter stars have relatively fast spins, while late F and less massive stars spin slowly—as does our own Sun.

Ninety-eight per cent of the Solar System's angular momentum resides in the planets. The usual explanation is that angular momentum was transferred from the Sun to the plasma cloud from which the planets condensed—thus small spin and low angular momentum in a star is equated with a planetary system. If a star gives its angular momentum to its planets, then it slows down. This is very often true, also, of human parents and children.

The Earth and the Solar System appear to be about 5,000 million years old.

Out of that space of time something like 2,000 million years was consumed before life in its simplest form appeared on the Earth. This is not an extravagant length of time when you consider the complexities and improbabilities of a self-duplicating system appearing with the ability to mutate and hence evolve. Another 3,000 million years rolled by before the Mammals and we appeared.

Now, five thousand million years is an astronomical time period of duration and importance in the scheme of astronomical life. It is longer than the lifetime of many stars, such as the hotter brighter ones. There is absolutely no use, from our point of view, of life evolving on a planet orbiting a hot spectral type A star which is going to gutter into extinction before even worms have time to evolve from the simpler forms of life. Science fiction has glanced at the possibility of worms piloting spaceships; but that was, on our present level of knowledge, one of the wilder guesses. Only suns of spectral types late F and higher have the necessary lifetimes of 5,000 million years plus. For the record, the Sun, of course, is an early G type.

And Homo sapiens is here to prove it.

The star-field for putative Earth-like environments can be narrowed still further by considering only those stars with a luminosity giving them a relatively thick shell of space in which planets will have a terrestrial range of temperature suitable for evolution as we know it, say from 0 degrees Centigrade to 60 degrees Centigrade.

This shell in the Solar System, wherein life as we know it can be born and flourish, is 75 million miles thick; but it would be much thinner around a cooler star and there would be less chance of a planet lying in just the right orbit to possess cool, liquid water.

In this way we find ourselves left with only spectral types late F, G and early K, a matter of ten per cent of the Galaxy's 200,000 million stars which could conceivably be harbouring advanced life. But this figure is reduced still further when we realise that double and multiple star systems make up a large proportion of the stellar population and only a few of their planets would have orbits capable of giving them reasonable temperature ranges. Eliminating all multiple and double stars with primaries between 1,000 million and 5 million miles apart leaves only about one in a hundred of them as possibles.

All this leaves us with a little less than five per cent, say 10,000 million stars, with planets with potential superior galactic cultures.

Then what's happened? Why haven't we received an amicable call from a superior neighbour?

Time must be the important factor: time to cross the interstellar waste, time for signals to crawl at the speed of light from repeater to repeater—for science still cannot admit of a faster than light drive in its present theory. It may be that we'll never find advanced intelligence out there unless we ourselves first look for it; or it may be that our low standards of intelligence and technology make us uninteresting to superior cultures. It may also be because the majority of societies in the Galaxy attain a technological peak before interstellar travel or communication are attained and then are self-destroying when their sociology fails to reach a corresponding degree of advancement.

Even so, we would expect some races to reach a level comparable to our own, and beyond, and to look outwards with wonder in their eyes and a query in their minds—a query that by their nature would be transformed into action.

The most likely primary method for interstellar communication uses radio waves, preferably those that will not be absorbed by gases in space or planetary atmospheres. In addition, they should be of a wavelength likely to be observed

by some young civilisation. Megawatts of beamed radio energy would be needed to give a detectable signal across ten light years; but even that is within the ability of man's technology today.

The most active wavelength in radio astronomy that will penetrate our atmosphere is that on 21 centimetres, the hydrogen radio emission from cool gas between the stars, and it has been suggested that a coded message on this wavelength is the most likely to be detected by young technologies.

Already, Project Ozma at the American National Radio Astronomy Observatory is seeking for simple codes in 21 centimetre radio waves from the two nearest stars capable of having inhabited planets, Epsilon Eridani and Tau Ceti, both about ten light years away. An eighty-five feet radio telescope records every night and the signals are then searched for signs of a pulsed code such as prime numbers or arithmetical sums.

But, if only one possibly inhabited system in a thousand actually has a technologically superior culture, we will have to spread our search much farther, since there is likely to be only one such advanced community within 100 light years. On the other hand, if we assume that new races are developing as fast as old races die out and that it takes 5,000 million years for a planet to evolve a society more advanced than our own, it means that each society should exist in advance of ours for 5 million years, more than enough time for them to put out a search net amongst the likely stars.

The opposite also holds true. If societies are self-destroyed within 500 years of reaching our present level, then only one star in 10 million inhabitable stellar systems will possess a more advanced culture and each one will have a neighbour on the average two thousand light years away—too far in time as well as space. Any reply to a radio signal they send out will arrive long after that civilisation is extinct.

Yet there is always the probability that two races will attain the same status at the same time and within a few light years of each other—or that some ancient civilisation will have bypassed the critical danger point and have expanded from star to star throughout the millenia.

So—we wish to establish contact with these advanced communities. We don't go about it by twiddling our thumbs

whilst sitting on our backsides. We may never find faster than light drive and it seems reasonably certain that generation ships aren't going to set out on the long haul on a one in a thousand chance of finding a planet where life has already transformed the poisonous hell of a primeval atmosphere into oxygen-rich air. So—we'll have to send out unmanned probes to the likely stars.

Only another decade or two needs to pass before we will be technically capable of producing automated probes that will cross interstellar space at less than light speeds, pick an orbit around a star in the most likely zone for life, dodging unstable orbits, and then proceed to telemeter back data on the possibility of life in that system.

If the job is to be done properly and assuming a more civilised frame of mind among the nations now bickering on the face of the Earth, thousands of these probes will be sent to all likely stars within a logical range.

Stellar-powered, each will have a lifetime of thousands of years and their most important task will be to await coded radio signals, a sure sign that a technology is there. Amplified and rebroadcast by the probe, the message to the Earth will tell of the first contact that has been made. The natives would be aware of the message as an echo from space, a strange phenomenon that should arouse their interest. A complex computer in the probe could be capable of being interrogated by radio perhaps to the extent of sending a video picture of our star system and position and teaching the aliens our language pictorially.

The outermost probe would be the stage one of a relay system.

If we are suspicious of inimicable neighbours, the probe need merely relay signals back to us. A repeater system could be used to baffle any attempts to track the probes back until we are assured that the aliens are as friendly as we are.

Even before we build such probes, we can begin the search in our own backyard—in the Solar system itself. A logical, technological society with the same aspirations as ourselves will have had the same ideas and we may find a trans-interstellar space probe awaiting us in orbit around our own Sun.

The unexplained radio echoes noted thirty years ago may have been from such a monitor. It could be that it has

already reported back and now an expedition or a more advanced probe be on the way.

These suppositions have been based on intelligent life evolving on Earth-like planets in a manner similar to the way in which we have evolved. Admitting the universality of radio waves, and the basic scientific concepts needed to handle immaterial matter to mould it and use it for intelligent purposes and communication, the question of receiving messages from completely un-human intelligences cannot be left unanswered when scientists come to tackle these problems with the gravity they deserve.

In dealings with intelligences we can understand, will we be labelled unstable?

Or—are we really alone in the Galaxy?

Kenneth Johns

Memories rule us from the cradle to the grave. Take away this important factor and the brain would only record isolated visual photographs like jumbled frames on a cine film. But what of an individual without memory ?

MEMORIES ARE IMPORTANT

by E. C. TUBB

Holding it as he did, scant inches from his eyes, the hypodermic held a new and significant importance. Only the instrument was clear, the rest of the room was out of focus, a formless blur against which the machined perfection of glass and chromed steel shone with startling clarity.

Symbolism, thought Carter absently. The tangible evidence of the advance of science against the unknown, and wondered a little why he, who had long since grown familiar with all the tools of modern medicine, should have entertained such a thought. A little impatient with himself he gently pressed the plunger, watched as a globule of colourless fluid oozed from the slanted tip of the needle, and lowered the instrument. Arden's face replaced the image of the hypodermic.

He was a small man, not young, not old, the only saving feature being his eyes. They glowed in the mediocrity of his face, alive with intelligence, the desperate, unceasing urge to *know*, the eyes of a fanatic. He sat in a chair, loosely dressed in a hospital robe, one sleeve of which was drawn back to reveal his thin, hairless, unmuscular arm.

Carter stepped forward, pinched up a fold of skin and deftly thrust home the needle. Steadily he pressed the plunger

until the barrel was empty, wiping the puncture with an alcohol-soaked pad as he withdrew the needle. Arden held the pad in place without being asked, he too was no stranger to the procedure of medicine.

"How long?" The third man in the room leaned forward in his chair. Like the others he was a doctor, like them he was a little more than that. The realm of the mind held, for Hendrickson, a special fascination.

"Several minutes." Carter gently placed the hypodermic on a surgical table. "We know how the preliminary injection operates, the second stage is the unknown factor."

"Perhaps—" Hendrickson paused. Arden spoke before he could continue.

"Let's not go over all this again," he said. His voice was deep and melodious, the trained tones of a practiced hypnotist. "We have made all the tests we can on animals, now it is time to make the final test. There is only one way."

Hendrickson swallowed, knowing that Arden was right, knowing that what he did had been done before by other men with other drugs but all having a common factor. Caution could only go so far—then had to come the calculated taking of risks. And who better than a skilled observer to take them?

"Odd." Carter had sat down, his thick, short legs stretched before him, his hands, so big and clumsy looking, and yet so gentle and deft, resting on his thighs. "Have you realised that, if what we hope materialises, all we at present stand for will be obsolete?" He looked from one to the other. "Not surgery, of course, not much of medicine as we know it, but psychiatry will never be the same again."

"So speaks the witch doctor confronted with truth instead of surmise." Arden rubbed his arm, the injection, despite Carter's care, had bruised the flesh. "Don't over-estimate what we are trying to do. We are proving a tool, nothing more. The drug, if it works as we hope, will simply add to the resources of the psychiatrist. It can never replace skill."

Hendrickson nodded, feeling a glow of comfort, recognising why he felt it and then recognised the guilt behind his satisfaction. It isn't easy for anyone to admit that he has served his purpose. For thirty years he had studied to understand some of the workings of the mind, trying to bring help and

comfort to the mentally afflicted. The drug, if it worked, would not replace him. His skill would still be necessary and he was glad of it. Then he felt guilty because that meant he, subconsciously, hoped there would still be those needing his assistance. And that, for any psychiatrist, was to suffer guilt. Could he only be happy while others suffered?

The room was very quiet. Here, high in one wing of the hospital, away from the wards, the theatre, the now-empty waiting rooms and the out-patients department, the casualty wards and the never-sleeping emergency service, pain and suffering seemed very far away. From the single window the night-scene beneath showed itself as strings of flaring sodium lights, the garish glow of window-signs, the traceries of lighted cars. Even the traffic sounds, muted as they were in the small hours, seemed muffled and distant. Arden's sigh echoed with exaggerated clarity.

At once Carter was on his feet, his fingers on the other's pulse, his eyes squinting at the dilation of the irises. Arden shook his head.

"Not yet." He restrained his impatience with the older man. "I'll tell you when I'm ready."

"*We'll* tell you when you're ready." Hendrickson made the statement as if it were a joke but he wasn't joking. 'You're just a guinea-pig, Arden." He extended the joke. "What does it feel like to be a laboratory specimen, waiting for the injection that will do—what?"

"We know what it will do!" Arden was sharp. Carter corrected him.

"We think we know. Later we may be sure, but at the moment all we can do is to hope that we've guessed right."

"Do you guess when you hunt down a trauma and resolve it" Arden was still sharp. He recognised it and deliberately controlled himself. The drug in his veins made that a simple task—it had been designed to achieve maximum relaxation without any loss of sensual or mental perception. "We know," he continued quietly "that psychosomatic disorders are directly due to mental causes. We know that most mental disorders are due to psychic traumas experienced in childhood. We are certain that, if we can erase these traumas then we can restore mental health and so eliminate psychosomatic disturbances. Agreed?"

There was no disagreement.

"The normal method of psycho-analysis is a long and tedious procedure and, though we may not like to admit it, one with a high perecentage of failure. Operative failure, I mean, we know what is wrong but, for one reason or another, be powerless to do anything about it. After all, telling a man that he is ill because of something done to him, before him or with him in his childhood doesn't eliminate it. It doesn't erase it. The memory is still there. Sometimes we can rationalise the memory, give it a new frame of reference, so to speak, but not always. But, if we could remove the memory? Erase it? Then it would, to the individual, never have existed."

It was an old dream. Logically it would provide the cure to the major portion of the world's ills for men unplagued by disturbing memories would not be driven by the unsuspected devils dictating their actions. Individuals make a state, individuals form a government. Cure the individual and the rest would follow. Eliminate the mischief making memories and happiness would no longer be an unachievable state of existence.

Arden sighed again and now his words came faster as if he were racing time.

"You know what the drug will do. It will cause a complete cessation of memory, temporarily, of course, but effectively. During that period you must confine the activities of the drug to a certain, selected incident . . . "

His voice droned on but the others were paying more attention to the speaker than to his words. They knew what they had to do. First, when the preliminary injection had taken full effect, to hypnotise Arden so as to bring into the present the selected memory to be erased. Then, with the memory predominant, to administer the drug and so eliminate it. There would be a mental gap which would soon be overlaid with surrounding memories so as to eliminate a vacuum. That wasn't important, it didn't even matter, who can remember, consciously, every incident of an entire lifetime?

They had tried it before, of course, with hypnotism, with electrical shock, with pre-frontal lobotomy, but none had proved satisfactory. Hypnotism blanked out by suggestion but did not erase the memory—it merely raised a barrier artificial and attendant with its own ills. Shock treatment like lobotomy destroyed without selection doing more damage

than good. This new drug, if it worked, would replace with a surgeon's scalpel the shotgun effect of present techniques.

"You have my file," said Arden. "A test case but not without personal importance. There was a girl, you know about her. A love affair, over now but not forgotten, how could it ever be forgotten? Years ago and it should be dead but it still lives, still disturbs me, still affects my life." His words came slower, his eyes grew a little vacant, the irises no longer responding quickly to light. He was not asleep, not numbly drugged but he was divorced from immediacy, lost in introspection. "Erase her," he whispered. "Erase her from my mind, from my life. Then, to me, she will never have existed." He sighed, a long deep sigh, and his eyes sharpened a little. "Ready now," he murmured. "Ready . . . "

Carter looked at Hendrickson, nodded, rose to his feet and stepped forward towards the surgical table on which lay a second hypodermic and a phial of the new drug. It was transient in effect, there was no need for antidotes, but he wished that he knew more about it. Tests on animals had proved it physically harmless but animals couldn't speak and assessing their intelligence was not an easy task. He remembered several disturbing facts, a guinea-pig who had hunched itself in a corner of its hutch, a rabbit which had consistently beaten its head against a wall, a dog—he preferred not to think about the dog.

But, he reminded himself, Arden was not a dog. He was a reasoning, intelligent man who knew perfectly well what he was doing and who had insisted on doing it. Carter wondered just how deeply the test-case love affair had affected Arden. Could it, perhaps, have given the impetus to this line of research? Love, even thwarted love, had an unsuspected power.

Carefully he loaded the hypodermic, hardly conscious of Hendrickson's voice as he went through the ritual of expelling all air from the barrel of the instrument. Henrickson's deep, trained, soothing voice loaded with suggestive power, taking Arden back through mental time, winnowing his memories until the desired incident of his first meeting with the girl stood out dominant, skipping forward to find the key note which would ease the hurt most, selecting with the fine judgment of skill and his thirty years of practice.

Carter stepped forward, his feet silent on the carpet, the hypodermic ready in his hand, waiting for the moment when Hendrickson, finally satisfied, would give him the signal. It came. Deftly he thrust home the needle, pressed the plunger, withdrew the shining steel.

And, at that moment, a multi-engined jet plane, finding itself in trouble, fought for altitude by a desperate dive towards the sleeping city and a tormented flight upwards away from the serried houses below.

The noise was deafening. The screaming roar of engines and the shattering bang of the sonic wave hit with an almost physical impact. Carter jumped. Hendrickson obeying instinctive reflex action, turned and sprang to his feet. For a moment neither man was capable of constructive thought.

A moment was enough.

"Arden!"

They thought of him at the same time. They turned from the window which they had instinctively faced and looked towards the chair. Nothing seemed to have altered. Arden still sat as they had last seen him. He hadn't slumped or fallen or died. His eyes were open and he seemed normal.

But he didn't move. He didn't speak. He didn't smile. He hadn't answered to his name. He sat immobile, like an image carved from wax, only the slight lifting of his chest revealing the fact that he was alive, that and the movement of his eyelids as they dropped at regular intervals over his blank, staring empty eyes.

The room hadn't changed. It was still a quiet, warm, somnolent haven in the bustle of the city, a sanctuary which offered privacy and the extended comfort of the womb and that, Hendrickson felt, was all wrong. There should have been damage and disaster, wreckage and shattered glass, ruined plaster and torn brick, devastation to match devastation.

Devastation from which to run, screaming for help, shouting for comfort, the warm understanding of others, the sheer physical need of group effort. He felt panic rise within him and controlled it. He felt sweat beading his face and wiped it with a handkerchief. This devastation, none the less terrible because it was mental, had to be fought alone.

Carter rose to his feet from where he had squatted before Arden. He looked down at the other man for a moment then

sighed. When he spoke it was in almost a whisper, a doctor conferring with a colleague within earshot of his patient.

"No response," he said. "None."

"Catatonia?"

Carter lifted Ardens arm, placed it above his head, watched as it remained there. Gently he replaced it to its former position.

"Schizophrenia?"

"Obviously. The dissociation must be complete as is the catatonia, you noticed how the voluntary muscular system retained the position in which I placed it." Carter frowned, deep in thought. "But these are symptoms," he said. "I doubt if Arden is either in true schizophrenia or true catatonia at all. Certainly he hasn't tried to escape from mental stress by reverting back to childhood and there finding more stress and so going back even earlier."

"No foetal position," agreed Hendrickson. "But that isn't conclusive."

"True, but there is another reason. No memories."

And then they had to face it, the thing which, subconsciously, they had both tended to avoid.

"The drug erased memory," said Carter. "I had just injected it when that damn jet made all that noise. You lost contact and Arden must have snapped out of trance. He was fully conscious and aware and then—" He made an expressive gesture. "No memory. None at all."

Hendrickson pursed his lips. "Total amnesia? Surely it must be more than that?"

"A man can lose his memory and still be aware," agreed Carter. "He may not know who he is or where he comes from or anything but he can still talk and still retain his personality. Arden can't do anything and that is what worries me. The drug must have an unsuspected effect." He remembered the dog, the test animal, and felt himself shudder as he looked at Arden. They had painlessly destroyed the dog—how could they painlessly destroy a man?

"I never did trust that drug," said Hendrickson. "I tried to warn Arden but he was too impatient. Snipping out complete memories sounds good but there has to be a snag." He sounded petulant, a man trying to shift the blame, but Carter wasn't fooled. Behind those words lay thought processes un-

connected with what he was saying. It was a form of verbal doodling; patiently Carter waited for it to end.

"We've assumed that the drug actually deletes a memory," said Hendrickson. "Something like totally removing a thread from a piece of fabric, but, when you think about it, how can it do that? You just can't remove the cells, and tests show that there is no increase in the electrical emissions of the brain when treated with the drug, no electrical discharge that is. So what happens to the erased memory?"

Carter shrugged, but made a suggestion.

"Cellular disruption?"

"We found no scar tissue in the test animals even after having been treated with mammoth dosages," reminded Hendrickson. "We know what happens in cases of loss of memory, there is simply a lack of communication, the memories are there but cannot be reached; like books in a library locked away out of sight. But this—" He shook his head as he stared at Arden. "This isn't so simple."

Which, Carter felt, was an understatement of colossal magnitude. He felt no personal fear because the experiment had slipped control; there have always been men who insist on experimenting on themselves and, aside from some unpleasant publicity, he would not, personally, suffer. Not, that is, if you discount the loss of a friend, the personal conviction of blame and the knowledge that he had helped to destroy a fine mind and brilliant intelligence. He realised that Hendrickson was speaking.

"What did you say?"

"I said, suppose the drug doesn't act exactly as we assumed? Supposing it works in a different way—not by actually destroying the selected memory but by making it impossible to remember?"

"Impossible to remember?" Carter thought of the dog and, suddenly, it fitted. "That's it! Destroy the ability to remember and the memory is as good as erased." He looked down at Arden, his mind extrapolating the logical results of the concept, and he felt himself grow inwardly cold as he thought about it. "He can't remember a thing," he whispered. "He can't even retain a memory. God! What must it be like?"

He opened his eyes and looked at a stranger.

"Arden!" Carter was desperate with urgency. "Arden, listen to me . . ."

The words meant nothing, were just a dull succession of sounds without form or meaning. The stranger vanished, became as if he never was. Before him a wall sprang into being .A window. Darkness beyond the window. His eyes shifted but he knew nothing of the force which had turned his head; the memory of Carter's hands dissolving as soon as formed. He looked at a corner of a room. A picture. The glowing shade of a lamp. Image following image, each new, each different even though the same, different because seen for the first time.

"Arden!" A man stood before him appearing from nothingness. He moved forward, to Arden it was as if he saw a man, then a man, then a man. He looked at a face which suddenly appeared before him.

"Arden!" Hendrickson was sweating. "Look at me," he ordered. "' You know me." His face hung in space. "What's the use," he said hopelessly. "You can't understand."

There was nothing he could understand. There was only a succession of images, a succession of sounds, a total lack of cohesion.

A stranger appearing from nowhere and the word ' you '.

A stranger appearing from nowhere and the word ' can't '.

A stranger appearing from nowhere and the word ' understand '.

Then nothing but blackness, the utter darkness of pre-creation, the deep, engulfing, non-existence of death.

Carter looked at the hypodermic in his hand, then at the slumped figure of Arden.

"I was afraid it wouldn't work," he said. "No reason why it shouldn't, of course, but I'm glad it did."

"Sedation should help," said Hendrickson. He made a sound half-way between a snort and a laugh. "The wonders of modern medicine,' he said derisively. "The best panacea is still—simple sleep."

"*Sleep that knits the ravelled sleeve of care,*" quoted Carter. He put down the hypodermic and then, with almost an air of defiance, lit a cigarette. "What else can we do? "

"Nothing." Hendrickson, following Carter's lead, produced his pipe, loaded it, lit it with lingering care, added his own smoke to the haze. "As I see it we have one hope. The test animals all received overdoses but we insisted on caution

with Arden. We know the drug is transient; it has done all the damage it is going to do. Nature has seen to it that we are almost self-repairing. Now we have to wait and give nature a chance."

"In other words we do nothing." Carter, filled with a sudden restlessness, rose and looked out of the window. Late as it was lights still shone along the streets, glared from the windows in the shopping centre, made brief paths from the lights of the few cars which were always to be found hurrying on their mysterious errands. An ambulance swung into view, slowed as it neared the hospital, vanished as it bore its cargo of suffering into the confines of the building. There would be work and, perhaps, life and death drama in the hospital theatre soon. Strangely it didn't touch him. He felt almost in a world apart.

As Arden, now unconscious, was in a world apart.

Thought of Arden drove him from the window back into his chair. Habit caused him to light another cigarette. Hendrickson he noticed to his surprise, was asleep in his chair, his head lolling to one side, his mouth open, his breathing stentorian. Carter toyed with the thought of waking him then, glancing at Arden, dismissed the idea. There was nothing Hendrickson could do. Nothing that either of them could do. Nature had to be given its chance. In the meantime he could only speculate.

Memory, how little they knew about it. Analogies were, at the best, crude and unsatisfactory but it was all they had. Was memory really like a library, the brain a complex filing cabinet, intelligence a means of utilising acquired data? Arden had, temporarily at least, lost the ability to retain a memory. The world, to him was a succession of unrelated images. Carter tried but found it impossible to imagine what such a world would be like. Sitting, head back against the chair, his cigarette smouldering between his fingers, he did as he had so often done before. He tried to force himself into full empathy with his patient so that, by experiencing what they felt, he could gain understanding of the problems which tormented them.

A world of flashing unrelated images. Things appearing from nowhere, vanishing as if they had never been, new images, always new because unremembered. A being living in an eternal now, no past, no future, only a present.

Chaos.

It wouldn't last, it couldn't. The lesions would heal and the mind struggle to repair itself. Inevitably the retention of memory would return—if it did not, then Arden, as a man, would be dead and only a mindless, tormented creature would be in his place. Carter didn't want to think about it.

Repair then, and a gradual retention of memory. The images would last a little longer, perhaps only as long as Arden concentrated on them. The world would take on a different aspect but, with improvement, would come fresh danger.

Danger. Carter felt his head nodding and remembered to crush out his cigarette. Somehow he knew that he should feel a greater sense of urgency but fatigue claimed him and his thoughts were vague and almost unreal. There would be danger, to Arden, naturally, but how great or how imminent he couldn't, at this time, determine. Later, when he was less tired. Later, when his mind was clear.

He made one last effort to arouse himself and glanced towards Arden. He was still unconscious, safe in his drugged sleep. Carter sighed and yielded to the force closing his eyes. It was foolish of him to have thought of fear.

Foolish—but his dreams were tormented.

"Carter!"

He stirred, feeling the dryness of his mouth, the ache of his muscles, the grit beneath his eyelids.

"Carter!" A hand shook him with rough urgency. He opened his eyes, squinting as the harsh light stabbed at them, looked at Hendrickson. Fatigue left him as he saw the other's expression.

"Something wrong?"

"Arden's gone!" Hendrickson stepped back, gestured towards the empty chair. "Vanished! Why the devil didn't you wake me before going to sleep?"

"He was drugged, unconscious . . ." Carter broke off his excuse as soon as he recognised it for what it was. "When did you wake?"

"A few moments ago. Something must have woken me, perhaps it was the sound of the door. I saw that Arden had gone and woke you." He paused, frowning. He said; "The door!! I thought it was locked?"

It still was.

The door had an old fashioned lock; an inset mortice turned by a key. The key, as Carter found, was still in his pocket. Blankly he looked at Hendrickson.

"The window!" Together they ran towards it, looked out, knew relief when they saw no huddled body lying in the street five stories below.

"Perhaps he climbed out?"

"In his condition?" Carter leaned far out of the window, scanning the walls with his eyes. It was getting light, the first pale flush of dawn lightening the sky. In the ghost-grey light the building was clearly visible. Even a trained athlete would have found it impossible to climb from the window—it was an unornamented opening in a smooth expanse of brick.

Carter's hands were trembling when he closed and locked the window. By all the rules of logic Arden should still be in the room. The door, locked when they had first entered, remained locked, the key in his pocket. The window was impassable. He felt the chill of a mounting panic.

"He could have woken," said Hendrickson. "He could have taken the key from your pocket, opened the door—"

"—locked it and returned the key." Carter strode impatiently towards the portal, produced the key, unlocked the door. "Remaining in the corridor while he did it."

"All right." Hendrickson had made a mistake and admitted it. "How else?"

"I'm not sure," Carter hesitated, looking into the corridor outside. "Just before I fell asleep I began to speculate. Something worried me, a sense of danger, a growing fear, I don't know what it was. If I hadn't been so tired I could have worked it out but I was half-asleep and it didn't seem all that important. And I had dreams . . ." He shook his head "Or were they dreams? But I can make a guess as to how Arden left this room."

"How?"

"He walked through the wall!"

The hospital was very quiet. It was still too early for the wards to spring into life, for the patients to be roused, the beds made, temperatures taken, all the smooth, ordered routine of the treatment of the sick. Descending the stairs Carter had time to explain to Hendrickson what he had meant.

" Memory is more than an accumulation of data; it is, in a sense, a way of life. We all of us have been conditioned to the world in which we live—but not all of us live in the same world. The conditioning, ' memories ' of an African primitive, for example, are different to our own. Things we take for granted to him are magic. Magic, to him, can be very real nonsense to us."

" Social mores," puffed Hendrickson. " I'm with you."

" Stay with me." Carter paused at the foot of a flight of stairs, looked down each arm of a traversing corridor, then continued downward. " Arden cannot retain a memory for more than a short period of time. We must assume that and the evidence proves it. Imagine yourself in such a position. The only reality would be what you could actually see—and that reality would be in a constant state of flux. You would have no sense of permanency, no time-awareness and no orientation. And you would have no taboos."

Words, thought Carter, were clumsy things. Even as he ran down the stairs doing his best to explain to Hendrickson, his mind outstripped what he was saying, the mental concepts so beautifully clear. Clear and logical and, as he now knew, inevitable.

Arden had no memories and no ability to retain a memory for more than a short period of time. He saw a wall. A wall with a door. A wall. A door. He didn't know that walls were connected to form a room, that the room had a floor and ceiling, that the door was locked. He didn't know that such a room was an unpassable enclosure. He had no taboos of conditioning, no painful, childhood memories which had ' taught ' him that walls were solid, no weight of accepted evidence that a man in such a room could not escape.

And so, because he was free of all tradition and taboos, because he didn't know that he couldn't do it, he had walked from the room.

It was hard to accept. Had Carter been a mystic it would have been easier, for mystics know nothing is real, all is illusion, all things are, in essence, in the minds of the beholders. And, were they so far wrong?

Close your eyes and, for you, the world ceases to be. Die and, for you, the universe is as if it had never been created. Dismiss a thing from your thoughts and that thing, for you, ceases to exist. Forgetfulness is an erasure, an elimination. Total forgetfulness is a total elimination. Arden had achieved

total forgetfulness and now was in the process of creating his own world on the basis of his own experience.

It was the danger which Carter had sensed and instinctively feared. The thing which now drove him to find Arden before it was too late.

"He's left the hospital." Hendrickson rejoined Carter, his face shining with perspiration. "The night porter saw him leave. He called to him but Arden didn't answer."

"The idiot!" Carter was furious. "A man in a hospital gown walks out of the building and the fool didn't think to stop him?"

"He recognised him." It was explanation enough. Inwardly Carter cursed the student pranks which, to him, were a bane. The porter had thought it odd, naturally but once he had recognised Arden he had made his own assumptions. Various 'rags' had produced odder sights in the past.

But there was no time for recriminations. Arden had to be found.

He was a small, lonely, somehow pathetic figure, the hospital robe loose about his body, stirred slightly by the dawn breeze, his hair ruffled, his slippers incongruous. He stood at the corner of a street not far from the hospital itself and Carter thanked fate for having allowed them to find him so soon.

"Steady!" He caught hold of Hendrickson's arm. "Have you the hypodermic?"

"Will it be necessary?"

"I think that it will." Carter halted, staring down the street, thankful that aside from themselves, it seemed deserted. He was not deluced by the apparent helplesseness of Arden. The man, though he wasn't aware of it, had greater power than any human. He had to be caught before he could recognise that fact.

"We'll walk softly towards him," ordered Carter. "As soon as you're within reach use the hypodermic. If anyone bothers us we'll say that he's a patient who is a little mentally confused."

"Why can't we just lead him back?"

Carter sighed, knowing that, despite his explanations, Hendrickson still hadn't fully grasped what they had to face. Arden had escaped from a locked room simply because he

hadn't known that he wasn't supposed to be able to escape from it. It would be as simple for him to escape from human restraint, to move himself at will, to eliminate barriers, to—for want of a better word—perform miracles.

"Now!"

The small figure ahead of them had moved. Arden turned, hesitated, then, suddenly, was on the opposite side of the street and much further down.

"Hurry!' Carter began to run down the street, his shoes making hard, thudding noises on the pavement. Hendrickson puffed at his side. He had no breath for words but thoughts needed none. He had seen Arden's abrupt move and accepted the need for haste.

"Arden!" Carter shouted down the street hoping for nothing more than to delay their quarry. "Arden! Wait for us!"

The words, of course, would carry no meaning but their sound, coming as it did from the unknown, might just attract his attention, Might, Carter hoped, prevent him from moving again in that shockingly abrupt manner, He paused on the verge of shouting again.

Arden had halted close to a lamp standard, his face turned towards the shadowed doorways of the shops lining the street. From one of them a figure emerged. Carter could guess at the policeman's curiosity.

"Hurry!" he urged Hendrickson. "Hurry!"

Any witness was bad enough but the officer was the last thing he wanted. There would be inquiries, explanations to make with the attendant danger than more would be disclosed than was desirable. But that wasn't the chief cause of Carter's worry. Arden, with his new attributes, was unpredictable.

Carter could guess how he made his sudden motions. Arden had no sudden sensation of motion, of walking step by step. It was just that his viewpoint simply altered; the world, literally, changing about him. He had no memory of previous images, no idea of orientation or perspective. He simply went where he wanted to be. Or he fashioned the world as he wished it making distant, small things, large near things. The effect was the same. He had no memory of 'distance' and for him it had no meaning.

And, on the same basis of logic, he could eliminate any scene from his mind simply by wishing it erased.

Carter didn't want to find out what would actually happen to any object so ' erased.' Nothing, perhaps, there were certain natural forces which might prevent anything drastic happening at all. But Carter didn't want to find out.

" Get ready," he warned Hendrickson. " No delaying now." And then Arden moved.

And stood just before them.

Hendrickston wasted no time.

" We were lucky." Hendrickson filled his pipe and applied a match with loving care. " Damn lucky," he said with feeling. Carter, relaxed in his chair, nodded his agreement.

The policeman had been intelligent; too intelligent to believe his eyes. He ignored Arden's abrupt movement, accepted their explanations that he was a mentally deranged patient who had escaped from observation, but had firmly and politely accompanied them back to the hospital. They had been identified, of course, there had been no difficulty about that and, satisfied, the officer had left. There had only remained the task of getting Arden back to his room and the episode was almost over.

Aside from the speculations of the staff, the orderlies, the porters and the wave of rumour which would, even now, be sweeping through the building. But that couldn't be helped and, if Arden recovered, it wouldn't matter.

If he recovered.

Hendrickson, drawing at his pipe, voiced Carter's own, deep-hidden thought.

" You know," he said. " We've hit on something . . ." he sought for a word " . . . spectacular."

Carter remained silent. He was ahead of the other man.

" I've always discounted the extra-sensory perception faculties,' continued Hendrickson. " The psi-phenomena, you know what I mean. Well, doesn't this thing prove something."

" It proves quite a lot." Carter was deliberately non-committal.

" Arden walked out of this locked room. We both saw the way he moved down in the street." Hendrickson took his pipe from his mouth, studied it with exaggerated care. " We started an experiment," he said casually. " It didn't go as expected."

" And you're tempted to let it run its course." Carter pointed to the figure of Arden, slumped in drugged unconsciousness in his chair. " You're wondering, as I've wondered, just what would happen if we let him alone. I don't know what would happen. I'm only certain of one thing. Arden, as we knew him, would no longer exist."

" I wasn't suggesting—"

" I know." Carter was tired, he felt the ache of fatigue in his bones. " We have proved, by accident if you like, that memories are more important than we ever guessed. Memory conditions us from the cradle to the grave. We all live in a closed world the boundaries of which are imprinted within us via our memories. We accept those memories and we live by them. We have no choice."

No choice—but now the drug had given them a choice. To erase the entire conditioning of a lifetime so that, for the first time, the mind could be truly free. Free in the one peculiar way Arden had experienced so that no limitations were recognised and, because not recognised, did not exist.

What would be the logical outcome of creating such a freedom?

Carter didn't know and he didn't want to think about it. He was certain of only one thing. Such a freedom could be achieved only at the cost of the existing personality. The rewards might be high but, for the subject, the price would be too high. The price would be mental death.

He could only hope that Arden had not already paid that price.

Together they set to work. Arden was drugged but they had the entire pharmacopoeia on which to call, drugs for the body and mind, medicines and their years on years of knowledge and, when knowledge failed, the shrewd guesses which all doctors everywhere consider part of their talent.

Carter, his work done, sat and listened to the soft, soothing, strong and commanding voice of Hendrickson as the expert hypnotist sought to repair the damage of the ravaged mind. He couldn't tell, they had no way of telling how deep were the lesions, how shocking the traumas, how permanent the damage. They could only hope.

Arden had been shocked but his waking periods had been small, most of the time he had been under sedation. Locked in the blind, dark world of unconsciousness, his mind would have tended to repair itself. Divorced from the new, disturb-

ing stimuli the old channels would have remained open. Now, if their drugs and Hendrickson's suggestions worked, he would wake as if nothing had happened.

It took time.

The day crawled past, both men eating a hurried meal before returning to their vigil. The window darkened and the air grew thick with smoke. Fatigue rode them both but they dared not sleep. Lights like stars glowed in the streets below and still Arden did not wake.

"What shall we tell him?" Hendrickson rubbed his eyes, red with his tiredness.

"Nothing. The experiment failed, that's all he needs to know."

"Do you think that he'll be satisfied with that?"

"Perhaps not. If necessary we can explain later." Carter didn't want to talk about it. Again he considered whether or not to accelerate Arden's waking and for the dozenth time decided against it. They had meddled enough.

In his chair Arden stirred. He sighed, his eyes opening, his face resolving itself into lines and planes as his muscles bunched and his relaxation dissipated. He looked at the two men.

"Carter." His eyes shifted. "Hendrickson." He sat, thoughtful, his eyes on the night beyond the window. He sighed again. "So it failed."

"You feel nothing?" Carter leaned forward.

"Nothing."

Curiosity nagged at Carter's mind. "Nothing at all?"

"Nothing to speak of. Just a strange kind of jumbled dream. A peculiar thing . . ." His voice faded. "But it isn't important."

"No," said Carter decisively. "It isn't important."

Arden said nothing. His eyes, as they stared at the night, filled with unshed tears. Not because of the failure of the experiment which could have meant so much. But because of the memory of a girl which affected his life. A girl he couldn't forget.

E. C. Tubb

New York bibliophile Sam Moskowitz, whose "Studies In Science Fiction" series of articles on great fantasy writers is currently running in our companion magazine Science Fantasy *here contributes an editorial which was originally designed for an American reading audience. On either side of the Atlantic it is well worth reading.*

Guest Editorial

by SAM MOSKOWITZ

Though the first science fiction magazine was published in the United States in 1926, England, for 200 years before that time, possessed a tradition in fantastic speculations that included such milestones as Jonathan Swift's *Gulliver's Travels* in 1726, the single greatest satire of all time ; Mary Wollstonecraft Shelley's philosophical nightmare *Frankenstein* in 1818 ; Fitz-James O'Brien, whose *Diamond Lens* is one of the landmarks in short story and writing who was still a British subject when it appeared in 1858 ; H. Rider Haggard's masterpiece of immortality, *She*, first published in 1887 ; Robert Louis Stevenson's tale of chemically split personality *The Strange Case of Dr. Jekyll and Mr. Hyde* in 1888 ; to be climaxed by probably the greatest literary figure in the history of science fiction, H. G. Wells, whose *Time Machine* in 1894 gained him instant, deserved fame.

To these were added the pyrotechnic talent of M. P. Shiel whose *Purple Cloud* in 1901 was the basis of the 1959 moving picture *The World, The Flesh and the Devil* starring Harry Belefonte and Mel Ferrar ; *The Lost World*, where A. Conan Doyle turned from Sherlock Holmes to prove he was also a master of science fiction in 1912, the same year that William Hope Hodgson produced *The Night Land*, a soaring work of imagination unparallelled until Olaf Stapeldon wrote the 200 million year history of mankind in *Last and First Men* published in 1930.

Since then the tradition has remained unbroken with S. Fowler Wright's scientific parallel of Dante's *Inferno*, *The World Below* which appeared in 1930 and the great socio-philosophical warning novels that have appeared since then : *Brave New World* by Aldous Huxley (1933), *Out of the Silent Planet* by C. S. Lewis (1943), *The Doppelgangers* by H. F. Heard (1947) and ' 1984 ' by George Orwell, a modern classic.

It was therefore scarcely surprising that England was the second nation in the world to develop science fiction magazines, the most outstanding of which is generally acknowledged to be *New Worlds*. After World War II, British writers realizing they did not have a regular market that would develop science fiction talent went into a huddle with John Carnell, whose newly established *New Worlds* had lost its publisher after three issues and subsidized the magazine to keep it alive.

In a nation with so great a heritage in the writing of imaginative speculations in science, space, time, sociology and philosophy there was an abundance of talent to be cultivated and John Carnell repayed his debt to the writers who helped him by making *New Worlds* to British science fiction what *Story* was to the art of the short story in the United States.

Not satisfied with its already great contribution, which included the graduation of many distinguished names to the roster of American science fiction, among them Arthur C. Clarke, John Christopher, Peter Phillips, J. T. McIntosh, A. Bertram Chandler, Charles Eric Maine, John Brunner, Lan Wright, E. C. Tubb and Ken Bulmer, *New Worlds* continues to be the single most important periodical developing new talent in the science fiction world today.

New British writers editor Carnell has helped to develop are already known in the States : Brian W. Aldiss, J. G. Ballard, Colin Kapp, James White, Philip E. High and John Rackham are already moving into the forefront of the latest crop of authors supporting this magazine.

Though the richest cauldron brewing literary talent in the science fiction world, *New Worlds* has previously been available only to a few hundred American subscribers in the " know." Now, through this American distribution, the cream of original science fiction writing in the United Kingdom is made available to all.

Sam Moskowitz

Lizards' lamphrey, and some lesser animals, have a third eye—the pineal, associated in the human brain with the pineal gland. Somewhere along the line of evolution we probably lost the use of this additional 'sense'—but elsewhere in the galaxy it may well have become dominant.

THE RED DOMINOES

by W. T. WEBB

The ground, so far as Mr. Gough could discern, was composed of a kind of salmon-pink plastic ridged and criss-crossed in diamond-patterns like the tread of a car tyre. So close that he could almost touch it, stood an upright, lacertoid biped dressed in yellow chainmail emblazoned with a coat of arms that might have been designed by Dali. The apparition was holding a small box with red dominoes in it similar to the one that Herb Johnson had so recently brought in. To the left of the foreground bulked one fin of a shining blue structure that might well have been a spaceship. The sky above gleamed white like a canopy of incandescent salt.

Sizes and distances could only be estimated, but if the box of red dominoes in the diorama were the same size as the one he held, then the lizard would be roughly the size of a man. Possibly three or four hundred yards away stood another structure like a finned pyramid of opaque blue glass that coruscated in the strangely white sunlight. And from this to the improbably distant horizon, queued a row of similar structures. Hundreds of them. Diminishing in perspective and eventually joining together like a string of graded blue beads.

There were no plants of any kind ; no clouds in the snow-blind sky ; but the ground scintillated with gaudy activity. Bipeds such as the one holding the dominoes arrived and departed with the enigmatic industry of a colony of ants, or like countless bright-clad children among a thousand carousels.

When Mr. Gough lifted his finger from the button the pineal eye went blind on him. The scene disappeared and the familiar objects of his cottage sitting-room ; his books, his rack of pipes, and the corner table with the telephone on it, reasserted themselves, like objects in a room that is suddenly illuminated.

Ignoring Johnson's impatient questioning, he referred to the far from perfect encyclopedia of his mind in an effort to recall what he knew about the pineal eye, which was presumably situated somewhere in the middle of the forehead. There was a connection with lacertilia.

The pineal eye, as far as he could remember, was an eye-like structure, a vesicle, a rudimentary third eye possessed by lizards and lamphrey, and to a lesser extent by other creatures. Its function was unknown, as was the function of the pineal gland behind the third ventrical of the human brain. But Descartes had called the pineal gland the seat of the soul ; and there was a school of thought which held that the pineal eye functioned under certain circumstances, giving preternatural vision to those who knew its secrets.

While these thoughts were shimmering in his mind he shifted the dominoes haphazardly ; and presently he jabbed his finger on the button once more.

Next scene was like a Disney presentation of Dante's Inferno or an animated Hades painted by Hieronymus Bosch. A biped with another domino box was there in the foreground again, and behind him stretched what looked like a phosphorescent sewer in which an endless line of strange animals laboured, ladling a shining liquid from a wide trench into a succession of vats travelling on a conveyor belt.

Overseers with two-thong whips lashed the toilers when they showed signs of slackening. Like the overseers the toilers all seemed to be bipeds ; but whereas the masters were obviously of the one lizard-like species, the creatures working in the trenches were of a numerous variety of species ; some resembling apes, others rats, but most of them having resemblance to nothing Mr. Gough, even in his maddest nightmares

had ever seen. And then, further along the trench he saw something which made him gasp and snatch his finger from the button as though he suddenly found it red-hot.

" Some toy, eh ?" Johnson demanded in his throaty voice, as he pulled the dominoes from Gough's hand. " How much do you think I'd get for it ? Eh, how much ?"

" There was an inferno," Gough said weakly. He sank back in the armchair; a shrivelled stick of a man with a scrawny neck, and cheeks that sagged like washleather pouches on either side of a petulant little mouth. " I thought I saw strange animals working in a kind of mine ; and then I realised that some of them were human beings . . . "

" What is it ?" Johnson asked. " Some sort of television gadget, isn't it ?"

" At this stage I can't say what it is."

Gough had recently read an article about the drug mescalin which had the effect of transporting the perception into some secret dreamworld within the mind ; and now he nursed a vague conviction that the box of tricks he had just handled had a similar function, like the stroboscopic lamp and lysergic acid. He glanced into the loutish, close-set eyes of the man beside him and then stared down at his hands and the strange object they held. About an inch thick, it had the length and breadth of a postcard. A small gold knob protruded at one end of it. The back, of wafer-weight metal, was covered in hieroglyphics, and the front held thirty-four small blocks like dominoes with red dots on them. The dominoes could not be removed from the holder but they could be shifted into a number of different combinations.

" Where did you get it ?"

" It was given to me," Johnson said craftily.

Actually he had found it the day the plane had crashed down on the shore. He'd got there on his motor-cycle as soon as he could after he heard the explosion, in the hopes, not of rendering assistance to any survivors—that was just their bad luck—but of salvaging something of value from the crash. Only, apart from the tremendous hole in the foreshore mud, which didn't take many tides to fill in again, there had been no sign of any aircraft. On his way back from the beach he had picked up the gadget, which he had taken to be a child's toy.

His luck seemed to be out as usual, for on the way home he got a puncture in his front tyre and had to push his bike half a mile back to his workshop.

He had meant to fix his puncture as soon as he got in ; but he was not a man to rush headlong into a job of work. And so, instead of getting out his tools and the spare inner-tube, he sat down on a toolbox and took a good look at the gadget he'd found. After toying with the little blocks he happened to press his finger on the gold button, and right away the vision had come to him. It was like having another eye in the middle of his forehead, an eye that flicked away the workshop and the untidy mess of junk and car spares from sight, and showed him a wide-screen picture of silly-symphony animals in glorious colour.

Once he'd got over the shock he realised that he had a thing of value in his hands ; and in an effort to find out just what that value was, in terms of cash, he'd brought the gadget along to old Gough, the village schoolmaster.

" It's most remarkable," Mr. Gough said. " May I see it again please."

" I could sell it for a couple of hundred quid, maybe ; or maybe I'd make more money in the long run by letting people have a go on it at a bob a time."

Johnson handed the thing to the man in the armchair and then stood back with his hands in his pockets, watching him, with a smile of pleasure on his face at his own smartness at finding the thing and discovering its properties.

Gough, after transposing the dominoes at random, manipulated the button and saw a seat that reminded him of a dentist's chair. The lizard-creature sitting in it, however, was not having its teeth attended to but was making certain adjustments to a large milled knob and peering at the same time through an ogival window. There were signs of movement outside the window, passing puffs of white against a blue background, then a mass of moving green. Presently the movement stopped. The creature rose from the chair and stood for a while gazing into a thing like a convex mirror. Then it opened a thick door and ducked through it.

It was out in the open air ; but now the landscape was quite mundane. There was green grass dappled with the gold of dandelions and lesser celandines; there were oak trees and ash-trees, and a thicket of hazels and brambles.

With rapid strides of its stumpy legs, the lizard-thing darted into the thicket, and when it was settled there, Gough saw that it held a set of red dominoes in its misshapen hand. Twitching a many-jointed finger it rearranged the domino-blocks ; and suddenly Gough, with a thrill of sheer horror, found himself looking into the thing's mind. He had a vertiginous sensation of hovering perilously above an abyss shaped like an eye and filled with a whirling debris of strange white sculpture and purple mist. In the depths a thousand miles away, under a verminous honeycomb cliff, rippled the quicksilver of a distorting mirror in which his own face was reflected uncouth and imbecilic . . .

Presently he knew without a doubt why the thing had come to Earth and what it was seeking. Gough wanted to lift his finger from the button and get rid of the vision and the hateful propinquity of an alien mind ; but he continued to gape in fascinated horror while the lizard-thing seemed to nibble with scapel-sharp teeth among the chambers of his brain. Then, with an almost audible snort of contempt, the thing re-shuffled its dominoes and the spell was broken.

Feeling utterly disgusted, the schoolmaster watched the lacertoid alien pounce out of the thicket and attack a passing youth. The youth, a rawboned red-head, sagged to the ground and the attacker spreadeagled on top of him. After a momentary blurred mingling of youth and lizard-man, the alien was gone from sight like a conjurer's wand ; and the youth got to his feet, fingered the box of dominoes, and began to walk, unsteadily at first, away from the scene of the incredible struggle.

" We'll have to hand this thing over to the police," Gough said to Johnson. " It's obviously some kind of alien communication device ; some kind of mental radio."

Johnson leaned over the arm of the chair and took the box of dominoes in his own big hands. " What d'you mean ? Hand it over to the police ? I'll watch it ! This gadget belongs to me; and I'm going to hang on to it till I can get someone to buy it off me for a good price. This is the first bit of luck I've had in years. The first bit of *good* luck ! God knows I've had lots of the other sort."

He laughed, as though at some esoteric knowledge ; and Gough saw in his intense brown eyes, the self-centred bitterness of an incipient paranoic.

" Please, Mr. Johnson ! You don't know what you're saying. That article is not of this planet at all ; I'm convinced that it belongs to some kind of alien culture. The aliens have sent an agent to recover it ; and he's on his way here now."

Johnson laughed. " In a flying saucer, I suppose ?"

" No ; in the form of a red-headed youth. I don't pretend to understand it ; but the aliens in question must be of a different molecular structure to ourselves, and they've got the power of pervading another body—of entering it without changing its shape, like a liquid can enter a sponge. It seems possible, too, that these aliens make slaving-raids from time to time on Earth and other planets."

Johnson shoved the dominoes into his pocket and made for the door. Hand on the latch-knob, he paused. " I came to you because I thought you was a man of education ; and what do I get ? A load of trash out of a story-book. I'll believe in spooks and aliens and little green men when I sees their pictures in the paper—and not in the comic-strips ! I'm a businessman myself ; and I've got no time for story-book piffle."

Gough jerked to his feet and looked at Johnson contemptuously. " I implore you, Mr. Johnson, to take a look up into the sky one night ; there's a thousand alien worlds to see if you've eyes in your head. And in all that vastness there are surely things more fantastic than any story-book romancer could dream about."

" Yeah ; I'll have to go up there and take a look round some time, but just now I've got other things to attend to."

" So have I." Gough moved towards the telephone. " It's my duty to call the police."

With a gasp of indignation, Johnson left the door and took a step towards him : " No you don't ! This is my affair ; and I'm not having the police brought into it. I'm sorry now that I came to see you."

The little schoolmaster glowered like he would at an unruly boy. " Try to understand, Johnson ! This matter is infinitely bigger than you realise. It isn't a question of a few pounds ; it isn't even a question of the country being in danger. The whole world ; the human race, may be in jeapordy . . ." With a pedagogic shrug of impatience he broke off, snatched up the telephone, and started to dial.

Three strides and Johnson was behind him.

" Stick that phone down, mister, and listen to me !"

Mr. Gough puffed out his flabby cheeks. His petulant little mouth trembled wetly. And when he spoke he used, unconsciously, the tone and phrasiology which he employed in the classroom with devastating success. " I've no time to listen to the babbling of a nitwit ! Get away and sit down !"

But for a long time now, Johnson had listened to no voice of command except the voice of his own interests. " Put that phone down !" he snarled, suddenly clamping his big hands round the schoolmaster's gristly neck. " Put . . . it . . . down !"

Gough persisted in dialling, even with Johnson's thumbs at his throat, pressing, squeezing . . .

The schoolmaster's puny body heaved and jerked ; his frantic breathing increased in pitch and frequency and then went silent. The phone thumped to the floor. Johnson carried Gough's limp form over to the armchair, dumped it without ceremony, and then hastened to replace the handset. With trembling hands, he stood near the table and gaped across at the schoolmaster who lay in a lifeless sprawl over the arm of the chair. The sparsely-thatched head, drooping backwards like a withered flower on its stalk, showed the bony underside of the jaw. One arm hung to the floor where the hand and wrist were bent in an unnatural angle. Upside down, the eyes looked like those of a badly-made puppet.

" No ! Not dead !" Johnson said in a high voice. He stumbled over to the chair as though he would violently shake back life into the body of its occupant.

No breath. No heartbeat. Eyes unblinking in an absent stare. When it was undeniable that the little schoolmaster was very dead Johnson felt no remorse but rather a fierce anger that the man should abscond from life, leaving him in such a fix.

" What did he want to go and do that for ?" he demanded.

After lighting a cigarette in an attempt to calm his nerves, he wiped the handset of the phone to remove any fingerprints ; and then he ransacked the room and helped himself to money and valuables. He stepped towards the body with the intention of searching for a wallet, but he halted a good yard away from the chair, too awed by the grotesqueness of death to carry out his intentions. But he had, he assured

himself, taken enough to give the police the impression that robbery was the motive for the killing. No one had seen him enter the cottage and no one saw him leave it.

With a clear conscience he went home and washed himself and sat down to tea. No reasonable man could call him a murderer. It was an accident, pure and simple ; and there was no one but the schoolmaster to blame. He'd warned him, hadn't he ? How was he to know that the man had a puny little rabbit-throat that just took a couple of squeezes to snuff the life out of it ?

" You're looking rare pleased with yourself, Herb," Sarah remarked as she took her seat at the table. She was still a handsome woman ; but ten years wedded to purposeless poverty had daubed shadows on her face and yoked a weight of woe across her shoulders.

" Our luck's on the change at last, girl !" Johnson said complacently. " I started off as a blacksmith ; and the shoeing trade died. So I opened my little repair shop ; and I was thumbed-down by the big combines ; but you can't keep a good man down for long . . . "

" This ain't another of them wild, wild schemes o' yours, is it, Herb ?"

He chuckled. " Nothing wild about this, girl ! I'm on to something big that's going to fetch in a mint of money."

After tea he picked up the evening paper while his wife carried the tea-things into the kitchen to wash-up. As soon as the clatter of crockery told him that she was occupied he pulled the red dominoes from his pocket and pushed his finger on the knob.

The lay-out of the blocks was the one which Gough had made before he got his notion that an alien agent was on the trail of the missing gadget. Johnson remembered this when he saw a vision of a red-headed youth following close behind a stout man in a bowler in what was obviously a big railway station. It was not a very thrilling set-up, and Johnson was about to lift his finger and switch the dominoes to another channel, when he saw the youth hand a set of dominoes to the man he had been following.

For a second there was a puzzled look on the stout man's face. Then he took the box and the youth pushed right into him ; and momentarily there was a blur as though a puff of

train-smoke had swirled across the platform ; and within that blur Johnson could vaguely distinguish a strange mingling of the man in the bowler, the red-headed youth, and one of the Disney-lizards he had seen a couple of times before. Then the lizard vanished with the smoke, the ginger-head staggered a few paces and fainted, and the stout man in the bowler continued on his way, through the ticket-barrier and on to a train.

Johnson lifted his finger. Above his close-set eyes, his forehead ridged into unwanted clefts of thought until his face assumed the comic-pensive expression of a costive bloodhound.

He lit a cigarette and tried to understand what he had seen. Up to now he had considered the gadget to be some kind of television set that had not yet appeared on the market. Of course, he didn't understand it ; but for that matter he didn't understand television either. But now he saw that there was a possibility that Gough had been right when he gave the opinion that the gadget was something belonging to people from another world. Maybe Schoolie had been right all along. What had he called it ? A sort of mental radio ? Maybe an alien had landed and was now on the trail of the gadget.

Anyway it was beginning to make sense. In a crazy way. A mansized eft couldn't amble round in Piccadilly Circus the way he was, so he had used the body of the red-headed youth to get him as far as the railway station. Then he had ditched the youth's body and taken over that of a city businessman who looked as though he was about to get on a train going in the right direction. You had to hand it to these aliens ; they were pretty fly.

But they'd have to be flier still to catch up with Herb Johnson. This was miles out in the country ; and it would take a mighty clever city businessman in a bowler hat to find his way out here in the dark ; and by tomorrow he would be a few hundred miles away.

" Just going to fix that tyre on my motorbike," he told Sarah as he passed through the kitchen on his way to the workshop.

" Can't it bide till the morning ?" she called after him.

Why should he tell her ? He'd just about had enough of her anyway. Tomorrow she could have the whole lot of it ; the house, the workshop . . . and the debts. He'd sell the

red dominoes to a big London newspaper and then make a new start in the Midlands or the North.

Working feverishly, he got the front wheel off his motorbike, levered the tyre, stuck a new tube in and replaced the wheel. When he had wiped his hands on a rag, he took the red dominoes from his pocket and pressed the button. He had not changed the combination of the blocks since the last time he had used the device and he expected to see something of the agent ; but the view was one he had never seen before. A big blue triangle was floodlit under a sky filled with stars in screwy groupings ; and through a door in the triangle stumbled a chaingang of naked men and women bossed by a crew of big lizards. For a few minutes he watched them with a queer feeling in his guts. Then he let go the button and stuck the gadget back in his pocket.

When he had wheeled the bike on to the path behind the house, he went indoors for his coat. He'd tell Sarah he was just going round for a pint at the local. Ten years they'd been married. She'd brought him no children. Nothing. Nothing but bad luck. And for months now he'd contemplated leaving her. But now that the time had come for him to do so he suddenly remembered her as she'd been during their courting-days and the first weeks of their marriage. Smooth and slim and softly-clinging. Big, dark eyes, and oval face ; wonderful dusky hair. For the first time in years a pang of tenderness came over him, and he wanted to go up to her and take her in his arms.

But that was impossible. There were too many things to be explained: the red dominoes, the body in the schoolie's cottage, the stolen money and valuables that made his pockets bulge.

He had hoped to get his cycling-coat from the hall without her seeing him, because he did not trust himself to look into her eyes knowing it was goodbye. Sarah had always been a sympathetic type, able to tune her thoughts in with his until it seemed that she could almost read his mind.

He wanted to avoid her now, knowing that she would sense that something was amiss ; but when he entered the hall he saw that she had the hall light on and was at the front door talking to someone outside in the block of shadow. Whoever

could be calling at this time? Was it the police? Had he made some silly mistake that had betrayed him?

A feeling of dread almost froze him. A rabbit stunned with fear. In crazed anticipation he could feel at his throat the hot-cold stoat-teeth; the hairy, twisted hemp of the hangman, pressing, squeezing . . .

But Sarah's warm, dark eyes, when she turned at the door to face him, were wholly reassuring; and for a moment hope surged through him like a windowful of dawnlight after a grisly dream.

"Oh, there you are! You got a visitor, Herb! It's Mr. Gough, the schoolmaster."

Things began to happen then, too quick for Sarah to grasp them. The schoolmaster jumped over the doormat, bumped into Herb and immediately collapsed.

Then the hall light went out.

When it came on again the schoolmaster was lying groaning on the floor, and Herb had vanished. A second or so later she heard his motor-cycle start up and move off at considerable speed. And that was the last she saw of her husband.

"He'll be back again one day like a bad penny," she often says to the village women. "No doubt he's had trouble somewhere with his motorbike. I knew that bike would get him into trouble one day."

But Mr. Gough, the schoolie, has his doubts.

In view of his own miraculous resurrection he has modified his opinions concerning the lizard-men and now considers them as agents of retribution, snatching evil-doers from this earth, which could be a paradise, and punishing them woefully in some transgalactic hell. He has no red dominoes now to raise the lid of his pineal eye; but sometimes, between sleep and waking, he catches a vivid glimpse of an alien sewer where intelligent beings who decline the gift of intelligence, ladle phosphorescent acid into moving vats, while lacertoid demons goad them with two-thong whips.

W. T. Webb

Jim Ballard has produced a long list of memorable stories during the past four years—two of them included in Dell's S-F : Year's Best. With this latest story we feel that he is comparable in stature to Brian Aldiss who is undoubtedly the leading British writer of the day.

THE VOICES OF TIME

by J. G. BALLARD

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one

Later Powers often thought of Whitby, and the strange grooves the biologist had cut, apparently at random, all over the floor of the empty swimming pool. An inch deep and twenty feet long, interlocking to form an elaborate ideogram like a Chinese character, they had taken him all summer to complete, and he had obviously thought about little else, working away tirelessly through the long desert afternoons. Powers had watched him from his office window at the far end of the Neurology wing, carefully marking out his pegs and string, carrying away the cement chips in a small canvas bucket. After Whitby's suicide no one had bothered about the grooves, but Powers often borrowed the supervisor's key and let himself into the disused pool, and would look down at the labyrinthe of mouldering gulleys, half-filled with water leaking in from the chlorinator, an enigma now past any solution.

Initially, however, Powers was too preoccupied with completing his work at the Clinic and planning his own final withdrawal. After the first frantic weeks of panic he had

managed to accept an uneasy compromise that allowed him to view his predicament with the detached fatalism he had previously reserved for his patients. Fortunately he was moving down the physical and mental gradients simultaneously —lethargy and inertia blunted his anxieties, a slackening metabolism made it necessary to concentrate to produce a connected thought-train. In fact, the lengthening intervals of dreamless sleep were almost restful. He found himself beginning to look forward to them, made no effort to wake earlier than was essential.

At first he had kept an alarm clock by his bed, tried to compress as much activity as he could into the narrowing hours of consciousness, sorting out his library, driving over to Whitby's laboratory every morning to examine the latest batch of X-ray plates, every minute and hour rationed like the last drops of water in a canteen.

Anderson, fortunately, had unwittingly made him realize the pointlessness of this course.

After Powers had resigned from the Clinic he still continued to drive in once a week for his check-up, now little more than a formality. On what turned out to be the last occasion Anderson had perfunctorily taken his blood-count, noting Powers' slacker facial muscles, fading pupil reflexes, the unshaven cheeks.

He smiled sympathetically at Powers across the desk, wondering what to say to him. Once he had put on a show of encouragement with the more intelligent patients, even tried to provide some sort of explanation. But Powers was too difficult to reach—neurosurgeon extraordinary, a man always out on the periphery, only at ease working with unfamiliar materials. To himself he thought ; *I'm sorry, Robert. What can I say—" Even the sun is growing cooler—?"* He watched Powers drum his fingers restlessly on the enamel desk top, his eyes glancing at the spinal level charts hung around the office. Despite his unkempt appearance—he had been wearing the same unironed shirt and dirty white plimsoles a week ago— Powers looked composed and self-possessed, like a Conrad beachcomber more or less reconciled to his own weaknesses.

" What are you doing with yourself, Robert ?" he asked. " Are you still going over to Whitby's lab ?"

" As much as I can. It takes me half an hour to cross the lake, and I keep on sleeping through the alarm clock. I may leave my place and move in there permanently."

Anderson frowned. " Is there much point? As far as I could make out Whitby's work was pretty speculative—" He broke off, realizing the implied criticism of Powers' own disastrous work at the Clinic, but Powers seemed to ignore this, was examining the pattern of shadows on the ceiling. "Anyway, wouldn't it be better to stay where you are, among your own things, read through Toynbee and Spengler again?"

Powers laughed shortly. " That's the last thing I want to do. I want to *forget* Toynbee and Spengler, not try to remember them. In fact, Paul, I'd like to forget everything. I don't know whether I've got enough time, though. How much can you forget in three months?"

" Everything, I suppose, if you want to. But don't try to race the clock."

Powers nodded quietly, repeating this last remark to himself. Racing the clock was exactly what he had been doing. As he stood up and said goodbye to Anderson he suddenly decided to throw away his alarm clock, escape from his futile obsession with time. To remind himself he unfastened his wrist-watch and scrambled the setting, then slipped it into his pocket. Making his way out to the car park he reflected on the freedom this simple act gave him. He would explore the lateral byways now, the side doors, as it were, in the corridors of time. Three months could be an eternity.

He picked his car out of the line and strolled over to it, shielding his eyes from the heavy sunlight beating down across the parabolic sweep of the lecture theatre roof. He was about to climb in when he saw that someone had traced with a finger across the dust caked over the windshield :

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Looking over his shoulder, he recognised the white Packard parked next to him, peered inside and saw a lean-faced young man with blonde sun-bleached hair and a high cerebrotonic forehead watching him behind dark glasses. Sitting beside him at the wheel was a raven-haired girl whom he had often seen around the psychology department. She had intelligent but somehow rather oblique eyes, and Powers remembered that the younger doctors called her " the girl from Mars."

" Hello, Kaldren," Powers said to the young man. " Still following me around?"

Kaldren nodded. " Most of the time, doctor." He sized Powers up shrewdly. " We haven't seen very much of you

recently, as a matter of fact. Anderson said you'd resigned, and we noticed your laboratory was closed."

Powers shrugged. " I felt I needed a rest. As you'll understand, there's a good deal that needs re-thinking."

Kaldren frowned half-mockingly. " Sorry to hear that, doctor. But don't let these temporary setbacks depress you." He noticed the girl watching Powers with interest. " Coma's a fan of yours. I gave her your papers from *American Journal of Psychiatry*, and she's read through the whole file."

The girl smiled pleasantly at Powers, for a moment dispelling the hostility between the two men. When Powers nodded to her she leaned across Kaldren and said : " Actually I've just finished Noguchi's autobiography—the great Japanese doctor who discovered the spirochaete. Somehow you remind me of him—there's so much of yourself in all the patients you worked on."

Powers smiled wanly at her, then his eyes turned and locked involuntarily on Kaldren's. They stared at each other sombrely for a moment, and a small tic in Kaldren's right cheek began to flicker irritatingly. He flexed his facial muscles, after a few seconds mastered it with an effort, obviously annoyed that Powers should have witnessed this brief embarrassment.

" How did the clinic go today ?" Powers asked. " Have you had any more . . . headaches ?"

Kaldren's mouth snapped shut, he looked suddenly irritable. " Whose care am I in, doctor ? Yours or Anderson's ? Is that the sort of question you should be asking now ?"

Powers gestured deprecatingly. " Perhaps not." He cleared his throat ; the heat was ebbing the blood from his head and he felt tired and eager to get away from them. He turned towards his car, then realized that Kaldren would probably follow, either try to crowd him into the ditch or block the road and make Powers sit in his dust all the way back to the lake. Kaldren was capable of any madness.

" Well, I've got to go and collect something," he said, adding in a firmer voice : " Get in touch with me, though, if you can't reach Anderson."

He waved and walked off behind the line of cars. Reflected in the windows he could see Kaldren looking back and watching him closely.

He entered the Neurology wing, paused thankfully in the cool foyer, nodding to the two nurses and the armed guard at the reception desk. For some reason the terminals sleeping in the adjacent dormitory block attracted hordes of would-be sightseers, most of them cranks with some magical anti-narcoma remedy, or merely the idly curious, but a good number of quite normal people many of whom had travelled thousands of miles, impelled towards the Clinic by some strange instinct, like animals migrating to a pre-view of their racial graveyards.

He walked along the corridor to the supervisor's office overlooking the recreation deck, borrowed the key and made his way out through the tennis courts and calisthenics rigs to the enclosed swimming pool at the far end. It had been disused for months, and only Powers' visits kept the lock free. Stepping through, he closed it behind him and walked past the peeling wooden stands to the deep end.

Putting a foot up on the diving board, he looked down at Whitby's ideogram. Damp leaves and bits of paper obscured it, but the outlines were just distinguishable. It covered almost the entire floor of the pool and at first glance appeared to represent a huge solar disc, with four radiating diamond-shaped arms, a crude Jungian mandala.

Wondering what had prompted Whitby to carve the device before his death, Powers noticed something moving through the debris in the centre of the disc. A black, horny-shelled animal about a foot long was nosing about in the slush, heaving itself on tired legs. Its shell was articulated, and vaguely resembled an armadillo's. Reaching the edge of the disc, it stopped and hesitated, then slowly backed away into the centre again, apparently unwilling or unable to cross the narrow groove.

Powers looked around, then stepped into one of the changing stalls and pulled a small wooden clothes locker off its rusty wall bracket. Carrying it under one arm, he climbed down the chromium ladder into the pool and walked carefully across the slithery floor towards the animal. As he approached it sidled away from him, but he trapped it easily, using the lid to lever it into the box.

The animal was heavy, at least the weight of a brick. Powers tapped its massive olive-black carapace with his knuckle, noting the triangular warty head jutting out below its rim like a turtle's, the thickened pads beneath the first digits of the pentadactyl forelimbs.

He watched the three-lidded eyes blinking at him anxiously from the bottom of the box.

"Expecting some really hot weather?" he murmured. "That lead umbrella you're carrying around should keep you cool."

He closed the lid, climbed out of the pool and made his way back to the supervisor's office, then carried the box out to his car.

". . . Kaldren continues to reproach me (Powers wrote in his diary). For some reason he seems unwilling to accept his isolation, is elaborating a series of private rituals to replace the missing hours of sleep. Perhaps I should tell him of my own approaching zero, but he'd probably regard this as the final unbearable insult, that I should have in excess what he so desperately yearns for. God knows what might happen. Fortunately the nightmarish visions appear to have receded for the time being . . ."

Pushing the diary away, Powers leaned forwards across the desk and stared out through the window at the white floor of the lake bed stretching towards the hills along the horizon. Three miles away, on the far shore, he could see the circular bowl of the radio-telescope revolving slowly in the clear afternoon air, as Kaldren tirelessly trapped the sky, sluicing in millions of cubic parsecs of sterile ether, like the nomads who trapped the sea along the shores of the Persian Gulf.

Behind him the air-conditioner murmured quietly, cooling the pale blue walls half-hidden in the dim-light. Outside the air was bright and oppressive, the heat waves rippling up from the clumps of gold-tinted cacti below the Clinic blurring the sharp terraces of the twenty-storey Neurology block. There, in the silent dormitories behind the sealed shutters, the terminals slept their long dreamless sleep. There were now over 500 of them in the Clinic, the vanguard of a vast somnambulist army massing for its last march. Only five years had elapsed since the first narcoma syndrome had been recognised, but already huge government hospitals in the east were being readied for intakes in the thousands, as more and more cases came to light.

Powers felt suddenly tired, and glanced at his wrist, wondering how long he had to 8 o'clock, his bed-time for the next week or so. Already he missed the dusk, soon would wake to his last dawn.

His watch was in his hip pocket. He remembered his decision not to use his time-pieces, and sat back and stared at the bookshelves beside the desk. There were rows of green-covered AEC publications he had removed from Whitby's library, papers in which the biologist described his work out in the Pacific after the H-tests. Many of them Powers knew almost by heart, read a hundred times in an effort to grasp Whitby's last conclusions. Toynbee would certainly be easier to forget.

His eyes dimmed momentarily, as the tall black wall in the rear of his mind cast its great shadow over his brain. He reached for the diary thinking of the girl in Kaldren's car—Coma he had called her, another of his insane jokes—and her reference to Noguchi. Actually the comparison should have been made with Whitby, not himself ; the monsters in the lab were nothing more than fragmented mirrors of Whitby's mind, like the grotesque radio-shielded frog he had found that morning in the swimming pool.

Thinking of the girl Coma, and the heartening smile she had given him, he wrote :

Woke 6-33 *am. Last session with Anderson. He made it plain he's seen enough of me, and from now on I'm better alone. To sleep* 8-00 ? (*these count-downs terrify me.*)

He paused, then added :
Goodbye, Eniwetok.

two

He saw the girl again the next day at Whitby's laboratory. He had driven over after breakfast with the new specimen, eager to get it into a vivarium before it died. The only previous armoured mutant he had come across had nearly broken his neck. Speeding along the lake road a month or so earlier he had struck it with the off-side front wheel, expecting the small creature to flatten instantly. Instead its hard lead-packed shell had remained rigid, even though the organism within it had been pulped, had flung the car heavily into the ditch. He had gone back for the shell, later weighed it at the laboratory, found it contained over 600 grammes of lead.

Quite a number of plants and animals were building up heavy metals as radiological shields. In the hills behind the beach

house a couple of old-time propectors were renovating the derelict gold-panning equipment abandoned over eighty years ago. They had noticed the bright yellow tints of the cacti, run an analysis and found that the plants were assimilating gold in extractable quantities, although the soil concentrations were un-workable. Oak Ridge was at last paying a dividend ! !

Waking that morning just after 6-45—ten minutes later than the previous day (he had switched on the radio, heard one of the regular morning programmes as he climbed out of bed)—he had eaten a light unwanted breakfast, then spent an hour packing away some of the books in his library, crating them up and taping on address labels to his brother.

He reached Whitby's laboratory half an hour later. This was housed in a 100-foot wide geodesic dome built beside his chalet on the west shore of the lake about a mile from Kaldren's summer house. The chalet had been closed after Whitby's suicide, and many of the experimental plants and animals had died before Powers had managed to receive permission to use the laboratory.

As he turned into the driveway he saw the girl standing on the apex of the yellow-ribbed dome, her slim figure silhouetted against the sky. She waved to him, then began to step down across the glass polyhedrons and jumped nimbly into the driveway beside the car.

" Hello," she said, giving him a welcoming smile. " I came over to see your zoo. Kaldren said you wouldn't let me in if he came so I made him stay behind."

She waited for Powers to say something while he searched for his keys, then volunteered : " If you like, I can wash your shirt."

Powers grinned at her, peered down ruefully at his dust-stained sleeves. " Not a bad idea. I thought I was beginning to look a little uncared-for." He unlocked the door, took Coma's arm. " I don't know why Kaldren told you that—he's welcome here any time he likes."

" What have you got in there ?" Coma asked, pointing at the wooden box he was carrying as they walked between the gear-laden benches.

" A distant cousin of our's I found. Interesting little chap. I'll introduce you in a moment."

Sliding partitions divided the dome into four chambers. Two of them were store-rooms, filled with spare tanks,

apparatus, cartons of animal food and test rigs. They crossed the third section, almost filled by a powerful X-ray projector, a giant 250 mega-amp G.E. Maxitron, angled onto a revolving table, concrete shielding blocks lying around ready for use like huge building bricks.

The fourth chamber contained Powers' zoo, the vivaria jammed together along the benches and in the sinks, big coloured cardboard charts and memos pinned onto the draught hoods above them, a tangle of rubber tubing and power leads trailing across the floor. As they walked past the lines of tanks dim forms shifted behind the frosted glass, and at the far end of the aisle there was a sudden scurrying in a large scale cage by Powers' desk.

Putting the box down on his chair, he picked a packet of peanuts off the desk and went over to the cage. A small black-haired chimpanzee wearing a dented jet pilot's helmet swarmed deftly up the bars to him, chirped happily and then jumped down to a miniature control panel against the rear wall of the cage. Rapidly it flicked a series of buttons and toggles, and a succession of coloured lights lit up like a juke box and jangled out a two-second blast of music.

"Good boy," Powers said encouragingly, patting the chimp's back and shovelling the peanuts into its hands. " You're getting much too clever for that one, aren't you ?"

The chimp tossed the peanuts into the back of its throat with the smooth easy motions of a conjuror, jabbering at Powers in a sing-song voice.

Coma laughed and took some of the nuts from Powers. " He's sweet. I think he's talking to you."

Powers nodded. " Quite right, he is. Actually he's got a two-hundred word vocabularly, but his voice box scrambles it all up." He opened a small refrigerator by the desk, took out half a packet of sliced bread and passed a couple of pieces to the chimp. It picked an electric toaster off the floor and placed it in the middle of a low wobbling table in the centre of the cage, whipped the pieces into the slots. Powers pressed a tab on the switchboard beside the cage and the toaster began to crackle softly.

" He's one of the brightest we've had here, about as intelligent as a five-year-old child, though much more self-sufficient in a lot of ways." The two pieces of toast jumped out of their

slots and the chimp caught them neatly, nonchalantly patting its helmet each time, then ambled off into a small ramshackle kennel and relaxed back with one arm out of a window, sliding the toast into its mouth.

" He built that house himself," Powers went on, switching off the toaster. " Not a bad effort, really." He pointed to a yellow polythene bucket by the front door of the kennel, from which a battered looking geranium protruded. " Tends that plant, cleans up the cage, pours out an endless stream of wisecracks. Pleasant fellow all round."

Coma was smiling broadly to herself. " Why the space helmet, though ?"

Powers hesitated. " Oh, it—er—it's for his own protection. Sometimes he gets rather bad headaches. His predecessors all—" He broke off and turned away. " Let's have a look at some of the other inmates."

He moved down the line of tanks, beckoning Coma with him. " We'll start at the beginning." He lifted the glass lid off one of the tanks, and Coma peered down into a shallow bath of water, where a small round organism with slender tendrils was nestling in a rockery of shells and pebbles.

" Sea anemone. Or was. Simple coelenterate with an open-ended body cavity." He pointed down to a thickened ridge of tissue around the base. " It's sealed up the cavity, converted the channel into a rudimentary notochord, first plant ever to develop a nervous system. Later the tendrils will knot themselves into a ganglion, but already they're sensitive to colour. Look." He borrowed the violet handkerchief in Coma's breast pocket spread it across the tank. The tendrils flexed and stiffened, began to weave slowly, as if they were trying to focus.

" The strange thing is that they're completely insensitive to white light. Normally the tendrils register shifting pressure gradients, like the tympanic diaphragms in your ears. Now it's almost as if they can *hear* primary colours, suggests it's re-adapting itself for a non-aquatic existence in a static world of violent colour contrasts."

Coma shook her head, puzzled. " Why, though ?"

" Hold on a moment. Let me put you in the picture first." They moved along the bench to a series of drum-shaped cages made of wire mosquito netting. Above the first was a large white cardboard screen bearing a blown-up microphoto of a tall pagoda-like chain, topped by the legend : " Drosophila : 15 rontgens/min."

Powers tapped a small perspex window in the drum. " Fruitfly. Its huge chromosomes make it a useful test vehicle." He bent down, pointed to a grey V-shaped honeycomb suspended from the roof. A few flies emerged from entrances, moving about busily. " Usually it's solitary, a nomadic scavenger. Now it forms itself into well-knit social groups, has begun to secrete a thin sweet lymph something like honey."

" What's this ?" Coma asked, touching the screen.

" Diagram of a key gene in the operation." He traced a spray of arrows leading from a link in the chain. The arrows were labelled : " Lymph gland " and subdivided " sphincter muscles, epithelium, templates."

" It's rather like the perforated sheet music of a player piano," Powers commented, " or a computor punch tape. Knock out one link with an X-ray beam, lose a characteristic, change the score."

Coma was peering through the window of the next cage and pulling an unpleasant face. Over her shoulder Powers saw she was watching an enormous spider-like insect, as big as a hand, its dark hairy legs as thick as fingers. The compound eyes had been built up so that they resembled giant rubies.

" He looks unfriendly," she said. " What's that sort of rope ladder he's spinning ?" As she moved a finger to her mouth the spider came to life, retreated into the cage and began spewing out a complex skein of interlinked grey thread which it slung in long loops from the roof of the cage.

" A web," Powers told her. " Except that it consists of nervous tissue. The ladders form an external neural plexus, an inflatable brain as it were, that he can pump up to whatever size the situation calls for. A sensible arrangement, really, far better than our own."

Coma backed away. " Gruesome. I wouldn't like to go into his parlour."

" Oh, he's not as frightening as he looks. Those huge eyes staring at you are blind. Or, rather, their optical sensitivity has shifted down the band, the retinas will only register gamma radiation. Your wrist-watch has luminous hands. When you moved it across the window he started thinking. World War IV should really bring him into his element."

They strolled back to Powers' desk. He put a coffee pan over a bunsen and pushed a chair across to Coma. Then he

opened the box, lifted out the armoured frog and put it down on a sheet of blotting paper.

" Recognise him ? Your old childhood friend, the common frog. He's built himself quite a solid little air raid shelter." He carried the animal across to a sink, turned on the tap and let the water play softly over its shell. Wiping his hands on his shirt, he came back to the desk.

Coma brushed her long hair off her forehead, watched him curiously.

" Well, what's the secret ?"

Powers lit a cigarette. " There's no secret. Teratologists have been breeding monsters for years. Have you ever heard of the ' silent pair '?"

She shook her head.

Powers stared moodily at the cigarette for a moment, riding the kick the first one of the day always gave him. " The so-called ' silent pair ' is one of modern genetics ' oldest problems, the apparently baffling mystery of the two inactive genes which occur in a small percentage of all living organisms, and appear to have no intelligible role in their structure or development. For a long while now biologists have been trying to activate them, but the difficulty is partly in identifying the silent genes in the fertilised germ cells of parents known to contain them, and partly in focussing a narrow enough X-ray beam which will do no damage to the remainder of the chromosome. However, after about ten years' work Dr. Whitby successfully developed a whole-body irradiation technique based on his observation of radiobiological damage at Eniwetok."

Powers paused for a moment. " He had noticed that there appeared to be more biological damage after the tests—that is, a greater transport of energy—than could be accounted for by direct radiation. What was happening was that the protein latices in the genes were building up energy in the way that any vibrating membrane accumulates energy when it resonates—you remember the analogy of the bridge collapsing under the soldiers marching in step—and it occurred to him that if he could first identify the critical resonance frequency of the latices in any particular silent gene he could then radiate the entire living organism, and not simply its germ cells, with a low field that would act selectively on the silent gene and cause no damage to the reamainder of the chromosomes, whose latices would resonate critically only at other specific frequencies."

Powers gestured around the laboratory with his cigarette. " You see some of the fruits of this ' resonance transfer ' technique around you."

Coma nodded. " They've had their silent genes activated ?"

" Yes, all of them. These are only a few of the thousands of specimens who have passed through here, and as you've seen, the results are pretty dramatic."

He reached up and pulled across a section of the sun curtain. They were sitting just under the lip of the dome, and the mounting sunlight had begun to irritate him.

In the comparative darkness Coma noticed a stroboscope winking slowly in one of the tanks at the end of the bench behind her. She stood up and went over to it, examining a tall sun-flower with a thickened stem and greatly enlarged receptacle. Packed around the flower, so that only its head protruded, was a chimney of grey-white stones, neatly cemented together and labelled :

Cretaceous Chalk : 60,000,000 years

Beside it on the bench were three other chimneys, these labelled " Devonian Sandstone : 290,000,000 years," " Asphalt 20 years," Polyvinylchloride : 6 months."

" Can you see those moist white discs on the sepals," Powers pointed out. " In some way they regulate the plant's metabolism. It literally *sees* time. The older the surrounding environment, the more sluggish its metabolism. With the asphalt chimney it will complete its annual cycle in a week, with the PVC one in a couple of hours."

" Sees time," Coma repeated, wonderingly. She looked up at Powers, chewing her lower lip reflectively. " It's fantastic. Are these the creatures of the future, doctor ?"

" I don't know," Powers admitted. " But if they are their world must be a montrous surrealist one."

three

He went back to the desk, pulled two cups from a drawer and poured out the coffee, switching off the bunsen. " Some people have speculated that organisms possessing the silent pair of genes are the fore-runners of a massive move up the evolutionary slope, that the silent genes are a sort of code, a divine message that we inferior organisms are carrying for our more highly developed descendants. It may well be true—perhaps we've broken the code too soon."

" Why do you say that ?"

" Well, as Whitby's death indicates, the experiments in this laboratory have all come to a rather unhappy conclusion. Without exception the organisms we've irradiated have entered a final phase of totally disorganised growth, producing dozens of specialised sensory organs whose function we can't even guess. The results are catastrophic—the anemone will literally explode, the Drosophila cannibalise themselves, and so on. Whether the future implicit in these plants and animals is ever intended to take place, or whether we're merely extrapolating—I don't know. Sometimes I think, though, that the new sensory organs developed are parodies of their real intentions. The specimens you've seen today are all in an early stage of their secondary growth cycles. Later on they begin to look distinctly bizarre."

Coma nodded. " A zoo isn't complete without its keeper," she commented. " What about Man ?"

Powers shrugged. " About one in every 100,000—the usual average—contain the silent pair. You might have them—or I. No one has volunteered yet to undergo whole-body irradiation. Apart from the fact that it would be classified as suicide, if the experiments here are any guide the experience would be savage and violent."

He sipped at the thin coffee, feeling tired and somehow bored. Recapitulating the laboratory's work had exhausted him.

The girl leaned forward. " You look awfully pale," she said solicitously. " Don't you sleep well ?"

Powers managed a brief smile. " Too well," he admitted. " It's no longer a problem with me."

" I wish I could say that about Kaldren. I don't think he sleeps anywhere near enough. I hear him pacing around all night." She added : " Still, I suppose it's better than being a terminal. Tell me doctor, wouldn't it be worth trying this radiation technique on the sleepers at the Clinic ? It might wake them up before the end. A few of them must possess the silent genes."

" They *all* do," Powers told her. " The two phenomena are very closely linked, as a matter of fact." He stopped, fatigue dulling his brain, and wondered whether to ask the girl to leave. Then he climbed off the desk and reached behind it, picked up a tape recorder.

Switching it on, he zeroed the tape and adjusted the speaker volume.

" Whitby and I often talked this over. Towards the end I took it all down. He was a great biologist, so let's hear it in his own words. It's absolutely the heart of the matter."

He flipped the table on, adding : " I've played it over to myself a thousand times, so I'm afraid the quality is poor."

An older man's voice, sharp and slightly irritable, sounded out above a low buzz of distortion, but Coma could hear it clearly.

WHITBY : . . . for heaven's sake, Robert, look at those FAO statistics. Despite an annual increase of five per cent in acreage sown over the past fifteen years, world wheat crops have continued to decline by a factor of about two per cent. The same story repeats itself ad nauseam. Cereals and root crops, dairy yields, ruminant fertility—are all down. Couple these with a mass of parallel symptoms, anything you care to pick from altered migratory routes to longer hibernation periods, and the overall pattern is incontrovertible.

POWERS : Population figures for Europe and North America show no decline, though.

WHITBY : Of course not, as I keep pointing out. It will take a century for such a fractional drop in fertility to have any effect in areas where extensive birth control provides an artificial reservoir. One must look at the countries of the Far East, and particularly at those where infant mortality has remained at a steady level. The population of Sumatra, for example, has declined by over fifteen per cent in the last twenty years. A fabulous decline ! Do you realise that only two or three decades ago the Neo-Malthusians were talking about a ' world population explosion ?' In fact, it's an implosion. Another factor is—

Here the tape had been cut and edited, and Whitby's voice, less querulous this time, picked up again.

. . . just as a matter of interest, tell me something : how long do you sleep each night ?

POWERS : I don't know exactly ; about eight hours, I suppose.

WHITBY : The proverbial eight hours. Ask anyone and they say automatically ' eight hours.' As a matter of fact you sleep about ten and a half hours, like the majority of people. I've timed you on a number of occasions. I myself sleep eleven. Yet thirty years ago people did indeed sleep eight hours, and a century before that they slept six or seven. In Vasari's ' Lives ' one reads of Michelangelo sleeping for only four or five hours, painting all day at the age of eighty and then working through the night over his anatomy table with a candle strapped to his forehead. Now he's regarded as a prodigy, but it was unremarkable then. How do you think the ancients, from Plato to Shakespeare, Aristotle to Aquinas, were able to cram so much work into their lives ? Simply because they had an extra six or seven hours every day. Of course, a second disadvantage under which we labour is a lowered basal metabolic rate—another factor no one will explain.

POWERS : I suppose you could take the view that the lengthened sleep interval is a compensation device, a sort of mass neurotic attempt to escape from the terrifying pressures of urban life in the late Twentieth century.

WHITBY : You could, but you'd be wrong. It's simply a matter of biochemistry. The ribonucleic acid templates which unravel the protein chains in all living organisms are wearing out, the dies enscribing the protoplasmic signature have become blunted. After all, they've been running now for over a thousand million years. It's time to re-tool. Just as an individual organism's life span is finite, or the life of a yeast colony or a given species, so the life of an entire biological kingdom is of fixed duration. It's always been assumed that the evolutionary slope reaches forever upwards, but in fact the peak has already been reached, and the pathway now leads downwards to the common biological grave. It's a despairing and at present unacceptable vision of the future, but it's the only one. Five thousand centuries from now our descendants, instead of being multi-brained star-men, will probably be naked prognathus idiots with hair on their foreheads, grunting their way through the remains of this Clinic like Neolithic men caught in a macabre inversion of time. Believe me, I pity them, as I pity myself. My total failure, my absolute lack of any moral or biological right to existence, is implicit in every cell of my body . . .

The tape ended, the spool ran free and stopped. Powers closed the machine, then massaged his face. Coma sat quietly, watching him and listening to the chimp playing with a box of puzzle dice.

" As far as Whitby could tell," Powers said, " the silent genes represent a last desperate effort of the biological kingdom to keep its head above the rising waters. Its total life period is determined by the amount of radiation emitted by the sun, and once this reaches a certain point the sure-death line has been passed and extinction is inevitable. To compensate for this, alarms have been built in which alter the form of the organism and adapt it to living in a hotter radiological climate. Soft-skinned organisms develop hard shells, these contain heavy metals as radiation screens. New organs of perception are developed too. According to Whitby, though, it's all wasted effort in the long run—but sometimes I wonder."

He smiled at Coma and shrugged. " Well, let's talk about something else. How long have you known Kaldren ?"

" About three weeks. Feels like ten thousand years."

" How do you find him now ? We've been rather out of touch lately."

Coma grinned. " I don't seem to see very much of him either. He makes me sleep all the time. Kaldren has many strange talents, but he lives just for himself. You mean a lot to him, doctor. In fact, you're my one serious rival."

" I thought he couldn't stand the sight of me."

" Oh, that's just a sort of surface symptom. He really thinks of you continuously. That's why we spend all our time following you around." She eyed Powers shrewdly. " I think he feels guilty about something."

" Guilty ?" Powers exclaimed. " *He* does ? I thought I was supposed to be the guilty one."

" Why ?" she pressed. She hesitated, then said : " You carried out some experimental surgical technique on him, didn't you ?"

" Yes," Powers admitted. " It wasn't altogether a success, like so much of what I seem to be involved with. If Kaldren feels guilty, I suppose it's because he feels he must take some of the responsibility."

He looked down at the girl, her intelligent eyes watching him closely. " For one or two reasons it may be necessary for you to know. You said Kaldren paced around all night and didn't get enough sleep. Actually he doesn't get any sleep at all."

The girl nodded. "You . . ." She made a snapping gesture with her fingers.

". . . narcotomised him," Powers completed. "Surgically speaking, it was a great success, one might well share a Nobel for it. Normally the hypothalamus regulates the period of sleep, raising the threshold of consciousness in order to relax the venous capillaries in the brain and drain them of accummulating toxins. However, by sealing off some of the control loops the subject is unable to receive the sleep cue, and the capillaries drain while he remains conscious. All he feels is a temporary lethargy, but this passes within three or four hours. Physically speaking, Kaldren has had another twenty years added to his life. But the psyche seems to need sleep for its own private reasons, and consequently Kaldren has periodic storms that tear him apart. The whole thing was a tragic blunder."

Coma frowned pensively. "I guessed as much. Your papers in the neurosurgery journals referred to the patient as K. A touch of pure Kafka that came all too true."

"I may leave here for good, Coma," Powers said. "Make sure that Kaldren goes to his clinics. Some of the deep scar tissue will need to be cleaned away."

"I'll try. Sometimes I feel I'm just another of his insane terminal documents."

"What are those?"

"Haven't you heard? Kaldren's collection of final statements about homo sapiens. The complete works of Freud, Beethoven's blind quartets, transcripts of the Nuremburg trials, an automatic novel, and so on." She broke off. "What's that you're drawing?"

"Where?"

She pointed to the desk blotter, and Powers looked down and realised he had been unconsciously sketching an elaborate doodle, Whitby's four-armed sun. "It's nothing," he said. Somehow, though, it had a strangely compelling force.

Coma stood up to leave. "You must come and see us, doctor. Kaldren has so much he wants to show you. He's just got hold of an old copy of the last signals sent back by the Mercury Seven twenty years ago when they reached the moon, and can't think about anything else. You remember the strange messages they recorded before they died, full of poetic ramblings about the white gardens. Now that I think about it they behaved rather like the plants in your zoo here."

She put her hands in her pockets, then pulled something out. " By the way, Kaldren asked me to give you this."

It was an old index card from the observatory library. In the centre had been typed the number :

96,688,365,498,720

" It's going to take a long time to reach zero at this rate," Powers remarked dryly. " I'll have quite a collection when we're finished."

After she had left he chucked the card into the waste bin and sat down at the desk, staring for an hour at the ideogram on the blotter.

Half-way back to his beach house the lake road forked to the left through a narrow saddle that ran between the hills to an abandoned Air Force weapons range on one of the remoter salt lakes. At the nearer end were a number of small bunkers and camera towers, one or two metal shacks and a low-roofed storage hangar. The white hills encircled the whole area, shutting it off from the world outside, and Powers liked to wander on foot down the gunnery aisles that had been marked down the two-mile length of the lake towards the concrete sight-screens at the far end. The abstract patterns made him feel like an ant on a bone-white chess-board, the rectangular screens at one end and the towers and bunkers at the other like opposing pieces.

His session with Coma had made Powers feel suddenly dissatisfied with the way he was spending his last months. *Goodbye, Eniwetok*, he had written, but in fact systematically forgetting everything was exactly the same as remembering it, a cataloguing in reverse, sorting out all the books in the mental library and putting them back in their right places upside down.

Powers climbed one of the camera towers, leaned on the rail and looked out along the aisles towards the sight-screens. Richocheting shells and rockets had chipped away large pieces of the circular concrete bands that ringed the target bulls, but the outlines of the huge 100-yard-wide discs, alternately painted blue and red, were still visible.

For half an hour he stared quietly at them, formless ideas shifting through his mind. Then without thinking, he abruptly left the rail and climbed down the companionway. The storage hangar was fifty yards away. He walked quickly across to it, stepped into the cool shadows and peered around the rusting electric trolleys and empty flare drums. At the far end, behind

a pile of lumber and bales of wire, were a stack of unopened cement bags, a mound of dirty sand and an old mixer.

Half an hour later he had backed the Buick into the hangar and hooked the cement mixer, charged with sand, cement and water scavenged from the drums lying around outside, onto the rear bumper, then loaded a dozen more bags into the car's trunk and rear seat. Finally he selected a few straight lengths of timber, jammed them through the window and set off across the lake towards the central target bull.

For the next two hours he worked away steadily in the centre of the great blue disc, mixing up the cement by hand, carrying it across to the crude wooden formes he had lashed together from the timber, smoothing it down so that it formed a six-inch high wall around the perimeter of the bull. He worked without pause, stirring the cement with a tyre lever, scooping it out with a hub-cap prised off one of the wheels.

By the time he finished and drove off, leaving his equipment where it stood, he had completed a thirty-foot long section of wall.

four

June 7 : *Conscious, for the first time, of the brevity of each day. As long as I was awake for over twelve hours I still orientated my time around the meridain, morning and afternoon set their old rhythms. Now, with just over eleven hours of consciousness left, they form a continuous interval, like a length of tape measure. I can see exactly how much is left on the spool and can do little to affect the rate at which it unwinds. Spend the time slowly packing away the library ; the crates are too heavy to move and lie where they are filled.*
Cell count down to 400,000.
Woke 8-10. *To sleep* 7-15. (*Appear to have lost my watch without realizing it, had to drive into town to buy another.*)

June 14 : 9½ *hours. Time races, flashing past like an expressway. However, the last week of a holiday always goes faster than the first. At the present rate there should be about* 4-5 *weeks left. This morning I tried to visualise what the last week or so—the final,* 3, 2, 1, *out—would be like, had a sudden chilling attack of pure fear, unlike anything I've ever felt before. Took me half an hour to steady myself enough for an intravenous.*

Kaldren pursues me like my luminescent shadow, chalked up on the gateway ' 96,688,365,498,702.' *Should confuse the mail man.*
Woke 9-05. *To sleep* 6-36.

June 19 *: 8¾ hours. Anderson rang up this morning. I nearly put the phone down on him, but managed to go through the pretence of making the final arrangements. He congratulated me on my stoicism, even used the word ' heroic.' Don't feel it. Despair erodes everything—courage, hope, self-discipline all the better qualities. It's so damned difficult to sustain that impersonal attitude of passive acceptance implicit in the scientific tradition. I try to think of Galileo before the Inquisition, Freud surmounting the endless pain of his jaw cancer surgery.*
Met Kaldren down town, had a long discussion about the Mercury Seven. He's convinced that they refused to leave the moon deliberately, after the ' reception party ' waiting for them had put them in the cosmic picture. They were told by the mysterious emissaries from Orion that the exploration of deep space was pointless, that they were too late as the life of the universe is now virtually over ! ! ! According to K. there are Air Force generals who take this nonsense seriously, but I suspect it's simply an obscure attempt on K.'s part to console me.
Must have the phone disconnected. Some contractor keeps calling me up about payment for 50 *bags of cement he claims I collected ten days ago. Says he helped me load them onto a truck himself. I did drive Whitby's pick-up into town but only to get some lead screening. What does he think I'd do with all that cement* ? *Just the sort or irritating thing you don't expect to hang over your final exit. (Moral : don't try too hard to forget Eniwetok.)*
Woke 9-40. *To sleep* 4-15.

June 25 *: 7½ hours. Kaldren was snooping around the lab again today. Phoned me there, when I answered a recorded voice he'd rigged up rambled out a long string of numbers, like an insane super-Tim. These practical jokes of his get rather wearing. Fairly soon I'll have to go over and come to terms with him, much as I hate the prospect. Anyway, Miss Mars is a pleasure to look at.*

One meal is enough now, topped up with a glucose shot. Sleep is still 'black,' completely unrefreshing. Last night I took a 16 *mm. film of the first three hours, screened it this morning at the lab. The first true horror movie, I looked like a half-animated corpse.*
Woke 10-25. *To sleep* 3-45.

July 3 *: 5¾ hours. Little done today. Deepening lethargy, dragged myself over to the lab, nearly left the road twice. Concentrated enough to feed the zoo and get the log up to date. Read through the operating manuals Whitby left for the last time, decided on a delivery rate of* 40 *rontgenst/min., target distance of* 350 *cm. Everything is ready now.*
Woke 11-05. *To sleep* 3-15.

Powers stretched, shifted his head slowly across the pillow, focussing on the shadows cast onto the ceiling by the blind. Then he looked down at his feet, saw Kaldren sitting on the end of the bed, watching him quietly.

"Hello, doctor," he said, putting out his cigarette. "Late night? You look tired."

Powers heaved himself onto one elbow, glanced at his watch. It was just after eleven. For a moment his brain blurred, and he swung his legs around and sat on the edge of the bed, elbows on his knees, massaging some life into his face.

He noticed that the room was full of smoke. "What are you doing here?" he asked Kaldren.

"I came over to invite you to lunch." He indicated the bedside phone. "Your line was dead so I drove round. Hope you don't mind me climbing in. Rang the bell for about half an hour. I'm surprised you didn't hear it."

Powers nodded, then stood up and tried to smooth the creases out of his cotton slacks. He had gone to sleep without changing for over a week, and they were damp and stale.

As he started for the bathroom door Kaldren pointed to the camera tripod on the other side of the bed. "What's this? Going into the blue movie business, doctor?"

Powers surveyed him dimly for a moment, glanced at the tripod without replying and then noticed his open diary on the bedside table. Wondering whether Kaldren had read the last entries, he went back and picked it up, then stepped into the bathroom and closed the door behind him.

From the mirror cabinet he took out a syringe and an ampoule, after the shot leaned against the door waiting for the stimulant to pick up.

Kaldren was in the lounge when he returned to him, reading the labels on the crates lying about in the centre of the floor.

" O.K., then," Powers told him, " I'll join you for lunch." He examined Kaldren carefully. He looked more subdued than usual, there was an air almost of deference about him.

" Good," Kaldren said. " By the way, are you leaving ?"

" Does it matter ?" Powers asked curtly. " I thought you were in Anderson's care ?"

Kaldren shrugged. " Please yourself. Come round at about twelve," he suggested, adding pointedly : " That'll give you time to clean up and change. What's that all over your shirt ? Looks like lime."

Powers peered down, brushed at the white streaks. After Kaldren had left he threw the clothes away, took a shower and unpacked a clean suit from one of the trunks.

Until this liaison with Coma, Kaldren lived alone in the old abstract summer house on the north shore of the lake. This was a seven-storey folly originally built by an eccentric millionaire mathematician in the form of a spiralling concrete ribbon that wound around itself like an insane serpent, serving walls, floors and ceilings. Only Kaldren had solved the building, a geometric model of $\sqrt{-1}$, and consequently he had been able to take it off the agents' hands at a comparatively low rent. In the evenings Powers had often watched him from the laboratory, striding restlessly from one level to the next, swinging through the labyrinthe of inclines and terraces to the roof-top, where his lean angular figure stood out like a gallows against the sky, his lonely eyes sifting out radio lanes for the next day's trapping.

Powers noticed him there when he drove up at noon, poised on a ledge 150 feet above, head raised theatrically to the sky.

" Kaldren !" he shouted up suddenly into the silent air, half-hoping he might be jolted into losing his footing.

Kaldren broke out of his reverie and glanced down into the court. Grinning obliquely, he waved his right arm in a slow semi-circle.

" Come up," he called, then turned back to the sky.

Powers leaned against the car. Once, a few months previously, he had accepted the same invitation, stepped

through the entrance and within three minutes lost himself helplessly in a second-floor cul de sac. Kaldren had taken half an hour to find him.

Powers waited while Kaldren swung down from his eyrie, vaulting through the wells and stairways, then rode up in the elevator with him to the penthouse suite.

They carried their cocktails through into a wide glass-roofed studio, the huge white ribbon of concrete uncoiling around them like toothpaste squeezed from an enormous tube. On the staged levels running parallel and across them rested pieces of grey abstract furniture, giant photographs on angled screens, carefully labelled exhibits laid out on low tables, all dominated by twenty-foot-high black letters on the rear wall which spelt out the single vast word : **YOU**

Kaldren pointed to it. " What you might call the supra-liminal approach." He gestured Powers in conspiratorially, finishing his drink in a gulp. " This is *my* laboratory, doctor," he said with a note of pride. " Much more significant than your's, believe me."

Powers smiled wryly to himself and examined the first exhibit, an old ECG tape traversed by a series of faded inky wriggles. It was labelled : " Einstein, A.; Alpha Waves, 1922."

He followed Kaldren around, sipping slowly at his drink, enjoying the brief feeling of alertness the amphetamine provided. Within two hours it would fade, leave his brain feeling like a block of blotting paper.

Kaldren chattered away, explaining the significance of the so-called Terminal Documents. " They're end- prints, Powers, final statements, the products of total fragmentation. When I've got enough together I'll build a new world for myself out of them." He picked a thick paper-bound volume off one of the tables, riffled through its pages. " Association tests of the Nuremburg Twelve. I have to include these . . ."

Powers strolled on absently without listening. Over in the corner were what appeared to be three ticker-tape machines, lengths of tape hanging from their mouths. He wondered whether Kaldren was misguided enough to be playing the stock market, which had been declining slowly for twenty years.

" Powers," he heard Kaldren say. " I was telling you about the Mercury Seven." He pointed to a collectiom of type-

written sheets tacked to a screen. " These are transcripts of their final signals radioed back from the recording monitors."

Powers examined the sheets cursorily, read a line at random. ". . . BLUE . . . PEOPLE . . . RE-CYCLE . . . ORION . . . TELEMETERS . . ."

Powers nodded noncommittally. " Interesting. What are the ticker tapes for over there ?"

Kaldren grinned. " I've been waiting for months for you to ask me that. Have a look."

Powers went over and picked up one of the tapes. The machine was labelled : " Auriga 225-G. Interval : 69 hours."

The tape read :

96,688,365,498,695
96,688,365,498,494
96,688,365,498,693
96,688,365,498,692

Powers dropped the tape. " Looks rather familiar. What does the sequence represent ?"

Kaldren shrugged. " No one knows."

" What do you mean ? It must replicate something."

" Yes, it does. A diminishing mathematical progression. A count-down, if you like."

Powers picked up the tape on the right, tabbed : " Aries 44R951. Interval : 49 days."

Here the sequence ran :

876,567,988,347,779,877,654,434
876,567,988,347,779,877,654,433
876,567,988,347,779,877,654,432

Powers looked round. " How long does it take each signal to come through ?"

" Only a few seconds. They're tremendously compressed laterally, of course. A computer at the observatory breaks them down. They were first picked up at Jodrell Bank about twenty years ago. Nobody bothers to listen to them now."

Powers turned to the last tape.

6,554
6,553
6,552
6,551

" Nearing the end of its run," he commented. He glanced at the label on the hood, which read : " Unidentified radio source, Canes Vanatici. Interval : 97 weeks."

He showed the tape to Kaldren. " Soon be over."

Kaldren shook his head. He lifted a heavy directory-sized volume off a table, cradled it in his hands. His face had suddenly become sombre and haunted. " I doubt it," he said. " Those are only the last four digits. The whole number contains over 50 million."

He handed the volume to Powers, who turned to the title page. " Master Sequence of Serial Signal received by Jodrell Bank Radio-Observatory, University of Manchester, England, 0012-59 hours, 21-5-72. Source : NGC 9743, Canes Venatici." He thumbed the thick stack of closely printed pages, millions of numerals, as Kaldren had said, running up and down across a thousand consecutive pages.

Powers shook his head, picked up the tape again and stared at it thoughtfully.

" The computer only breaks down the last four digits," Kaldren explained. " The whole series comes over in each 15-second-long package, but it took IBM more than two years to unscramble one of them."

" Amazing," Powers commented. " But what is it ?"

" A count-down, as you can see. NGC 9743, somewhere in Canes Venatici. The big spirals there are breaking up, and they're saying goodbye. God knows who they think we are but they're letting us know all the same, beaming it out on the hydrogen line for everyone in the universe to hear." He paused. " Some people have put other interpretations on them, but there's one piece of evidence that rules out everything else."

" Which is ?"

Kaldren pointed to the last tape from Canes Venatici. " Simply that it's been estimated that by the time this series reaches zero the universe will have just ended."

Powers fingered the tape reflectively. " Thoughtful of them to let us know what the real time is," he remarked.

" I agree, it is," Kaldren said quietly. " Applying the inverse square law that signal source is broadcasting at a strength of about three million megawatts raised to the hundredth power. About the size of the entire Local Group. Thoughtful is the word."

Suddenly he gripped Powers' arm, held it tightly and peered into his eyes closely, his throat working with emotion.

" You're not alone, Powers, don't think you are. These are the voices of time, and they're all saying goodbye to you.

Think of yourself in a wider context. Every particle in your body, every grain of sand, every galaxy carries the same signature. As you've just said, you know what the time is now, so what does the rest matter? There's no need to go on looking at the clock."

Powers took his hand, squeezed it firmly. "Thanks, Kaldren. I'm glad you understand." He walked over to the window, looked down across the white lake. The tension between himself and Kaldren had dissipated, he felt that all his obligations to him had at last been met. Now he wanted to leave as quickly as possible, forget him as he had forgotten the faces of the countless other patients whose exposed brains had passed between his fingers.

He went back to the ticker machines, tore the tapes from their slots and stuffed them into his pockets. "I'll take these along to remind myself. Say goodbye to Coma for me, will you."

He moved towards the door, when he reached it looked back to see Kaldren standing in the shadow of the three giant letters on the far wall, his eyes staring listlessly at his feet.

As Powers drove away he noticed that Kaldren had gone up onto the roof, watched him in the driving mirror waving slowly until the car disappeared around a bend.

five

The outer circle was now almost complete. A narrow segment, an arc about ten feet long, was missing, but otherwise the low perimeter wall ran continuously six inches off the concrete floor around the outer lane of the target bull, enclosing the huge rebus within it. Three concentric circles, the largest a hundred yards in diameter, separated from each other by ten-foot intervals, formed the rim of the device, divided into four segments by the arms of an enormous cross radiating from its centre, where a small round platform had been built a foot above the ground.

Powers worked swiftly, pouring sand and cement into the mixer, tipping in water until a rough paste formed, then carried it across to the wooden formes and tamped the mixture down into the narrow channel.

Within ten minutes he had finished, quickly dismantled the formes before the cement had set and slung the timbers into the

back seat of the car. Dusting his hands on his trousers, he went over to the mixer and pushed it fifty yards away into the long shadow of the surrounding hills.

Without pausing to survey the gigantic cipher on which he had laboured patiently for so many afternoons, he climbed into the car and drove off on a wake of bone-white dust, splitting the pools of indigo shadow.

He reached the laboratory at three o'clock, jumped from the car as it lurched back on its brakes. Inside the entrance he first switched on the lights, then hurried round, pulling the sun curtains down and shackling them to the floor slots, effectively turning the dome into a steel tent.

In their tanks behind him the plants and animals stirred quietly, responding to the sudden flood of cold fluorescent light. Only the chimpanzee ignored him. It sat on the floor of its cage, neurotically jamming the puzzle dice into the polythene bucket, exploding in bursts of sudden rage when the pieces refused to fit.

Powers went over to it, noticing the shattered glass fibre reinforcing panels bursting from the dented helmet. Already the chimp's face and forehead were bleeding from self-inflicted blows. Powers picked up the remains of the geranium that had been hurled through the bars, attracted the chimp's attention with it, then tossed a black pellet he had taken from a capsule in the desk drawer. The chimp caught it with a quick flick of the wrist, for a few seconds juggled the pellet with a couple of dice as it concentrated on the puzzle, then pulled it out of the air and swallowed it in a gulp.

Without waiting, Powers slipped off his jacket and stepped towards the X-ray theatre. He pulled back the high sliding doors to reveal the long glassy metallic snout of the Maxitron, then started to stack the lead screening shields against the rear wall.

A few minutes later the generator hummed into life.

The anemone stirred. Basking in the warm subliminal sea of radiation rising around it, prompted by countless pelagic memories, it reached tentatively across the tank, groping blindly towards the dim uterine sun. Its tendrils flexed, the thousands of dormant neural cells in their tips regrouping and multiplying, each harnessing the unlocked energies of its nucleus. Chains forged themselves, latices tiered upwards into multi-facetted

lenses, focussed slowly on the vivid spectral outlines of the sounds dancing like phosphorescent waves around the darkened chamber of the dome.

Gradually an image formed, revealing an enormous black fountain that poured an endless stream of brilliant light over the circle of benches and tanks. Beside it a figure moved, adjusting the flow through its mouth. As it stepped across the floor its feet threw off vivid bursts of colour, its hands racing along the benches conjured up a dazzling chiarascura, balls of blue and violet light that exploded fleetingly in the darkness like miniature star-shells.

Photons murmured. Steadily, as it watched the glimmering screen of sounds around it, the anemone continued to expand. Its ganglia linked, heeding a new source of stimuli from the delicate diaphragms in the crown of its notochord. The silent outlines of the laboratory began to echo softly, waves of muted sound fell from the arc lights and echoed off the benches and furniture below. Etched in sound, their angular forms resonated with sharp persistent overtones. The plastic-ribbed chairs were a buzz of staccato discords, the square-sided desk a continuous double-featured tone.

Ignoring these sounds once they had been perceived, the anemone turned to the ceiling, which reverberated like a shield in the sounds pouring steadily from the fluorescent tubes. Streaming through a narrow skylight, its voice clear and strong, interweaved by numberless overtones, the sun sang . . .

It was a few minutes before dawn when Powers left the laboratory and stepped into his car. Behind him the great dome lay silently in the darkness, the thin shadows of the white moonlit hills falling across its surface. Powers free-wheeled the car down the long curving drive to the lake road below, listening to the tyres cutting across the blue gravel, then let out the clutch and accelerated the engine.

As he drove along, the limestone hills half hidden in the darkness on his left, he gradually became aware that, although no longer looking at the hills, he was still in some oblique way conscious of their forms and outlines in the back of his mind. The sensation was undefined but none the less certain, a strange almost visual impression that emanated most strongly from the deep clefts and ravines dividing one cliff face from the next. For a few minutes Powers let it play upon him,

without trying to identify it, a dozen strange images moving across his brain.

The road swung up around a group of chalets built onto the lake shore, taking the car right under the lee of the hills, and Powers suddenly felt the massive weight of the escarpment rising up into the dark sky like a cliff of luminous chalk, and realised the identity of the impression now registering powerfully within his mind. Not only could he see the escarpment, but he was aware of its enormous age, felt distinctly the countless millions of years since it had first reared out of the magma of the earth's crust. The ragged crests three hundred feet above him, the dark gulleys and fissures, the smooth boulders by the roadside at the foot of the cliff, all carried a distinct image of themselves across to him, a thousand voices that together told of the total time that had elapsed in the life of the escarpment, a psychic picture as defined and clear as the visual image brought to him by his eyes.

Involuntarily, Powers had slowed the car, and turning his eyes away from the hill face he felt a second wave of time sweep across the first. The image was broader but of shorter perspectives, radiating from the wide disc of the salt lake, breaking over the ancient limestone cliffs like shallow rollers dashing against a towering headland.

Closing his eyes, Powers lay back and steered the car along the interval between the two time fronts, feeling the images deepen and strengthen within his mind. The vast age of the landscape, the inaudible chorus of voices resonating from the lake and from the white hills, seemed to carry him back through time, down endless corridors to the first thresholds of the world.

He turned the car off the road along the track leading towards the target range. On either side of the culvert the cliff faces boomed and echoed with vast impenetrable time fields, like enormous opposed magnets. As he finally emerged between them onto the flat surface of the lake it seemed to Powers that he could feel the separate identity of each sand-grain and salt crystal calling to him from the surrounding ring of hills.

He parked the car beside the mandala and walked slowly towards the outer concrete rim curving away into the shadows. Above him he could hear the stars, a million cosmic voices that crowded the sky from one horizon to the next, a true

canopy of time. Like jostling radio beacons, their long aisles interlocking at countless angles, they plunged into the sky from the narrowest recesses of space. He saw the dim red disc of Sirius, heard its ancient voice, untold millions of years old, dwarfed by the huge spiral nebulae in Andromeda, a gigantic carousel of vanished universes, their voices almost as old as the cosmos itself. To Powers the sky seemed an endless babel, the time-song of a thousand galaxies overlaying each other in his mind. As he moved slowly towards the centre of the mandala he craned up at the glittering traverse of the Milky Way, searching the confusion of clamouring nebulae and constellations.

Stepping into the inner circle of the mandala, a few yards from the platform at its centre, he realised that the tumult was beginning to fade, and that a single stronger voice had emerged and was dominating the others. He climbed onto the platform, raised his eyes to the darkened sky, moving through the constellations to the island galaxies beyond them, hearing the thin archaic voices reaching to him across the millenia. In his pockets he felt the paper tapes, and turned to find the distant diadem of Canes Venatici, heard its great voice mounting in his mind.

Like an endless river, so broad that its banks were below the horizons, it flowed steadily towards him, a vast course of time that spread outwards to fill the sky and the universe, enveloping everything within them. Moving slowly, the forward direction of its majestic current almost imperceptible, Powers knew that its source was the source of the cosmos itself. As it passed him, he felt its massive magnetic pull, let himself be drawn into it, borne gently on its powerful back. Quietly it carried him away, and he rotated slowly, facing the direction of the tide. Around him the outlines of the hills and the lake had faded, but the image of the mandala, like a cosmic clock, remained fixed before his eyes, illuminating the broad surface of the stream. Watching it constantly, he felt his body gradually dissolving, its physical dimensions melting into the vast continuum of the current, which bore him out into the centre of the great channel sweeping him onward, beyond hope now but at rest, down the broadening reaches of the river of eternity.

As the shadows faded, retreating into the hill slopes, Kaldren stepped out of his car, walked hesitantly towards the concrete

rim of the outer circle. Fifty yards away, at the centre, Coma knelt beside Powers' body, her small hands pressed to his dead face. A gust of wind stirred the sand, dislodging a strip of tape that drifted towards Kaldren's feet. He bent down and picked it up, then rolled it carefully in his hands and slipped it into his pocket. The dawn air was cold, and he turned up the collar of his jacket, watching Coma impassively.

" It's six o'clock," he told her after a few minutes. " I'll go and get the police. You stay with him." He paused and then added : " Don't let them break the clock."

Coma turned and looked at him. " Aren't you coming back ?"

" I don't know." Nodding to her, Kaldren swung on his heel and went over to the car.

He reached the lake road, five minutes later parked the car in the drive outside Whitby's laboratory.

The dome was in darkness, all its windows shuttered, but the generator still hummed in the X-ray theatre. Kaldren stepped through the entrance and switched on the lights. In the theatre he touched the grilles of the generator, felt the warm cylinder of the beryllium end-window. The circular target table was revolving slowly, its setting at 1 r.p.m., a steel restraining chair shackled to it hastily. Grouped in a semi-circle a few feet away were most of the tanks and cages, piled on top of each other haphazardly. In one of them an enormous squid-like plant had almost managed to climb from its vivarium. Its long translucent tendrils clung to the edges of the tank, but its body had burst into a jellified pool of globular mucilage. In another an enormous spider had trapped itself in its own web, hung helplessly in the centre of a huge three-dimensional maze of phosphorescing thread, twitching spasmodically.

All the experimental plants and animals had died. The chimp lay on its back among the remains of the hutch, the helmet forward over its eyes. Kaldren watched it for a moment, then sat down on the desk and picked up the phone.

While he dialled the number he noticed a film reel lying on the blotter. For a moment he stared at the label, then slid the reel into his pocket beside the tape.

After he had spoken to the police he turned off the lights and went out to the car, drove off slowly down the drive.

When he reached the summer house the early sunlight was breaking across the ribbon-like balconies and terraces. He

took the lift to the penthouse, made his way through into the museum. One by one he opened the shutters and let the sunlight play over the exhibits. Then he pulled a chair over to a side window, sat back and stared up at the light pouring through into the room.

Two or three hours later he heard Coma outside, calling up to him. After half an hour she went away, but a little later a second voice appeared and shouted up at Kaldren. He left his chair and closed all the shutters overlooking the front courtyard, and eventually he was left undisturbed.

Kaldren returned to his seat and lay back quietly, his eyes gazing across the lines of exhibits. Half-asleep, periodically he leaned up and adjusted the flow of light through the shutter, thinking to himself, as he would do through the coming months of Powers and his strange mandala, and of the seven and their journey to the white gardens of the moon, and the blue people who had come from Orion and spoken in poetry to them of ancient beautiful worlds beneath golden suns in the island galaxies, vanished forever now in the myriad deaths of the cosmos.

J. G. Ballard

British — Hardcover.

The trouble with Trouble with Lichen, the new and eagerly awaited novel by John Wyndham (M. Joseph, 13/6d.) is, for this reviewer, that it is more than usually remote from the science-fiction novel (sic) category. Also I cannot, in all fairness, reveal the single sci-fic. 'hook' on which the story hangs. The author himself conceals it for more than a quarter of the book and the revelation, when it comes after an expectancy of curiosity rather than suspense, has not the shock of night-marish reality that is now expected of Mr. Wyndham. It is a cardinal discovery of world-shattering importance, but nevertheless the eclaircissement has a slight touch of bathos, whether due to the author's treatment of his idea, or simply one's normal reaction to such an event, for as one of the characters says ". . . There are quite half-a-dozen major discoveries only just below the horizon at this moment, and nobody is making the least attempt to prepare for any of them."

Therein lies my own uneasy reaction to this book—doubt of the correctness of the almost flippant treatment of a theme, which I do not remember having ever been successfully treated before, and I fear, has yet to be used properly. It is readily apparent that Mr. Wyndham was not too happy with his current brain-child, but it must be said that he has made a very brave, and often ingenious, try. Indeed, such reservations must not detract from what is, within the limitations of its subject treatment, an extremely readable book, thanks to Mr. Wyndham's customary urbanity of style, gentle humour (with the odd barb or two and frequent deliciously funny lines) and unerring flair for getting his characters just right, even to the extent, in this instance, of necessary loquaciousness. Only for the first time do I detect a couple of constructional cliches—the initial red-herring and the extensive use of verbatim news reports later in the book, although these are useful for sly jabs at the press (but why the thinly-disguised "Trumpeter" and "Evening Flag?"—such

expediency shows a lack of finesse almost equal to some of the other vignettes of public reaction in the same chapter).

A story of this kind stands or falls by the merits of its principal protagonists, and the author's adherence to the feminism of Diana Brackley seems to have compelled his hand in the unfolding of the tale. I think it a pity that Diana's great-aunt was a suffragette, otherwise the story of the potent derivative from the humble lichen might have been so different. Being an ardent Wyndham enthusiast, I am comforted by an idle thought —W. Shakespeare fretted with " Much Ado About Nothing " when his mind must have been occupied with " Hamlet."

American—Hardcover

Eight Keys to Eden, Mark Clifton, (Doubleday, $2.95). Doubleday have apparently been trying to pioneer a new type of science fiction novel for several years—one relying heavily upon characterisation and general literary ability rather than the usual mundane mechanics-of-science type. Thinking back to the number of times they pulled off International Fantasy Awards while they lasted (and what a pity that honourable institution ceased) one wonders whether their policy isn't a correct one.

Mark Clifton lives up to both his own and Doubleday's reputation with this novel of an Earth colony eleven light years away where *everything* man-made suddenly disappears and leaves them naked and without tools. One Earthman (a new-style superman) manages to get into them before the planet is cut off—and thereafter it is his story, the unravelling of the plot rather on the lines of a tricky jigsaw puzzle with all the pieces present but in a haphazard pile.

The Worlds Of Clifford Simak, 12 stories (Simon and Schuster, $3.75). Clifford Simak has been around a long time in the s-f writing game—certainly as long ago as 1932 when I can remember his " Hellhounds Of The Cosmos " appearing in the old Clayton *Astounding* and about the same time in the old Gernsback *Wonder Stories*. In recent years he appears to have returned to the fold with something of a vengeance, notably since 1954 when *Galaxy* appeared, and it is perhaps only fitting that 9 of these 12 stories have been chosen from that particular magazine. If you like Simak stories (and who doesn't ?) you will more than appreciate this selection.

British—Paperback

I am Legend, Richard Matheson (Corgi, 2/6). If you missed the first British paperback edition of this outstanding title in 1956, tie a double knot in your handkerchief to remind you not to make the same mistake this time. Apart from being one of the most outstanding modern vampire yarns it also classifies as science fiction, being one of those " end-of-civilisation " stories, brilliantly told, which can be so terrifyingly real. No post-atomic reconstruction, this, but a plague story with a difference.

Corgi have also just released Charles Eric Maine's **The Tide Went Out** and this is another of those rare but outstanding end-of-the-world novels the discriminating reader should purchase (in North America it is a Ballantine title). Strangely enough, despite the hoo-hah which has surrounded most of Maine's novels I have never rated his previous works very high (with the exception of his mystery novels, which have always been better than his s-f) and this is probably one reason why his hardcover publisher no longer sends review copies. But this title is without question the best he has done in the s-f field to date and almost ranks along with the other world's-end classics, *Earth Abides*, *Death Of Grass*, *Triffids*, *The Kraken Wakes*, *Greener Than You Think* and others. No free plot giveaways—if you haven't read it : buy it !

Assignment In Eternity, Robert Heinlein (Digit, 2/-). Two novelettes make up this title which originally appeared in hard covers from Museum Press Ltd. several years ago. " Gulf " and " Elsewhen " both appeared in *Astounding* in 1949 and 1941 respectively, the latter under a " Caleb Saunders " pseudonym and originally titled " Elsewhere." If you missed them between the BRE magazine edition and the hard cover now is the time to remedy the fault.

One of the great thought-variant novels of the early 40's which grew into a classic was A. E. van Vogt's *The World Of Null-A*, which was published in Britain by Wiedenfeld and Nicholson Ltd. To read the sequel, *The Pawns Of Null-A* make sure of buying the current Digit edition (it appeared in North American from Ace Books some time ago). That is if you missed the original magazine version in *Astounding* when it appeared as a serial entitled *The Players Of Null-A* back in 1948. Gilbert Gosseyn continues his incredible adventures against a cosmic background which will never fail to thrill, although this one hasn't quite the magic of the first story, perhaps because we have lost the habit of being surprised.

A recent edition to the Faber series of paper covered editions is best SF Two an anthology of 14 top quality stories collected and introduced by the percipient Edmund Crispin. As the only difference from the original edition is the replacement of binding with soft card covers it offers extremely good value for 6/-

American—Paperback

A surprising difference between American and British paperback publishers is the fact that the American can presumably successfully sell short story collections while the British cannot (or are apparently reluctant to find out—the only successful example I can point to is T.V. Boardman's *Best From New Worlds* in 1955, which was a sellout). The British reluctance is even more surprising when one understands that so many American short story collections are available to them for reprinting ; collections which include many stories that have not been published outside the USA. Meanwhile, publishers like Ballantine Books of New York continue from strength to strength.

Take **Invisible Men,** a collection of real weirdies edited by that astute and discerning literary critic Basil Davenport. Eleven outstandingly brilliant stories of invisibility of which probably only 3 may have been seen in Britain—Bradbury's " Invisible Boy," Wells' " The New Accelerator," and Jack London's " The Shadow And The Flesh." An outside possibility might be Theodore Sturgeon's " Shottle Bop " which appeared in *Unknown*. The rest—Beaumont, de Camp and Pratt, Gold, Collier, Sleasar, LeBlanc—are new to this side of the Atlantic.

Take another Ballantine collection—Frederik Pohl's **The Man Who Ate Ate The World**—five novelettes from *Galaxy* which magazine readers would undoubtedly have read but paperback publishers are continually finding out that they are selling to a vastly different market. My guess is that for every magazine reader there are five casual readers of paperbacks, still leaving four who would not have seen this specific (and worthwhile) collection.

However, Ballantine do not rely entirely upon short story collections. Their latest novel is **The Climacticon** by Harold Livingstone, a satire you will either enjoy or heartily detest. It is difficult for me to be neutral about this one because it is written in a style that I abhor—the alleged thinking and speak-

ing style of a New York advertising man. The sentences are so machinegun-like that where the plot falters it is impossible to even skip a few lines without being lost in a morass of words with little meaning.

Story line : invention of a machine which tells the male when a female (*any* female) wants to be made love to ; result, disintegration of the American Way of Life. Given patience and a good ploughshare you should be able to get through this acre of verbosity.

Yet another quickie collection from Ballantine (at 75*c* this time) is the collected **Best Stories of H. G. Wells** which contains 16 of the Old Masters better tales.

Keep an eye on Pyramid books of New York ; they seem to have plans for some good science fiction ahead, commencing with the first of the de Camp and Pratt O'Shea stories, **The Incomplete Enchanter** now available (35*c*). This is another classic of its kind although in the fantasy stable, vintage early 1940 from *Unknown Worlds*. Henry Holt Co. published the original hardcover version during those war years when few British readers saw other than an occasional reprinted magazine edition. Nevertheless, despite the fact that most collectors will have seen this fine novel, an entirely new readership has grown up since its last publication and the Pyramid edition is strongly recommended to them as one they will want to keep on the bookshelf and read over and over again.

Pyramid also announce a new original Theodore Sturgeon novel coming this month, **Venus Plus X,** which will be reviewed here as soon as possible.

The Third Galaxy Reader, (Permabooks) 15 stories edited by H. L. Gold and taken from the 1958 Doubleday hard cover edition, and a good collection at that.

The Tomorrow People, Judith Merril (Pyramid). One of the few Merril ventures I have failed to enjoy ; a trite story of the East-West race into space.

Leslie Flood.

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