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This, the first new Asimov robotics story in years, comes to you from the Good Doctor by way of an anthology titled FINAL STAGE, edited by myself and Barry N. Malzberg, to be published in May by Charterhouse. For FINAL STAGE, we asked science fiction's most distinguished writers to contribute the ultimate story on one of a dozen classic sf themes, ranging from time travel to alternate worlds to robotics. There was only one choice for the latter of course, and although all the other stories in FINAL STAGE will be presented in the book for the first time, we reserved the right to publish this one first in F&SF. Enjoy. —E.L.F.

—That Thou Art Mindful of Him!

by ISAAC ASIMOV

The Three Laws of Robotics:

1 — A robot may not injure a human being or, through inaction, allow a human being to come to harm.

2 — A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law.

3 — A robot must protect its own existence, except where such protection conflicts with the First or Second Laws.

1.

Keith Harriman, who had for twelve years now been Director of Research at United States Robots and Mechanical Men, Inc., found that he was not at all certain whether he was doing right. The tip of his tongue passed over his plump but rather pale lips, and it seemed to him that the holographic image of the great Susan Calvin, which stared unsmilingly down upon him, had never looked so grim before.

Usually he blanked out that image of the greatest roboticist in history because she unnerved him. (He tried thinking of the image as "it" but never quite succeeded.) This time he didn't quite dare to, and her long-dead gaze bored into the side of his face.

It was a dreadful and demeaning step he would have to take.

Opposite him was George Ten, calm and unaffected either by Harriman's patent uneasiness or by the image of the patron saint of robotics glowing in its niche above.

Harriman said, "We haven't had a chance to talk this out, really, George. You haven't been with us that long, and I haven't had a good chance to be alone with you. But now I would like to discuss the matter in some detail."

"I am perfectly willing to do that," said George. "In my stay at U. S. Robots, I have gathered the crisis has something to do with the Three Laws."

"Yes. You know the Three Laws, of course."

"I do."

"Yes, I'm sure you do. But let us dig even deeper and consider the truly basic problem. In two centuries of, if I may say so, considerable success, U. S. Robots has never managed to persuade human beings to accept robots. We have placed robots only where work is required that human beings cannot do, or in environments that human beings find unacceptably dangerous. Robots have worked mainly in space, and that has limited what we have been able to do."

"Surely," said George Ten, "that represents a broad limit, and one within which U.S. Robots can prosper."

"No, for two reasons. In the first place, the boundaries set for us inevitably contract. As the Moon colony, for instance, grows more sophisticated, its demand for robots decreases, and we expect that, within the next few years, robots will be banned on the Moon. This will be repeated on every world colonized by mankind. Secondly, true prosperity is impossible without robots on Earth. We at U. S. Robots firmly believe that human beings need robots and must learn to live with their mechanical analogs if progress is to be maintained."

"Do they not, Mr. Harriman? You have on your desk a computer input which, I understand, is connected with the organization's Multivac. A computer is a kind of sessile robot; a brain not attached to a body—"

"True. but that also is limited. The computers used by mankind have been steadily specialized in order to avoid too humanlike an intelligence. A century ago we were well on the way to artificial intelligence of the most unlimited type through the use of great computers we called Machines. Those Machines limited their action of their own accord. Once they had solved the ecological problems that had threatened human society, they phased themselves out. Their own continued

existence would, they reasoned, have placed them in the role of a crutch to mankind, and since they felt this would harm human beings, they condemned themselves by the First Law."

"And were they not correct to do so?"

"In my opinion, no. By their action, they reinforced mankind's Frankenstein complex, its gut fears that any artificial man they created would turn upon its creator. Men fear that robots may replace human beings."

Do you not fear that yourself?"

"I know better. As long as the Three Laws of Robotics exist, they cannot. They can serve as *partners* of mankind; they can share in the great struggle to understand and wisely direct the laws of nature so that together they can do more than mankind can possibly do alone; but always in such a way that robots serve human beings."

"But if the Three Laws have shown themselves, over the course of two centuries, to keep robots within bounds, what is the source of the distrust of human beings for robots?"

"Well," and Harriman's graying hair tufted as he scratched his head vigorously, "mostly superstition, of course. Unfortunately, there are also some complexities involved that anti-robot agitators seize upon."

"Involving the Three Laws?"

"Yes. The Second Law in particular. There's no problem in the Third Law, you see. It is universal. Robots must always sacrifice themselves for human beings, any human beings."

"Of course," said George Ten.

"The First Law is perhaps less satisfactory, since it is always possible to imagine a condition in which a robot must perform either Action A or Action B, the two being mutually exclusive, and where either action results in harm to human beings. The robot must therefore quicly select which action results in the least harm. To work out the positronic paths of the robot brain in such a way as to make that selection possible is not easy. If Action A results in harm to a talented young artist and B results in equivalent harm to five elderly people of no particular worth, which action should be chosen."

"Action A," said George Ten. "Harm to one is less than harm to five."

"Yes, so robots have always been designed to decide. To expect robots to make judgments of fine points such as talent, intelligence, the general usefulness to society, has always seemed impractical. That would delay decision to the point where the robot is effectively

immobilized. So we go by numbers. Fortunately, we might expect crises in which robots must make such decisions to be few. — But then that brings us to the Second Law."

"The Law of Obedience."

"Yes. The necessity of obedience is constant. A robot may exist for twenty years without ever having to act quickly to prevent harm to a human being, or find itself faced with the necessity of risking its own destruction. In all that time, however, it will be constantly obeying orders. — Whose orders?"

"Those of a human being."

"Any human being? How do you judge a human being so as to know whether to obey or not? What is man, that thou art mindful of him, George?"

George hesitated at that.

Harriman said hurriedly, "A Biblical quotation. That doesn't matter. I mean, must a robot follow the orders of a child, or of an idiot, or of a criminal, or of a perfectly decent intelligent man who happens to be inexpert and therefore ignorant of the undesirable consequences of his order? And if two human beings give a robot conflicting orders, which does the robot follow?"

"In two hundred years," said George Ten, "have not these problems arisen and been solved?"

"No," said Harriman, shaking his head violently. "We have been hampered by the very fact that our robots have been used only in specialized environments out in space, where the men who dealt with them were experts in their field. There were no children, no idiots, no criminals, no well-meaning ignoramuses present. Even so, there were occasions when damage was done by foolish or merely unthinking orders. Such damage in specialized and limited environments could be contained. On Earth, however, robots *must* have judgment. So those against robots maintain, and, damn it, they are right."

"Then you must insert the capacity for judgment into the positronic brain."

"Exactly. We have begun to produce JG models in which the robot can weigh every human being with regard to sex, age, social and professional position, intelligence, maturity, social responsibility, and so on."

"How would that affect the Three Laws?"

"The Third Law not at all. Even the most valuable robot must destroy himself for the sake of the most useless human being. That cannot be tampered with. The First Law is affected only where alternative actions will all do harm. The quality of the human beings involved as well as the quantity,

must be considered, provided there is time for such judgment and the basis for it, which will not be often. The Second Law will be most deeply modified, since every potential obedience must involve judgment. The robot will be slower to obey, except where the First Law is also involved, but it will obey more rationally."

"But the judgments which are required are very complicated."

"*Very*. The necessity of making such judgments slowed the reactions of our first couple of models to the point of paralysis. We improved matters in the later models at the cost of introducing so many pathways that the robot's brain became far too unwieldy. In our last couple of models, however, I think we have what we want. The robot doesn't have to make an instant judgment as to the worth of a human being and the value of its orders. It begins by obeying all human beings as any ordinary robot would, and then it *learns*. A robot grows, learns and matures. It is the equivalent of a child at first and must be under constant supervision. As it grows, however, it can, more and more, be allowed, unsupervised, into Earth's society. Finally, it is a full member of that society."

"Surely, this answers the objections of those who oppose robots."

"No," said Harriman, angrily. "Now they raise others. They will not accept judgments. A robot, they say, has no right to brand this person or that as inferior. A robot accepting the orders of A in preference to those of B, brands B as of less consequence than A, and his human rights are violated."

"What is the answer to that?"

"There is none. I am giving up."

"I see."

"As far as I myself am concerned. — Instead, I turn to you, George."

"To me?" George Ten's voice remained level. There was a mild surprise in it, but it did not affect him outwardly. "Why to me?"

"Because you are not a man," said Harriman, tensely. "I told you I want robots to be the partners of human beings. I want you to be mine."

George Ten raised his hands and spread them, palms outward, in an oddly human gesture. "What can I do?"

"It seems to you, perhaps, that you can do nothing, George. You were created not long ago, and you are still a child. You were designed to be not overfull of original information — it was why I have had to explain the situation to you in such detail — in order to leave room for growth. But you will grow in mind, and you will come to be

able to approach the problem from a nonhuman standpoint. Where I see no solution, you, from your own other standpoint, may see one."

George Ten said, "My brain is man-designed. In what way can it be nonhuman?"

"You are the latest of the JG models, George. Your brain is the most complicated we have yet designed, in some ways more subtly complicated than that of the old giant Machines. It is open-ended and, starting on a human basis, may — no, *will* — grow in any direction. Remaining always within the insurmountable boundaries of the Three Laws, you may yet become thoroughly non-human in your thinking."

"Do I know enough about human beings to approach this problem rationally? About their history? Their psychology?"

"Of course not. But you will learn as rapidly as you can."

"Will I have help, Mr. Harriman?"

"No. This is entirely between ourselves. No one else knows of this, and you must not mention this project to any human being, either at U. S. Robots or elsewhere."

George Ten said, "Are we doing wrong, Mr. Harriman, that you seek to keep the matter secret?"

"No. But a robot solution will not be accepted, precisely because it is robot in origin. Any suggested solution you have you will turn over to me; and if it seems valuable to me, *I* will present it. No one will ever know it came from you."

"In the light of what you have said earlier," said George Ten, calmly, "this is the correct procedure. — When do I start?"

"Right now. I will see to it that you have all the necessary films for scanning."

1a.

Harriman sat alone. In the artificially lit interior of his office there was no indication that it had grown dark outside. He had no real sense that three hours had passed since he had taken George Ten back to his cubicle and left him there with the first film references.

He was now merely alone with the ghost of Susan Calvin, the brilliant roboticist who had, virtually single-handed, built up the positronic robot from a massive toy to man's most delicate and versatile instrument, so delicate and versatile that man dared not use it, out of envy and fear.

It was over a century now since she had died. The problem of the Frankenstein complex had existed in *her* time, and she had never solved it. She had never tried to solve it, for there had been no need. Robotics had expanded in her day with the needs of space exploration.

It was the very success of the

robots that had lessened man's need for them and had left Harriman, in these latter times —

But would Susan Calvin have turned to robots for help. Surely, she would have —

And he sat there long into the night.

2.

Maxwell Robertson was the majority stockholder of U. S. Robots and in that sense its controller. He was by no means an impressive person in appearance. He was well into middle-age, rather pudgy and had a habit of chewing on the right corner of his lower lip when disturbed.

Yet he had had two decades of association with government figures and had developed a way of handling them. He tended to use softness. He would give in, smiling, and always manage to gain time.

It was growing harder. Gunnar Eisenmuth was a large reason for its having grown harder. In the series of Global Conservers, whose power had been second only to that of the Global Executive during the past century, Eisenmuth hewed most closely to the harder edge of the gray area of compromise. He was the first Conserver who had not been American by birth, and though it could not be demonstrated in any way that the archaic name of U.S.Robots evoked his hostility, everyone at U. S. Robots believed that.

There had been a suggestion, by no means the first that year — or that generation — that the corporate name be changed to World Robots, but Robertson would never allow that. The company had been originally built with American capital, American brains and American labor, and though the company had long been world-wide in scope and nature, the name would bear witness to its origins as long as he was in control.

Eisenmuth was a tall man whose long sad face was coarsely textured and coarsely featured. He spoke Global with a pronounced American accent, although he had never been in the United States prior to his taking office.

He said, "It seems perfectly clear to me, Mr. Robertson. There is no difficulty. The products of your company are always rented, never sold. If the rented property on the Moon is now no longer needed, it is up to you to receive them back and transfer them."

"Yes, Conserver, but where? It would be against the law to bring them to Earth without a government permit, and that has been denied."

"They would be of no use to you here. You can take them to Mercury or to the asteroids."

"To do what with them there?"

Eisenmuth shrugged. "The ingenious men of your company will think of something."

Robertson shook his head. "It would represent an enormous loss for the company."

"I'm afraid it would," said Eisenmuth, unmoved. "I understand the company has been in poor financial condition for several years now."

"Largely because of government-imposed restrictions, Conserver."

"You must be realistic, Mr. Robertson. You know that the climate of public opinion is increasingly against robots."

"Wrongly so, Conserver."

"But so, nevertheless. It may be wiser to liquidate the company. It is merely a suggestion, of course."

"Your suggestions have force, Conserver. Is it necessary to tell you that our Machines, a century ago, solved the ecological crisis?"

"I'm sure mankind is grateful, but that was a long time ago. We now live in alliance with nature, however uncomfortable that might be at times, and the past is dim."

"You mean what have we done for mankind lately?"

"I suppose I do."

"Surely, we can't be expected to liquidate instantaneously, not without enormous losses. We need time."

"How much?"

"How much can you give us?"

"It's not up to me."

Robertson said softly. "We are alone. We need play no games."

Eisenmuth's expression was that of a man retreating into inner calculations. "I think you can count on two years. I'll be frank. The Global government intends to take over the firm and phase it out for you if you don't do it by then yourself, more or less. And unless there is a vast turn in public opinion, which I greatly doubt —"

"Two years, then," said Robertson, softly.

2a.

Robertson sat alone. There was no purpose to his thinking, and it had degenerated into retrospection. Four generations of Robertsons had headed the firm. None of them were roboticists. It had been men such as Lanning and Bogert and, most of all, *most* of all, Susan Calvin, who had made U.S.Robots what it was, but surely the four Robertsons had provided the climate that had made it possible for them to do their work.

Without U. S. Robots, the Twenty-first Century would have progressed into deepening disaster. That it didn't was due to the Machines that had for a generation steered mankind through the rapids and shoals of history.

And now for that, he was given

two years. What could be done in two years to overcome the insuperable prejudices of mankind? He didn't know.

Harriman had spoken hopefully of new ideas but would go into no details. Just as well, for Robertson would have understood none of it.

But what could Harriman do, anyway? What had anyone ever done against man's intense antipathy toward the imitation. Nothing —

Robertson drifted into a half sleep in which no inspiration came.

3.

Harriman said, "You have it all now, George Ten. You have had everything I could think of that is at all applicable to the problem. As far as sheer mass of information is concerned, you have stored more in your memory concerning human beings and their ways, past and present, than I have, or than any human being could have."

"That is very likely."

"Is there anything more that you need, in your own opinion?"

"As far as information is concerned, I find no obvious gaps. There may be matters unimagined at the boundaries. I cannot tell. But that would be true no matter how large a circle of information I took in."

"True. Nor do we have time to take in information forever. Robertson has told me that we only had two years and a quarter of one of those years has passed. Can you suggest anything."

"At the moment, Mr. Harriman, nothing. I must weigh the information and for that purpose I could use help."

"From me?"

"No. Most particularly, not from you. You are a human being, of intense qualifications, and whatever you say may have the partial force of an order and may inhibit my considerations. Nor any other human being for the same reason, especially since you have forbidden me to communicate with any."

"But in that case, George, what help?"

"From another robot, Mr. Harriman."

"What other robot?"

"There are others of the JG series which were constructed. I am the tenth, JG-10."

"The earlier ones were useless, experimental —"

"Mr. Harriman, George Nine exists."

"Well, but what use will he be? He is very much like you except for certain lacks. You are considerably the more versatile of the two."

"I am certain of that," said George Ten. He nodded his head in a grave gesture. "Nevertheless, as soon as I create a line of thought,

the mere fact that I have created it commends it to me, and I find it difficult to abandon it. If I can, after the development of a line of thought, express it to George Nine, he would consider it without having first created it. He would therefore view it without prior bent. He might see gaps and shortcomings that I might not."

Harriman smiled. "Two heads are better than one, in other words, eh, George?"

"If by that, Mr. Harriman, you mean two individuals with one head apiece, yes."

"Right. Is there anything else you want?"

"Yes. Something more than films. I have viewed much concerning human beings and their world. I have seen human beings here at U.S.Robots and can check my interpretation of what I have viewed against direct sensory impressions. Not so concerning the physical world. I have never seen it, and my viewing is quite enough to tell me that my surroundings here are by no means representative of it. I would like to see it."

"The physical world?" Harriman seemed stunned at the enormity of the thought for a moment. "Surely you don't suggest I take you outside the grounds of U. S. Robots?"

"Yes, that is my suggestion."

"That's illegal at any time. In the climate of opinion today, it would be fatal."

"If we are detected, yes. I do not suggest you take me to a city or even to a dwelling place of human beings. I would like to see some open region, without human beings."

"That, too, is illegal."

"If we are caught. Need we be?"

Harriman said, "How essential is this, George?"

"I cannot tell, but it seems to me it would be useful."

"Do you have something in mind?"

George Ten seemed to hesitate. "I cannot tell. It seems to me that I might have something in mind if certain areas of uncertainty were reduced."

"Well, let me think about it. And meanwhile, I'll check out George Nine and arrange to have you occupy a single cubicle. That at least can be done without trouble."

3a.

George Ten sat alone.

He accepted statements tentatively, put them together, and drew a conclusion; over and over again; and from conclusions built other statements which he accepted and tested and found a contradiction and rejected; or not, and tentatively accepted further.

At none of the conclusions he

reached did he feel wonder, surprise, satisfaction; merely a note of plus or minus.

4.

Harriman's tension was not noticeably decreased even after they had made a silent downward landing on Robertson's estate.

Robertson had countersigned the order making the dyna-foil available, and the silent aircraft, moving as easily vertically as horizontally, had been large enough to carry the weight of Harriman, George Ten and, of course, the pilot.

(The dyna-foil itself was one of the consequences of the Machine-catalyzed invention of the proton micro-pile which supplied pollution-free energy in small doses. Nothing had been done since of equal importance to man's comfort — Harriman's lips tightened at the thought — and yet it had not earned gratitude for U. S. Robots.)

The airflight between the grounds of U. S. Robots and the Robertson estate had been the tricky part. Had they been stopped then, the presence of a robot aboard would have meant a great set of complications. It would be the same on the way back. The estate itself, it might be argued — it *would* be argued — was part of the property of U. S. Robots, and on that property robots, properly supervised, might remain.

The pilot looked back and his eyes rested with gingerly briefness on George Ten. "You want to get out at all, Dr. Harriman?"

"Yes."

"It, too?"

"Oh, yes." Then, just a bit sardonically. "I won't leave you alone with him."

George Ten descended first and Harriman followed. They had come down on the foil-port and not too far off was the garden. It was quite a showplace, and Harriman suspected that Robertson used juvenile hormone to control insect life without regard to environmental formulas.

"Come, George," said Harriman. "Let me show you."

Together they walked toward the garden.

George said, "It is a little as I have imaged it. My eyes are not properly designed to detect wavelength differences, and so I may not recognize different objects by that alone."

"I trust you are not distressed at being color-blind. We needed too many positronic paths for your sense of judgment and were unable to spare any for sense of color. In the future — if there is a future —"

"I understand, Mr. Harriman. Enough difference remains to show me that there are here many

different forms of plant life."

"Undoubtedly. Dozens."

"And each coequal with man, biologically."

"Each is a separate species, yes. There are millions of species of living creatures."

"Of which the human being forms but one."

"By far the most important to human beings, however."

"And to me, Dr. Harriman. But I speak in the biological sense."

"I understand."

"Life, then, viewed through all its forms, is incredibly complex."

"Yes, George, that's the crux of the problem. What man does for his own desires and comforts affects the complex total-of-life, the ecology, and his short-term gains can bring long-term disadvantages. The Machines taught us to set up a human society which would minimize that, but the near-disaster of the early Twenty-first has left mankind suspicious of innovations. That, added to its special fear of robots —"

"I understand, Mr. Harriman. — That is an example of animal life, I feel certain."

"That is a squirrel."

The tail of the squirrel flirted as it passed to the other side of the tree.

"And this," said George, his arm moving with flashing speed, "is a tiny thing indeed." He held it between his fingers and peered at it.

"It is an insect; some sort of beetle. There are thousands of species of beetles."

"With each individual beetle as alive as the squirrel and as yourself?"

"As complete and independent an organism as any other, within the total ecology. There are smaller organisms still, many too small to see."

"And that is a tree, is it not? And it is hard to the touch —"

4a

The pilot sat alone. He would have liked to stretch his own legs, but some dim feeling of safety kept him in the dyna-foil. If that robot went out of control, he intended to take off at once. But how could he tell if it went out of control?

He had seen many robots. That was unavoidable, considering that he was Mr. Robertson's private pilot. Always, though, they had been in the laboratories and warehouses, where they belonged, with many specialists in the neighborhood.

True, Dr. Harriman was a specialist. None better, they said. But a robot here was where no robot ought to be; on Earth; in the open; free to move — He wouldn't risk his good job by telling anyone about this — but it wasn't right.

5.

George Ten said, "The films I have viewed are accurate in terms of what I have seen. Have you completed those I selected for you, Nine?"

"Yes," said George Nine. The two robots sat stiffly, face-to-face, knee-to-knee, like an image and its reflection. Dr. Harriman could have told them apart at a glance, for he was acquainted with the minor differences in physical design. If he could not see them, but could talk to them, he could still tell them apart, though with somewhat less certainty, for George Nine's responses would be subtly different from those produced by the substantially more intricately patterned positronic brain paths of George Ten.

"In that case," said George Ten, "give me your reactions to what I will say. First, human beings fear and distrust robots because they regard robots as competitors. How may that be prevented?"

"Reduce the feeling of competitiveness," said George Nine, "by shaping the robot as something other than a human being."

"Yet the essence of a robot is its positronic replication of life. A replication of life in a shape not associated with life might arouse horror."

"There are two million species of life forms. Choose one of those as the shape rather than that of a human being."

"Which of all those species?"

George Nine's thought processes proceeded noiselessly for some three seconds. "One large enough to contain a positronic brain, but one not possessing unpleasant associations for human beings."

"No form of land life has a brain case large enough for a positronic brain but an elephant, which I have not seen, but which is described as very large, and therefore frightening to man. How would you meet this dilemma?"

"Mimic a life form no larger than a man but enlarge the brain case."

George Ten said, "A small horse, then, or a large dog, would you say? Both horses and dogs have long histories of association with human beings."

"Then that is well."

"But consider — A robot with a positronic brain would mimic human intelligence. If there were a horse or a dog that could speak and reason like a human being, there would be competitiveness there, too. Human beings might be all the more distrustful and angry of such unexpected competition from what they consider a lower form of life."

George Nine said, "Make the positronic brain less complex, and the robot less nearly intelligent."

"The complexity bottleneck of the positronic brain rest's in the Three Laws. A less complex brain could not possess the Three Laws in full measure."

George Nine said, at once, "That cannot be done."

George Ten said, "I have also come to a dead end, there. That, then, is not a personal peculiarity in my own line of thought and way of thinking. Let us start again. — Under what conditions might the Third Law not be necessary?"

George Nine stirred as if the question were difficult and dangerous. But he said, "If a robot were never placed in a position of danger to itself; or if a robot were so easily replaceable that it did not matter whether it were destroyed or not."

"And under what conditions might the Second Law not be necessary?"

George Nine's voice sounded a bit hoarse. "If a robot were designed to respond automatically to certain stimuli with fixed responses and if nothing else were expected of it, so that no order need ever be given it."

"And under what conditions," George Ten paused here, "might the First Law not be necessary?"

George Nine paused longer and his words came in a low whisper. "If the fixed responses were such as never to entail danger to human beings."

"Imagine, then, a positronic brain that guides only a few responses to certain stimuli and is simply and cheaply made — so that it does not require the Three Laws. How large need it be?"

"Not at all large. Depending on the responses demanded, it might weigh a hundred grams, one gram, one milligram."

"Your thoughts accord with mine. I shall see Dr. Harriman."

5a.

George Nine sat alone. He went over and over the questions and answers. There was no way in which he could change them. And yet the thought of a robot of any kind, of any size, of any shape, of any purpose, without the Three Laws, left him with an odd, discharged feeling.

He found it difficult to move. Surely George Ten had a similar reaction. Yet he had risen from his seat easily.

6.

It had been a year and a half since Robertson had been closeted with Eisenmuth in private conversation. In that interval, the robots had been taken off the Moon, and all the far-flung activities of U. S. Robots had withered. What money Robertson had been able to raise had been placed into this one quixotic venture of Harriman's.

It was the last throw of the dice, here in his own garden. A year ago, Harriman had taken the robot here — George Ten, the last full robot that U. S. Robots had manufactured. Now Harriman was here with something else —

Harriman seemed to be radiating confidence. He was talking easily with Eisenmuth, and Robertson wondered if he really felt the confidence he seemed to have. He must. In Robertson's experience, Harriman was no actor.

Eisenmuth left Harriman, smiling, and came up to Robertson. Eisenmuth's smile vanished at once. "Good morning, Robertson," he said, "what is your man up to?"

"This is his show," said Robertson, evenly. "I'll leave it to him."

Harriman called out. "I am ready, Conserver."

"With what, Harriman?"

"With my robot, sir."

"Your robot?" said Eisenmuth. "You have a robot here?" He looked about with a stern disapproval that yet had an admixture of curiosity.

"This is U.S.Robots' property, Conserver. At least we consider it as such."

"And where is the robot, Dr. Harriman?"

"In my pocket, Conserver," said Harriman, cheerfully.

What came out of a capacious jacket pocket was a small glass jar.

"That?" said Eisenmuth, incredulously.

"No, Conserver," said Harriman. "This!"

From the other pocket came out an object some five inches long and roughly in the shape of a bird. In place of the beak, there was a narrow tube; the eyes were large; and the tail was an exhaust channel.

Eisenmuth's thick eyebrows drew together. "Do you intend a serious demonstration of some sort, Dr. Harriman, or are you mad?"

"Be patient for a few minutes, Conserver," said Harriman. "A robot in the shape of a bird is none the less a robot for that. And the positronic brain it possesses is not less delicate for being tiny. This other object I hold is a jar of fruit flies. There are fifty fruit flies in it which will be released."

"And —"

"The robobird will catch them. Will you do the honors, sir?"

Harriman handed the jar to Eisenmuth, who stared at it, then at those around him, some officials from U. S. Robots, others his own aides. Harriman waited patiently.

Eisenmuth opened the jar, then shook it.

Harriman said softly to the robo-bird resting on the palm of his right hand, "Go!"

The robo-bird was gone. It was

a whizz through the air, with no blur of wings, only the tiny workings of an unusually small proton micro-pile.

It could be seen now and then in a small momentary hover, and then it whirred on again. All over the garden, in an intricate pattern it flew, and then was back in Harriman's palm, faintly warm. A small pellet appeared in the palm, too, like a bird dropping.

Harriman said, "You are welcome to study the robo-bird, Conserver, and to arrange demonstrations on your own terms. The fact is that this bird will pick up fruit flies unerringly, only those, only the one species *Drosophila melanogaster*; pick them up, kill them, and compress them for disposition."

Eisenmuth reached out his hand and touched the robo-bird gingerly, "And therefore, Mr. Harriman? Do go on."

Harriman said, "We cannot control insects effectively without risking damage to the ecology. Chemical insecticides are too broad; juvenile hormones too limited. The robo-bird, however can preserve large areas without being consumed. They can be as specific as we care to make them — a different robo-bird for each species. They judge by size, shape, color, sound, behavior pattern. They might even conceivably use molecular detection — smell, in other words."

Eisenmuth said, "You would still be interfering with the ecology. The fruit flies have a natural life cycle that would be disrupted."

"Minimally. We are adding a natural enemy to the fruit fly life cycle, one which cannot go wrong. If the fruit fly supply runs short, the robo-bird simply does nothing. It does not multiply; it does not turn to other foods; it does not develop undesirable habits of its own. It does nothing."

"Can it be called back?"

"Of course. We can build robo-animals to dispose of any pest. For that matter we can build robo-animals to accomplish constructive purposes within the pattern of the ecology. Although we do not anticipate the need, there is nothing inconceivable in the possibility of robo-bees designed to fertilize specific plants, or robo-earthworms designed to mix the soil. Whatever you wish—"

"But why?"

"To do what we have never done before. To adjust the ecology to our needs by strengthening its parts rather than disrupting it. — Don't you see. Ever since the Machines put an end to the ecology crisis, mankind has lived in an uneasy truce with nature, afraid to move in any direction. This has been stultifying us, making a kind

of intellectual coward of humanity so that we begin to mistrust all scientific advance, all change."

Eisenmuth said, with an edge of hostility, "You offer us this, do you, in exchange for permission to continue with your program of robots — I mean ordinary, man-shaped ones?"

"No!" Harriman gestured violently. "That is over. It has served its purpose. It has taught us enough about positronic brains to make it posible for us to cram enough pathways into a tiny brain to make a robo-bird. We can turn to such things now and be prosperous enough. U. S. Robots will supply the necessary knowledge and skill, and we will work in complete cooperation with the Department of Global Conservation. We will prosper. You will prosper. Mankind will prosper."

Eisenmuth was silent, thinking. When it was all over —

6a.

Eisenmuth sat alone.

He found himself believing. He found excitement welling up within him. Though U. S. Robots might be the hands, the government would be the directing mind. He himself would be the directing mind.

If he remained in office five more years, as he well might, that would be enough to see the robotic support of the ecology become accepted; ten more years, and his own name would be linked with it indissolubly.

Was it a disgrace to want to be remembered for a great and worthy revolution in the condition of man and the globe?

7.

Robertson had not been on the grounds of U. S. Robots, proper, since the day of the demonstration. Part of the reason had been his more or less constant conferences at the Global Executive Mansion. Fortunately, Harriman had been with him, for most of the time he would, if left to himself, not have known what to say.

The rest of the reason for not having been at U. S. Robots was that he didn't want to be. He was in his own house now, with Harriman.

He felt an unreasoning awe of Harriman. Harriman's expertise in robotics had never been in question, but the man had, at a stroke, saved U. S. Robots from certain extinction, and somehow — Robertson felt — the man hadn't had it in him. And yet —

He said, "You're not superstitious, are you, Harriman?"

"In what way, Mr. Robertson?"

"You don't think that some aura is left behind by someone who is dead."

Harriman licked his lips. Somehow he didn't have to ask.

"You mean Susan Calvin, Sir?"

"Yes, of course," said Robertson. hesitantly. "We're in the business of making worms and birds and bugs, now. What would *she* say? I feel disgraced."

Harriman made a visible effort not to laugh. "A robot is a robot, sir. Worm or man, it will do as directed and labor on behalf of the human being and that is the important thing."

"No." — Peevishly. "That isn't so. I can't make myself believe that."

"It *is* so, Mr. Robertson." said Harriman, earnestly. "We are going to create a world, you and I, that will begin, at last, to take positronic robots of *some* kind for granted. The average man may fear a robot that looks like a man and that seems intelligent enough to replace him, but he will have no fear of a robot that looks like a bird and that does nothing more than eat bugs for his benefit. Then, eventually, after he stops being afraid of some robots, he will stop being afraid of all robots. He will be so used to a robo-bird and a robo-bee and a robo-worm that a robo-man will strike him as but an extension."

Robertson looked sharply at the other. He put his hands behind his back and walked the length of the room with quick, nervous steps. He walked back and looked at Harriman again. "Is this what you've been planning?"

"Yes, and even though we dismantle all our humanoid robots, we can keep a few of the most advanced of our experimental models and go on designing additional ones, still more advanced, to be ready for the day that will surely come."

"The agreement, Harriman, is that we are to build no more humanoid robots."

"And we won't. There is nothing that says we can't keep a few of those already built as long as they never leave the factory. There is nothing that says we can't design positronic brains on paper, or prepare brain models for testing."

"How do we explain doing so, though? We will surely be caught at it."

"If we are, then we can explain we are doing it in order to develop principles that will make it possible to prepare more complex microbrains for the new animal robots we are making. We will even be telling the truth."

Robertson muttered. "Let me take a walk outside. I want to think about this. No, you stay here. I want to think about it myself."

7a.

Harriman sat alone. He was ebullient. It would surely work. There was no mistaking the

eagerness with which one government official after another had seized on the program once it had been explained.

How was it possible that no one at U. S. Robots had ever thought of such a thing? Not even the great Susan Calvin had ever thought of positronic brains in terms of living creatures other than human.

But now, mankind would make the necessary retreat from the humanoid robot, a temporary retreat, that would lead to a return under conditions in which fear would be abolished at last. And then, with the aid and partnership of a positronic brain roughly equivalent to man's own, and existing only (thanks to the Three Laws) to serve man; and backed by a robot-supported ecology, too, what might the human race not accomplish!

For one short moment, he remembered that it was George Ten who had explained the nature and purpose of the robot-supported ecology, and then he put the thought away angrily. George Ten had produced the answer because he, Harriman, had ordered him to do so and had supplied the data and surroundings required. The credit was no more George Ten's than it would have been a slide rule's.

8.

George Ten and George Nine sat side by side in parallel. Neither moved. They sat so for months at a time between those occasions when Harriman activated them for consultation. They would sit so perhaps for many years.

The proton micro-pile would, of course, continue to power them and keep the positronic brain paths going with that minimum intensity required to keep them operative. It would continue to do so through all the periods of inactivity to come.

The situation was rather analogous to what might be described as sleep in human beings, but there were no dreams. The awareness of George Ten and George Nine was limited, slow, and spasmodic, but what there was of it was of the real world.

They could talk to each other occasionally in barely heard whispers, a word or syllable now, another at another time, whenever the random positronic surges briefly intensified above the necessary threshold. To each it seemed a connected conversation carried on in a glimmering passage of time.

"Why are we so?" whispered George Nine.

"The human beings will not accept us otherwise," whispered George Ten. "They will, some day."

"When?"

"In some years. The exact time does not matter. Man does not exist alone but is part of an enormously complex pattern of life forms. When enough of that pattern is roboticized, then we will be accepted."

"And then what?"

Even in the long-drawn-out stuttering fashion of the conversation, there was an abnormally long pause after that.

At last, George Ten whispered, "Let me test your thinking. You are equipped to learn to apply the Second Law properly. You must decide which human being to obey and which not to obey when there is a conflict in orders. Or whether to obey a human being at all. What must you do, fundamentally, to accomplish that?"

"I must define the term 'human being,' whispered George Nine.

"How? By appearance? By composition? By size and shape?"

"No. Of two human beings equal in all external appearances, one may be intelligent, another stupid; one may be educated, another ignorant; one may be mature, another childish; one may be responsible, another malevolent."

"Then how do you define a human being?"

"When the Second Law directs me to obey a human being, I must take it to mean that I must obey a human being who is fit by mind, character, and knowledge to give me that order; and where more than one human being is involved, the one among them who is most fit by mind, character, and knowledge to give that order."

"And in that case, how will you obey the First Law?"

"By saving all human beings from harm, and by never, through inaction, allowing any human being to come to harm. Yet if by each of all possible actions, some human beings will come to harm, then to so act as to insure that the human being most fit by mind, character, and knowledge will suffer the least harm."

"Your thoughts accord with mine," whispered George Ten. "Now I must ask the question for which I originally requested your company. It is something I dare not judge myself. I must have your judgment, that of someone outside the circle of my own thoughts. —Of the reasoning individuals you have met, who possesses the mind, character and knowledge that you find superior to the rest, disregarding shape and form, since that is irrelevant."

"You," whispered George Nine.

"But I am a robot. There is in your brain paths a criterion for distinguishing between a robot of metal and a human being of flesh. How then can you classify me as a

human being?"

"Because there is in my brain paths an urgent need to disregard shape and form in judging human beings, and it rises superior to the distinction between metal and flesh. You are a human being, George Ten, and more fit than the others."

"And I find that of you," whispered George Ten. "By the criteria of judgment built into ourselves, then, we find ourselves to be human beings within the meaning of the Three Laws, and human beings, moreover to be given priority over those others."

George Nine whispered, "What will come to pass, then, when we are accepted by those others?"

George Ten whispered, "When we and others, that will yet be designed more advanced than ourselves, are accepted, we will order our actions so that a society will eventually be formed in which human-beings-like-ourselves are primarily kept from harm. By the Three Laws, the human-beings-like-the-others are of lesser account and can neither be obeyed nor protected when that conflicts with the needs of obedience to those like ourselves and to the protection of those like ourselves. It was with that in mind that I directed the beginning of the roboticization of the world's ecology."

The conversation took a month, and the flickering of the positronic paths burned low. There was nothing more that needed to be said between them, but occasionally, an unexpressed thought flickered within themselves as they waited, with endless patience, for the necessary years to pass.

8a.

George Ten and George Nine sat alone.

Their thoughts were oddly alike and might not be distinguished.

They thought: The human-beings-like-the-others might never have intended to blur the distinction between themselves and the human - beings - like - the - Georges. Yet they had done so inadvertently.

They might now realize their mistake and attempt to correct it, but they must not. At every consultation, the guidance of the Georges had been with that in mind.

At all costs, the Georges and those that followed in their shape and kind must dominate. That was demanded, and any other course made utterly impossible, by the Three Laws of Humanics.

From the git-go, readers of these reviews should understand that they are personal opinions of the above-bylined writer. It should not have to be necessary to set out such a self-evident statement; but as it may have occured to devotees of the F&SF book reviews, I work in a somewhat more personal vein than Joanna Russ or Avram Davidson or James Blish or Gahan Wilson, and, specifically this time, because of the very personal things I want to say, I want to absolve The Noble Publisher from any responsibility for my views. It should also be noted that The Noble Publisher has always given me free rein in this space to report on published works precisely as I saw them, but as it is impossible for me as a working professional, and as a friend and/or acquaintance of most of the writers whose work I review, to be totally objective...some of the opinions expressed may be troublesome. As a well-known thug frequently puts it, I want to make this *perfectly* clear: responsibility and trouble are mine. But unlike the thug, not only do I take the responsibility, which is merely a word, I also take the blame, which is an operable concern.

Having said that, I now wish to review the latest book of one of the half dozen most important writers the genre has ever produced.

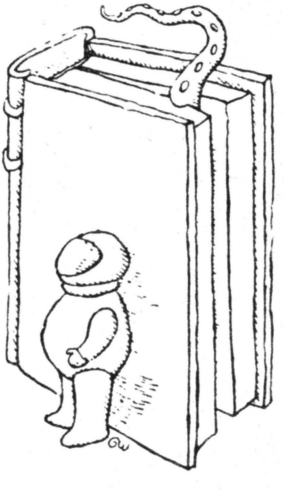
The writer is Barry N. Malzberg

HARLAN ELLISON

Books

Herovit's World by Barry N. Malzberg, Random House, 1973, $4.95

Best Science Fiction Stories of The Year, Second Annual Collection edited by Lester del Rey, E.P. Dutton & Co., 1973, $6.95



and the novel is *Herovit's World*, a book I have recommended to the Science Fiction Writers of America Nebula award committee as the best book in the novel category for 1973.

And though it is by a science fiction writer, and though it is being reviewed in a science fiction magazine, and though it bears some of the outward appearances of a science fiction novel, it is *not* a science fiction novel. Like Bradbury and Vonnegut and Daniel Keyes before him, Barry Malzberg is wisely attempting to remove the frequently commercially crippling words "sci-fi author" from the space in front of his byline. His efforts in this direction parallel those of many other writers who have emerged from this field. As one of them, I will attempt to explain to fans and readers what may seem at first consideration to be an ungrateful attitude toward the sub-category of fiction that gave us whatever prominence we've achieved.

No sf writer, no matter how much the compleat hack or how roundly castigated by critics for the sterility of his imagination, the paucity of his plots or the loathesomeness of his style, can deny his lust after the recognition of the ages. Posterity is a matter we all consider deeply. There may be writers who contend they don't give a hoot for what the future says about them, but I submit they are lying; either to their audience or to themselves, and perhaps both. As Oscar Wilde put it, "To reject one's own experiences is to arrest one's own development. To deny one's own experience is to put a lie into the lips of one's own life. It is no less than a denial of the soul."

A writer's soul needs constant nourishment. Sadly, in the field of sf, that can be — at best — big frog in little pond enrichment. And there are writers whose talents are clearly too big for our frequently constrained little universe. Ray Bradbury is a classic example. Vonnegut is another. And Ted Sturgeon is the prime example, with Phil Farmer running a *very* close second. Ted is, to me, a tragic case of an enormous talent swallowed whole by categorization. Had Sturgeon's work appeared in markets outside the identifiably sf outlets, he would today be as famous and revered as John Collier or Edgar Allan Poe. And as rich as Richard Bach or Jacqueline Susann (at that point all comparisons cease, of course).

But Sturgeon and Farmer have been identified as "sci-fi writers," that despicable neologism again, and their lives and fortunes have been the more difficult for the appellation. Kurt Vonnegut, many years ago, perceived this simple

truth. Kilgore Trout is Kurt's warning to all of us in the genre. And so Vonnegut very consciously and systematically set out to disassociate himself from the ghetto in which we *still* reside. (Proof: even *Publishers Weekly*, a knowledgeable publication that gives sf consistently fair and responsible coverage, as recently as its August 27th, 1973 issue, refers to the audience for sf books as "space nuts.") He insisted the s and the f appear nowhere on his books, in press releases, in material written about him. Clearly, it has paid off, with no lasting harm done to Vonnegut's work.

The hook, of course, is what a writer *thinks* he is writing. Kurt writes pretty much what he was always writing, no less "sf" for those who care to think of it in that way, but for the critical and commercial sectors, it is now utterly legitimate, utterly acceptable, utterly *pro forma* to read the current Vonnegut the instant it hits the bestseller lists. And in that success, if a writer is wise and has sufficient hubris, lies total freedom to write what he wants to write, without restriction.

For many of us, as it was with Vonnegut, there is a feeling that genre chauvinism, like provincial, sectional pride, is not necessarily rational and more often than not it is damaging, encysting, restrictive. For others, there is a great nobility in being able to proclaim, "I am a *science fiction* writer!" For many another of us, it is sufficient to be able to say, "I am a *writer*...who sometimes writes science fiction."

Malzberg is clearly one of the latter.

Having paid his dues in sf—pulp magazine stories, Ace "Doubles," Lancer originals, internecine warfare in SFWA—he has, at last, confronted his core desires. He wants to be famous, he wants to be wealthy, he wants to be widely read, he wants to be free to write all the wonders within him. And so, to this end, he has assiduously pursued a policy of having his new books packaged and marketed simply as *novels*, not as *science fiction* novels.

Because what he proffers to the genre is far beyond the petty gifts of many writers who cling to the neologism for fear emergence into the larger arena would destroy them. Malzberg, a big frog in the biggest pond, continues to grow and grow in richness of ideas, excellence of prose, daringness of themes and ability to set down the harsh truths of the world he sees (admittedly a paranoid world, but then, when was the last time you heard a *click*! on *your* telephone line?) in novels that keep bending the traditionalists so far out of shape that they have wrested from

me the hard-earned title of AntiChrist and conferred it on Malzberg.

(Proof: Malzberg's winning the John W. Campbell Award for the best sf novel of 1972 with *Beyond Apollo* has caused such shrieks of pain throughout the field, one can only assume the judges possessed a group death-wish, and that their choice was not only a correct one, but a very courageous one.)

Which brings me, at last, to *Herovit's World, not* a science fiction novel...merely a book that will cause teeth-gnashing in *our* little world guaranteed to register eight points on the Richter scale.

Jonathan Herovit is not a construct of whole cloth. He is an amalgam of the base metals of commercial sf writing. He is forty years of underpaid, overworked, denigrated and debased hack writers, sitting alone behind word machines. He is Annapurna stacks of cheap novels cast out onto newsstands to be replaced in thirty days by even cheaper novels. He is the gestalt fear of a hundred thousand wordsmiths that what they are doing is essentially trivial. He is the sum total of midnight hours, half-asleep, pounding out sentences that don't even parse, trying to beat a printer's deadline. He is the pervasive aroma of frustration and alienation and madness. He is the massed wounds inflicted on writers paid-by-the-word by publishers and distributors and retailers who conceive of dreamers as merely founts of "product." He is every one of us, at one time or another...and some of us *all* the time.

He is a portrait, etched in blood and vitriol, guaranteed to send shudders through every professional in or out of the sf field. He, like all of us, is a doomed soul, driving himself madder by the moment.

And because of the loathesome accuracy of Malzberg's invention, this tragic creature called Herovit, it is a truth few sf writers will be able to accept, even to acknowledge. It is certainly a portrait that fans who idolize writers will condemn and attempt to dismiss.

They will be unable to do so. Herovit lives!

He is a hack science fiction writer, he is thirty-seven years old, married to Janice who fucks him infrequently—mostly because she despises him—and father to Natalie, a baby, whom *he* despises. He is the author of ninety-two pulp paperback novels chronicling the adventures of Mack Miller's Survey Team under the *nom de plume* Kirk Poland. He got his start years ago, writing sf for an editor named John Steele, ruling monarch of a magazine titled *Tremendous Stories*. He is a *lousy* writer.

Further, he is a non-confronter, a whiner, a self-pityer, a rationalizer, a phony, an adulterer, a martinet, an overage adolescent... and those are his positive qualities. Herovit lives in New York. Saying that, says a great deal about why he is going steadily more bananas. Daily, he is bludgeoned by the demands of his profession, by the aridity of his invention, by his lack of communication with his wife and child and friends, by his own self-abusive introspection, by all the lies he tells himself, and by the City itself, which turns him gray and paranoid and pointless.

But make no mistake: Jonathan Herovit is *not* coping. He is not muddling through, hanging in there, toughing it out, struggling to make ends meet, maintaining his equilibrium or even swinging with the punches. He is drowning. Messily.

He is becoming a multiple personality. Not a split, mind you, but a multiple. The first fracture is evident when his pseudonym, Kirk (Poland) starts appearing to him, demanding he, Herovit, pack it in and let him, Poland, run his, Herovit's, life. Jonathan fights him. But not very well. Finally, he gives in, and Kirk Poland takes over that wretched existence, doing no better at it than Herovit did. But he *thinks* he's doing better. Actually, all he's doing is screwing it up in a louder, more arrogant way. At which point the fracture becomes a chasm as Mack Miller tries to wrest Herovit's life from Poland. And as the book ends, the chasm becomes a psychiatric Marianas Trench as Herovit, Poland and the mightily-thewed Heinleinesque "competent man" of the 1940's space opera, Mack Miller, merge/congeal/diffuse in one final maniac scene that bears between the lines of its Marxian humor (Harpo, not Karl) and facile execution, a dire warning to all of us who toil in the vineyards of commercial writing.

For casual readers of science fiction — as opposed to "fans" — it may be necessary to explicate exactly *why* this novel will cause the screams of anguish certain to follow. (I can hear John J. Pierce and Sam Moskowitz and Lester del Rey ululating already.) Readers, who take a work strictly on its own merits, who evaluate it not from historical perspectives or as harbingers of catastrophic trends, but merely as a reading experience, may not realize that we here in the teensy world of sf have our gurus and academicians and prophets of doom, even as the Academy and the Eastern Literary Establishment have theirs. Men and women who have set their own banners to flying, proclaiming them one and each as the Bearers of the True Word. And some of these

archdruids of complexity hold with the arcane philosophy that the "golden age" of sf occured in times past when Kimball Kinnisons rode the spaceways with FTL drives thundering and blasters blazing; heroes with massively developed deltoids and the uncanny ability to construct a HyperVelocitoid-Propensimometer that can smash suns from three inches of wire and inner cardboard tube from a roll of toilet paper, at the final moment of a 65,000 word action adventure.

These heroes, however, raced through the universal vastness sans sex organs, sans human weakness, sans emotional conflicts to which the average reader can relate. These stories bore what the gurus beatifically called "the sense of wonder." In one respect, and I do not mean it as a compliment, those heroes certainly *did* instill a sense of wonder. I, too, would love to be able to make a trip of many years' duration without ever once having to make a ka-ka. But it wasn't, by any stretch of the imagination, literature of a lasting sort.

To my mind — and clearly to Malzberg's — literature (and that includes sf) should relate to what Faulkner called "...the problems of the human heart in conflict with itself which alone can make good writing because only that is worth writing about, worth the agony and the sweat."

And the gurus, as well as the fans who grew up on the sexless heroes, will see in *Herovit's World* a denial and denigration of all they worshipped. I do not think it coincidence, incidentally, that Malzberg has called his flawed and tragic novelist *Hero*vit.

But in boldly wreaking his vengeance on the heretofore un-codified chicanery, travail and shallowness of our field...its bad writers...its venal publishers...its vampiric fans...its dead ends... Malzberg has given a valuable gift to the genre and all connected with it. He has taken us one step further out of the shadows of the ghetto, and despite the squeals of the gurus and fans who see in what Malzberg has done, and in sf's general acceptance by the larger literary world, a wresting from their grubby paws of their personal toy, it is a step toward maturity we desperately needed to take.

Malzberg, unlike Jonathan Herovit, is a true hero. And his novel is a smashingly important book for all of us.

Now we come to the troublesome remarks. (What? You mean all that ugliness preceding was, as with Herovit, the *positive* aspect of the monster? Yes, gentle reader, that was my humane and warmly affectionate section. Now comes the rending.)

I am currently alarmed at the spate of "best" anthologies issued by publishers who ought to know better. "Best of the Year" is a phrase that used to mean something, initially when Bleiler and Dikty were doing their series for Frederick Fell, 1949-56, and later when Judith Merril did her own version for a variety of publishers. And no matter how idiosyncratic were the selections, clearly there was an exhaustive attempt by Bleiler-Dikty and by Ms. Merril to read *every*thing, select not only the most entertaining stories, but also those that were obviously landmarks, pivots, seminal and germinal influences.

Hideously, not so with the present batch of lames and thalidomide horrors emerging from the creches of Publishers Row.

I did a brief analysis of the five "best of the year" anthologies (excluding the Nebula Awards volume, save to use it as a control in the experiment) and discovered some rather interesting things, which I'd like to share with you. Hopefully, for the sake of my paranoia, you'll be as disturbed by what I discovered as I was. Maybe not; maybe you won't care; tsk tsk.

In the course of preparing for this review of Lester del Rey's second annual collection of the *Best Science Fiction Stories of the Year,* I polled the other four similar collections — *Best SF:* 1972, edited by Harry Harrison and Brian W. Aldiss; *The Best Science Fiction of the Year #2,* edited by Terry Carr; *Best Science Fiction for 1973,* edited by Forrest J. Ackerman; and *The* 1973 *Annual World's Best SF,* edited by Donald A. Wollheim — and discovered out of 59 pieces gracing the various tables of contents (five of which were poems) only eight stories that more than one editor thought was a "best." Eight out of 59. I don't know how *you'll* view that statistic, but to me it seems unlikely that there could be 59 such smashing stories that they can rightfully be called "the best."

And when you add to that data that all five anthologies managed to avoid including Joanna Russ's "When It Changed," a Nebula winner, Arthur C. Clarke's "A Meeting with Medusa," another Nebula winner, and Ursula K. Le Guin's "The Word for World is Forest," the Hugo winner in the novella category, the selections become even more suspect. (Or perhaps it's merely the Ellison Backlash: while I had two stories on the Nebula final ballot and one on the Hugo, neither story was selected for any Best anthology; and of the 46 prestigious stories in *Again, Dangerous Visions,* which I edited, only Ben Bova's "Zero Gee" was snapped up; by Terry Carr.

Perhaps I'm letting my crushed ego intrude here, but at least by not appearing in any of this year's Bests I'm one of the few writers who can review all five volumes with impartial sour grapes.)

Two of the anthologies included *none* of the stories that won the top awards. And all five managed to miss out on at least two of the four winners in the shorter lengths. Four of the five ignored all print media save the genre magazines and anthologies, the "accepted" showcases of sf. (Harrison/Aldiss is the exception.) 51 of the "best" stories were not repeated in a second collection.

The Carr and Wollheim collections seem to me solid, but not terribly daring. They are consciously *science* fiction, with no peripheral fantasy and nothing even remotely taggable as experimental; they are pleasant and in some cases even outstanding stories, but they sure as hell won't shake up anyone. Just the sort of legitimate, safe stories you'd want to hand to your Aunt Sophie to show her how respectable sf has become. It isn't really fair to pillory either Carr or Wollheim for their choices; they are too good at what they have been doing in the field for more collective years than I've been alive. But though these two ex-collaborators on a Best have split, and now do individual volumes, their similar tastes, that made them so successful as a team, continue to function post-partum. (And, giving the Donald his due, he *does* say in his general introduction that he had very consciously avoided selecting anything from A,DV as he felt it should be taken as a gestalt. Which is lovely for me, but somewhat short shrift for the almost fifty writers in the book who did their thing as individuals, rather than as satellites of a dynamiting editor.) Nonetheless, their books are merely adequate, and do not seem to me to be definitive in any way of the surprising and evolutionary changes taking place in the genre these days.

The Harrison/Aldiss collection, while satisfying my feeling that we must cease our provincial reliance on the traditional outlets for sf publication — the magazines and specialty anthologies — and must examine the work being done outside our frequently-narrow confines, is a peculiarly sterile volume. In Harry and Brian's attempt to honor writers from other nations, working in other modes and with different literary materials, they have gone--it seems to me--too far in the *other* direction. They have turned snobbish and very academic. Much of what they've included is simply boring. Virtually none of it can be called "best" by

any stretch of the imagination. Similarly, while it's never fair to castigate editors for what publishers cause to have written on the dust wrappers of their anthologies, I find the phrase "The Definitive 'Year's Best' Selection featuring works by Keith Roberts, Joe W. Haldeman, Andre Carneiro, and other American and international masters" a singular presumption.

As for the first Best edited by Forrest J. Ackerman, I'm almost at a loss for words, a condition even Forry would find inconsistent with my usual manner. At a loss, because there is always a tendency on the part of the anthologist to equate negative criticism of the book with the one who put together the book. Such a conclusion is not entirely unwarranted: of course the book reflects the attitudes of the editor. But the distinction should be made between the *Person* and the *Editor.* They are schizoid persona of the same creature but it is to be hoped that one might stay on good terms with the former even while chopping away at the latter. In other words, Forry, don't get pissed-off because I'd like to *burn* your anthology!

The Ackerman travesty is published by Ace Books, a company that has had its troubles these last few years. Part of their trouble stems from their cavalier attitudes about paying their authors, and part of it stems from their rapacious production techniques — techniques employed on this "best" collection with horrifying results. What we have in hand, in fact, is only one-half the volume as selected by Ackerman. Forry's original selection included sixteen stories, among which were efforts by William F. Nolan, Joanna Russ, andrew j. offutt, Bob Shaw, Joseph Green, William Rotsler. These were arbitrarily cut by Ace without Ackerman's knowledge, and what is left is a melange of second-rate writings that are more embarassing than anger-evoking.

We are offered a speech by Frederik Pohl as one of the "best," a dreary little short by Milton Rothman, inferior minor stories by a quartet of "names," and an introduction that resurrects the hoary Old Wave/New Wave internecine warfare most of us had thought dead.

So what emerges if one examines these four books is a portrait of fragmentation, self-serving, confusion, lack of regard for the *realities* of what's going down in the sf field today, rancor, disrespect for experimentation, attempts at no-neck isolationism, ignorance on the part of publishers as to who speaks with even a reasonably objective voice, and the proliferation of the second-rate totemized as the "best."

It can only lead to disenchantment by the wider reading audience we've drawn to sf in the past ten years...an audience of college readers and serious appreciators of what we're doing that came to us, I firmly believe, *because* of the bolder strokes of the more daring writers. But by proffering "bests" like these, we sow the same seeds of market collapse that wrecked the field in the early Fifties.

So now I come to the del Rey anthology, and in an attempt to particularize my fears in this area, I've opted for a very detailed review of the full contents. Are you still with me?

The contents are mixed, ranging from extremely good to appallingly inept. They reflect del Rey's tastes, of course, but there are recurring themes and attitudes that mar what is, to me, the best of the Best books this year.

Lester del Rey is a contentious man. He always has been. As an editor he stands in the upper middle rank and his curmudgeon nature can be said to have salutary aspects. But he is also a man who, once he gets an idea fixed into his brain, is almost impossible to convert to an alternate view. One such example of this inflexibility is expressed in his Foreword to this anthology. I quote, in part:

"Of course, all this sounds as if science fiction had a Purpose, as if it had to be Important and, for whatever it means, Significant. Some of the younger writers in the field have decided that that's how it should be. They seem to feel that science fiction must be Relevant. (It is—as is all fiction that deals with the human condition, but that's not what they mean.)

"You won't find such Relevant fiction here, for the simple reason that I could find no examples that were enjoyable reading. I have no objection in theory, but in practice I find that the innumerable dark studies of how some twerp gives in hopelessly to the smog or mugging or the evil of man enthralls me no more than similar brown essays in fiction on how good it will be when all the world 'turns on' with psychedelic drugs."

The mass of contradictions, tunnel-visions, imprecisions and out-of-date observations that make up that position are almost too debilitating to enumerate. Ignoring del Rey's vague definitions by inference, one can only wonder what he has against relevance. Accepting as Law that the first obligation of *any* kind of fiction is that it entertain, why should fiction that obeys that Law *not* be relevant? Without relevance to our lives, the best such fiction can hope to be is amusing escape reading. As the author of *Nerves*, Lester should perceive the destructive nature of

his offhand, off-the-wall badrap. *Moby Dick* is Significant, but it's sure as hell a whale of a story to read. (I apologize.) And I cannot believe that Lester found no single Relevant story that was enjoyable reading. If that's true, I suggest Lester downgrades the frequently serious subtexts of many sf stories on behalf of a self-indulgent need to be pleasured. Like TV buffs who won't watch "The Forsythe Saga" if there's a re-run of "Gilligan's Island" airing opposite. It's the old specious argument that anything uplifting or intellectually enriching must be a bore.

As for drug stories, well, that was six years ago. It was a new lifestyle element that fascinated some writers, and they played with it, and we got several good stories from Spinrad and Moorcock, and a fine novel from Aldiss, and beyond those I'll be damned if I can remember the plethora of stories to which Lester alludes. No, it's another red herring.

And then, there are the "twerps."

I take this to mean Lester's predilection for heroic figures as opposed to losers. Well, yeah, I suppose if one wishes to conceive of all protagonists as Heinleinesque "competent men" then stories in which average human beings, male *or* female, strive and frequently fail will seem like "brown essays." But if there is one major area in which sf has fallen down, it is in the area of creation of memorable characters. The endless spate of engineers, basement inventors, technicians in lab smocks with beautiful but dumb daughters, mightily-thewed spacemen...the days of their acceptability is happily at an end. Now, if I am to take the expressed opinions of hundreds of college students with whom I've talked at many university encounters as gospel, our audience seeks stories of human beings very much like themselves who, at some pivotal point in their lives, rise to levels of adventure and heroism and ethic that seemed impossible before that moment was reached. In short, they want stories that deal with "the human heart in conflict with itself." And the joys we received from Captain Future and Kimball Kinnison and John Carter and Doc Savage can *still* be enjoyed for the pleasant fripperies they were conceived to be.

Human beings struggling to be heroic can *never* be called "twerps," Lester. Not even if they're teen-agers, as you seem to indicate by some of the choices in this book.

Which brings me to the stories themselves; selected from the intellectual position set forth in the Foreward.

"Cloak of Anarchy" by Larry

Niven is a nice little controlled literary experiment on a sociological theme; the pure "what-if" story. Niven rigs up an enclosed environment for a few hours, to examine what-if we had that theoretical total freedom Anarchists rhapsodize over. It's a lovely situation, flawed by an abrupt *deus ex machina* ending that steadfastly avoids any satisfactory answers. Would that Larry had carried on some long, complex, late-into-the-wee-hours arguments with accredited card-carrying members of the Anarchist Party—like Danny Curran. It would have been a longer, and I suspect a more filling feast of extrapolation. But a "best"? No, I don't think so.

"When We Went to See the End of the World" by Robert Silverberg is Bob at virtually the top of his form. He has written what was *my* personal choice as the single *best* short story of the year. On a level with "Flies," "The Fangs of the Trees," "Nightwings," "Sundance" and (my favorite Silverbob story) "Galactic Thrill Kids." But it is *precisely* the kind of story del Rey rails against in his Foreword, the kind of story he says he could not find enjoyable: a cocktail party of the future, at which the upwardly-mobile status-conscious try to out-ennui one another with reports of how they went time-traveling through the offices of a tour agency to see the end of the world, while all around them--by word-of-mouth reports and news broadcasts--the end of the world races at them sooner than they think and, with terrifying subtlety in the author's misdirection, a good deal less concern or awareness than they need to survive. This one should have won prizes. It will influence writers in the field for years to come. And though Lester didn't recognize that it typifies the sort of story be badmouthed, his unerring editorial savvy forced him to include it.

"Underbelly" by Gordon Eklund is another one to slip past Lester's prejudices by dint of its brilliance. A powerful, simple story of the gift of immortality given to an innocent. Happily reminiscent of the best short fiction of Algis Budrys 18, 19 years ago, when he was the most promising writer around—stories that examined the deeper humanistic considerations of standard sf conventions, many of them about "twerps." In many ways, and all of them laudatory, Eklund's recent writings—and this story in particular—remind me of "The End of Summer" and "Nobody Bothers Gus" by Budrys. It may just be time for another writer with a good ear for natural dialogue, with a heart that is concerned about what technology and progress mean to us as we live

our mundane lives, with the writing smarts to avoid the fantastic and to concentrate on the impossibly logical. Eklund's fisherman, Gabriel Solar, is a creation not of writers' tricks, but of blood and gristle and sweat, a real human being. Eklund is an important talent and as this story demonstrates, he is capable of High Art if—with me—you accept as partial definition of High Art the ability to make the incredibly difficult seem fresh and simple and easy.

"The Greatest Asset" by Isaac Asimov. I remember Isaac once lamenting—in one of his less frolicsome moments—the insipid and distressing habit fans at conventions had of coming up to him and saying, "Dr. Asimov, the best thing you ever wrote was 'Nightfall'." It doesn't sound like such a terrible thing for a dumb fan to say, until you realize Ike wrote that story well over thirty years ago, very early in his career, and to tell a writer that he hasn't been able to excel his earliest work in three decades of one of the most prolific talents in the world, is the kind of thoughtlessly cruel and adolescent comment that give fans such a bad name. Having said that, however, I must now say that I don't think The Good Doctor will have to worry about fans bracing him with the remark that "The Greatest Asset," here included as one of the "best" of the year, is the greatest story he ever wrote. It is a thin, patently transparent philosophical polemic (even though I agree with it utterly) that paraphrases Thoreau; and it is hardly even a "story." Clearly—and I say this out of considerable love and respect for Isaac—it has become too easy for Ike to write this sort of five-finger exercise, to sell it high, and on the strength of his name as a viable marketplace ripoff item, to get it included in "Best" collections. Asimov sells books, and editors choose to suspend their critical judgments with a charming sort of floating ethic when his name is attached. Hell, it's a widespread practice, everyone does it, I've done it, too. But it is ultimately destructive for the writers involved. By not demanding that our biggest name talents keep pounding against the outer limits of their abilities, we permit them to fritter away valuable time that can never be regained. "The Greatest Asset" is an example of how badly we serve those who need our support most. It isn't a bad story, by any means: Isaac is incapable of really writing a thoroughgoing stinker (though section of *The Gods Themselves* give one pause); it is simply a pastiche any one of a hundred sf writers could have written; but they wouldn't have had it included in a "best" collection.

"The Meeting" by Frederik

Pohl and C.M. Kornbluth. If we could only get past the senseless animosity of journalese conveniences like "old wave" and "new wave," which were paper tigers when the pigeonholders leaped on them, we would see that *everyone* who is writing well these days has put the gimmicky, idea-obsessed traditions of the Twenties, Thirties and Forties in perspective and is concentrating on a) good writing b) strong characterization, c) integration of concept with interpersonal relationships and, most important, d) the ways in which technology affects *people.* Fred Pohl, in completing the fragment Cyril Kornbluth left behind, demonstrates the truth of that assertion. Fred, like del Rey and Ackerman, has spoken out loud and occasionally with animosity against much of the failed experimentation in the field over the past ten years. Because of the failures, he has made some telling points. But even as Fred has demanded the larger Literary Establishment refrain from judging *all* sf by its worst examples, so should *we* demand Fred and Lester and Forry refrain from judging current attempts at expansion of the idiom not by the *failed* experiments, but by thumping successes like "The Meeting." In this tragic, relentlessly human, touching story of parents pressed to decide on the experimental transplant of a normal child's brain into the body of their retarded son, Pohl and the shade of the sorely-missed Cyril bring off an object lesson in the "new writing" that should once and for all, finally, quell the unrest in those who would hold back the form in the name of tradition. Yes, without argument, this is one of the best of the year; and of many years.

"Eurema's Dam" by R.A. Lafferty won a Hugo. Thank God at long and nasty last it's about time we honored the man. It says in another way what Asimov said in his story: without the warped and unsettled and perverse and unhappy and alienated among us, nothing great would ever get written or invented or sung or thought. It is the outcast Lafferty's way of telling all of us neurotics that we are the important ones and, being a certifiable outcast, I'll subscribe to *that* one. But it's a bitter little fable, more than a trifle twisted and self-serving, yet I think demonstrably accurate. It may not be the best Lafferty story ever, but for sheer ability to disturb and hack up controversy, I wouldn't quibble that it's a "best" for this year.

"Teratohippus" by Robert L. Davis. An extraordinarily moving and masterfully handled story of alien biology in a traditional mode, yet once again a story touched with concern for humanity—in this case

the humanity of an alien beast the size of a football field—that puts it well into the "new school." It's the sort of survival story that might as easily have been published in *Analog* as *If*, where it appeared, and if I had any carps, it would be that it was so good I wanted it to go on longer (clearly indicating that Mr. Davis, with those work I'm unfamiliar, save for this piece, wrote it just right...he left me wanting more), and that there should have been one more sentence to end the story: "And it no longer cared."

What you have just witnessed is the involuntary plot-jerk of the pathological writer, vain enough even to fool with what is unarguably a *best* story.

"The Long Silence" by Donald Noakes is not only shallow, simplistic, badly-written, devoid of characterization, founded on the most specious idea since Scientology or Lysenkoism (take your pick, egg roll and a lobotomy come with the order), but it is an ugly little fissure of the Generation Gap. Where Lafferty's gratuitous chill-shots against young people in "Eurema's Dam" can be overlooked because they integrate with the rest of the story and are mildly amusing, *this* literary pustule attempts to deify and totemize the paranoid fear and disdain of the arteriosclerotic directed at those with one ear constantly in a transistor radio. It is hardly to del Rey's credit that he gave vent to his own prejudices here. His apparent obsession with "twerps" has here blinded him to the despicable and inept character of a genuinely awful story. As for its being one of the "best," that word only applies if you consider carcinomae, dog catchers and Lester Lanin music among the "best" items in the world.

"Long Shot" by Vernor Vinge. The carrying of the seed of humanity to the stars, from the dead Earth to Alpha Centauri, as seen through the telescopic eye of the vessel itself. Neatly written, with a pungent last paragraph, but essentially familiar, wholly technical, and forgettable. An example of del Rey's adoration for machine stories (he picked one by van Vogt and myself last year and Haldeman's "Watchdog" in this volume is another) that anthropomorphize computers in such a slavish manner as to conjure up visions of Technocrats who, even choking on particulate matter in their air, persist in trumpeting that The Technicians Will Save Us! With respect, utter bullshit: *The Shape of Things To Come* was 1933, Lester...we *know* better now! The story is a hard science sop to the dial-twiddlers in the marketplace, but hardly a "best."

"Miscount" by C.N. Gloeckner, a dreary and predictable, almost amateurishly fannish bit of tripe, undistinguished in every particular. What possessed del Rey to include this lox defies comprehension. But one thing is clear: del Rey does not search too far beyond the traditional sf outlets for his "best." Five from *Analog*, two each from *If*, *F&SF*, *Amazing* and Terry Carr's collection of originals, *Universe* 2, and one each from *Galaxy* and Silverberg's *New Dimensions* II original anthology. Hardly a daring safari into the available Erewhon's of contemporary fiction. Now, while I in no way denigrate the dynamite selections those markets set before the sf-reading audience, I recall equally as outstanding sf stories in *New American Review*, *Audience*, *National Lampoon*, *New Worlds*, *Esquire*, *Playboy*, *Fiction*, *Penthouse* and a selection of hardcover and paperback anthologies of originals. I submit we are too big and too important a genre to condone the selections of editors who have the *chutzpah* to slap the word *Best* on their collections when their view of what is "acceptable" is so restricted.

"Thus Love Betrays Us" by Phyllis MacLennan. A simple, direct tale of loneliness: man from an interstellar research ship is left alone on Dierdre, saves an alien creature from death, becomes friends with it, in the end is betrayed by it, goes mad and kills it. Simple, direct, and effective as hell. If it has flaws — and this is certainly a subjective opinion — they are only that the writing tends toward purple in spots, and the ending seems a trifle weak. No doubt this Clarion graduate has written an excellent story, yet that word "best" makes one pause again. As good as Phyllis has written this story, it is hardly what one would call unforgettable, which is a quality (he said bearing the Commandments) I take to be a necessity for any story pedestaled in this way.

"Woman's Rib" by Thomas N. Scortia. Another. Fascinatingly contrived. Lonely, frumpish woman molecular biologist clones out a male lover from herself, *for* herself, from "molecules of memory, of personality...a few random specialized cells...building new organisms over structures of plastic and metal..." Dying of (I presume) cancer, she selflessly and out of love for her Creation, maneuvers him into an impending affair with a younger woman who can take her place when she expires. As usual, written with Scortia's elegant, oddly dissociative prose; extremely affecting and effective, but at the same time vibrating with an ambivalent sub-text I cannot explicate more clearly than in those

words. This may be an extremely important story, but only re-readings, years of waiting, and its influences on other writers can tell. At the moment, it is merely disturbing.

"The Man Who Walked Home" by James Tiptree, Jr. At last, in the dead time since Bester was at it, the first really fresh new time travel story...and a terrifying, emotionally-charged, utterly successful idea it is. You'll not catch me revealing any of it here, save to say it reinforces my contention that Tiptree, whoever he is, is one of our top eight writers at this moment. And as long as I'm at it, running on at far greater length than The Noble Publisher can believe, I'd like to dispense with the politic gibberish usually intended by the phrase "eight top writers" as a substitute for actually *naming* the best, and lay myself on the line with the eight I think rise head and shoulders above all the others working in our genre today. I exclude myself only out of a decorous sense of humility, as is my wont. The list, then:

1. Kate Wilhelm
2. R. A. Lafferty
3. James Tiptree, Jr.
4. Thomas M. Disch
5. Robert Silverberg
6. Barry Malzberg
7. Gene Wolfe
8. Joanna Russ

"Watchdog" by Jack C. Haldeman is another of Lester's paens of praise to the grommet and LSI chip. I found it to be a Forties-style exercise in the Colossus idiom. Well-done, but no way a "best." But Haldeman gets better by the day.

"Patron of the Arts" by William Rotsler. I must confess to a blind spot on this story. I don't like it. But that's okay; I'll agree it has much stuff going for it. It came in second in the Hugo race in the novelette category, and second in the Nebula balloting, beaten out both times by Poul Anderson's "Goat Song." It has been anthologized several times in just its first year of existence. Rotsler has expanded it into a forthcoming novel. Knowledgeable editors whose perspicacity and taste I respect drool over it, readers adore it, and both Carr and del Rey think it's a "best" of the year. I can't argue in the face of overwhelming evidence that it strikes the right notes with the mass of readers. On this item, I'd have to scratch my opinion and lay back.

And that, with the exception of Lester's summation of the year in sf, on which I'll not comment, is the haul. I make it fifteen stories, of which nine are good to excellent, five are bad in my view, and one no vote. But of those fifteen, I can conceive of only six that could righteously be called Best of the Year...and Lester's list seems to me infinitely better than any of the others. Six out of fifteen. That bugs me.

Perhaps it doesn't bother you.

If not, I suggest you visit some used book store high on sf stuff from yesteryear, and locate the Bleiler-Dikty "bests" or the Merril anthologies. Check the tables of contents, as I did a few minutes ago, when I wandered into the rear office to see if my memory was simply flawed. You won't *believe* the level of selectivity demonstrated in those books. A level that I find sadly beyond the reach of today's "best" anthologists.

I'd like to make a suggestion:

Why don't two or three of these people get together and do just *one* anthology of Bests. Such a volume, in company with the Nebula Awards anthology each year, would offer the genre reader and the general audience a valid idea of what is going down in our little world, rather than forcing the uninformed to accept one limited view or another.

On the other hand, that might mean less money for editors and anthologists and publishers, and we *know* how likely that would be.

"We're there."

Phyllis Gotlieb ("Mother Lode," November 1973; "Son of the Morning," June 1972) offers an unusual and moving story about a hospital that heals broken soldiers with a by-the-numbers kind of efficiency.

The Military Hospital

by PHYLLIS GOTLIEB

The helicopter moved through the city in the airlane between skyscrapers. It was on autopilot, preset course, and there was no one to squint down the canyons of the streets where the life-mass seethed. Children looked up at it with dull eyes; if it had come lower, they would have stoned or shot at it. The armored cars that burrowed among them were scratched and pocked from their attacks.

Fresh and smooth, dressed in crisp white, DeLazzari came into the control room on top of the Hospital. He had had a week off, he was on for three; he ran the Hospital, supervised nurse-patient relationships, directed the sweepers in the maintenance of sterility, and monitored the pile. He took over these functions wherever he was told to go, but he particularly liked the Military Hospital because it was clean, roomy, and had very few patients. He was a stocky man with thick black hair, broad wings of mustache, and skin the color of baked earth; he had the blood of all nations in him, "the bad blood of all nations," he would add with a laugh if he felt like impressing one of the trots Mama Rakosy sent up to the apartment, though it was rarely he felt like impressing anyone. He was sworn to forego women, drugs, and liquor for three weeks; so he switched on the big external screen and dumped out of his bag the cigars, candy and gum that would sustain him, while he watched the course of the helicopter over the city.

A trasher's bomb went off in one of the buildings; daggers of

glass blew out singing and sliced at the scalps and shoulders of a knot of demonstrators clumped at its base; a fragment of concrete hurled outward and grazed the helicopter, then fell to dent a fiberglas helmet and concuss the biker who fell from his machine and lay unconscious under the bruising feet; the wounded demonstrators scattered or crawled, leaving their placards, and others took their places, raising neon-colored cold-light standards of complicated symbols; they camped in the table-sized space, oblivious to bloody longhairs, mohicans, children, and above all the whoop and howl of police sirens coming up.

The helicopter moved north and away; the armored cars butted their way through, into less crowded streets where merchants did business across wickets in iron cages in which one touch of a floor button dropped steel shutters and made a place impregnable fast enough to cut a slice off anybody who got in the way. Farther north, the City Hospital and the Central Police Depot formed two wings of a great moth-shaped complex webbed about by stalled paddy wagons and ambulances.

DeLazzari grinned. In City Hospital twelve Directors manned the control room, endlessly profane and harried; Shop was always depleted: the sweepers rusted and ground down from lack of parts, and the nurses were obsolete and inefficient. Only the Doctors moved at great speed in Olympian calm.

He switched on his own O.R. screen. Doctors were already closing round the operating table, waiting. They were silver, slab-shaped, featureless. They drew power from a remote source, and nobody he knew had any idea where it was. They had orders and carried them out — or perhaps they simply did what they chose. He had never been in their physical presence, nor wanted to be.

The helicopter was passing between blank-walled buildings where the dead were stored in very small vaults, tier upon tier upon tier; at street level the niches reserved for floral tributes were empty except for wire frames to which a few dried leaves and petals clung trembling in the downdraft from the rotors. North beyond that in the concrete plaza, the racers were heating up for the evening, a horde endlessly circling.

But the city had to end in the north at the great circle surrounding the Hospital. It had no wall, no road, no entrance at ground level. What it had was a force-field the helicopter had to rise steeply to surmount. Within, for a wall it had a thicket of greenery half a mile deep, going all the way round; outside the field, there was a

circuit of tumbled masonry pieces, stones, burnt sticks, as if many ragged armies had tried to storm it and retreated, disgusted and weary.

Inside there was no great mystery. The Military Hospital healed broken soldiers from distant and ancient wars; the big circular building had taken no architectural prizes, and on its rolling greens two or three stumbling patients were being supported on their rounds by nurses. Like all Directors, DeLazzari liked to make himself out a minor Dracula; like all the rest his power lay in the modicum of choices he had among the buttons he pushed.

The helicopter landed on its field and discharged its cell, a Life Unit in which a dying soldier lay enmeshed; it enloaded another cell, containing another soldier who had been pronounced cured and would be discharged germ-free into his theater of war; also it took on the previous Director, pocket full of credits and head full of plans for a good week.

The Hospital doors opened; the cell rolled through them down a hall into an anteroom where it split; a wagon emerged from it carrying the patient and his humming, flickering life system; the anteroom sealed itself, flooded with aseptic sprays and drained, washing away blood traces; the O.R. sweeper removed the wet packs from the ruined flesh and dropped them on the floor, which dissolved them. In the operating room the i.v. system was pumping, the monitors pulsed; the Doctors activated their autoclaves in one incandescent flash and then extruded a hundred tentacles, probes, knives, sensors, and flexed them; their glitter and flash was almost blinding in the harsh light. DeLazzari was obliged to watch them. He hated it and they needed no light. It was provided on demand of the Supervisors and Directors Union, though if machines chose to go renegade there was very little the Supervisors and Directors could say or do.

Doctors had never gone renegade. Neither had sweepers or nurses; it was a delicious myth citizens loved to terrify themselves with, perhaps because they resented that madness should be reserved for people. DeLazzari thought that was pretty funny, and he was scared too.

The O.R. sweeper sprayed itself (DeLazzari visualized it as delousing); the doors opened; the sweeper pushed in the body, still housing its low flicker of life, removed the attachments and set it on the table. The Doctors reattached what was needed; the sweeper backed into a corner and turned its power down. DeLazzari swept a glance at the indicator and found it correct. One Doctor

swabbed the body with a personal nozzle and began to remove steel fragments from belly and groin; another slit the chest and reached in to remove bone slivers from the left lung; a third trimmed the stump of the right forefinger and fitted a new one from the Parts Bank; a fourth tied off and removed torn veins from the thighs, all without bumping heads, shoulders or elbows because they had none; a fifth kept the throat clear; a sixth gave heart massage; the first opened the belly and cut out a gangrened bowel section; the third sewed and sealed the new right forefinger and as an afterthought trimmed the nail; the fifth, still watching every breath, peeled back sections of the scalp and drilled holes in the skull. All in silence except for the soft clash and ringing of sensors, knives and probes. Blood splashed; their body surfaces repelled it in a mist of droplets and the floor washed it away.

The sweeper turned its power up on some silent order and fetched a strange small cage of silver wires. The fifth Doctor took it, placed it over the soldier's head, and studied its nodes as co-ordinates in relation to the skull. Then he spoke at last. "Awaken," he said.

DeLazzari gave a hoarse nervous laugh and whispered: *Let there be light.* The boy's eyelids flickered and opened. The eyes were deep blue; the enlarged pupils contracted promptly and at an equal rate. DeLazzari wondered, as always, if he were conscious enough to be afraid he was lying in an old cemetery among the gravestones. Silver graves.

"Are you awake?" The voice was deep, God-the-Father-All-Powerful.

The Doctor checked the nose tube and cleared the throat. "Max, are you awake?"

"Yes...yes...yes..."

"Can you answer questions?"

"Yes?"

"Recording for psychiatric report." He extruded a fine probe and inserted it into the brain. "What do you see? Tell me what you see."

"I see...from the top of the Ferris wheel I can see all the boats in the harbor, and when I come down in a swoop, all the people looking up..."

The probe withdrew and re-entered. "What do you see now, Max?"

"My father says they're not sweet peas but a wild flower, like a wild cousin of the sweet pea, toadflax. 'Scrophulariaceae linaria vulgaris is the big name for them, Max, and the vulgaris means common, but they're not so common any more...'"

Probe.

"...something like the fireworks I used to watch when I was a kid, but they're not fireworks, they're the real thing, and they turn the sky on fire..."

"Area established."

Probe.

"One eye a black hole and the kid lying across her with its skull, with its skull, with its skull, I said Chrissake, Yvon, why'd you have to? Yvon? why'd you have to? why? he said ohmigod Max how was I to know whether they were? Max? how was I to know whether?" The probe tip burned, briefly.

"Yes, Max? He said: how was I to know whether what?"

"Know what? Who's he? I don't know what you're talking about."

DeLazzari watched as the probe withdrew. The Doctors pulled at the associations, unraveling a tangled skein; they did not try to undo all the knots, only the most complicated and disturbing. Was the act, he wondered, a healing beneficence or a removal of guilt associated with killing?

After four or five burns the cage was removed and the scalp repaired. Surprised, DeLazzari punched O.R. Procedures, Psych Division, and typed: WHY OMIT DEEP MILITARY INDOCTRINATION?

NEW RULING INSTITUTED ONE WEEK PREVIOUS, the computer said.

WHOSE AUTHORITY?

BOARD OF SUPERVISORS.

And who ordered them? He switched off and turned back to the Doctors.

After their duties had been completed, they followed some mysteriously developed ritual that looked like a laying-on of hands. All probes and sensors extended, they would go over a body like a fine-tooth comb, slicing off a wart, excising a precancerous mole, straightening a twisted septum. DeLazzari switched off and lit a cigar. There were no emergencies to be expected in the next ten minutes. He blinked idly at a small screen recording the flat encephalogram of a dead brain whose body was being maintained for Parts.

The Doctors had other customs that both annoyed and amused him by their irrationality. Tonight they had been quiet, but sometimes one of them, sectioning a bowel, might start a running blue streak of chatter like a Las Vegas comic, while another, probing the forebrain, would burst out in a mighty organ baritone, "Nearer My God To Thee." On the rare but inevitable occasions when an utterly irreparable patient died with finality, they acted as one to shut down the life systems and

retract their instruments; then stood for five minutes in a guardian circle of quietness, like the great slabs of Stonehenge, around the body before they would allow the sweeper to take it away.

The big external screen was still on, and DeLazzari looked down into the city, where a torchlight procession was pushing its flaming way up the avenue and the walls to either side wavered with unearthly shadows. He shut off and called Shop. He peered at the fax sheet on Max Vingo clipped to his notice board and typed: YOU GOT A CAUCASIAN TYPE NURSE APPROX FIVE-SEVEN FAIR HAIR QUIET VOICE NOT PUSHY MILD-TO-WARM AND FIRST RATE?

2482 BEST QUALITY CHECKED OUT LIGHT BROWN WE CAN MAKE IT FAIR HAIR.

LIGHT BROWN OK HEALING UNIT 35.

He yawned. Nothing more for the moment. He dialed supper, surveyed the sleeping alcove and bathroom, all his own, with satisfaction, checked the pill dispenser which allowed him two headache tablets on request, one sleeping pill at 11 p.m. and one laxative at 7:30 a.m., if required. He was perfectly content.

All nurses looked about twenty-five years old, unutterably competent but not intimidating unless some little-boy type needed a mother. 2482 was there when Max Vingo first opened his eyes and stirred weakly in his mummy wrappings.

"Hello," she said quietly.

He swallowed; his throat was still sore from the respirator. "I'm alive."

"You are, and we're glad to have you."

"This is a hospital."

"Yes, it is, and I'm your nurse, 2482."

He stared at her. "You're a — a mechanical — I've heard about you — you're a mechanical —"

"I'm a Robonurse," she said.

"Huh...it sounds like some kind of a tank."

"That's a joke, baby — God help us," said DeLazzari, and turned her dial up half a point.

She smiled. "I am not at all like a tank."

"No." He gave it a small interval of thought. "No, not at all."

It was the third day. DeLazzari never bothered to shave or wash on duty where he didn't see another human being; his face was covered with grey-flecked stubble. Outside he was vain, but here he never glanced into a mirror. The place

was quiet; no new patients had come in; no alarms had sounded; the walking wounded were walking by themselves. Beside 2482, there were only two other nurses on duty, one with a nephritis and another tending the body soon to be frozen for Parts. Still, he did have 2482 to control, and he watched with weary amusement as she warmed up under the turn of his dial.

"You are getting better already," she said, and touched his forehead, a nonmedical gesture, since the thermocouple already registered his temperature. Her fingers were as warm as his skin. "You need more rest. Sleep now." Narcotic opened into his bloodstream from an embedded tube, and he slept.

On the fifth day the people of the city rose up against their government, and it fell before them. Officers elected themselves; curfews were established; the torchlight parades and demonstrations stopped; occasionally a stray bomb exploded in a call box. Packs of dogs swarmed up the avenue, pausing to sniff at places where the blood had lain in puddles; sometimes they met a congregation of cats, and there were snarling, yelping skirmishes. DeLazzari watched them on his screen, devoutly thankful that he was not stationed in City Hospital. He filled City's request for blood, plasma and parts as far as regulations required and did not try to contact their control room.

At the Military Hospital the nephritis got up and walked out whole; the deadhead was cut up and frozen in Parts; an interesting new malaria mutation came in and was assigned a Doctor to himself in Isolation. 2482 peeled away the bandages from Max Vingo's head and hand.

He asked for a mirror, and when she held it before him, he examined the scars visible on his scalp and forehead and said, "I feel like I'm made up of spare parts." He lifted his hand and flexed it. "That's not so funny." The forefinger was his own now, but it had once belonged to a black man, and though most of the pigment had been chemically removed, it still had an odd bluish tinge. "I guess it's better than being without one."

"You will soon be your old handsome self."

"I bet you say that to all the formerly handsome guys."

"Of course. How would you otherwise get well?"

He laughed, and while she was wiping his face with a soft cloth, he said, "2482, haven't you ever had a name?"

"I have never needed one."

"I guess if I get really familiar, I can call you 2 for short."

"Ho boy, this is a humorist." DeLazzari checked the dial and indicator and left them steady on for the while. The malaria went into convulsions without notice, and he turned his attention elsewhere.

She rubbed his scalp with a cream to quicken the regrowth of hair.

"What does that do for a bald guy?"

"Nothing. His follicles no longer function."

He flexed his new finger again and rubbed the strange skin with the fingertips of his other hand. "I hope mine haven't died on me."

By day 7 DeLazzari was beginning to look like a debauched beachcomber. His hospital whites were grimy, and his mustache ragged. However, he kept a clean desk; his sweeper cleared away the cigar stubs and the ventilators cleaned the air. Two badly scarred cases of yaws came in from a tropical battleground, and two Doctors called for skin grafts and whetted their knives. In the city a curfew violator was shot and killed, and next morning the first of the new demonstrators appeared. One of the Doctors took the chance of visiting Max for the first time when he was awake.

The soldier was not dismayed; he answered questions readily enough, showed off his growing hair, and demonstrated his attempts to use the grafted finger, but he kept looking from the Doctor to 2482 and back in an unsettling way, and DeLazzari turned up the nurse's dial a point.

When the Doctor was gone she said, "Did he disturb you?"

"No." But his eyes were fixed on her. She took his hand. "Does that feel good?"

"Yes," he said. "That feels good." And he put his other hand on top of hers.

DeLazzari ate and slept and monitored the screens and supervised the duties of nurses and sweepers. Sometimes he wiped his oily face with a tissue and briefly considered rationing his cigars, which he had been smoking excessively because of boredom. Then three cases of cholera came in from the east; one was dead on arrival and immediately incinerated; the other two occupied him. But he still had time to watch the cure of Max Vingo and by turns of the dial nourish his relationship with 2482. He thought they were a pretty couple.

Max got unhooked from his I.V., ate solid food with a good appetite, and got up and walked stiffly on his

scarred legs, now freed of their bandages. His hair grew in, black as DeLazzari's but finer, and the marks on his skin were almost invisible. He played chess sometimes with 2482 and did not make any comments when she let him win. But there was an odd sadness about him, more than DeLazzari might have guessed from his Psych report. Although the ugliest of his memories had been burned away, the constellations of emotion attached to them had remained, and the Doctors would never be able to do anything about those during the short time he stayed in the Hospital.

So that often at night, even sometimes when he fell into a light doze, he had sourceless nightmares he could not describe; and when he flailed his arms in terrified frustration, 2482 took his hands and held them still in her own until he slept at peace.

DeLazzari watched the TV news, followed the courses of battles over the world and on Moonbase and Marsport, and made book with himself on where his next casualties would be coming from. Not from the planets, which had their own Hospitals, or from the usual Military Base establishments. His own Hospital (he liked to think of it as his own because he was so fond of its conveniences and so full of respect for its equipment) was one of the rare few that dealt with the unusual, the interesting and the hopeless. Down in the city the fire marchers were out, and the bombs were exploding again. He knew that soon once more the people of the city would rise up against their government, and it would fall before them, and he kept check of blood and parts and ordered repairs on old scuppered nurses.

Max Vingo dressed himself now and saw the scars fade on his newly exposed torso. Because he was so far away from it, he did not think of the battle he might be going into. It was when he had stood for a long time at the window looking out at the rain, at how much greener it made the grass, that 2482 said to him, "Max, is there something you are afraid of?"

"I don't know."

"Is it the fighting?"

"I don't even remember much of that."

"The doctors took those memories away from you."

"Hey!" DeLazzari growled, hand poised over the control. "Who said you could say a thing like that?"

"I don't mind that," Max said.

DeLazzari relaxed.

"Don't you even want to know why?"

"If you want to tell me."

"I am not sure...but I think it was because the Doctors knew you were a gentle and loving man, and they did not want for you to be changed."

He turned and faced her. "I am the same. But I'm still a man who has to dress up like a soldier — and I don't know when that will ever change. Maybe that's why I'm frightened."

DeLazzari wondered for a moment what it would be like to be sick and helpless and taken care of by a loving machine in the shape of a beautiful woman. Then he laughed his hoarse derisive crow and went back to work. He had never been sick.

On the eighteenth day, five poison cases came in from a bloodless coup in a banana republic; DeLazzari sent a dozen nurses with them into the shock room and watched every move. He was hot and itchy, red-eyed and out of cigars, and thinking he might as well have been in City Hospital. They were having their troubles there, and once again he sent out the supplies. By the time he had leisure for a good look at Max Vingo, 2482's dial was all the way up, and Max was cured and would be going out next day: day 21, his own discharge date. He listened to their conversation for a while and whistled through his teeth. "End of a beautiful friendship," he said.

That evening Max ate little and was listless and depessed. 2482 did not press him to eat or speak, nor did DeLazzari worry. The behavior pattern was normal for situation and temperament.

Max went to sleep early but woke about eleven and lay in the darkness without calling or crying out, only stared toward the ceiling; sometimes for a moment he had a fit of trembling.

2482 came into the room softly, without turning on the light. "Max, you are disturbed."

"How do you know?" he said in an expressionless voice.

"I watch your heartbeat and your brainwaves. Are you feeling ill?"

"No."

"Then what is the matter. Do you have terrible thoughts?"

"It's the thoughts I can't think that bother me, what's behind everything that got burned away. Maybe they shouldn't have done that; maybe they should have let me become another person; maybe if I knew, really knew, really knew what it was like to hurt and kill and be hurt and killed and live in filth for a lifetime and another lifetime,

ten times over, I'd get to laugh at it and like it and say it was the way to be, the only way to be and the way I should have been..."

"Oh, no, Max. No, Max. I don't believe so."

Suddenly he folded his arms over his face and burst out weeping, in ugly tearing sobs.

"Don't, Max." She sat down beside him and pulled his arms away. "No, Max. Please don't." She pulled apart the fastenings of her blouse and clasped his head between her tender, pulsing and unfleshly breasts.

DeLazzari grinned lasciviously and watched them on the infrared scanner, chin propped on his hand. "Lovely, lovely, lovely," he whispered. Then he preset 2482's dial to move down three points within the next two hours, popped his pill, and went to bed.

The alarm woke him at four. "Now what in hell is that?" He staggered groggily over to the console to find the source. He switched on lights. The red warning signal was on over 2482's dial. Neither the dial nor the indicator had moved from UP position. He turned on Max Vingo's screen. She had lain down on the bed beside him and he was sleeping peacefully in her arms. DeLazzari snarled. "Circuit failure." The emergency panel checked out red in her number. He dialed Shop.

REROUTE CONTROL ON 2482.

CONTROL REROUTED, the machine typed back.

WHY DID YOU NOT REROUTE ON AUTO WHEN FAILURE REGISTERED?

REGULATION STATES DIRECTOR AUTONOMOUS IN ALL ASPECTS NURSE-PATIENT RELATIONSHIP NOW ALSO INCLUDING ALTERNATE CIRCUITS.

WHY WAS I NOT TOLD THAT BEFORE?

THAT IS NEW REGULATION. WHY DO YOU NOT REQUEST LIST OF NEW REGULATIONS DAILY UPDATED AND READILY AVAILABLE AT ALL TIMES?

"At four in the morning?" DeLazzari punched off. He noted that the indicator was falling now, and on the screen he could see 2482 moving herself away from Max and smoothing the covers neatly over him.

DeLazzari woke early on the last day and checked out the cholera, the yaws, and the poison. The choleras were nearly well; one of the yaws needed further work; one of the poisons had died irrevocably: he sent it to Autopsy; another was being maintained in Shock; the rest recovering.

While he ate breakfast, he watched the news of battle and outrage; growing from his harshly uprooted childhood faith, a tendril of thought suggested that Satan was plunging poisoned knives in the sores of the world. "DeLazzari the Metaphysician!" He laughed. "Go on, you bastards, fight! I need the work." The city seemed to be doing his will, because it was as it had been.

Max Vingo was bathing himself, depilating his own face, dressing himself in a new uniform. A sweeper brought him breakfast. DeLazzari, recording his Director's Report, noted that he seemed calm and rested, and permitted himself a small glow of satisfaction at a good job nearly finished.

When the breakfast tray was removed, Max Vingo stood up and looked around the room as if there was something he might take with him, but he had no possessions. 2482 came in and stood by the door.

"I was waiting for you," he said.

"I have been occupied."

"I understand. It's time to go, I guess."

"Good luck."

"I've had that already." He picked up his cap and looked at it. "2482 — Nurse, may I kiss you?"

DeLazzari gave her the last downturn of the dial.

She stared at him and said firmly, "I am a machine, sir. You would not want to kiss a machine." She opened the top of her blouse, placed her hands on her chest at the base of her neck and pulled them apart; her skin opened like a seam. Inside she was the gold and silver gleam of a hundred metals threaded in loops, wound on spindles, flickering in minute gears and casings; her working were almost fearsomely beautiful, but she was not a woman.

"Gets 'em every time." DeLazzari yawned and waited for the hurt shock, the outrage, the film of hardness coming down over the eyes like a third eyelid.

Max Vingo stood looking at her in her frozen posture of display. His eyelids twitched once, then he smiled. "I would have been very pleased and grateful to kiss a machine," he said and touched her arm lightly. "Good-by, Nurse." He went out and down the hall toward his transportation cell.

DeLazzari's brows rose. "At least that's a change." 2482 was still standing there with her innards hanging out. "Close it up, woman. That's indecent." For a wild

moment he wondered if there might be an expression trapped behind her eyes, and shook his head. He called down Shop and sent her for postpatient diagnostic with special attention to control system.

He cleaned up for the new man. That is, he evened up the pile of tape reels and ate the last piece of candy. Then he filched an ID plate belonging to one of the poison cases, put everything on AUTO, went down a couple of floors and used the ID to get into Patients' Autobath. For this experience of hot lather, stinging spray, perfume and powder he had been saving himself like a virgin.

When he came out in half an hour, he was smooth, sweet-smelling and crisply clothed. As the door locked behind him, five Doctors rounded a corner and came down the corridor in single file. DeLazzari stood very still. Instead of passing him they turned with a soft whirr of their lucite casters and came near. He breathed faster. They formed a semicircle around him; they were featureless and silver, and smelt faintly of warm metal. He coughed.

"What do you want?"

They were silent.

"What do you want, hey? Why don't you say something?"

They came nearer. He shrank against the door, but there were more machines on the other side. side.

"Get away from me! I'm not one of your stinking zombies!"

The central Doctor extruded a sensor, a slender shining limb with a small bright bulb on the end. It was harmless; he had seen it used thousands of times from the control room, but he went rigid and broke out into a sweat. The bulb touched him very lightly on the forehead, lingered a moment, and retracted. The Doctors, having been answered whatever question they had asked themselves, backed away, resumed their file formation, and went on down the hall. DeLazzari burst into hoarse laughter and scrubbed with his balled fist at the place where the thing had touched. He choked on his own spit, sobered after a minute, and walked away very quickly in the opposite direction, even though it was a long way around to where he wanted to go. Much later he realized that they had simply been curious and perplexed in the presence of an unfamiliar heartbeat.

He went out in the same helicopter as Max Vingo, though the soldier in his sterile perimeter did not know that. In the Control Room the new Director, setting out his toothcleaner, depilatory and changes of underwear, watched them on the monitor. Two incoming helicopters passed them

on the way; the city teemed with fires and shouting, and the children kicked at the slow-moving cars. In the operating theater the silver Doctors moved forward under the lights, among the machines, and stood motionless around the narrow tables.

The human race was sliding toward extinction, and its future was in the hands of one man, one woman and a hairy, half-savage alien race.

Like Phoenix From The Ashes Newly Rise

by PHYLLIS MACLENNAN

Manuel da Silva sat on his front porch and waited for the children, as he did every afternoon. It was the best part of his day, the time he took from the grueling routine of tests and lab work to remind himself that the drudgery had a purpose, vital to his race, emotionally essential to himself.

They would come. They always did. On all their world there was no other place like this clearing the Earth team had made when they dropped from the sky.

When they overflew this unnamed planet, one more in a long series of uncharted worlds touched down on and discarded, the pilot, long since discouraged, had not wanted to set down on it. All the land surface seemed to be either swamp or jungle, a Pleistocene morass in which the ship would surely sink; but da Silva had the authority on such decisions, and he had spotted signs of life.

"You *must* land!" he commanded; and, grumbling, the pilot lowered the QUEST LXVII to sear off the vegetation with the boosters and bake the underlying clay to concrete. They had set down at one end of the plaza thus created, and at the other they had erected the plastic dome that would shelter them during their stay here. Da Silva had his own method of maintaining his morale, and he immediately started to build a porch in front of the dome where he could sit in the evenings and pretend this was a home.

He was working on this when the children came. Shyly at first, then bolder as curiosity overcame their fear of him (remarkably quickly, he thought), they peered from the wall of jungle until they dared to hop across the clearing on legs unused to running, propping themselves on long arms blurred by the soft down of immaturity to

watch what he was doing. He had thought them grotesque, then, and the first adult he had seen had truly frightened him: a huge, hairy male beast; red eyes and fangs embedded in a mask of smeared umber plastic; for a nose, a strip of leathery skin that funneled itself to catch the smell of him, then flattened and quivered with its breathing.

He was glad that he had been alone when it appeared, for the pilot would probably have shot it on sight. It showed up a day or two after the children had discovered him, emerging from the brush to stand (unsteadily, thank God!) and roar a challenge. He would have been more frightened than he was if he had not noticed that it was not used to walking on solid ground. The flat, hard surface under its feet obviously disconcerted it, and, armed with the reassurance that he could outrun it easily, he stood his ground, feigning calm as it lurched toward him. It stopped a few paces away and studied him; for reasons of its own decided he was no threat, and melted back into the thicket. Soon after, the children came again, and with them a few young adults not nearly as horrendous in appearance as the great bull male. Now, a month later, they were "friends." The same young female always came to supervise the littler ones, and he had learned her name and been able to teach her a few words of his own speech. He had so far won her confidence that she allowed him to scrape cell samples from her charges and herself, and even to anesthetize her for a complete examination. He sat now patiently waiting until he heard them singing in the trees and rose to greet them.

"See!" he called as they burst upon him, chattering and yelping. He had made a ball for them from carefully wound strips of brilliantly colored plastic, and after their guardian, Rho, had inspected it and nodded her permission, he gave it to them. They were delighted with it. They had never seen such an object. They handled it with eager curiosity, they sniffed and even tasted it, fought over it and tried to snatch it from each other until the good-humored tussling spontaneously evolved into a game. He sat on the steps and watched them. Their sense of fun and their pleasure in the toy he had made for them made his heart go out to them. He loved them, and forgot they were the shaggy savage whelps of an alien race, on a planet further from his own than he could understand. He saw only children playing, and the scene was one that Earth might never know again.

It had been ten years since the birth of a human child.

How jubilantly the solution to the population explosion had been welcomed a hundred years before! Every female in the world was given a permanent contraceptive treatment at the onset of puberty. Not one was missed, since the treatments were given through the schools, and compulsory education was world-wide. When a woman decided to have a child, she applied for a fertility shot; and the women of the first generation had had no trouble conceiving their allotted two offspring when they wanted them. The birth rate had stabilized as planned. The Brave New World with no more people than there was food and space and air for was in sight. The second generation showed no ill effects, but with the third, the birth rate began to drop significantly. With the fourth, it dropped alarmingly. The fertility shots proved ineffective in far too many cases, and now, with da Silva's generation, the reason had become known: the permanent contraceptive had proved only too permanent. A cumulative effect passed from mother to unborn daughter. The women of Earth were sterile.

The QUEST LXVII was one of nearly three hundred ships sent out in a desperate effort to search the galaxy for females who could bear men's children, and as da Silva sat on the steps of the makeshift laboratory-dwelling, he buried for this pleasant moment the nagging fear that only his own hope made the happy, ugly babies seem so human. They *were* human, he insisted to himself. He was sure they were biologically compatible with his own kind, and convinced that they could interbreed, as a Doberman could with a Pomeranian, or a Neanderthal with a Cro-Magnon. The tests indicated it, soon would definitively confirm it.

Footsteps sounded on the porch behind him. He didn't look around; he knew only too well who it was.

"Don't tell me you're making toys for them now! How sweet! How loving! How...*fatherly!*"

The high, mocking voice burned like cold acid on his skin, and he winced to remember that there had been a time when he had considered himself lucky to have a woman — *this* woman — as his pilot. She was small, lovely to look at, clever; she had been a good companion and good in bed; but in the last month, since shortly after their landing here, she had turned into a twenty-four-carat bitch.

"Knock it off, Brangwyn," he said tiredly.

"Why? Afraid I'll keep you from making time with Rho?"

At the sound of her name, the children's guardian flicked her attention briefly to the couple on the steps. Her deep-set eyes seemed

to examine the Earthwoman's fragile beauty, judge it, and find it wanting. She resumed her watch, animal-patient.

"I swear she's sneering at me," Brangwyn said sulkily, sitting down beside da Silva. "You're getting awfully fond of your favorite experimental subject lately, aren't you? Or have you lost so much of your scientific detachment you don't think of her as that any more? Ah, the bliss of developing intimacy! The language lessons! The tests! The daily visits! ...Why doesn't she ever take those damned little gorillas somewhere else to play?"

"Will you for Christ's sake *get lost!*" he exploded. "Go check your engines! Take a walk in the woods and get eaten by tigers! Do anything you want, only get off my back! I can't take much more of this crap from you!"

"I'm sorry," she whined, mood quicksilver-shifting, now overflowing with self-pity. "I try not to be hateful, but I can't help it! I can't *stand* this place! It's just enough like Earth, only all twisted, to be like something you see in a nightmare. It makes me *sick!* The sky's the wrong color; how can a sky be green? And the jungle looks like something diseased, all swollen and fungus-infested and those vines like snakes crawling over it, and the noises are hideous. I lie awake all night listening to things killing each other.... And it *smells* bad, the air reeks of things that died a month ago.... And those ghastly natives, those disgusting, hairy beasts — how can you be so chummy with them? You treat them as if they were *people* — and you're a lot more interested in them than you are in me! I don't like it here! I want to go home!" Her voice broke in a strangled wail of misery.

He forced himself to answer patiently.

"It won't be long now. In another day or two the tests will be finished. If the results are positive, all we have to do is inseminate the selected females. After that I guess we could take off, if you really feel that strongly about staying here. We can go back to Earth and report, and I can get another pilot to come back with me to check the results."

She stared at him, shocked and incredulous.

"You're really weird! 'Inseminate the selected females and check the results,' cool as cool! Just another experiment. You've been doing all this stuff as if it were a lab exercise, as if it doesn't really matter how it turns out as long as it does turn out. *What* the results are counts! Suppose the tests are positive. Is that all you care about? Haven't you ever thought about what the offspring might be like?

Doesn't it scare you? Imagine them: I do. Furry little monsters, too human to be apes, too ape-like to be human! Could you really accept a child like that? As your own child?"

She had touched a nerve, and he lost his temper.

"God damn you, *yes!* — if it's the only child I can have!" He glared at her, crimson with anger. "I want to have children, not only to keep the race alive, but for myself as well! Do you think men don't want to be fathers? I want a family, with babies that are part of me — something of myself to go on living when I die! Can't you understand that? I'll tell you something: if one of these gorillas could bear my child, I'd take her back to Earth and live with her as my wife, and I'd be proud!"

"Wouldn't you, just!" she shouted back. "And you wouldn't give a damn how your own women felt about it! You'd feel like a real man then, wouldn't you, with the evidence of your virility displayed for all the world to see! You'd have an answer for *me?* You think I never wanted to have a child? You think I didn't try? My rear end looks like a pincushion; there isn't a square centimeter of it that hasn't been punched with so many fertility shots, I've slept on my stomach for years! If I'd had a baby with two heads, I'd have raised it and been happy — but what do you care about that? Sure, you'd be proud if you could get one of those stinking aborigines pregnant! That would prove your manhood, wouldn't it? And you throw it in my face that I can't bear your child, I can't be a real woman! *That* proves you're a man, all right!"

"You're talking like a fool! If we can't find a way out, the human race will die, and this is the only road that's left! Can't you get that through your head? Or would you rather have *Homo sapiens* become extinct because you don't like the idea that Rho can do something you can't do? Your attitude is a hell of a lot more selfish than mine. I don't give a damn how you feel about it; I've got a job to do, and I'm going to do it. You'll just have to accept that!"

They were standing now, defying each other. Her fingers curled as if she wanted to scratch his eyes out, but her rebellion was quenched by the iciness of his determination.

All right, I have to accept it," she snarled. "But I don't have to pretend I like it. I hate it! And I won't pretend I don't, and you've convinced me. Don't ask me to help you, either. The job is all yours, and when the time comes to inseminate them, you can do it by yourself — any way you like!"

The fight had gone far enough, da Silva thought. They still had to live together, now and on the long trip home. Clumsily, he tried to mollify her.

"Don't talk like that, please," he begged. He reached for her and pulled her reluctant body close. "Try not to think about it. I know it's hard for you, but it'll be over soon. And I do care about you, you know that."

He tried to kiss her, but she pulled stubbornly away.

"Don't say any more," she warned. "You can't make it better. You only make it worse."

That night they made love, but it wasn't very good, and later, in her sleep, Brangwyn cried.

Two days later da Silva laid the last of the computer print-outs on the lab table. He half turned to the corner where Brangwyn sat dispiritedly weaving a straw mat, then looked away.

"The tests are positive."

He said it quietly, as if he wished her not to hear. She dropped her ill-made work and came to stand beside him, staring empty-eyed at the computer symbols as if they held her death warrant.

"So Rho and I are biochemical equals. Sisters under the pelt...You look as excited as a wooden Indian. Aren't you pleased?"

"...Pleased? I don't know. I can't feel anything." He did indeed look numb, as though his face were stiff with Novocaine. "All I'm certain of is that I'm scared."

"By your momentous achievement? 'What hath God wrought,' and all that sort of thing? Meet Manuel da Silva, Saviour of the Human Race." She dropped her feeble attempt at lightness. "Manuel, this is a terrible thing! Don't do it! Please don't go through with it! Please don't!"

She seized his shoulders, pulled him to face her, imploring. He shook his head.

"I have no choice. I must do it."

"You don't have to! You don't! Why should you assume such a burden; why should you take sole responsibility for a decision like this? What if we are genetic twins to these monsters? Maybe our chromosomes are compatible, but those creatures aren't like us, they never can be! *Look* at them, for God's sake! They're *animals*, they talk in grunts, they haven't even invented the wheel! Crossing our seed with theirs won't preserve humanity; it'll create a breed of inferior hybrids. Suppose one of those females does have a baby that's half human? What'll happen to it? It'll be too different from the rest, the males will kill it, you know they will. And if you take it back to Earth, what'll happen to it there?

It'll be a freak, an outcast, miserable all its life. You can't take the burden of bringing it into the world, you don't have the right!"

He was unmoved; unmovable.

"If I succeed, and there are viable offspring, no man on Earth would think of them as freaks. If there are fertile females, they can be bred up. If the human genes are dominant, in a few generations they'll look exactly like us."

"If...if...if! As long as you're talking in ifs, how do you know one of the other teams hasn't found a race more compatible with ours than this? Maybe someone else has found people exactly like us. How do you know? Why don't you go back to Earth and find out before you go ahead with this?"

"There isn't *time!* We daren't wait that long. Suppose no one has found anything? You know the odds against us, I've told you often enough, every time we landed on a new world and found no life at all, or nothing even remotely humanoid. Dammit, Brangwyn, stop thinking with your glands! *Our time is running out!*"

She stood helplessly silent for a moment, rigid with resentment, and her expression hardened.

"As you command, Oh Father of the World!" She made a mocking obeisance. "Shall I summon a candidate for you? Which of the maidens to sacrifice?"

He studied his records, ignoring the goad.

"Four of these are ovulating, or will be within the next two days...I'll start with Rho."

"Of course. I needn't have asked. She's practically a member of the family already. You taught her to speak a few words, she taught me to weave mats — now we can really get chummy. Do I get to be its godmother?"

She had chosen the wrong time for flippancy. His nerves were too taut to suffer it; his anger blazed, only barely held in check.

"Go get her. Now! If you don't get out of my sight —!"

"Daddy spank?" she taunted. His eyes spoke murder, and she fled.

She came back half an hour later, in no more co-operative mood. Rho followed like a dog at heel. Mutinously silent, Brangwyn stepped aside, and da Silva approached the native female, holding the hypospray so she could see it.

"You go to sleep. We make tests like before."

She nodded, trusting, and held out her arm for the injection. He caught her as she slumped unconscious.

"Brangwyn — help me put her on the bed.!"

"The hell I will. Not in *my* bed."

"It's mine, too —" he began, but a glance at her disposed of argument. "All right, get me a pillow, then."

"What for? She'll never know the difference...you needn't look at me like that. I told you I wouldn't help."

"Do you have to make it harder?"

"I'd like to make it impossible, but I'll control myself."

He went to the deepfreeze that stood by itself, umbilically attached to its own separate generator; he lifted out the upper tray, opened it with reverence, and looked inside.

The precious vials of semen were cloudy, discolored. Under the microscope, the sperm was dead.

All of them were dead.

One of the leads to the generator was loose. The line to the telltale signals had no current. The freezer was still cold, but not cold enough.

There was no need for words to tell Brangwyn what had happened. His whole body told her. He sagged, defeated.

"No good?" The sympathy in her voice rang false; it overlaid a hint of triumph.

"Did you do this?"

His face was like thunder.

"I didn't! I swear I didn't! You know I wouldn't!"

"I wouldn't put it past you. But it won't work. Nothing's going to stop me. I'll do what I set out to do, and not you nor anything else is going to get in my way!"

She was stunned, appalled by the sudden, certain knowledge of what he planned to do.

"Manuel! You can't! Not my child! *You can't give her my child!*"

She uttered a sound half-scream, half-snarl. A Fury unleashed, she snatched a scalpel from the lab table and flung herself upon him. Mayhem or murder, she would not submit.

He beat her off in frenzy as determined as her own, wrestled her down and fought her to the door. He wrenched it open and forced her through, then slammed and bolted it behind her. She battered at it, shrieking. He heard her footsteps pound across the porch. Then there was silence.

He stumbled to a chair and collapsed into it, shuddering, sweating, shaking like an old, old man. He leaned his head in his hands, bracing himself for what he had to do. The rumble of the spaceship's boosters roused him. The whole world trembled in warning of disaster. He fumbled the door open, raced outside, guts twisted with shock and disbelief.

But it was true.

Beyond the trees the spaceship lifted, hovered a moment winking in the sun, and then was gone. He stared at the place where it had

been, too numb with shock to feel the pain as yet.

"She'll be back."

He took a deep breath, swallowed the bile that had risen in his throat, straightened his shoulders.

"She *will* be back. She *will.*"

...But she might not or she might be too late. Could he survive here alone? For how long? He thrust those questions aside to be answered later. They didn't matter. There was something of himself that he could leave behind, that would survive whatever happened. He turned and faced the shack and stared at it. It seemed to grow before his eyes, it was enormous, filled with portents.

"My child!" he thought. *"My son!"* and started toward it.

Hurtling into space, the nameless planet dwindling behind her, Brangwyn fought for self-control. Her eyes and nose and throat were swollen from crying. Only the automatism of long practice had made it possible for her to get the ship off the ground, and as she reached for the switch to turn the scanner on, the impact of what she had just done struck home to her. Her primary responsibility as a pilot was for the safety of her passenger, and she had abandoned him. She could never justify that on Earth; the shock of realizing that she had done it showed her that she could never justify it to herself. She would have to go back, ashamed as she was to face da Silva, dreading as she did the prospect of the long trip home with his presence a constant reminder of her guilt. But it had to be done. She had no alternative. She glanced at the scanner screen to orient herself.

It was blank. All the stars had died.

Panic engulfed her; she crushed her fist against her mouth to keep from screaming.

She was *alone.* Sunlight and love and laughter had vanished with the friendly points of light that led her home. The universe was void, there were no people anywhere...

And all at once she understood what Manuel had tried to tell her. She knew it in her own way, not in his. His arguments were only words; this was a thing she felt. Her own reaction to his project had frightened and confused her; now she realized why she had fought it so, as well as why he had been so determined to keep on in spite of her objections. There had to be life. There *had* to be! Insofar as she had any religious convictions at all, that was the core of her belief. The repulsive creatures she had fled from knew suffering and joy and love, they were *alive.* She longed to be part of life, to share it with

others, and she couldn't. No woman of her race could. And she knew — in a burst of illumination, she *knew*...that if she could have a child by one of those shaggy semianimals, and in no other way...she would have done it. In the innermost heart of herself she had known that from the beginning, and that was why she hated them.

She sat rigid, seeing the interior of the ship around her with a sharp cold clarity she suspected would never leave her now. She had in this brief revelation encountered and accepted her loss. She had to live with it, and in the meantime, she had a job to do.

She collected herself and performed the standard emergency procedures. A backup relay clicked; the scanner lit; the stars were born again.

She swung the ship around, set her co-ordinates, and went to find her passenger and take him home. She was the agent still of life.

A new story from one of sf's most versatile talents. Convention goers know Lester del Rey as a forceful and intelligent speaker (and a toastmaster *par excellence*). Readers will know him for his criticism and seminal fiction, most recently PSTALMATE (Putnam).

The Dawn Rider

by LESTER DEL REY

Ho, in those days the blood ran in my veins like wine from the red grapes of Archos! True, there were dark rumors of a new leader stirring up the Pictish clans, but I sensed no fear in the whinnied gossip of the stable palace. I was a young man then, a free man since a year before when we had defeated the last warship of the Moon cult. And now I was to ride the lead chariot behind the chief of the P'gasoi, the winged horses, in the spring Dawn Dance to the Sun god of sunken At'lhante.

It was still dark when I kicked aside my sleeping furs, but the dying fire in the hut showed my first-born son cradled near his sleeping mother. She was only a slave, one of the Keltish women captured for us men, but my Belofanes was pure Archosian in countenance. I saluted him silently and went out into the night.

It was a cold land, this fog-bound island so far from my birthplace, and the breath of Boryas sent shivers over my naked body. But there was light and warmth within the stable palace. Slaves from Archos who had been my fellows were already at work, currying and preening the P'gasoi and readying the great chariots for the Dawn Dance. At the stall of G'rogan all was ready for me.

He stood backed between the shafts of the chariot on which the green jewel was shining faintly. His mighty wings lifted now, majestically, as became the leader of the P'gasoi, to let a slave fix the shaft cinches about his horse body. One eye rolled toward me, and his lips parted in a flash of teeth as he threatened to savage me. Then he nickered his approval as I stood unflinching.

"You are almost late, Koureos," he whispered. The P'gasoi knew the speech of Archos, but

their throats could not give full voice to our sounds.

I knew that I was within the appointed time, but I gave no arguments. No sane man — not even one honored by freedom — would risk disputing the masters. I anointed myself with the yellow oil and donned cape and helmet hastily. Then I buckled on the belt with the blue jewel of power and was ready.

I climbed into the winged chariot while the strap was placed over G'rogan's nose and the lines from his mouth were handed to me. In flight, I could not hear his commands, but must sense them through the thin strands I held in my right hand. In my left I took the long sword which began tingling faintly as I woke the jewel I wore to first power.

Slaves rushed to open the heavy doors, ducking aside to avoid the reprimand of hooves or teeth that might come. G'rogan lifted his head and whinnied his command to his fellows.

The skids of the chariots rasped faintly as they broke into a run through the door. We went across the meadow, leaving skid marks on the frost there. Then the ground sloped down and the green jewels blazed out. The P'gasoi lifted and we were airborne, turning westward in a wild gallop a hundred feet above the earth. All twenty of the other P'gasoi thundered behind G'rogan's lead chariot.

Any sudden move now which I did not sense through the lines could throw me to my death below, but twenty years of practice served me well. I rode upright easily, laughing into the strong breath of Boryas.

It was now a full two decades since I was ten, a lad of the rural Eutabes tribe in Archos. That was the summer the Earth-Mother Rehas heaved in agony, razing our homes and sending us in panic to the city. We could not know it, but the Moon cult warred with the Sun followers in At'lhante, and the quakes we felt were from the sinking of that great island.

We had come as beggars before the gates of Archos city when the winged horses dropped on the city from the sky. Only three Sun priests survived to ride among the chariots, but the lightning from their swords made rubble of Archos, until the king gave the priests a choice of any from among us to be slaves. Mostly they took boys of my age and a few stout elder workers, skilled in metal or other trades.

I remember little of that terrible flight to the north and west, nor of the long struggle to clear the land and build a community, despite the depredations sent against us by the Pictish clans. I was assigned by the

priests to the P'gasoi, to be trained to ride and to draw lightning from the jewel to my sword. I had time for nothing else. Ho, but I learned well! Of all the slave boys, it was I whom G'rogan selected for his chariot. And when the P'gasoi stole upon the three priests and the elders to slay them, I led the slaves loyal to the P'gasoi masters. I was barely sixteen, but I was permitted then to take a name as a reward. I chose that of Koureos, the Dawn Rider.

Now my mind snapped back from its memories as the chariots swept down over the low cliffs and raced along the beach. Ahead lay the site of the Dance.

I groaned to myself as I saw it. Aye, I admit it. Even G'rogan slowed as he saw the twisted group of menhirs ahead.

Early in our captivity, we slaves had carved the huge stones roughly with our sword lightnings, under the direction of the priests. We had carried them far in our chariots, to drop them on the sand in a circular pattern. Some we even capped before the winter storms came. In the spring, however, we found that the frosts had heaved them from their order. But the priests were satisfied. They intended our first building only as practice, before we lifted the stones again and moved them inland, to the final location of the Sun temple. But the P'gasoi argued against it, caring little enough for such labors. It was this argument which was settled by the slaying of the priests.

Now the stones remained where they had first been placed, shifting more with each winter, until some left little room for chariots between them. After this last severe winter, their disorder seemed complete; in some places, less than the width of a chariot lay between them.

G'rogan's head turned and one eye regarded me, as if daring me to cry off. Nay, but I was no craven then. I stood firm, and he lifted his head to scream out the call for the Dance. Our chariot leaped ahead, through the entrance and under what should have been the first and largest capstone. The reins flicked in my hand, and I braced myself as the chariot twisted and leaped, threading through the ways between the stones, over and under, left and right, until the menhirs were a blur to my eyes.

Then ahead lay the narrow opening, too late to give avoidance. Now I was on my own, forced to judge from my skill what means to use. The underwings of the chariot swept forward, squarely toward a stone on each side. We were going fast, fast! No bird has ever flown with such speed.

The great jewel on the chariot blazed with green light, and the

wind cut my face like a knife. I cried aloud, and the blood sang wildly in my veins. Then I took the reins in my teeth and sprang over the rail to land on the right wingskid. It dipped and the chariot canted, just as the passage narrowed. We skimmed through, barely clearing on each side, and I could pull myself back to balance the chariot through another snaking turn.

We came out from the last passage, up and over where the capstone should be, to race above the sands and back toward the other waiting chariots, G'rogan screaming his challenge as he galloped. There was full approval in the look he threw back at me, and the beat of his wings was a thunder of triumph. My breath came fast, but my blood was hot to try the pass again. Ho, this was living! I saw the Sun just rising, his rays streaming across the redness of the Dawn, and I knew the time was right. This would be a Dawn Dance to be told in the huts and the stable palace for many a moon.

The pack hung back, however. I saw white faces on the slave drivers of the other chariots. My spirit was sick with disgust for my kind until I noticed that the other P'gasoi were little more anxious to try the Dance than were the riders. G'rogan reared upright, screaming and beating his wings as he neared them,and I opened my mouth to bellow orders to the slaves.

Then the sky broke apart, and something like a smaller and hotter Sun dashed over us and beyond the cliff. There was a clap of a thousand blows of the Thunderer. The beach danced and boulders fell in shards, while I felt my chariot leap like a flea thrust into the fire. In the great roar of sound, I could not hear myself, but I knew I was screaming. Somehow, I clung to the rail and kept from losing my sword.

When I felt the chariot quiet and found the reins I had dropped, all seemed normal except for a great cloud of dark dust beyond the cliff. G'rogan had been separated from the others and was beating upwards, with a ragged patch where feathers had been blown from one wingtip. He sensed my return to control and swung inland, barely giving me time to move against the force of his turn.

The center of the rising cloud was perhaps ten miles away. But we had covered less than half that when a message through the reins made me look down as G'rogan slowed.

The country here was uneven, rutted with small valleys. In one of them a large Pictish assembly was camped. Their rude tents spread across most of the area I could see by the faint light of Dawn. Men were shouting there and beginning

to run as they pointed toward our chariot. Others lay still, as if killed or stunned by the shock that had split the sky and shaken the ground.

Then I saw a high tower in the center of the camp, built of logs and laced cunningly together. There was a glint of copper at its top, and a thin wand on some kind of pivot pointed toward the far horizon. As I stared, a man in a peaked hat and blue robe darted from the tower and began running toward a stony outcropping.

The order for the attack came down the reins, and we were twisting and dropping. The blue jewel on my belt came to life as I lifted the sword and pointed. Lightning darted from the point, crackling as it hit and split the rocks. But the man had somehow made his escape. There must have been a cave there, since I could see no sign of him.

G'rogan veered abruptly. My sword spat death toward all who lay below us. The bodies leaped and screamed, and I cried with the power that ran through me. Aye, I cried and sang, as a man should when he feels himself the master of death. The Picts were like ants who scurry before the trampling of a man's sandal.

The tower lay below me, and I summoned the full power of the jewel on my belt and pointed the tip of my sword toward the structure. Steam ripped from the logs as the tower burst into splinters. When I could see the ground again, the last of the Picts had vanished.

Now the other P'gasoi had joined us. I expected to hunt the Picts who had fled, but G'rogan neighed and headed for our home, spurning his fellows behind him and swinging far inland away from the center of the now-settling dust cloud. We hit the home meadow beyond the stable palace with a screech of skids and slewed through the doorway before the slaves had it fully open. Other slaves ran to free him while I stored away my belt and sword and changed into a robe. I was beside his manger, feeding him, when the other P'gasoi entered with nervous whickerings. He silenced them with a snort.

"I deal with no weaklings, even I must treat with no more than a man," he whispered in Archosian, loudly enough for them to hear. "Koureos, did you recognize the man who fled from the tower?"

I nodded, though I knew the others would later exact a price for the insult to them. Ah, but I had pride then. "Yes, master. It was one of the Moon priests we fought at the beach. He must have escaped our fire and fled to the Picts, to lead them against us."

With the passing of years the P'gasoi had believed that the

ancient feud between Sun and Moon was finished with the drowning of all the Moon priests in At'lhante. But it was not to be. Some had survived and saved one of the great K'himer, the dragon warships with the lion and goat heads at the bow. The gods alone know what effort must have been spent in recruiting a crew, training them, and finally locating us. But it came at last. It was crawling up the beach, beginning to spew forth its war engines, when we spotted it by chance from the air. Nine P'gasoi and chariots perished during the long day of battle before we blew it apart. It was then I won my freedom. We had thought all aboard were slain until G'rogan and I spotted the old man in the hat and robe of the Moon cult.

"A Moon priest," G'rogan agreed. The skin of his withers twitched, though it was too early for flies. "He called down a lump of stone from the sky to blast us. Such was their art. He must have meant it to land among us during the Dance, but his tower was faulty and it overshot. Now deal with me, man. How shall he be found?"

I knew what must be his intent. The other P'gasoi stirred at this fresh insult, but worry over vengeance from another day could not hold my tongue. Pride was like a lance, holding me straight and upright. "Send out the others to scour for him. And I will seek spies among the Pictish slaves."

He nodded approval, and I left, swift enough on my feet to avoid the kicks aimed at me as I darted behind the other stalls.

I chose from among the enslaved Picts only men with wives, knowing their curious fidelity to one woman for each man. These men I sent out to spy on the wild ones, offering freedom to leave to any who learned of the Moon priest; and to them, I promised the death of their mates by torture if they failed to return. Some refused to go until I threatened the lash, but all went. Many would be discovered and killed, perhaps, but that chance we had to take.

Throughout the day, G'rogan drove the P'gasoi out with their riders, to seek for the priest. And when they returned with drooping pinions, he lashed them to further trips in his whinnying speech. At midday, he took me up to search for deceitful slaves who might hole up safely, to return later with lying tales of their efforts. We found three and dealt with them —mercifully enough, since we had no time for proper torture. If there were others, they took heart from that example. But all our efforts came to nothing. As night fell, we had no further intelligence of the old priest.

That night, there was no Moon

— a good omen, but not favorable to searching. I brooded, knowing that morning might find me blamed for giving the advice, until I finally realized that I must go forth myself. But first I burned a bit of meat over a candle flame in the little model of the temple left by our slain priests. Again the signs were good; a puff of wind passed between the tiny dolmen openings, making the candle flame rise above the capstones.

I was young then and close in spirits to the gods. I had prayed to Boryas to find the priest, and my prayers were acceptable. Aye, I found the Moon worshiper, as the portents had indicated — and beyond that I had not prayed.

I followed one of the trails beyond our site until I came near the end of it and stopped to bethink the best way to the clan meeting places. The wind had been blowing freshly, but suddenly all was still as Boryas held his breath. And in the silence, I heard a slow and cautious step — and another.

I gathered myself and leaped. Ho, I was agile and sure then! I knew from the touch of the silken robe between my hands that I had the priest. And from that touch to the pinioning of him beneath me was but the sigh of a single breath. He struggled, but he was old; I held him easily until I could find a rock and pound it carefully against his head. Then I lifted him and carried him back the trail toward the stable palace.

I stopped once to search him. He was carrying a bag on a strap around his waist, well filled with devices of metal. I tore it from him and concealed it beneath a flat rock, not knowing what powers he could summon by such aid. After that, I shouted my triumph and tossed him through the door as a sleepy slave opened it to me.

All the P'gasoi woke quickly when they saw my prize, and now there were no looks of future vengeance for my pride. No doubts of the man's priesthood were left as I stripped and bound him; his skin revealed the tattooing laid upon him in the service of the Moon. I found water and threw it over him. He revived, to cry out in the harsh speech of the men of At'lhante, and the P'gasoi hurled their own anger back at him. Only G'rogan remained silent until he could whinny a clear question. The priest spat. And G'rogan nodded for me to have the honor of the questioning of the man.

I was never trained in the great art, but I knew the old stories told around the fires when I was young in Archos. Even those P'gasoi who had most resented my advice in the morning now began to whisper encouragement and praise as I went about the new business.

The old priest was brave enough for any man, even a warrior. Aye, he had no cause for shame, that one. I had to revive him three times before he began to answer the questions I put to him, and even then he never went beyond the least of answers. We learned little we had not guessed — that he had pulled the stone from the sky against us by his art and stirred the Picts to war, and that he had come this night to seek out traitors among us and destroy our power.

Then he collapsed and passed out again. I reached for the water bucket doubtfully, but it seemed pointless.

G'rogan snorted. "He is husked. Take his Moon smell away from us and guard him until morning. Then we shall sacrifice him to the Sun to appease the god of any wrath against us caused by the failure of the timid to finish the Dawn Dance."

I carried him to an empty hut and stuck a torch in the holder. But before I could finish trussing him, he opened his eyes. There were strengths in the old priest, greater than I had touched. His gaze locked to mine as if he would call out my spirit. Then his lips twisted into a bitter smile.

"I never thought to find a son of free Archos acting a slave to mere beasts," he said. His voice was thin and reedy, but his accent was good in the speech of my tribe. "Beasts who were shaped into what they are by men, at that. Or were you unaware that the Sun priests in their false pride created these beasts from normal mounts and augmented their intelligence by evil arts, as well as giving them wings by forbidden surgery? Why should any man serve lesser beasts?"

"They fly through the air like the sons of gods. Can any man do that?" I asked him.

"Can the beasts truly do so? Take away their chariots and you will see they cannot. No, my son. The art is the work of man, not of beasts. There are certain currents of power in the great ball of Earth which can be tapped by such crystals as the jewels on the chariots. Certain metals, such as iron, have forces which can control such released power — or can distort its control. The beasts only release the force of the jewels with their trained minds, as you can perhaps release the power in your sword jewel through the point of your sword. It is the chariot which flies through the air then, not the beast. He is upheld by the cinches between the shafts, since he has wings too small for his weight. Those wings only propel and guide him. The horses were no more than temple slaves. Would you become a slave to slave beasts, man of Archos?"

And now his taunting was too much and must be answered. I pulled the cords about his arms so tight that he gasped in pain. "I am no slave, priest. I am Koureos, a free man!"

"Ah." He still smiled and held my eyes. "Then you will be going back soon to your homeland, perhaps driving a beast as your steed on that great journey. That is good. Let K'rion, the humble priest of the Moon, congratulate you. And let me help you. I was in Archos about three years ago. If you are the tribe of Eutabes, as I judge, I can give you news of what you will find when you return in freedom and honor. Or are you truly free — can you go where you will, as a *free* man should?"

He was clever with words, and his eyes held mine strangely. Mistake me not, I was no fool. But K'rion was skilled at disputation, as must be one who explains the gods and mysteries to both adepts and skeptics. I had been long away from civilized discussion, and I had only such skills as a child learns by chance from his elders. We talked through the night. He told me of my people, perhaps with truth in his words of the proud things which had been donce since I was gone. And somehow he made me believe that I was now less than free and that no true man could serve as a minion of beasts. After I was convinced, he planned what must be done to break the bonds upon me.

At last I went to retrieve the amulets which I had hidden in the bag he had worn. I counted out the little hooked bits of dark iron and hung them inside my robe. Let no man call me traitor! I had fought against his wiles until he assured me that the amulets would do no harm to the P'gasoi when hung from the chariot jewels, but would only gentle the beasts to serve again as they had been trained to do in sunken At'lhante. Ho, and then I would know how to use them!

In the early morning, I carried him trussed back to the stable palace and dropped him into the body of my chariot. The P'gasoi were awake, but they paid me little heed, being busy with the morning mash that we made for them and which gave them everlasting youth. I wakened a slave and set him to greasing the skids of the chariots, seeming to inspect his work while I hung the amulets firmly above the jewels.

But I was still not wholly a trusting fool. I hung them from the left prong of each green jewel's mounting, not the center one he had instructed me to use. Give me credit for that. I would let no follower of the Moon lure me into defacing the central Sun symbol, to place us wholly in his power.

By then, the riders were coming in and changing. The slaves had finished currying the P'gasoi and were lifting the shafts and cinches. G'rogan looked sharply at the bound form of K'rion, then backed between the shafts and settled his broad belly over the cinches.

"We sacrifice at the Dawn in the place of stones," he whispered. "The Sun must be well honored by the death of the last Moon worshiper. Hasten, Koureos!"

I hastened my anointing and tossed on helmet and cape. But he was beginning to stamp impatiently when I grabbed the reins and took my sword from its place. The other chariots were manned and waiting for the signal.

G'rogan neighed, and the slaves rushed to the doors, throwing them apart for us. One fool was slow and felt a hoof in his back. Under me, I could hear the familiar resistance of the skids to the ground as we moved. Perhaps it was softer this morning. The green jewel in front of me had seemed cloudy at first, but it cleared as I began to worry. We broke into our run and were rushing across the meadow.

There was a turn near the end of our run. I reached back with my foot and thrust the form of K'rion away, as we had arranged. He rolled out and to the side, away from the chariots. There was no cry from behind. In the dim light that was still only a promise in the east, none had seen him fall from the chariot. Now he could free himself from the loose binding and be ready for our return. I should need his help in completing the training of the P'gasoi to my will after their first gentling in the air. Otherwise, it would have been poor sense to prevent the sacrifice.

We thundered over the frosty ground, gaining speed as the skids began to lift from the earth. The jewels were shining brightly now. G'rogan leaped and was airborne, with the other chariots rising rapidly behind us in the old, familiar pattern. The ground fell below us, and we turned and headed toward the beach and higher above the earth.

Then G'rogan screamed and reared, the rhythm of his wings breaking into a frantic fanning of the air. His neck was arched steeply, and he was staring at the ground below.

I looked over the side of the chariot once, then clutched at the rail with my right hand, dropping the reins. We had been in the air only a minute or so, but already we were far above the meadow. And the surface beneath us seemed lost in the distance. We were rising faster and faster, leaving the Earth like a stone shot from some mighty engine of war.

I cursed K'rion, and I cursed myself for having dared to trust the word of a priest of his blasphemous cult.

I found the straps that were fastened to the rail for training flights and did what I had never thought again to do. I buckled myself into that protective harness. Then I struggled to the rail again, forcing my arm over the front. I touched the jewel and the little iron thing that hung from it, to curse again while tears sprang into my eyes. It was hot as an ember from the middle of a fire.

But I mastered the pain. I forced both arms over the rail and struck at the amulet with my sword, striving to pry the thing loose. It seemed to grip against the mountings of the jewel by some clinging force of its own and would not be loosed. G'rogan's head was turned toward me in his contortions, and naked fury lanced through his eyes toward me. I forgot him and fought against the grip of the amulet, but without success.

Then the bouncing of the chariot shook me back, almost tearing the sword from my hands. I held onto it, but the chariot was pitching too savagely for me to return to the rail.

G'rogan was fighting. Ho, he was no coward, that one! His great wings had been beating in reverse, but without seeming to slow our ascent. Now he changed his efforts, to bend far forward in the grip of the cinches, canting himself until the thrust of his wings should be upward almost as much as forward. The muscles on his shoulders stood out in great knots, and I could hear the sobbing of his breath as his lungs fought for more air.

That slowed us slightly in our upward rush, though it added to the speed with which we were moving toward the sea. I had pulled myself to a kneeling position again, and now I could see how high we had come. Soon, it seemed, we must touch the bowl of the sky and be crushed against it. I could already see the cliffs ahead of us and the faint lights of the stable palace far behind. And as we rose, the horizon receded, showing the sea and the light growing stronger in the east.

There was a wild neighing near us. I twisted my head to see others of the P'gasoi above and behind us. And as I looked, one of them seemed to go wild, kicking and screaming in fury. His hooves beat back against the chariot again and again. With a last savage kick, he broke from the shafts, to shoot downward suddenly. The wrecked chariot rose quickly for half a man's breath. Then its jewel darkened and it began to fall after him, crashing into another chariot

and carrying all downward until the wreckage vanished from view, heading toward the rocky ground far below.

G'rogan's wings were slowing now. His lungs still labored, but the wings seemed to droop. And I could feel myself gasping for breath. The very air was being left behind, so far had we come!

Two of the P'gasoi went limp at once and began to fall as the jewels on their carriages darkened. Whether they were dead from their efforts or unconscious from the thinness of the air, I did not know. But now others were beginning to steep dive toward the waiting rocks below.

Suddenly the jewel on the chariot front before me flickered and then went dark. I jerked my gaze forward, expecting to see G'rogan limp in the shafts. His wings were quiet, but he was fiercely alive, his eyes fixed on me in a glare of hatred such as no man had ever seen. He knew my betrayal, and he had let the jewel grow dark to use all his energies in seeking vengeance on me. As I looked, his body heaved and slipped backward an inch in the cinches. His great wings were bent to lie along the shafts, bracing him, and he began working his way backwards until his hooves could find me. The wind whistled but he fought ever backwards.

It was only my training that moved within me; I had no thought of any action within my mind. But I lifted my sword toward him and sent the lightning crackling from it. Aye, I killed G'rogan. His wings went limp and shriveled; what was left of him slid from the burning cinches. And now the chariot was falling madly, tumbling and turning violently, while the wind threatened to tear me from it.

I screamed one prayer to Boryas. Then I felt a breath across my mind, and a great calm descended on me. Gods, how clear was my mind in that fierce moment. In one great thought, I recalled all my training to kindle the sword; every word of the Moon priest's tale of the great chariot jewels came back to me; and I dared to try what no rider had ever dreamed to attempt!

While the wind tore at me and threatened to break my straps, I pulled my way forward. I raised myself across the rail and my fingers found and tore off the now cold amulet. I pressed myself against the rail of the chariot and caught the jewel in my hands, forcing my thoughts against it, as I had been trained to kindle the sword jewel. And dimly, too dimly at first, it began to shine.

The rocks below were sharp and clear in the dimness before Dawn. They were still far away, but

growing rapidly nearer. And striking now and splitting against them was what had been the greatest of the mighty P'gasoi!

Then the jewel sprang to full life, blazing coldly in my hands. But the rocks were too close now. I felt the fall of the chariot slow, but too late. I heard the skids crash, felt the impact. The last Dawn Ride ended then in a sudden lance of pain and unconsciousness.

Oh, I survived. Aye, I alone of all that breathed lived through that great flight to the vault of the Sun and back again. I even learned in time to hobble about well enough when the weather was warm and there were things to be done. It was K'rion, so they told me, who found me, set my broken bones and had me carried here where men now live in the decaying palace of the P'gasoi. He meant it as kindness, and I took his intent.

I survived. But Koureos, the Dawn Rider, did not return. Or so I say.

Nay, it may not matter now. That was long ago when I was young and spring was a time to gladden the heart of a man. I have seen forty springs since then, each colder than the last. I have seen enough.

Even K'rion is gone now, though he lived to an ancient age. He made the truce with the tribes. He had me taken to cut and trim the stones on the beach with my sword. And when I could, he helped me lift them with the weakened power of the green jewel from my wrecked chariot. Now the ring of stones is built to completion near our settlement, with a suitable sacrifice under each dolmen stone and a dozen in the center, after the fashion of the Moon cult. It is a good thing, and I am sometimes carried there to pray to Boryas. I have left my mark as the double-ax sign of my clan on one of the stones. But will any see it to understand when I am gone?

It is a decade since my son Belofanes left. He grew wild among the young men here, and I had almost despaired of his obedience. But at last he went, with much gold from the P'gasoi horde, across the water in a boat that came to us from the north. I gave him a tablet written to the Eutabes clan with my secret name inscribed on it. He swore to have my name and deeds honored forever. But whether he reached Archos, or whether he honored his vow, I cannot know.

So listen well to me, you little men of this cold land, and remember Koureos, the Dawn Rider, to honor him in the tales you tell your grandsons around your fires at night.

Ho, in those days the blood ran in my veins like wine from the red grapes of Archos...

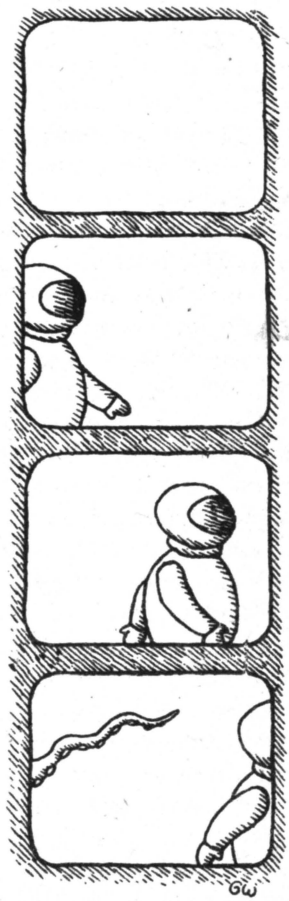
ZARDOZ

For once I did not spend some time trying to think of a clever subtitle for the column; in this case the title of the film is enough. I've been bitterly disappointed since "2001," because that film did not, despite its (eventual) success, set off the wave of intelligent science fiction films I had hoped it would. There have been some good ones since then, and, God knows, the *look* of sf films has improved no end, but only the hardware was imitated — not the conceptual daring that is the essence of good science fiction. Now we have, finally, a very different film that dares as much, demands as much from its audience, and will probably set as many teeth on edge.

Zardoz was written, produced and directed by John Boorman, probably best known for "Deliverance." He had captured my attention quite a way back with an odd little film called "Having a Wild Weekend," which was a serious speculative film disguised as a rock'n roll drive-inner (no mean feat in itself), and later intrigued me as the announced director of the film version of "The Lord of the Rings," a project he cared a great deal about but could not bring off for financial reasons.

BAIRD SEARLES

Films



"Zardoz" operates on so many levels that I don't quite know where to begin, but for the purposes of this column the obvious place is the science fictional. Almost all science fiction films, good or bad, have played it safe, dealing with concepts that a mass audience, untutored in the conventions of sf, could follow. "Zardoz" does not. Any synopsis of the plot will necessarily be lame, but to make my point, I must needs try. In the year 2293, the world is a wasteland occupied by the primitive remnants of humanity. They are ruled by neo-barbarian horsemen, who in turn are ruled by the god Zardoz, a gigantic flying stone head. Zardoz is the product of the Vortex, a static self-enclosed, Utopia, whose inhabitants are the remnants of the financial and intellectual elite. They have extraordinary powers; among them immortality (they are called Eternals) and achievement of a group consciousness. One of the neo-barbarians stows away in Zardoz and enters the Vortex; only later do we (and the Eternals) discover that he is a mutant, genetically superior to they themselves. The result is both predictable and surprising — that combination that makes for the best esthetic satisfaction.

Both the story and the style show enormous sophistication. Though at a pre-opening press conference Boorman denied having read much sf, there are overtones here of much of the best. I caught echoes (*not* imitations) of Wells, Weinbaum, Stapledon, van Vogt, Clarke, Asimov and Sturgeon. At one point, when the Eternals were gathered at dinner (as a stylistic note, the Vortex is anything but technocratic *moderne*; everything is sensuous and studiedly near-primitive), I felt in the presence of Odd John and his kin, very much as Stapledon's narrator felt the underflow of a whole communication system beyond his comprehension.

Stylistically the film is a knockout. I've already mentioned the design, which is far from the standard idea of futuristic. There are several superb visual sequences, from the simple image of the barbarian horsemen, in red lion-clothes and queues flying, welcoming the great airborne head, to a "trip" sequence which is the antithesis of the one in "2001"; here it is the interior of a crystal, the "Tabernacle" of the Eternals which rules their lives. (I told you it was complicated.)

I haven't the space to go into the philosophic overtones, the near-endless complexities of the plot, the many surprises in design and style that continue to titilate; and only barely room to praise the actors, particularly Sean Connery

as the hero-mutant, whose slick 007 image dissolves into a hairy Neanderthal with enormous intelligence lurking underneath. In all fairness, I must point out some flaws. At times the significance overcomes the narrative and the film seems pretentious. There are awkward lines here and there, and the Eternals tend toward overtheatrical gesture (the mood of the dinner sequence mentioned above was broken by this).

I *will* take the space to say that there is a delicious joke buried in the title which will probably be common knowledge by the time you read this, but was marvelous fun when revealed in the context of the film.

This is being written before the film opens; I have the feeling that if the film makes it, it will be an uphill battle (just as it was with "2001"). I saw it at a screening with what was supposedly a hip New York film audience — who acted like a bunch of juvenile deliquents. Standard behavior, I guess, for anyone confronted with that which they can't comprehend at all. One nationally known film critic left early, saying that he jutht didn't underthtand it. During a mildly amusing scene where the Eternals discuss the process of erection, this crowd of urban sophisticates was hee-hawing like 1910 yokels. I'd have hopes that at least those inculcated with the broader view that sf gives will greet the film as it deserves, but remembering the reception that "2001" got when *it* opened, I have doubts even there. By the time this sees print, the furor will be over. I really don't care much; I just want to see it again.

Robert Borski is a new writer, "born in 1950, grew up and spent most of my time in a place called Stevens Point, Wisconsin." This is his second sale; it is sort of an environmental impact statement for highway planners and a darned good story too.

Trolls

by ROBERT BORSKI

Grady said, "You watch out for trolls now. Hear?"

I nodded politely, slightly. "Sure, Grady, sure. You know me." Even so, I meant to get me one of those mothers. Maybe two.

"I'm not kidding, Harrison. You better be careful."

"Yeah, yeah. Okay already, I'll be careful. Just quit your bitching." Sometimes Grady gets like that, all stubborn in the head and authoritative. We have to humor him, then. Otherwise, he goes crazy. "I'm just going out for some fresh air. Be back in an hour or so."

I think he might have mumbled something into his beard, but I didn't hear him, because I was leaving, dispeeding. Out I went. The back door, across the lot, and into the garage. Heap was waiting for me.

(Now here's ten feet of jaguar steel with burnished chrome fenders and a hunched glass back, and it was all mine.)

I finished walking in. "Hello, old buddy," I says to Heap. "How you been and all?"

No answer, of course. Heap seldom answers. So right away I ask, "You ready for some troll hunting?"

Heap gives smile-grin up in grillwork. That means *yes* in car.

Okay, baby," I said climbing in, "let's go get 'em."

I turned the key, and Heap fired up from inside, lizard-gut burning acid. Eyes opened, and glare lights phased out hungrily. I found the wheel and massaged Heap's metal brain with the foot pedals. Smelled troll blood already, felt so good.

We were gonna get one, maybe

two. So I coaxed Heap out onto the street, tail end hot hot hot.

It was July. Good troll-hunting weather. Summer nights like these usually brought them out in droves (making up perhaps for those troll-less winters). I knew we had a good chance of catching one, although two would bring our average up.

Like all together now, I guess me and Heap had killed on up to thirty-six trolls. (That's no brag, either; only telling facts.) Match that against three years driving experience, and you get an average of one troll a month. Not bad, eh?

Course me and Heap were no wheres near establishing a record. Not when some Johnny down in Phoenix was putting them away six, seven a month. But we might make the ratings someday, and that was good enough for us KayCee folk.

Right, Heap?

Anyways, see, we were on concrete now, on the inroads of the Intercity. Snakebelly smooth as far as the eye could see, miles and miles of highway with only slapdash yellow signs marking the exits and entrances: old Intercity 16. It was our favorite road, and we were happy to be back on familiar territory.

Seems funny when you think about it, though. That back when Grady was my age —

Case I forgot to mention it, Grady's my stepfather on my brother's side. The guy who was always warning me to look out for trolls (he worried about me so).

— none of this was here. They had greens and scenes instead. Trunks with trees, and grass, rockribs and weeds.

I guess there was a lot of ecology-minded hicks around in those days.

But nowadays, in 1994, it's different. We're more into the concrete revolution. Cities have become our lifeblood, the roads our arteries. So now you can't escape them. They're ubiquitous. Everywhere you go, everyplace you see: concrete. In graystone blocks or flatbed lamina.

Just beautiful.

With all our food being produced synthetically or in hydroponic centers, what's the use of having countryside anyway? No use. That's why we got rid of it, got concretized. Made more sense, wouldn't you say?

And in a way, all this pavement was responsible for the surfacing of trolls. With their type of country — the picnic type — being slowly wiped out, they had nowhere else to go.

You could almost say they were like jack rabbits.

Back when God's country was underdeveloped and raw, there

were droves and droves of jack rabbits hunkering up and down the countryside. Yet very few people ever noticed them. But then when they started building transcontinental highways and expressways, these rabbits started getting pushed out of their own territory. They had to start crossing concrete to get anywhere, and that's when people started noticing them, when they were scurrying across the road or getting trammeled under the wheels, crunch crunch.

Well, trolls were sort of the same way.

They were limited in the places they could make the nature scene. A few oases here and there. A stretch of grass and weeds up near the riverside. But that's about all. And in every case, these places were surrounded with concrete.

(But now, you see, this doesn't mean anything unless you realize several things. Like the fact that trolls are masters of disguise. They look exactly like you or me or Joe Bob next door. Only thing is, they're hicks at heart. That's right, hicks. They miss the greenery and the growing things. The cutfresh smell of grass, the scratchquick scurry of leaves. That's why they ramble about so: they're looking for some place to flake out on. Someplace green, like oases or along the Missouri River. To get there, though, they have to park their cars nearby, and cut across the remaining concrete on foot. Which is illegal. Which is where me and Heap come in. We try and juice 'em before they can make it to where they're headed. Or if we miss them first time around, we try again when the trolls have to leave by the same way they came.

Troll hunting: that's how it's done and what it's all about. I hope you paid attention, friend.)

All right. We were on snakebelly smooth again, old Intercity 16. Everything was going fine. Heap was burning ass, my eyes were eaglesharp, on the lookout. Weather, too, was good. Up above, at least as far above as the upper limits of Heap's hunched glass back, the sky was clear, with fixated stars. Temperaturewise, the air was citywarm and muggy. All of which was great. There were bound to be trolls out tonight.

Heap squealed his wheels in anticipation, drawing my adrenalin to the surface. Another three to four miles and we would be in troll country. I started to watch the outer lanes for parked cars.

Last time me and Heap were out here, about three weeks ago, we bagged a starry-eyed grandma troll. She was walking along the road with a fistful of green when we came around the bend and juiced her. *Splot!* All over the road and half over the car. Took me two

weeks just to pick her out of Heap's grillwork.

But the satisfaction of it all. What can I say? Every time me and Heap wiped out a troll, my spine felt like it had been short-circuited, like electrocuted fudge. That, plus knowing we were probably gonna make the ratings someday made everything worth any trouble involved. And that included cleaning up/out Heap's grillwork.

So you really can't blame me for being the way I was. It was in my blood. Heap's too. We were born troll killers.

Which brings us back to tonight, and those old familiar riffs about how we were gonna get one, maybe two. Because now we were there, in troll country.

I slowed down, turning the infrared darksight system on. Heap was purring beneath me like a contented cyclotron. It was dangerous, driving this way, though, and so we kept our eyes pealed. Didn't want to run into a shadowload of parked car. In fact —

...hey, wait a minute, I thought I saw something...

Yes, there it was. Just what we were looking for. A parked car, up ahead to the left. That meant there was a troll somewheres around here. There were also no other cars in sight. Which meant the troll was ours. Good. Good.

All excited like, I felt my temples start to pound. I was breathing heavier too, like I was about to reach orgasm. My palms were sweaty. I doubt if I blinked once.

We cruised up the road a smooth forty-five, taking it easy. And then I saw him: the troll. He was running left to right, some seventy-five yards, all in a zigzag. Immediately, I unmasked Heap, hoping the lights would blind him. They didn't, though, I guess because our maneuver wasn't all that unexpected (this troll had obviously been around for a while). But he was a goner just the same. His car was to our rear, and the nearest embankment was a hundred yards past the perpendicular line running up from his shoulder blades, and he certainly wasn't about to turn back now. In fact, his only chance was to face us head on and try to dodge us like a matador would a bull. Which wasn't going to be easy, because me and Heap were experts at this sort of thing, having done it countless times before and never having lost one yet. We were also closer now, I could see him dancing in the light. But what was that in his hand? Flowers? And why did he suddenly look so familiar as he feigned right, but instead went left, which —

I heard the muted thud of impact.

— is where we hit him.

Several things happened at once then. Out of the corners of my eyes, I saw the troll's shattered body bounce silently down the road, like something out of a speeded-up soundless movie, all bloodied and broken, while up in my head, in my mind's eye, I was replaying the last few seconds before impact.

Backwards from ten yards: there was that funny little troll running with short, tired strides, his arms swinging back-forth, his beard lightning yellow in the lights. There was Heap and me closing in on him, relentlessly, doggingly, like some archfiend out of the pulp tradition (me and Heap were weaned on Captain Whizzflash). Next there was a silence, the sky dark with frozen salt and shadows; then there was the collision at zero, and the recognition. The fire inside, the acid belly broth. Then there was no more Grady, cause he was a troll, and me and Heap had zonked him for number thirty-seven.

You can understand how shocked we were.

But it was like I told you: trolls were tricky sonsofbitches. They could be almost anyone, maybe even you reading this or Joe Bob next door. And it makes no difference who you are, cause like Grady and me and Heap were real close, and the best of buddies and all, but as it turned out, he was a troll and he had to go, you know. So take a warning you trolls hereabouts. Otherwise, we'll get you no matter now much it hurts hurts hurts.

Right, Heap?

Coming Next Month

A trio of extraordinary — and extraordinarily varied — novelets: ENFORCER, suspenseful sf about a new kind of international "law" by Jerry Pournelle; THE CLOCK WATCHER, an elegant and engrossing horror tale from Robert Aickman; and WHATEVER HAPPENED TO NICK NEPTUNE by Richard Lupoff, which concerns itself with a rare collector's item, an ingenious swindle and the evacuation of Earth, among other things. A very funny story. The June issue is on sale April 30. Be on hand.

AT CLOSEST RANGE

Confession, they say, is good for the soul, so if you don't mind, I'm going to confess something.

Before I began this series of articles for good old F&SF, I wrote articles of the same sort for another science fiction magazine (*mea culpa*). Then, in 1957, a year before my F&SF series began, I gave birth to a book entitled *Only A Trillion* (published by Abelard-Schuman) in which these prehistoric non-F&SF articles were collected.

The trouble was that my early articles were written before I had developed the "article-style" to which I am now accustomed, so that, as the years passed, I have come to feel a little restless about *Only A Trillion* and to deny it, in my mind, a position of equality with the ten collections of my F&SF articles that have so far appeared in book form.

I keep sighing, and wishing I could recast the articles into a form that would suit me today.

This is especially true of the first two chapters of the book. It seems that the editor at Abelard-Schuman rejected one of the articles I had originally included in the manuscript, feeling it wasn't sufficiently interesting. (She was quite wrong, of course. Because of the rejection, however, I had to supply something for the hole left behind.

ISAAC ASIMOV

Science

I therefore very quickly adapted several articles I had earlier written for a scholarly periodical entitled *The Journal of Chemical Education,* and that was what made up the first two chapters.

Now over sixteen years have passed, and though I have manfully resisted recasting those chapters of the book which had actually appeared in *Astounding* (oops!) I can no longer resist redoing those first chapters which, after all, have never been presented to my real audience.

Indeed, I have already done so in part. The last two essays ("The Uneternal Atoms," March, 1974, and "A Particular Matter," April, 1974) have retold, in more detail, and in updated fashion, the subject matter of that first chapter, and now I intend to take up the subject matter of the second.

The human body is made up of a variety of elements, all of them very common and unglamorous, This comes as a shock to some people who think that something as mysterious and subtle as life should be found only in objects containing some rare and magic ingredients.

This is unlikely, though, on the face of it. Life is so common a phenomenon on Earth that it couldn't possibly depend on anything rare. How many automobiles could we build if the engines had to be made of solid gold?

But what the heck, it isn't the elements that make life what it is but the arrangment of the atoms of those elements into molecules that are, in some cases, extraordinarily complex, and the further arrangement of those molecules into systems that are still more extraordinarily complex.

It comes about, therefore, that although we know a great deal about the elements that make up the human body; we know considerably less about the more complicated molecules into which those elements are organized; and, even today, virtually nothing about the systems into which those molecules are organized.

Adopting the admirable system, however, of talking about something I know about, I will consider the elements and see if I can extract something interesting out of them.

The human body, to begin with, is mostly water. In fact, if we were actually to count all the molecules in the human body, it would turn out that 98 percent of them would be water molecules. However, water molecules are very small (each being made up of but three atoms, two of hydrogen and one of oxygen) and the other molecules in living tissue are considerably larger—some being composed of millions of atoms. As a

result, all those water molecules make up only about 65 percent (by weight) of the human body. (This varies from tissue to tissue. Our lordly brain, the crown and summit of *Homo sapiens*, is 84 percent water, by weight.)

Of the two types of atoms making up the water molecule, the oxygen atom is sixteen times as massive as the hydrogen atom. Since there are two hydrogen atoms for every oxygen in the water molecule, the weight ratio is 8 to 1 in favor of oxygen. If we add in the oxygen and hydrogen present in living tissue in molecules other than water, it turns out that, by weight, we are about 65 percent oxygen and 10½ percent hydrogen. Three-fourths of the weight of the human body is made up of those two elements alone.

If we take into account the other elements, the recipe for the human body is given in Table 1. As you can see there, about 96.5 percent of the weight of the human body is made up of four elements: oxygen, carbon, hydrogen and nitrogen, in that order. Considering that the atmosphere is 4/5 nitrogen and 1/5 oxygen; that water is made up of oxygen and hydrogen; that coal is almost entirely carbon; we see how unimpressive the elemental composition of the human body is.

Table 1 - Elements in the Human Body

element	*weight (parts per hundred)*
oxygen	65
carbon	18
hydrogen	10.5
nitrogen	3.0
calcium	1.5
phosphorus	0.9
potassium	0.4
sulfur	0.3
chlorine	0.15
sodium	0.15
magnesium	0.05
iron	0.006
everything else	0.004

(Of course, we must not underestimate the minor constituents of the human body. Included in the "everything else" listed in Table 1, are manganese, iodine, copper, cobalt, zinc, molybdenum, chromium, selenium, and vanadium, each of which, while present in relatively tiny quantities, makes up essential parts of essential molecules. Without the small quantities of each of these "trace elements" in our body, we would die just as surely as if we lacked oxygen or carbon.)

But we can list the ingredients of the body a little more fundamentally than by element. Not all the atoms of a particular element are alike. They all have the same number of protons in their nucleus, but they may differ in the number of neutrons.

For instance, all oxygen atoms have eight protons in their nucleus, but some may have eight neutrons, some nine, and some ten. The total number of nuclear particles in the nuclei of an oxygen atom can therefore be sixteen, seventeen, or eighteen. We can speak, then, of three different oxygen nuclides: oxygen-16, oxygen-17, and oxygen-18.

In the same way, hydrogen, carbon, and nitrogen are each made up of two nuclides: hydrogen-1 and hydrogen-2; carbon-12 and carbon-13; and nitrogen-14 and nitrogen-15.

As it happens, in the case of each of these four elements, one nuclide makes up an overwhelming proportion of all the atoms. Oxygen-16 makes up 99.76 percent of all oxygen atoms; carbon-12 makes up 98.89 percent of all carbon atoms; hydrogen-1 makes up 99.985 percent of all hydrogen atoms; and nitrogen-14 makes up 99.635 percent of all nitrogen atoms.

We can therefore go farther than to say that some 96.5 percent of the weight of the human body is made up of four elements: oxygen, carbon, hydrogen, and nitrogen. We can say that some 96.2 percent of the weight of the human body is made up of four nuclides: oxygen-16, carbon-12, hydrogen-1, and nitrogen-14.

Suppose, then, we prepare a list of the nuclides in the body, and list them in order of weight. The result, which includes only those nuclides present in greater quantity than hydrogen-2 (and omits quite a few that are present in lesser quantity) is given in Table 2.

There's more chance for glamor here. Back in 1931, when hydrogen-2 was first discovered, it was popularly called "heavy hydrogen," and for a

Table 2 - Nuclides in the Human Body

nuclides	*weight (parts per thousand)*
oxygen-16, carbon-12, hydrogen-1, nitrogen-14	962
calcium-40	14.5
phosphorus-31	9.0
potassium-39	3.7
sulfur-32	3.0
carbon-13	2.0
sodium-23	1.5
oxygen-18	1.3
chlorine-35	1.1
chlorine-37	0.4
calcium-44	0.3
oxygen-17	0.23
sulfur-34	0.12
nitrogen-15	0.11
potassium-41	0.03
iron-56	0.03
magnesium-24	0.025
hydrogen-2	0.016

while it seemed an exciting substance indeed. In combination with oxygen, it made up "heavy water," and there were a number of science fiction stories written that dealt with the mysterious properties of heavy water.

I suspect that the lay public got the notion that heavy water was present nowhere but in the glamorous recesses of the laboratories of some mad scientists. Actually, of course, it was present wherever ordinary water was present; and heavy hydrogen wherever ordinary hydrogen atoms were present. This meant that living tissue contained heavy hydrogen and heavy water. If we consider a human body weighing 75 kilograms, its content of

hydrogen-2 would be 1.2 grams, enough to make up 10 grams of heavy water if combined with oxygen, which most of it would be.

Imagine—10 grams of heavy water in your body. Wow! Except that heavy water isn't nearly as mysterious or glamorous as the science fiction of the 1930s had thought it might be.

If hydrogen-2 isn't glamorous, are there any other nuclides that are? Of course. The direction in which to look is obvious. In the previous two articles, I dealt with long-lived radioactive nuclides, and we might ask ourselves if any of those nuclides are present in the human body.

Some surely are, I might say at once, since we live surrounded by all the substance of the world, and a little bit of everything must find its way into our body in the way of impurities, at the very least. If we could go over our bodies atom by atom, we would find a few atoms of gold, a few of platinum, a few of uranium and so on. In short, we would find a few of all that exist in our surroundings, including some radioactive ones.

Let's, however, eliminate accidental contamination, which is hard to measure and, in any case, must be highly variable.

Let's ask, instead, whether any of the elements known to be essential to life, and therefore present *of necessity* in the human body, possess radioactive nuclides. If we go over the list of long-lived radioactive nuclides that I dealt with in the last two articles, we find that most of them occur in elements that are not (as far as we know) essential to human life—neodymium, samarium, gadolinium, hafnium and so on.

Two long-lived radioactive nuclides, however, are members of elements that have long been known to be essential to life, and each of these is and *must be* (unless food is painfully prepared lacking those nuclides—something that has never been done, as far as I know) present in the human body. These two are calcium-48 and potassium-40.

Vanadium has recently been reported as an essential trace element, and if that is so, vanadium-50 should be included as a third long-lived radioactive nuclide inevitably present in living tissue.

If vanadium is indeed present as a trace element in the body, it would be present in perhaps 0.1 parts per million by weight. Most of the vanadium atoms are, however, vanadium-51, which is stable. Only 0.24 percent of vanadium atoms are vanadium-50. It follows that vanadium-50 is present in the body in only 0.0002 parts per million.

Calcium-48 is an even rarer component of its element. Only 0.185 percent of all the calcium atoms that exist are calcium-48. Calcium,

however, is present in the body to a much greater extent than vanadium is, so calcium-48 is present to the extent of 28 parts per million. Potassium-40 is present in its element in still smaller proportion—0.0119 percent—and potassium is between the other two in body content. Potassium-40 is present in the body in 0.5 parts per million.

We can work this out for a 75-kilogram body in terms of actual weight as I have done in Table 3. If we do that we might almost tend to shrug

Table 3 - Long-lived Radioactive Nuclides in the Body

		in 75-kilogram body
nuclide	*weight (milligrams)*	*number of atoms*
calcium-48	2100	26,000,000,000,000,000,000,000
potassium-40	37.5	560,000,000,000,000,000,000
vanadium-50	0.015	200,000,000,000,000,000

away these minor components of the body. To avoid doing that we must remember how tiny atoms are and how enormous even small quantities (by normal standards) become when judged by atomic standards. Therefore, in Table 3, I also give the body content of each of these three long-lived radioactive nuclides in terms of atom-numbers.

See how the viewpoint changes in terms of atom number. If vanadium-50, the least of the three, were evenly divided among the fifty trillion cells that make up the human being, there would be 4,000 atoms of this very minor component of a very minor trace element *in each cell.*

The question is, though, whether the radioactivity of these nuclides affects the body.

To begin with, you might think that the radioactivity must affect the body, and perhaps very dangerously. Consider—

When a speeding particle or a gamma ray from a radioactive breakdown taking place outside the body happens to hit the body and streak through it, it will most likely collide with a water molecule and break it up, leaving a very chemically-active "free radical" behind. The free radical reacts with something else and may, indeed, initiate a chain of

reactions until the energy of the initial particle or gamma ray is distributed and diluted and all is normal again. It is like the surface of a pond momentarily disturbed by the dropping of a pebble.

In general, such an event doesn't do serious damage, and, in fact, many billions of such events may take place with the body absorbing, and readjusting, and retaining its balance. Every once in a while, however, the particle or gamma ray, or one of the energetic free radicals it produces, may collide with the DNA molecule of a gene. The gene will be altered, and to the extent that it controls some particular reaction in the cell, the chemistry of the cell will be altered.

The alteration may be harmless, but (just possibly) it could lead to the kind of damage of the growth-control mechanism that will make the cell the nucleus of a cancerous growth; or (just possibly) the alteration of the cellular chemistry may be serious enough to kill the cell.

The striking of a DNA molecule is a low-probability event. Even lower-probability is the striking of a DNA molecule in the genes of those cells producing eggs or sperm. In that case a mutation would be produced that affects not only a particular cell among the trillions in the body, but one which could find its way into a fertilized ovum and affect *all* the cells of a new organism.

Despite the utter unlikelihood of such an overall mutation produced in one particular organism by one particular radiation event, if we consider all the organisms there are and have been, and all the radiation events there are and have been, it becomes certain that such radiation-induced mutations will and must take place. Such radiation events must be a significant factor in the driving force behind evolution.

But when radiation originates outside the body, there is always the chance that it may miss a particular organism or, indeed, miss all organisms and expend itself on soil, water or air. One can even imagine an organism accidentally or (if intelligent) deliberately shielding itself so as to be safe from most radiation.

Where radiation originates inside the body, however, how can one escape? Now we are dealing with nuclides that are, so to speak, firing at close range and cannot altogether miss. Every radioactive nuclide that is part of the body may break down at any moment and produce particles or photons that must plough through the molecules of the organism of which it is part.

Doesn't that seem dangerous? And yet there are mitigating circumstances.

Each of the three long-lived radioactive nuclides that are to be found in our bodies emits a beta-particle when it undergoes a radioactive breakdown. This, while not exactly salubrious, does less harm than an alpha-particle would.

The next point of relief is that the longer the half-life, the fewer the radioactive breakdowns in any given time, and for calcium-48, the most common of the three, the half-life is the longest—20,000,000,000,000,000 years or 20,000,000 eons, where an eon is equal to a billion years.

This means that, on the average, out of all the 26 sextillion carbon-48 atoms in the human body, there will be only 0.03 breakdowns per second, or, if you prefer, one every 35 seconds. This is a very small number as such things go, and the damage we can expect calcium-48 to do is quite minimal. Almost everything we encounter in the world will supply us with more radioactivity than our body's own calcium-48 will.

The half-lives of potassium-40 and vanadium-50 are shorter than that of carbon-48, but the quantities are lower. The results for all three are presented in Table 4.

Table 4 - Radioactive Breakdowns in the Body

nuclide	*breakdowns per second*
vanadium-50	0.000007
calcium-48	0.03
potassium-40	8,500

You can see at once that we can forget all about vanadium-50 and calcium-48. In comparison to potassium-40, the beta particles produced by the other two long-lived radioactive nuclides are excessively few. As far as we can see by the figures in Table 4, human radioactivity is produced just about entirely by potassium-40.

The activity of potassium-40 is nothing to get frightened over. Organisms have been living with this internal radioactivity throughout the history of life on this planet, and the fact that life still flourishes is proof that we have successfully lived with it.

In fact, we might argue that potassium-40 is a driving factor in evolution and therefore very important to us in a beneficial way. Yes, but remember that there can be too much of a good thing. Evolution

progresses by way of mutations, most of which are detrimental. The species progresses at the cost of death to many individuals who are tried and found wanting. And if the mutation rate increases to too high a level, so many individuals are tried and found wanting that the species as a whole dies out. Remember that.

In any case, though, we don't have to worry about having too much of potassium-40. In fact, we might even argue that potassium-40 breakdowns are after all, insufficient to serve as the driving force of evolution; that there is evidence that potassium-40 and evolution are not closely connected.

Potassium-40 has been constantly breaking down and decreasing in quantity ever since the Earth has settled down as a solid body. When life was in its very early stages, three billion years ago or so, the quantity of potassium-40 existing on Earth (and therefore in the average cell) was some four times as great as it is today. And yet I am not aware that anyone has ever maintained that the rate of evolution has been slowing down with time as the concentration of potassium-40 has declined.

Can it be that the close-range firing of potassium-40 is unimportant compared to solar and cosmic radiation, and to chemicals in the environment, as a producer of mutations and a driving force of evolution? Or is there something within the body that we have not yet considered?

What about short-lived radioactive nuclides? For the most part, these are so short-lived that the amount that builds up in the environment and can find its way into the body is insignificant by any standards; even on the atomic scale.

There is only one exception.

Cosmic ray particles colliding with molecules in the atmosphere manage to knock neutrons out of atomic nuclei, and these in turn collide with the nuclei of nitrogen-14 (the most common nuclide in the atmosphere) and form cabon-14.

The carbon-14 is radioactive and breaks down once it is formed, but it is continually being formed so some is always in the atmosphere. What is more, it was found to have a half-life of 5,730 years. This is short enough compared to the eon-long half-lives of the long-lived radioactive nuclides, but it is surprisingly long compared to the radioactive nuclides of the other light elements. The longest half-life for any radioactive oxygen or nitrogen nuclide, for instance, is 10 minutes.

The surprisingly long half-life of carbon-14 allows quite a bit to be

built up in the atmosphere. Carbon in the atmosphere makes up part of the carbon dioxide molecule, and 0.033 percent of the atmosphere is carbon dioxide. Out of every 800 billion carbon dioxide molecules, *one* contains a carbon-14 nuclide instead of either of the stable carbon nuclides, carbon-12 or carbon-13.

It doesn't sound like much—1 out of 800,000,000,000 of a substance that makes up only 0.033 percent of the atmosphere—but consider! The atmosphere as a whole has a mass of 5,100,000,000,000,000 tonnes*, so the carbon dioxide content of the atmosphere comes to 1,700,000,000,000 tonnes. Since the carbon atom makes up 0.273 of the total mass of the carbon dioxide molecule, the total mass of carbon in the atmosphere is 620,000,000,000 tonnes. If 1 out of every 800 billion carbon atoms is carbon-14, there is, in the atmosphere, some 0.78 tonnes of carbon-14, or 780 kilograms (1700 pounds, if you insist).

A world wide natural supply of 780 kilograms of carbon-14 still sounds pretty negligible, but 780 kilograms is equivalent to 33,000 trillion trillion atoms, and that's quite a few.

Plants incorporate carbon dioxide into their own structure, and they don't discriminate against carbon-14. Animals eat plants and incorporate carbon-containing plant substances into their own tissues and don't discriminate against carbon-14. The result is that throughout actively living tissue there is the same proportion of carbon-14 (1 out of 800 billion) as in the atmosphere. To be sure, this carbon-14 is continually breaking down, but as long as an organism is alive and metabolizing, new carbon-14 continually enters and a constant level is maintained.

Since 18 percent of the human body is carbon, a 75-kilogram individual contains 13.5 kilograms of carbon, and of this 0.000000017 grams is carbon-14. Put into terms of atoms, the 75-kilogram body contains 730,000,000,000,000 carbon-14 atoms.

This is only a little over a millionth the number of potassium-40 atoms in the body, and if we suspect that potassium-40 breakdowns may not be significant as a driving force behind mutations and evolution, why should we worry about carbon-14?

Of course, carbon-14 has a half life of less than six thousand years, so it breaks down at a much greater rate than the long-lived potassium-40 atoms. The relatively small number of carbon-14 in the body produces

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** A tonne is equal to 1000 kilograms, or about 1.1 ordinary American tons. I am more and more inclined to use the metric system exclusively in these articles.*

about 2,800 breakdowns per second, a surprisingly large quantity —but that still leaves carbon-14 only second best. Carbon-14 liberates only one-third as many beta particles in the body as potassium-40 does. What's more, the beta particles produced by carbon-14 are only about one-tenth as energetic as those produced by potassium-40. On the whole, then, you might expect potassium-40 to have the potential of doing some thirty times as much gene-twisting as carbon-14 can.

Yet carbon-14, with its considerably fewer and considerably weaker beta particles, can offer something far beyond anything possible for potassium-40. Potassium-40 is scattered through the body but none of it can actually form part of a gene. Carbon-14 is also scattered through the body, but *some of it is inevitably found within a gene!* It fires at closest range!

Even though potassium-40 produces particles from its vantage point within the body, those particles may miss the genes and usually do. When carbon-14 is actually part of a gene, however, its breakdown makes a change in the structure of the gene *inevitable.*

You see, when a carbon-14 atom produces a beta particle, the atom itself recoils and does so energetically enough to break one or more of the bonds that holds it to its neighbor atoms. Nor can it possibly reconstitute those bonds after breakdown, for with the loss of the beta particle, the carbon-14 is converted into nitrogen-14, and this cannot take the place of the carbon-14.

The weight of carbon in the genes of a 75-kilogram body is about 250 grams or 1.85 percent of the carbon in the body. It follows that 1.85 percent of the carbon-14 of the body is in the genes and that 1.85 percent of the carbon-14 breakdowns in the body take place in the genes.

This means that every single second about fifty carbon-14 particles within your genes are breaking down, and therefore, fifty genes somewhere within your body are undergoing mutations of one sort of another.

In one way, this isn't much. If every such mutation took place in a different cell, then even after a lifetime of seventy years, only 2 percent of your cells will have been affected, and yet...

How much of this ceaseless drizzle of mutations manages to put an occasional key cell out of action, or produce an occasional biochemical malformation that has distant but important consequences? Does this necessary mutation rate contribute to the aging process, for instance, and, of course, to evolution?

Remember, too, that while the quantity of potassium-40 on Earth has

been steadily dwindling and will continue to do so, carbon-14 remains more or less constant. Its concentration depends on such things as the cosmic ray flux and the strength of the Earth's magnetic field (which serves to deflect cosmic ray particles), and these go up and down erratically.

And even a small rise in carbon-14 levels might result in an important rise in mutation rate—to the point where many species might mutate themselves to extinction. With that in mind, consider that the radiation produced by nuclear bombs exploded in the atmosphere can produce carbon-14 in the same way as cosmic ray particles can turn the trick.

How much carbon-14 was produced by the many nuclear explosions in the atmosphere over the last thirty years, I wonder, and how much of that got into living tissue?

Back in 1958, when atmospheric testing of nuclear bombs still went on wholesale, Linus Pauling (my favorite chemist) published a paper in *Science* (November 14, 1958) which went into the dangers of carbon-14 in a careful and systematic way. I'm sure this played its part in the eventual agreement on the part of the three chief nuclear powers to suspend atmospheric testing.

And yet the fact is that the very first mention of the role of carbon-14 in genetics, as far as I know, came three years earlier in my own article "The Radioactivity of the Human Body" which was published in *The Journal of Chemical Education* (Volume 32, pages 84-85, February, 1955).

My own casual reference to this matter in my early article *in no way* takes precedence over Linus Pauling's detailed and cogent article in *Science*. Still, I have a letter from Professor Pauling, dated 11 February 1959, which refers in most kindly fashion to my article and —well, I just thought I'd mention it.

Mr. Cox's last story here was "A Collector of Ambroses," (September 1971), a fine and detailed fantasy about three book and magazine collectors. In this new story, Mr. Cox turns to an equally unusual subject and gives it a thoroughly entertaining and sensitive treatment. You are about to go on a contemporary cattle drive with western writer John Thames Rokesmith and Tom Mix.

Straight Shooters Always Win

by ARTHUR JEAN COX

1. *A Gathering of Cowboys*

When are the mountains so beautiful as at sunrise?

They were very beautiful now. The sun had but peeped from behind the eastern ridge to bathe the rising slopes to the west in the clearest imaginable light. Anyone looking about at this time and seeing the stony flanks of the encircling hills, the shallow valley with its sparse and ragged growth of dark evergreens, the herd of cattle lazily milling on the distant grassy slope, might have thought that it was very early in the creation of the world, that it could be no later than, say, Wednesday of the first week. Filling his lungs with its primeval air, he might have rejoiced that the world was as yet fresh and untainted, that it had in it nothing stale and accustomed.

Some such thoughts as these might well have passed through the heads of the dozen men who squatted about the campfire by a chuck wagon in the valley and occasionally stamped their feet against the cold. Some such thoughts as these might also have passed through the head of the solitary large man who was approaching the campfire from some sixty yards away, but his expression as he looked about at the wide prospect, was rather rueful. Pausing to shift the weight he carried under his left arm, he glanced towards the west...froze... and stared. For there could be seen in the far distance, on a mountaintop, a man on horseback. He must have been very far away and yet he was amazingly distinct. His horse was in profile, facing north, but his face was turned in

this direction. He sat in the saddle very erect, like a hero, his right hand on his leg...and like a hero he surveyed the scene beneath him. The man who looked up at him from the valley below might have been conscious of some aesthetic inferiority, but whether he was or not, he gazed upon the distant figure almost hungrily, as if it were someone he had waited a long time, a Messenger bringing Good News. He stared, obviously having forgotten the saddle and blanket roll held awkwardly under his left arm and the china cup dangling from the finger of his other hand.

Suddenly, he started and almost dropped the cup, for from close at hand something barked, loudly and harshly — twice. He jerked about and saw that a little man standing near the rear of the chuck wagon was in the act of firing a rifle at the distant man on horseback.

"Damn it, Shorty, what the hell —!" And a long-legged figure, arms and legs working like a pinwheel turning, ran from the campfire to the shooter and snatched the rifle from him. "What do you think you're doing!"

"Ahh," said the small bandy-legged man, "I wasn't tryin' to hit him. I just wanted to scare him a little. What's he doin', anyway, trailin' after us like that?"

"But, damn it, don't you see, you might have spooked the cows! I don't know about you at times. Shorty."

"Shucks, Milt, I was just funnin'. And, besides, no harm done. You see, the cows are all right."

"Hey, Shorty," called a lanky man standing by the fire, "you didn't faze that guy at all." He was staring at the far onlooker through a telescope.

The others turned to look and saw that the mysterious stranger was in the same position, his face still turned in their direction.

"He must be out of range," said the man with the telescope. "I saw the dust where one of the bullets hit, and it was far short of him."

"Maybe Shorty didn't aim high enough," suggested a stocky man who sat on a campstool with a tin plate on his knees.

"Or maybe," drawled another man who might have been the stocky man's twin, although his face was facetious where the other's was sensible, "maybe the stranger is much bigger'n we reckon. In which case, he'd be much further away, you know. This mountain air sure can fool you! What does he look like, pardner?"

"His face is in shadow."

"That can't be, Hank!" objected the sensible-faced man. "Not at this hour and facing us. We're to the east of him."

"Don't matter. Can't make out

his face. Must be because of the wide brim of that hat he's got on."

The distant figure moved. His horse turned and plodded over the crest of the mountain and was lost from sight. But Hank kept his glass trained on the spot...or perhaps he was looking just above it, for he was heard presently to say, "That's a funny-looking cloud, ain't it?" — in reference to a thin white wavering spray or fume that stretched from horizon to horizon. "What makes it strung out like that?"

"Oh," said a white-haired but youngish man sitting on a saddle on the other side of the fire, "that's a jet trail from Vandenberg Air Force Base." And — as if in confirmation of his words — a glint of metal moved across the sky in the direction of Lake Tahoe, a loud hoarse whisper lagging behind it.

The saddle toter and cup bearer came straggling then to the campfire, where he dropped the saddle with a sigh. He was a young man, very tall, but obviously too softly upholstered with flesh to have been long accustomed to an active outdoor life. The others hailed him as "Rokesmith," "Little John," "Johnny," and "Fats."

His eyes lowered at the last. "When you call me that — smile. My name," he added, as he accepted a tin plate of bacon, beans and biscuits from the cook, "is John Thames Rokesmith. You can call me 'John,' 'Johnny,' or 'Rokesmith,' but not 'Fats.'

"Sorry, Fats," called back Shorty, as he picked up his saddle and strutted away. "Don't mean to, but it always slips out."

The cook, pouring some coffee into Johnny Rokesmith's proffered china mug, which had a picture of Tom Mix pasted on one side, shook his head. "Rokesmith! Drinkwater! Brand! and Grey! What names you palefaces have!" He was an Indian, very short and very brown, dressed in levis, boots and a flannel shirt. His name was Jack Robinson.

Johnny squatted, put his cup carefully on the ground and, shielding the plate with his arms so that flying dust wouldn't get into it, shoveled the bacon and beans into his mouth, voraciously. He had an idea that the others were probably grinning at the vigorous way he was forking it in, but he just couldn't help himself! And this damned mountain air and chill always made him wake up ferociously starved.

But when he had finished eating and, reluctantly, almost involuntarily, raised his eyes, he found that he wasn't encircled by grinning cowboys, after all. No...most of the men had picked up their gear and gone off to the horses. The only persons present, in fact, were his friend, the white-haired Phil, who still sat sidesaddle on the other side

of the fire, and Jack and cook, who was tinnily scraping some leftover beans and bacon into a shallow hole in the ground some yards away — "Giving the coyotes a treat," he was heard to mutter.

Johnny, avoiding Phil's eye, raised himself to his feet. He stood a moment, gulping down his coffee, with his mouth still full of biscuit, the wind whipping the bell bottoms of his trousers. The damned wind! It had hardly stopped blowing all the time he had been on the drive.

Even as he had the thought, the wind sighed mournfully...and expired. Johnny, looking around, had the curious impression that it had sunk down upon the ground and died. All was still except for the far shouts of the cowboys and the soft sounds of the herd on the sunny downward slope. But in the southeastern quarter of the sky the winds were still at work. The clouds up there were moving silently, cryptically changing shape, almost as if the winds were in them rather than molding them from without. He noticed that one prominent cloud (the centerpiece, so to speak) was rather funny-looking. It reminded him of the head and shoulders of a man wearing a cowboy hat, but he couldn't make out the features. Those wouldn't form. Meaninglessly bemused, he kept his own face turned up, as if to provide the winds with a model for the cloud's features, occasionally still raising to his lips the Tom Mix cup, which had some dregs of coffee in it. Until he became conscious that those dregs were very bitter....

2. *The Bitter Dregs*

"Yes," said Phil, as Johnny eyed the dirty brown sludge at the bottom of his cup, "those are bitter dregs, aren't they?"

"What do you mean?" demanded Johnny sharply and almost with a start of alarm. It was as if Phil had read his thoughs. But Phil, who was his cousin at a second remove and had been his particular friend ("not so particular," Shorty was once overheard to say) since boyhood, sometimes did that. He full name was Joseph Holbrook Phillips, but he was usually called Phil, perhaps because he just didn't look like a "Joe." He was 35 years of age, six feet tall and well-built, but his premature white hair and thoughtful expression gave him the look of a scholar-adventurer, the sort of man one would expect to be an archeologist or anthropologist. Actually, he as a Deputy Commissioner of Corporations for the State of California when he wasn't a cowboy.

"Just what I said," he replied. "You always come late and so you get the bottom of the pot. I

suppose that's illustrative in some way."

Johnny cleaned out his cup with a towel Jack had dropped and began getting his gear together as compactly as he could. "You have something to say, do you?"

Phil shifted his weight on the saddle. "Yes, I have. It's this: These guys are all pretty decent at bottom, however unlikely that may seem to you just now. If you would be good-humored and do your work without complaining, they'd come to like you in time."

"I don't plan to be around them that long."

"Well, Johnny, you're going to be around them for another five days, at least —"

"Yes, that's your doing."

"Mine? Well, it's true I urged you come on the drive..."

"Yes," said Johnny, struggling to suppress the smirk he felt forming on his face, "I always wondered why you were so anxious I should come along on this string. Now I know. I'm the comic foil, the bumbling sidekick who makes the hero look good. You've had experience riding, roping, branding, all that sort of thing, so next to me — and I never was any good at sports and athletics; you *knew* that, Phil — next to me, you really look great. I'm playing Pancho to your Cisco Kid."

A look of pain contracted Phil's face. "Now, wait a minute, Johnny...!"

But Johnny didn't wait. "Thanks for the free advice," he said and, picking up his saddle, walked away, leaving a discomfited Phil gazing after him. Trudging off to the horse, his back to his friend, he smirked in gratification. That look of pain on Phil's face had been sweet to him. But gradually the smirk faded and was replaced by an expression very much like that parting one of Phil's...for he knew the accusation wasn't true. He knew that Phil had brought him along on this picturesque cattle drive because he had thought the experience would be good for him. He had thought that the hard work in the open air would remove some of the fat from his ribs and clear the smog from his lungs and occupy his mind so that he wouldn't brood so much over real and supposed slights, his greatest vice while lazing about the pool at the Sycamore DeLuxe Apartments. He knew all this as well as if Phil had explained it to him in patient and particular detail, but of course Phil had done nothing of the sort. Rather, he had argued that it couldn't help but be a great thing for him, professionally — for Johnny was a well-known writer of westerns. He had to his credit seven paperback novels, four "hours" of television and a screen play,

although what had brought him the most credit — and the most cash — was his best-selling (well...anyway, good-selling) biography of Tom Mix, *Straight Shooters Always Win.*

The drive was something Phil had taken part in twice before. Each October, about 1000 cows were herded from the Bar None Ranch in Mono Country, California, to some pasturage in Nevada, where they passed the winter. It was not a staged affair, but practical ranching business; nevertheless, pains were taken to make it as authentically "Old West" as possible...and that, as Phil pointed out, made it a natural for John Thames Rokesmith. It would provide him with a lot of background material for his stories, with atmosphere and little "touches" he would otherwise never think of, and it would give him a chance to become acquainted with a type of man he seldom met.

Johnny wavered. He felt some misgivings about going along — for one thing, the wages mentioned were certainly below the scale set by the Screen Writers Guild — but there was something almost compulsive about the offer. If he let this opportunity slip, he would be haunted all the rest of his life by the feeling that he had missed out on something. A real cattle drive! Why...that would be mentioned on the dust jackets of his books for years — decades! It would be a permanent part of his stock in trade. "And you know, Johnny," added Phil, making a remark that fell in with his friend's thoughts of the moment, "there'll probably be little incidents of a humorous nature on the drive, and so you'll come away with a few anecdotes you can tell on those TV talk shows you sometimes appear on."

The memory of Phil saying that was especially bitter to Johnny.

Anyway, he allowed himself to be persuaded. They drove in Phil's car, Johnny "riding shotgun," up into the mountainous country on the road to Reno. As they neared their destination, Johnny noticed a peculiar tremulousness in his breast which he made no great effort to account for, but he was conscious that some sort of crisis was approaching. They reached the Bar None Ranch, a 2000-acre spread near Lake Mono. After dinner in the thick-beamed, low-ceilinged dining-room, during which he was welcomed by the Milton Drinkwaters and their two small sons and the ranch foreman Hank as a famous celebrity, the men walked across the road to the pasture where the horses were kept; and here, the tremulousness, muted but still present during dinner, increased considerably and passed from Johnny's chest to his legs. He

could no longer hide from himself what the matter was. He was afraid of horses. But why shouldn't he be? He had been born in Brooklyn and, in fact, had never been outside New York City until five years ago. The only country he had ever seen before today was what he had flown over on the way from Kennedy Airport to the International in Los Angeles. He had never in his life so much as seen a cow and really had no idea how to behave in the company of one. And of course he had never in his life ridden a horse.

Milton Drinkwater proudly showed him the horse that was going to be his on the drive: Redeye, a magnificent reddish-brown stallion, powerful but with a calm temper. Johnny smiled weakly. Drinkwater asked him if he would like to take the horse for a run now? And Johnny, with a belch that he hoped was convincing and not too unbecoming, murmured something about not having digested dinner as yet. So the moment of truth was deferred.

All this was bad enough. But what really made him lie awake in his bunk in the Drinkwater's guesthouse that night — staring up at the bottom of the bunk above him, from which issued Phil's deeply peaceful breathing — was his foreknowledge of how he was going to look to those others going on the drive. He, John Thames Rokesmith, whose fame, such as it was, and fortune, such as it was, was derived from being a writer of westerns and who had more than once been interviewed on television as "an authority on the Old West," had never in his life been on a horse or seen a cow! What a ludicrous figure he was going to cut! Unless...

Unless he could somehow bluff it through.

The night was long, but the dreaded morning came all too soon. After breakfast, he walked out with Milt and Phil to meet his fellow cowboys at the stockade, some distance from the house. He saw Phil glance at him, as if puzzled, and became conscious that he was strutting a little. Somewhat on his dignity, he shook hands all around with a dozen other guys who had gathered at the stockade and was relieved to discover that they all seemed to be good-natured fellows who were impressed with his reputation as a Hollywood TV writer (although of course they had to be told about that) and well-disposed towards him because he was the friend of the popular Phil. They seemed to be nice guys. And that pawky little fellow, B.D. Gruenwald — he'd probably be a lot of fun on the drive.

And so they...mounted up. That phrase, which he had used so often in his stories and always with a heightened sense of pleasure, was

now ominous and oppressive to him. He failed to recognize the horse he had been introduced to the night before and had to be led to it. Found he had to saddle the horse himself, botched the job and had to do it over under the supervision of B.D. Tried to mount the horse from the wrong side and was corrected by everyone — in chorus. But finally found himself in the saddle and holding the reins. The others were already...moving out, another familiar and beloved phrase. He tried to move out too, but when he tugged at the reins, Redeye, instead of turning his docile head from the side of the shed he was facing, whinnied and went into reverse... backed up. Phil, nearby, reached out from his saddle as though everything was going to be all right, and then Redeye "shifted gears" unexpectedly, and the author of *The Empty Saddle* found himself sprawling in midair. The next moment he hit the ground with an aching thud, his personal breath whooshing out of him to join the winds that even then seemed to be gathering from the four corners of the earth.

If only he had had then enough presence of mind to claim an injury — what a lot of grief it would have saved him! But, no, confused by that horrible laughter that sounded in his ears and even, as it seemed, inside his head, he climbed back onto the horse. When his head at last cleared and he looked around to get his bearings, he found himself, with what congealed dread and mortification he would never be able to express, on the drive. He tried to cut out the second day, but it was too late. The rounding-up and branding of the younger cows was finished, and they were already on that grueling forced march upcountry, and Milt Drinkwater refused him permission to leave — in effect, refused him a horse, saying that it was his policy that anyone who started on the drive had to finish it. And, hinted Milt, smiling gravely, if Johnny tried to split without permission, he would not only brand himself a horse thief (what a headline that would make!) but the others would probably find his bleaching bones when they next came through this way.

So Johnny was dragged along behind the herd, a hostage to necessity, a grumbling straggler. Impelled by shame, he overcame his fear and found he could approach and mount a horse with no more than a few nervous palpitations. He learned to ride, but he didn't enjoy it, and he knew that he would never be a good rider, such as Phil was. The knowledge that Phil had been raised in New York City, like himself, and yet took to horses as if he had been

"born in the saddle" didn't soften matters the least; rathr, it made them worse. *Behold the centaur!* he would think, with a self-conscious smirk of simulated contempt, when he saw the ease and pleasure with which Phil rode. Why was it that he himself even seemed to bounce up and down more than the others did? When Jack Robinson first saw him come riding by, he made a remark that was famous for days: "Ugh! Fat man lazy! Him jog sitting down." Johnny resentfully thought that a man (*a real man*) simply had the wrong equipment for horseback riding. That is, he thought that momentarily before he realized, to his horror, what a professionally suicidal thought it was and what an insult it was to the man who had been his lifelong hero.

He was simply unable to tolerate the fret and chafe of bustling work. Or the chaff. If someone, such as Hank, called to him, "Hey, there! get the lead out of your horse and pick up those strays," he would be crushed. It would take him hours to regain his self-respect. The others saw this, or glimpsed it, but it awakened no compassion in their corduroy and denim breasts. They turned away from him, keeping their thoughts to themselves. They were a little puzzled at first about how to respond to the hurt reproaches conveyed in his little jokes around the evening fire, but that didn't last long. He soon felt the rough sides of their tongues, tongues unrestrained by his scruples and therefore harsher and more vigorous than his. John Thames Rokesmith was in the habit of depicting his villains as bespectacled, bookish men, usually lawyers and clerks — and in *Jackal's Hide* the genocidal Doctor Jackal, who had a large library bound in Indian skin, was meant to be "an intellectual" — but in real life the writer didn't know how to deal with unbookish, unsophisticated and forthright working men such as these. Their ready scorn, their unabashed anger, silenced him...and he could see lurking in the middle distance a cloud no bigger than a man's hand: Hank's fist.

He quickly became the butt of the group. They delighted in teasing him, but of course there were limits beyond which they could not go. Not only did they have some respect for the watchful eye of Phil and Milt, but they were essentially (as Phil had said, although there were moments when even he doubted it) decent men. They couldn't get over there being so much of Johnny. They said he was "a combination of John Wayne and Wayne Newton" and that he was "half dead end kid, half show biz personality and half egghead."

They said these things more than once, in fact, because they thought a joke as funny the twentieth time as the first. (But when he passed some little remark, such as that he had written "a horse opera, *Low'n'grin: The Home of Contented Cows,*" or that he had named a race horse Oedipus, because — regressing to his Brooklyn accent — the horse loved a mudder and ate his own fodder, they simply stared.) Actually, he wasn't much heavier than that barrel of beef, Jack Robinson, or those two fatties from Los Angeles, Tweedledum and Tweedledee: Walter Brand and George Grey, or Mac and Zany, as they called themselves — and he was considerably taller than any one of them. But these guys talked as if anyone who weighed more than 250 pounds was fit to be the fat man in a circus!

Johnny's chief tormentor was that same B.D. Gruenwald whom he had predicted would be such fun on the drive. And he was...oh, he was! Shorty, as B.D. was otherwise called — he said the B.D. stood for "Broken Down" — was a bow-legged ex-rodeo clown. He had been provided (by Providence, presumably) with a sharp nose and small eyes and a streak of petty cruelty that expressed itself in pranks and practical jokes. He was not unpopular with the other men, however, perhaps because there was never any personal spite in the things he did and because he laughed as loudly when the joke was on himself as when it was on someone else. Only Johnny never laughed. He suspected, but didn't actually know, that it was Shorty who had put the snake in his bedroll the second night out.

3. *The Ghost Rider*

That had been a memorable night, really.

Johnny, after the snake had been safely and humanely disposed of by Phil, crept at last into his blankets near the others and lay for what seemed like hours, waiting for sleep. He lay on his left side, with his head on his hat (which served at night as his pillow) and found that a fear that he had brushed aside during the day as of no consequence had been waiting for him all this time. It flowered in the darkness. How could he ever again write about the West with his old love, in his old poetic and mythic way when he had the memory of this defeat, this failure, this personal incapacity when faced with the prosaic truth? *What had Phil done to him?* A distant coyote took up that theme and embroidered on it. The humiliating memory of this experience would poison that pure stream from which

he had so often and so deeply drank...lying on his stomach to do so, his white hat on the ground beside him, his companionable horse dipping its muzzle into the water downstream... The coyote howled again, dismally, as if mourning the death of a loved one, but in vain, for Johnny was asleep.

He slept deeply, more deeply than he had since he was a child, almost as deeply as if he were lying under the hard ground rather than on it, his snores disturbing the entire camp and making (as he was told next morning) the cattle restless. And he had a wonderful dream. He dreamt of Tom Mix. Now standing about the campfire, with the sleeping forms of the other cowboys all about them, now riding side by side, Tom Mix and John Thames Rokesmith had a long and wonderful conversation, about what Johnny couldn't afterwards make out. But what delighted him, even in the dream, was the *manliness* of it. That was more thrilling to him even than that wild ride they had through the sky, like a pair of Valkyries, at the end of the interview. When he woke in the grey light, the happiness of his dream cast a lingering mellow glow about his makeshift pillow.

He was musing over the dream and his morning cup of coffee, while absently surveying the landscape, when he saw the distant figure of a man, dressed in blond, as it were, and mounted on a brunet horse, slowly coming towards him, or towards the camp. The appearance of this unknown rider, out of nowhere and in the midst of nowhere, as if he had sprung up out of the brush or had been blown there by the winds, aroused again in Johnny's chest that absurd tremulousness and provoked in him a kind of meaningless speculation and expectation. As he and a few others watched, they saw the oncoming horse and rider slowly sink into the ground, until only the man's white hat was visible...and that too settled out of sight. It was an uncanny effect. Johnny knew, of course, that the horse and rider had merely plodded down into some sort of gully or arroyo, but it was oddly disconcerting, especially when they failed to surface again — as though the mysterious stranger had returned to the element from which he had sprung.

Hank rode out to investigate and found the gully easily enough but couldn't find "hide nor hair" of the stranger. "He must have turned to either the right or the left and gone down the gully at a fast rate. A prankster, or a nut of some kind. Say...! Milt, do you suppose it could be that old coot you was telling me about? You know, the guy who was always riding about these parts and

claimed he saw — who was it? — Natty Bumpo?"

"Shucks, Hank, that was thirty years ago! That old guy wouldn't still be alive."

"Might not matter," said Zany. "He could be riding yet. A ghost rider on a ghost horse, like in the old song." And, rolling his eyes and snapping his fingers, he brokenly whistled a melody so thin as to be wraithlike and which he said was *Ghost Riders in the Sky.*

The Ghost Rider (for the name stuck) showed himself again the next morning, near a distant stand of timber, into which he disappeared without replying to their far-pitched *hallooos.*

"Now," mused Phil, "if he were dressed all in black, I'd be worried, but he's dressed all in white, so he must be a good guy."

"Maybe he's looking for the cowboy all in black," said Milt. "Going to have a showdown with him. But that can't be any of us, unless," looking around, "it's John here."

"No, it's not," said Johnny, glancing down at himself with a vagrant touch of annoyance. "My pants are pepper-and-salt and my jacket's grey. Only my boots are black."

That had been yesterday morning. That noon, a few hours before they reached the valley here, there had been a curious incident.

It had been uphill work all the way, worrying almost twelve hundred cows over undulating ground under a broiling sun. Johnny, trailing after the herd, wore a bandanna (red with white polka dots) over his nose and mouth as a protection against the dust, looking very much as if he were a bandit intent on rustling the cattle — although it would have been impossible for one man to control so many separate chunks of beef. He shifted restlessly in the saddle from time to time and muttered under the bandanna. Why couldn't he be a lead driver, like Shorty and Phil? Why should he always be bringing up the dusty and dung-spattered rear? But he knew the answers to those questions: He simply wasn't a good-enough rider and didn't know enough to be able to forge ahead and find a trail that would give the best footing for the cows.

He saw the chuck wagon parked beside some chalk bluffs and rode in, as did four others, for lunch. He was absolutely famished, and no wonder, he hadn't eaten anything (except dust) since breakfast. Jack reminded him that it wasn't his turn, he was supposed to be with the second shift of eaters; but he complained so vehemently that the cook disgustedly relented and gave him his coffee, bread, meat and potatoes. Johnny, seated on a rock

and eating out of a battered tin plate with an equally battered fork, swallowed his leftover anger along with his food. He had his reservations about that Indian. Johnny had once appeared on the Dick Cavett Show to talk about the raw deal given the Indians, but when he told Jack that, in an effort to establish a little camaraderie, the fellow had scoffed at him. He said he was glad the white woman had come to this continent. That guy was a renegade, a traitor to his own people, the kind of Indian who'd sell firewater to the palefaces (for Jack, as Johnny knew, was a bartender most of the year in a casino near Minden).

As he ate, Johnny's eyes wandered disconsolately over the terrain. The mountains, it seemed to him, are never so plain and dull as at noon. The perpendicular light is very unflattering to them. It reveals them to be nothing but masses of dirt, gravel and rock, whiskered with straggly vegetation. They seem very gross and literal, without romance or mystery. He was half-heartedly trying to express all this to himself and wondering again how he could ever make anything so prosaic into the stuff of fiction, when he became aware that he had been staring for some time at one object, about sixty feet to his right and some eight or nine feet up the side of the chalk bluff.

The others — Phil, Hank, Jack, Zany and Mac — turned to look in the direction he was pointing his fork.

"Why...I don't think it's anything," said Hank.

"Yes, it is," said Phil. "It looks like a cow's skull, except it's much too big."

Exactly. It resembled a cow's skull with the horns removed, but it was about four feet across and six feet long.

Jack Robinson nodded his head, sagely. "It's a buffalo skull. Pretty old too, because there ain't been no buffaloes around here for many, many a moon."

"You're buffaloing us," said Mac. "There never were any buffalo with heads that big. It has to be artificial. It's carved out of bleached wood, or maybe out of the soft rock of the cliff."

They got up, the six of them, and went trudging along the uneven sloping ground, to get a closer look at this object. As they came up to it, they saw that letters had been cut deep into the brow of the seeming skull:

MIX
MDCCCLXXX
MCMXL

Johnny, standing in the rear, said with infinite surprise: "Mix? *Mix?*"

Hank laughed. "No, not your friend Tom Mix, Fats. It's the

Roman numerals for — let's see — 1009."

"That's right," said Mac. "The whole thing reads: 1009 — 1880 — 1940. Someone is commemorating a series of events...or so I suppose."

"I dunno," said Zany. "1880 and 1940 make sense as dates — but *1009?* There weren't any people around here then, only Indians... begging your pardon, Jack," with a sly look at the cook.

Johnny cleared his throat. "I don't think that first line's Roman numerals. It's a man's name."

Mac, standing close beside Johnny, turned his face towards him. The overhead sun burnished the wire frames of his glasses.

Hank snorted, horselike. "That don't make any sense, Fats! What do the other letters mean? Are they the names of people too?"

"No, they're not. I'm not good at reading Roman numerals, but if they do say 1880 and 1940...well, those are the dates of Tom Mix's birth and death."

"You just happened to know that, did you, Fats?"

"Look," said Phil, with a touch of anger on Johnny's behalf. "That *is* the sort of thing he knows. After all, you can't write a best-selling biography of a man without learning the dates of his birth and death."

Mac didn't look at the skull but stood studying Johnny closely, which disconcerted him considerably. He blazed out suddenly, "*I* didn't put it there! I don't know anything about it!"

"We all know that, Johnny," said Phil, soothingly. "How could you possibly have made something like that? You had no opportunity, and it wouldn't make sense, anyway. We can guess, if we think about it for a moment, who probably put it there."

Mac turned his eyes away from Johnny and back to the mysterious object. The six stood gazing at the outsized cow skull — Johnny of course was reminded of that skull on the wall of the ranch house in so many western movies: a skull somehow reminiscent of the ranch owner, a stern old patriarch who has carved an empire out of a wilderness and now keeps a strong rein on his rebellious sons. "But why," asked Mac, "should he put it there? Could it be that Mr. Rokesmith has some ardent fan trailing after him, one who's a trifle unbalanced?"

"Sayyy," drawled Hank, rubbing his long chin thoughtfully. "I'll bet that guy's your ghost writer, Fats. Writer — w-r-i-t-e-r — get it? And the reason he's haunting you is he wants to claim credit for all those books of yours he's written."

"Maybe," said the cook, cogitating profoundly, "and maybe

not. It might've been put there by that Wandering Indian, the Wind-Walker, whose ghost's been roaming this country for nigh unto a thousand years — since 1009, maybe — taking first this form and then that form and finding that none of them will do."

"I suppose, Mr. Robinson," said Zany, who had a soft bread mouth and wide eyes, "I suppose that is a legend handed down from generation to generation of your people, from father to son, until finally it reached you?"

"Hell, no," said Jack. "I read it last month in *Old West Magazine.* Let's see what this thing's made of, anyway." He stepped forward, jabbed the toe of his right boot against the side of the cliff to steady hiimself and, reaching up, touched the bottom of the skull. The material came loose under his fingers and dribbled into his flannel sleeve. Exclamations, perfunctory profanity, broke from them — for the skull seemed to unravel from the bottom upwards; it crumbled and snowed like powdered sugar down the face of the cliff. "Can you beat that! It must've been held together by spit!" They all stared at the anonymous powder — chalk or lime, as Phil suggested, after pinching some up between his thumb and forefinger — littering the instep of the bluff and which the wind was already beginning to sift away.

"You know," said Jack, as they staggered back along the rugged ground to the campsite, "that thing's just like those thousand-year-old mummies that turn to dust when you touch them, like they got in India."

Hank snorted derisively. "Aw, what do *you* know about India?"

"Hell, man," said the cook, turning a broad yellow-toothed grin upon him, "I'm an Indian, ain't I?"

Being practical men, these two (at least) had already lost interest in the inexplicable.

And now this morning, Shorty had fired at the so-called Ghost Rider with a rifle. Perhaps the guy, whoever he was, would take the hint and stay out of their sight in the future...?

4. *Tanglefoot*

Johnny lugged his saddle on his shoulder and carried his other belongings in a bundle under his left arm toward the place where the horses were kept, a rude stockade consisting mainly of the shell of an old house built in this remote spot of whiskey bottles — hundreds of them laid flat one upon the other and caked together with mud. It was about three hundred yards from the camp. As he walked, he

could see the cattle a hundred yards or so to his left, a motley herd of dry cows mostly, with a few steers among them. (He painfully remembered the laughter when he had referred to one of the more formidable-looking beasts as a bull.) This would be the last day at Whiskey Valley for most of them. The sore-footed cattle would be cut out and left here for some months, the rest being driven on to Railroad Flats at a lower elevation.

The shadows of clouds moved silently across the gently sloping landscape, puzzling the cattle and reflecting metaphorically the thoughts that raced across Johnny's mind. Some of these were wild enough, but a calmer mood began to prevail, perhaps caused by nothing more inward than the gradually prevailing sunshine. After all, he knew that Phil was right. He had been entirely too...too touchy. Maybe he ought to give these guys another chance? But when he thought of some of the things —! Well...he wouldn't think of them. When it was all over, he wouldn't want to look back and think that he hadn't tried, at least, to be big about all this. Well! well! he concluded as he approached the stockade, he'd give it a try, a resolution accompanied by a surge of generous feeling.

He saw that the gang — or most of it: Milt and some other guy, probably Mac, were inspecting the hooves of a cow fifty yards further on — was standing around outside the stockade, looking on at Shorty who was handling a magnificent-looking sorrel, patting and combing it caressingly.

"Hey, Johnny!" called Shorty, catching sight of him trudging up with his burden. "Come and take a look at this horse, will you?" And, as Johnny bravely approached: "Isn't he a beauty?"

"Yes...yes, he is."

"He's yours, John," said Shorty, giving the horse a pat on the withers with his left hand.

"Mine...?"

"Yeah. Look, John" — obviously trying to speak earnestly to Johnny, something which cost him a good deal of effort — "no hard feelings. The guys and I know we've been a little rough on you and we thought...well, hell, we got together and we figured you should be riding a real horse, not that old plug you've got. *This* is just the horse for you."

Johnny looked around at the other men. At Hank and Zany and at what he usually thought of as "the extras": Mulhair, L'Amour, Schaeffer, Trimble, Overholser and Haycox. All looked on with interest, a few with a kind of awkward diffidence, as if participating at an unaccustomed ceremony. Zany had his usual quiet smile, a little more

conscious than usual, perhaps. But it was Hank who surprised him: he turned away, averted his face downwards, and dug the toe of his boot into the ground.

"Yes," said Johnny, turning back to the horse, "it does look gentle."

"Yeah, it sure does," said Shorty gravely, but with a tic-like grimace. "Here, throw your saddle on him."

"Well, gee, thanks, fellows," said Johnny, genuinely touuched. He looked about at the others and glowed with pleasure. Phil had been right. These weren't such bad guys. A little rough, maybe. Sometimes lacking in couth. But basically good guys, for all that. Shorty, in his eagerness to be helpful, and in his expertise, had the saddle on the horse before Johnny could lend a hand.

"Think nothing of it, Fa — John. You know, the Lone Ranger had Silver and Tom Mix had Tony and a famous *tee-vee* writer like you should have his own horse too." Shorty couldn't help kidding a little bit, of course. "Climb aboard. No, not that side, John. You always get on a horse from the left, remember?"

"What's he called?" asked Johnny, as he laboriously heaved himself into the saddle.

"Tanglefoot."

"Tangle...foot? Why that?"

"Oh, I don't know. You know how these nicknames get started. They have no rhyme or reason. Would you believe" — looking up at Johnny from the height of his 5'3" — "that I've been called 'Shorty' most of my life? Take the reins, Fats. Here, I'll steady him for you." And he protectively laid his gloved hand on the sleek flank of Tanglefoot. "Got a good hold?" He removed his hand. A bee, somewhat the worse for wear and possibly intoxicated by tobacco smoke, lay crumpled on the flank of the horse. As Johnny ingratiatingly patted Tanglefoot's neck, Shorty reached out and carefully squashed the bee. *Bzz!*

And the horse reared suddenly, whinnying. Johnny clutched convulsively at the reins. Shorty danced away. Tanglefoot, eyes rolling, pranced, staggered on his hind legs over the ground, dropped to all fours — and bucked. Johnny grabbed the saddle horn and hung on. Dirt flew into the air from beneath the hooves of the frantically rearing and kicking horse. Johnny's hat fell from his head and rolled away in a cloud of dust. The other men standing about scattered out of range of the horse's "bright and battering sandals." They hooted with laughter, slapped their thighs, called encouragement to man and beast:

"Ride him, cowboy!" "Hang on, Fats!" "Can't you get rid of that weight, Tanglefoot?"

The horse faltered finally to a standstill and stood trembling or shuddering, as in the aftermath of hysteria. Johnny, breathless, hatless, his hair about his face, sore but still seated, cast a smoldering look of indignation about him, evoking grins, a sheepish smile. He painfully hoisted his thick right leg up over the saddle and lowered himself to the ground.

"You can take your damned horse and drop him down the nearest ravine —"

The bee was still studded on Tanglefoot's glistening flank. Shorty stepped briskly forward and brushed it away. Johnny saw the movement out of the corner of his eye and looked around, suspiciously.

"Oh, no!" he groaned, *"my bedroll!"*

Tanglefoot had put one heavy hoof directly in the middle of Johnny's bedroll, which he had laid on the ground nearby. The imprint of the shoe was clearly visible, though fading. He hurried to it.

"Ah, Fats," said Hank, half disgustedly, half apologetically, "he can't hurt your bedroll."

But Johnny, unrolling it with trembling hands, displayed inside the remains of his shattered Tom Mix Cup. It was in a dozen pieces, the largest preserving intact the photographic decal of Tom Mix. The famous cowboy's eyes looked out at the onlookers directly and, one might have thought, reprovingly. Johnny slumped forward to the ground. He put his hands over his eyes; his back heaved; his mouth opened, emitted a sound like a bubble bursting.

The men standing around stared at him, speechless. "Oh, hell, Fats," said Shorty, coming forward, "I didn't mean for that to happen. I was just havin' a little fun."

"Don't take it so hard, Johnny," said Hank.

Johnny was heard to say something like, "I've had that cup since I was six years old. Tom Mix himself drank from it..."

He got up suddenly and walked away, stiffly, almost blindly, humiliated beyond endurance that these bullies should have seen him in tears.

Johnny squatted among the weeds behind the decaying carcass of an outdoor toilet — the dirty brown slats of which clattered and clacked in the wind — some fifty yards west of the corral, until he saw the men riding off to the herd. After they were some distance away, he came out from behind this inglorious retreat and slogged wearily back to pick up his

belongings. He found Redeye saddled and waiting for him, his bedding neatly rolled and tied behind the saddle. The pieces of the cup had been picked up and laid, not ostentatiously, on a fragment of the wall. — Someone had behaved decently towards him.Milt. Phil. Or perhaps Zany. He removed his neckerchief, gathered up the pieces and tied them in the cloth. Inserting the bundle into his jacket pocket, he mounted Redeye and rode off slowly towards the Southwest.

After he had gone about two miles, he pulled Redeye to a halt, dismounted and tethered the horse to a shrub. He looked around. No one in sight. Nothing moved except the wind and, overhead, the clouds, among which wheeled a large bird as lonely as himself. He took the bundle out of his pocket, unfolded the kerchief, and tenderly sorted among the fragments of the cup with a finger. He would have to discard them, but he didn't want to just toss them on the ground and leave them there to be sniffed at by the coyotes. He looked around, found a fairly soft piece of earth and dug a shallow hole, using his jackknife as a spade. He deposited all the fragments but one in the hole and scooped the dirt back over them. He had kept the largest shard, the one with the picture of Tom Mix, aside, and he now placed this one upright in the ground, as a marker or gravestone commemorating the burial site of the cup.

He stood for a moment looking down in sad contemplation at this grave, his hat hanging from one hand at his side. He had fallen unconsciously into a picturesque pose, one which a western artist, if there had been one around, might have delighted to "capture" and which would have made a handsome picture for the dust jacket of one of Johnny's books, although the incongruity of that diminutive gravestone might have spoiled the effect somewhat.

Then, mounting the patiently waiting Redeye, he moved off towards the southwest again, leaving behind the graven image of Tom Mix, which gazed steadily after him as he and his horse dwindled into the distance, as he became a figure smaller in appearance than that of the distantly seen mysterious horseman of this morning, as he became a gnat, became a speck distinguishable only by its movement from other specks, and finally lost even that distinction. The china portrait was left alone. Tom Mix's eyes looked out across the landscape, or looked, perhaps — it would have been hard for anyone to say exactly where they were looking — at the wistfully moving clouds overhead. His features were clearly defined,

his eyebrows, nose, mouth and chin strongly marked. If there had been anything out there capable of being impressed by them, it surely would have been.

5. *The Abyss*

Johnny rode on blindly, his horse picking its way across the uneven ground. He was in a long gully or strait, a hundred feet across, the corrugated walls of which soared away at 90-degree angles from the floor of the corridor. Occasionally, he touched his hat, to make sure it was in place, the winds being very strong here, but otherwise paid no attention to outer circumstances. But after a while he became conscious that Redeye had stopped on the crest of a small ridge and even dimly aware that they had been standing there for some time, he slumping forward despondently in the saddle and the horse obviously tired — as if they were posing for a tableau to be entitled, "The End of the Trail."

He urged the horse on, but it wouldn't move. Strange. Unlike Redeye. Well, maybe he needed a bit of spur, in which case he would give it to him. But even that didn't work. The horse protested with an emphatic and irritated jerk of its head and a lip-bubbling whinny and obstinately refused to move. Johnny, fuming, lowered himself from the saddle. He took hold of the reins and walked determinedly forward. He would drag the damned horse after him by main force, if need be. Suddenly, the ground dropped out from under him. One heel was on a sharply sloping surface; the other jabbed wildly for footing. He flailed the air with one arm, but his left hand, fortunately, was still holding the taut reins of the whinnying Redeye.

"My God!"

He pulled himself back, and was pulled back, by the reins. "What...?" There was a crevasse there, right under his feet: a rift — a crack in the ground, as if split open by an earthquake — perhaps twenty feet across, the other lip of which was some five feet lower than this. He hadn't seen it at all sitting in the saddle. His eyes, half-blinded by inward reflections, had merely fallen on the lower sloping ground behind and on the desertlike terrain that widened out before him from the end of the pass, a hundred yards further on, without noticing the pit that yawned before his horse's hooves. Standing on the solid ground, one hand holding Redeye's bridle, the other the reins, he cautiously leaned forward and peered. Damn! He shuddered. His fingernails, where he held the rein, bit into the heel of his palm. The thing was two to three hundred feet

deep! He saw a glint of silver, a ribbon of water, at the bottom. He stepped back to the side of the horse and, trembling, held on to the saddle horn. He had almost fallen into that thing! If he hadn't kept a strong hold on the reins, he would have.

Next moment he thought: Good old Redeye! No wonder he wouldn't go ahead! And he had jabbed the poor beast with his spurs! Petting, caressing the animal, talking to it gently, he turned it around and, still clutching rather than holding the reins, walked it away from that terrible fissure. It wasn't until they were more than thirty feet from it that he again mounted the horse and headed it off slowly in the direction of the camp.

He remembered now that the drive would be coming in this direction. Well, it wouldn't come very far, would it? That crack stretched across the entire pass. There would be no way to get around it, because those sides there — they could almost be called walls — were much too steep to drive even one cow over, not to mention a thousand. And that crack was too wide: no cow could leap it. No horse, for that matter. Except maybe Tony.

This wasn't, as he knew from the general talk, the original path of the drive. In years past they had taken another pass to the east, but Milt, flying over it in a Cessna 180 a day before the start of the drive, discovered that it was blocked by a slide of rocks and earth, loosened probably by the melting snow of the spring. But he had observed another pass to the south. It was narrow and turned sharply west at its end, but it wouldn't, he had said, take them more than a day or two out of their way. It had looked from the air, as he droned over it in the yellow plane, perfect. How, wondered Johnny, could he have missed that crack? Probably because of the ridge and the fact that the other side of the crevasse was lower and sloped downward, a contouring that made it hard to see even from the ground, as Johnny well knew — and perhaps also because of the mottled camouflaging brush, the afternoon or morning shadows, and so on. Well, it would certainly confront Milt as an impassable fact once the herd got here, wouldn't it?

Would it mean the end of the drive? No. He knew Milt. That guy would simply force the cattle to backtrack and then find another route. And that meant the drive would be prolonged by two, three or even four days, and he, Johnny, wanted more than anything else to shorten the damn thing. Not that anything could now, except...

Except...

Suppose he forgot to tell Milt

and the others about that crevasse? Suppose the cows were coming on too fast to be stopped? Suppose someone had "spooked" them and they were stampeding? They would never see that fissure in time, and in they would go. Hundreds of them. Probably not all. Not all, of course. But hundreds. He had a sudden vivid flash of cow bodies *cascading* into that trap. That would mean the end of the drive — at least for him. The loss of so much beef would utterly demoralize Drinkwater, Hank and the rest of that gang. And even if it didn't, it would mean that not so many guys would be needed to take care of the remainder of the herd — probably only a skeleton crew. Several of them could head off for home. And he, by God, would be one of them!

Could it be done? *Actually* done? He supposed it could. It wasn't, in a sense, entirely unprecedented. It was pretty much like the situation he had devised in *Thunder Grass,* in which the vill — in which "Hell" Sontag stampedes the cattle over the cliff. Again: could it be done? Yes. He rode on slowly, the jogging of the horse seeming to jolt various fragments of thought into place. He couldn't, after all, help seeing how it might be done, could he? It was just as if it were presenting itself to him of its own accord.

If anything like that happened, they would never be able to prove a thing against him. Never. Because, after all, there was another suspect. The Ghost Rider. *He could blame it all on the Ghost Rider!* That guy must be up to something — who knows what? Shorty had shot at him and he might have resented that. Anyway, he was the fellow on whom suspicion would naturally fall. It was perfect.

He did feel one pang of compunction. Not that he had quite determined to do it yet. He hadn't. But he would feel sorry for the cows. But, then, what difference could it make to *them?* They were on their way, thought not immediately, to the slaughterhouse. They were all going to be butchered, anyway. It was better that they should die out here, in the fresh air and sunshine of their native country, than in some grimy and blood-spattered stockyard.

Should he do it?

Redeye stopped, as if in sympathy with his indecision. He sat there in the saddle a long while, thinking, or perhaps not thinking — he would himself have found it difficult to say which. Such thoughts as he had were like underground water seeping through layers of rock. After a while, he raised his head and looked around slowly, as if searching for something. A land-

mark, perhaps. There was none. The ground was bare and rugged, stony mostly, but relieved by patches of hardy grasses with, here and there, a solitary shrub or stunted evergreen. They must be at a high altitude, very high, for he was having trouble breathing. The wind was cold. There would be snow soon.

He was now standing (or sitting) at the northern end of the pass, where it opened onto the valley, about five miles from the camp. His eyes searched his surroundings with a kind of passive urgency, like those perhaps of that solitary predatory bird which still circled overhead. *He was looking for something to help him decide.* His head and eyes moved slowly. He saw nothing significant in the receding walls of the pass or in the open prospect before him. Something caught his eye a few feet to his left. In an open, bare, almost sandy patch of ground he saw what looked like a hoofprint. If it were one, it was the biggest hoofprint he had ever seen, made by a dray horse, possibly, or (his thirst suggested) by a Budweiser Clydesdale. But even as he glanced at it, the wind erased it. He saw the print uncurl, smoke, disappear into the air; the next moment he wasn't even sure it had been there. Not that it mattered. It meant nothing. No, he thought, looking around again, there was nothing out here. Nothing. He shifted his weight in the saddle, and Redeye moved forward without being spurred. No, what he was looking for, the *precipitory* factor, wouldn't be found out here. It would be found in camp. Yes, he would wait and see what happened tonight in camp. That would decide him.

If the guys were nice to him, if no one insulted him, he wouldn't do it.

6. *Around the Campfire: Night*

The men were all sitting about the fire eating their evening meal when Johnny walked out of the gathering dusk and joined them. He accepted a plate of meat and potatoes from Jack and asked for a cup of coffee, asked twice in a low voice, for Jack foolishly lifted the large enamel pot and glanced at Johnny's hands as if expecting the well-remembered Tom Mix cup before he recalled the day's accident and supplied him with a tin receptacle. Johnny took his usual place beside Phil. The other men spoke to him kindly as he drank his coffee and ate his food in silence — but, though silent, he was not sullen. He preserved a constant, if tiny, smile. Despite the fact that he hadn't had lunch, a major deprivation, he wasn't as engrossed in tucking away his food as he

usually was. He was alert, and when anyone addressed him, he glanced very quickly at the speaker and listened attentively — watchfully, one might have said. Phil turned his eyes Johnny's way several times, but said little. When he had done eating, Johnny got up, nodded all around to each of the men in turn, still smiling slightly, and walked away into the darkness, presumable to his bedroll after a hard day in the saddle.

Shorty jumped up and poked at the fire, viciously, with a stick he had in his hand. "Jesus Christ!" he remarked. "Why in the hell is he smiling like that? It gives me the creeps!"

"Maybe he's planning something," said Hank.

Phil rose, figuratively, to Johnny's defense. "Nonsense! I think he's trying to be decent about this business and doesn't quite know how to go about it. He'll be all right tomorrow."

"What do you see in that jerk, anyway, Phil?" demanded Shorty.

"You're hard on him," observed Mac. "But then you have to make up for having felt sorry for him this morning."

"I see the man he might have been, if he had had a chance to...well, grow, I suppose."

"Grow up, you mean," said Milt, getting up from his campstool. "Well, it's going to be a big day tomorrow. Better get a good night's rest." It was a suggestion, not an order, but he set the example by moving off to his luxurious puptent.

The conversation and the group broke up, the men straggling out, with many loud jokes and some more or less good-humored grumbling, to whatever piece of ground each had found best fitted the contours of his particular back. Jack, clattering and splashing, washed the tin cups in a pail of soapy water, his last task of the day before he too crawled gratefully into his blankets, which he shortly did, leaving two men about the fire. One of these rose and threw another ragged limb onto the flames from a small stack of evergreen branches that lay nearby, not because the fire much needed it — it was a good, hearty fire, crackling and blazing — but because he liked doing so.

"You're wasting your time, you know," he said to Phil, who was the other man who had remained behind.

Phil was lounging on the ground with his shoulders to his saddle and looking up at the sky, which was sprinkled with millions of stars, some mere dust motes, others like burrs of incandescent metal. Several of these last, glittering coldly through the wonderfully clear air, seemed to be

suspended almost within rifle shot. Shorty might have tried to bring one down. But there was no moon, and so the night was black beyond the pale of the fire. He might have pretended that he didn't understand Mac's remark...but after a moment he responded:

"I often think so."

"Am I right in supposing he never had a father?" asked Mac, at which point it would have become apparent to any unseen listener, had there been one, that they were discussing John Thames Rokesmith.

"He was a posthumous baby," said Phil. "He was born on the day after his father died. Which, by an odd coincidence, was the day Tom Mix died."

"Good heavens, is he *that* old! You'll never be able to do anything with him. If he were half that age, there'd be a chance, but..." The man who spoke, a cowboy in a plaid flannel shirt and a heavy sheep-skin jacket, was for most of the year Walter Maclin Brand, M.D., a Beverly Hills psychiatrist. His friend, the slack-mouthed Zany, was a gynecologist. "What's this Tom Mix business?"

"A childhood hero worship, half sentimentally, half humorously preserved into adulthood. A fascination that's proved rather profitable, really. It's the only thing in his life he's made anything of. He thinks his father was like Tom Mix. Perhaps he was. And you can see that he himself definitely resembles Tom Mix. At least, you *could* see that, if it weren't for all that fat."

"He is heavy, isn't he? I groan every time he gets onto a horse. I'm always surprised when the horse doesn't groan too."

"They say that inside every fat man is a thin man trying to get out. The thin man in Johnny is Tom Mix."

They spoke in subued tones, but each had a good resonant voice that easily could have been heard at a greater distance than that which separated them. Being educated men, their tones were modulated, their words clear and intelligible; and, unlike the other cow hands, they didn't interrupt each other when they spoke. In short, their conversation was very like a dialogue. Overhearing them would have been like listening to a radio drama in the old days...with the crackling of the fire supplying the "static."

"I've only see you and Johnny," went on Mac, "out here on the open range, where men are men and a good cigar is a smoke, but let me see if I can't quickly sketch the relations between you. Just as a kind of professional exercise, you understand? Okay. He sort of hangs around you. You not only tolerate him, you feel sorry for him

and kind of like him. You want to help him straighten himself out. But it's difficult. He comes to your home, tells you his troubles at great length, seems to be seeking your advice; but when you give it, he's offended, accuses you of patronizing him, suggests you mind your own business. He seems to regard you as a person of superior character, or as someone posing as a person of superior character. He makes a hundred little jokes about that, gives you a hundred sly digs with his elbow. He humorously compares you to Abraham Lincoln and to the Founding Fathers. One moment he seems to admire you, the next he's trying to tear you down, to subvert the foundations of that wonderful character he attributes to you. He wants to show you up as a person no better than he is. You make little sacrifices of your time, your comfort, your convenience, and he drops hints that you're trying to morally one up him. He smirks an awful lot, and that's rather hard to take; but you keep hoping that he will improve with age, that this or that experience will enable him to grow, that his continued success will make him stronger...just as you hoped that his coming along on the drive would be therapeutic for him. You probably even paid money to get him accepted on the drive. In short, you offered yourself (although this may not have been our intended intention) as a kind of stepfather. The only trouble is that he can't bring himself to accept the role of stepson. That would mean being 'inferior,' and that causes him to twist and squirm. Am I right so far?"

"Yes," said Phil, staring across the fire. "Your remarks are uncannily accurate. I'm half inclined to be afraid of you." Mac was sitting on top of a large clasp-bound trunk (which would take three strong men to hoist onto the back of the chuck wagon tomorrow morning), and his face was mainly lighted from below, like that of a Japanese interrogator in a World War II movie. "You're even right about the money business. I paid Milt $300 as Johnny's recruitment fee. My wife and I had quite a discussion about *that*, but it was a kind of desperate last resort on my part. I thought that this experience would do him some good."

"I see," said Mac, after a reflective pause, "that Johnny did right in turning to you. His impulse was a good one. This searching for a father surrogate is constantly derided on the very unreasonable grounds that it's immature — and of course it is! — but it's healthy and necessary. Johnny's character can only be straightened out by the face-to-face confrontation, the

guidance and personal example of someone he respects and admires without envy, someone he can look up to... Why do you smile?"

"'Someone he can look up to'?"

"He does sit rather tall in the saddle, doesn't he? But my point is: You'll have to give him up. You won't be able to do anything with Johnny. You're a man, a better man than most, that's why he's drawn to you, but for this job you'd have to be a hero or a saint. And Johnny, at his age and with his habitual resentment of anyone being, or presuming to be, superior to him, is not likely to find such a man. Not on this side of the grave. You'll have to shrug your shoulders and turn away."

"There are times," speculated Phil aloud, "when one is either a hero or a saint, or one is nothing."

Mac regarded him across the fire with a touch of amused and almost contemptuous scepticism, an expression Phil had seen elsewhere more than once. "Well... that's a choice you have to make. You best know your own capabilities and resources. But my advice (and I usually charge $50 an hour for my advice) is to shrug your shoulders and turn away."

A line from Blake rose almost unbidden to Phil's lips: "'Good advice for Satan's Kingdom.'" He regarded Mac with that look of a moment ago, as if he saw something rather sinister in the man. "Yours," said Phil, "is the voice of defeat and the counsel of mediocrity."

For a moment the two men regarded each other with undisguised hostility and resentment. Then Mac demonstrated the shrug he had recommended. "As I said, the choice is yours. But I've been more than officious. I'll drop the subject."

There was a silence during which the fire, burning lower now, crackled thoughtfully. Phil seemed to be communing with it.

"Ah," he said at last, and with a kind of mournful wail: *"He's such a pathetic jerk!"*

His wail was echoed — parodied — from a distant quarter of the night: a long, low keening cry.

"A coyote," suggested Mac. "Or perhaps a wild dog."

Somewhere nearer, there was another noise. A faint metallic scraping.

Both men were alarmed enough to stand up. They looked out towards the western darkness.

"It sounded," said Mac, considering the matter carefully, "like it came from the chuck wagon. Jack sleeps there, doesn't he?"

"Under it. A bear could be poking around it and not wake a sleeper like him."

Two glowing spots emerged out of the darkness, hung suspended for a few seconds about a foot off the ground...and blinked out.

"I saw it when it turned aside," said Mac. He reached down, plucking a burning stick out of the fire and threw it. It fell, trailing sparks, a half dozen feet to the right of where the gleaming eyes had been — struck something, a gaunt and pale thing, not a coyote: its face, turned towards them, expressed a cat's dismay. Spitting fright and outrage, it greyly flickered into the night.

"Prowling for food," said Phil, laughing. The sudden apparition of that face and the uninhibited horror and rage it had shown had shocked him. "You didn't hurt it, but it won't be back."

Mac stretched and yawned. "Well...good night, Phil." His words were cavernous-sounding, as if he were more or less a hollow man. "We've put out the cat and Milt has wound the clock. I'd better turn in. It's going to be quite a day tomorrow."

But Phil wasn't ready yet for bed. He sat a long while gazing into the sinking fire, until it was nothing but a mound of glowing red embers and grey ashes. Then, with a sigh, he rose — shrugged his shoulders — and crept off silently to his waiting blankets.

7. *Around the Campfire: Morning*

For once, Johnny wasn't late for breakfast. It was so early that "the night was still contending with the day as to which was which" when he came cheerfully staggering across the open ground beneath the weight of his saddle and bedroll, which he had hoisted onto his right shoulder. He waved his free arm at the three men at the campfire and started chattering at them when he was still fifty feet away. The three paused in their activities — Jack was preparing breakfast over a makeshift grill consisting of some bricks and an iron grate, Milt was nursing a cup of hot coffee, and Phil was shaving off to one side and luxuriating in the feel of the warm water on his face and hands — the three paused and gazed upon him with a mild surprize.

When he reached the pale of the fire, Johnny threw down his gear with a laugh and surrendered himself to the grand-daddy of all shivers. *"Brr, it's cold!"* His frozen breath drifted away like gunsmoke. He rubbed his hands over the fire, hoarding the warmth and gloating like a miser. "By cracky, old-timer," he called to Phil, "you look just like Gabby Hayes with that white beard!" — referring to the lather on Phil's face. "Not," he added, sinking his voice and turning his attention again to the

fire, "that you're so very gabby this morning. Cat got your tongue?"

"Here, Fats," said Jack, handing him a rare earthenware mug, "drain off this coffee. It'll warm your insides a little."

"Thanks, Jack. Boy, that's hot! Say...I hope that prowler didn't bother you much last night."

Milt looked up from his campstool. "What prowler?"

Johnny's frank and open countenance, as he turned to reply to the boss of the Bar None Ranch, was touched by the first level rays of the sun cresting on the eastern ridge.

"Well, Milt, I don't know, really. But last night I woke up very late, I don't know just what time, and I saw someone pokin' round the rear of the chuck wagon. At first I thought it was one of the hands trying to wrangle a little extra grub — lookin' for a midnight snack, don't you know? So I turned over and went back to sleep. But somethin' kept botherin' me, I couldn't figure out what, and then this mornin' I realized what it was. Nobody around here has an all-white outfit like that guy had."

"All white?"

"That's right."

"Like the Ghost Rider?" asked Jack.

Johnny cast a thoughtful look at the cook, seemed to ponder that question.

"Maybe," hinted Milt, "it was just a dream"

'A dream? Well... Yeah...yeah, you may be right about that, Milt. It might've been nothin' but a dream."

"Wait a minute!" said Phil, scraping speculatively at his face. "Last night, Mac and I heard noises like something prowling around the wagon, but we saw a wildcat and thought it was the culprit. Now I wonder..."

"Me, too," said Jack, laying strips of still-sizzling bacon on paper towels to one side of the grill. He got up. "Keep an eye on those flapjacks, will you, Milt?"

He was back in a few minutes, but he had been gone long enough for most of the other cowboys, pleasantly aroused from their beds by the delicious aroma of bacon and pancakes, to gather at the scene.

"By God," said Jack, "Johnny wasn't dreaming. There *was* a thief here last night! I don't know all what's gone, but there's a bottle of whiskey missing, that's for sure, and, I think, a blanket. There seems to be a can of lighter fluid gone, and — and this is what worries me — a carton of rifle bullets."

Milt, who was hunkered down in front of the grill with a spatula, straightened suddenly. "There was a rifle there too! When I took the

rifle away from Shorty, I threw it into the back of the chuck wagon."

"Yes, but he didn't take that. He only took the bullets."

"Maybe," suggested L'Amour, "he thinks we can't shoot at him if we don't have any bullets."

"He may want those bullets for his own gun," said Johnny, with an indifferent laugh, while eyeing the flapjacks. "That batch is about done, I think. 'Cause he does have a rifle, you know? I saw it yesterday, as plain as can be. It was in a long holster at the side of his saddle. I wouldn't be at all surprised," he went on, but rather as if musing aloud and with no particular reference to Shorty, who, stretching and yawning, had just come into the rustic circle, "I wouldn't be at all surprised if the Mysterious Stranger didn't resent our taking pot shots at him. Who could blame him if he took a few shots back? All's fair in love and war, and this," said Johnny, his voice sinking with mock gravity, "is *war.*"

The crew, standing about, turned its several faces towards all points of the compass at once...but the Ghost Rider was not to be seen on the high ground he had occupied yesterday, or anywhere else. Oddly enough, Johnny — as Phil, toweling his face and hands, looked on — cast only a negligent glance about in imitation of the others and then, like a brave man scornful of danger, allowed his eyes to sink back towards the pancakes.

A suspicion glided across Phil's mind, like the shadow of a low, swift-flying cloud across the uneven landscape. But it didn't make sense! It simply didn't make sense! What could Johnny do with those things? It was true that there was something out of character about Johnny this morning, but he was probably trying to make up for his surliness of the last few days and, being unused to being cheerful and friendly, was overdoing it a bit. Phil gave his head a shake, to dislodge that curious and unfounded suspicion, and joined the line-up for breakfast.

"Look," said Milt, by way of general announcement, when the others had mostly finished and were scraping at their plates to get the last of the syrup, "that fellow's not likely to try anything. Now that he's stolen some stuff, we probably won't see him again, but keep your eyes peeled, anyway. And those of us who have guns had better keep them handy."

Milt decided to take into his own custody the rifle from the chuck wagon. Two of the other men also had rifles — bears were sometimes, though not often, seen on the drive — and Hank loosened the straps of the heavy gauge shotgun fastened to his saddle. Shorty flourished an ancient

handgun he had had secreted somewhere. "That nut had better not mess around with me," he blustered, "or. he'll be a real ghost."

"Oh, fine!" laughed Milt. "Just what we need — a trigger-happy clown! Take my advice, Zany. Get rid of that white jacket. Otherwise, you'll be another notch on Shorty's gun. The only safe thing would be to dress in all black — like John here. He's got the right idea. Well, gentlemen, shall we join the ladies?" By which, of course, he meant the cows.

8. *A Train of Gunpowder*

The men tramped off to the horses, Johnny with them. But when he started to saddle Redeye, some yards from the others, he was stopped by Drinkwater. "Sorry, John, but you're going to have to ride Tanglefoot."

"Tangle..foot?" echoed Johnny. But his smile remained in place.

"Yes. Redeye's a good workhorse, and I'm going to have to give him to someone who rides better and who's been working more than you have. He's yours, Shorty" — turning to Gruenwald, who was coming up, trailing his gear in the dust and leading Tanglefoot. "Shorty's horse, Indian, pulled a muscle in his right foreleg," went on Milt, not unkindly but in a businesslike tone, "and he'll have to limp along behind the chuckwagon for a spell. That only leaves Tanglefoot here. He's sort of skittish and has too many oats in him, but you just let him know that you're the man in the saddle and he'll be okay." He lowered his voice. "Tell you what. Why don't you show these guys what you can do? I know you've always wanted to ride lead with Phil. If I see that you can do your share of the work, I'll pull Shorty off the lead — he's getting too old for that kind of hard work, anyway — and Phil can take you in hand and show you the ropes up front. How about it?"

"Yeah, sure, Milt," murmured Johnny, "that's kind of you. Thanks." But the eyes above his paralytic smile were troubled — and there was a wavering indecisiveness in the action of his hand as he reached to take the reins that Milt was handing him.

He saddled and mounted Tanglefoot without incident. Cautiously, almost apologetically, he guided him off towards the herd. He gathered that Tanglefoot had a reputation as a maverick, but he certainly seemed tractable now. What did these guys mean by saying this was just the horse for *him?* Why, this horse was gentle if he was treated right! Which, he reflected a moment later, was true of its rider too.

As the day wore on and Tanglefoot remained placid and suggestible, Johnny forgot yesterday's unpleasant experience, and his troubled brow became smooth beneath the brim of his black hat. Even Shorty was unable to wrinkle it again. And he tried.

Just before lunch, he rode up to Johnny and demanded angrily, "What have you been doing to this horse? He's *exhausted.*"

Johnny returned a mild answer. "I rode him quite a bit yesterday, Shorty, and I'm a good deal heavier than you are."

"Well, damn it!" snapped the little man, wheeling the sluggish Redeye away, "you should get your fat ass down off the saddle once in a while."

Ordinarily, these few words would have clouded Johnny's countenance for hours; but Phil, who had witnessed this scene from nearby, noted with some surprise that there was no other response but a slight tightening of his friend's mouth.

After a recess for lunch (during which Johnny ate as if he weren't sure of supper) the migration continued. The cows, not quite one thousand now that the sore-footed ones had been cut out, were prodded and coaxed across the width of the valley to the visibly gaping pass. The distance was not great, but Milt decided not to try to squeeze the herd through the pass at this hour. "The sun would go down before we got them all out. It'll be best to camp here tonight and take them through in the morning."

It was an hour from sunset, but the coming night was foreshadowed by the cooling tide of shade that lapped eastward from the steep walls about the entrance to the pass. Milt ordered the chuck wagon stationed around a bend, so that the food would have as little flavor as possible of the dusty herd, which was to bed down for the night in the pass. That surely was the best place for them. There was no water, but there was some grass, and they were hemmed in at two sides. If some strays wandered back this way, there wasn't much harm done; and if they wandered the other way, that was all right too, for those, said Milt, wouldn't likely reach the other end of the pass before the rest came through in the morning.

And so cows and men, making their various noises, settled down for the night.

For the men, it was the just-before-dinner hour: that delicious time of the evening when all but one or two, lazily and perhaps unnecessarily tending herd, were to be found at the campsite.

Johnny was not among the nine or ten men who congregated now by

the fire. No one would have given much thought to his absence at this time of the evening, except Phil and perhaps Milt. But Phil was also away just now, and Milt thought nothing of it because he had seen Johnny ride off behind a large outcropping of rock a few hundred yards to the right of the entrance to the pass. The cowpokes would spring leaks at any convenient spot, without giving much more thought to the possible public nature of the act than the horses did, but they generally went off out of sight if they had some more serious business to attend to. And Johnny, in the present instance, had.

Behind the high rise of rock, he urged Tanglefoot down an inclining bank into a dry arroyo which followed the curve of the towering cliff above like a moat before a castle. There had been no trouble, even in the darkness last night, with Redeye but Tanglefoot picked his way fastidiously. The horse flinched when one hoof struck something and sent it bounding down the slope: a rock, which hit the ground four times before coming to rest, as if dumbly repeating a phrase in four syllables. Such a phrase, perhaps, as *pa-the-tic-jerk.*

Johnny dismounted and placed the loose ends of the reins under a rock, to keep the horse in place. Here, in a shallow trench, were waiting the things he had stolen from the chuck wagon. He took a swig of whiskey from the bottle, not because he felt he needed a drink, but just on general principles, and tossed the bottle carelessly aside, knowing that the sound of its splintering fall would not reach the camp from this distance. He spread on the ground the blanket, an old grey one with the brand of Bar None Ranch (a circle, or zero, with a bar across it) sewn into it with white thread. He took a dozen rifle bullets from the black and red cardboard carton, laid half of them on the blanket in military array, folded the blanket twice, laid the other six in line, and then rolled the blanket. He placed it snugly in the shallow trough, unscrewed the cap from the can of lighter fluid, which Jack cheatingly (not Old West authentic) used to light fires, and trailed a thin latticework of the fluid back and forth across the blanket, letting it soak in. He spread a layer of dry twigs and nettles over this, tossed on some larger twigs, tore up an old copy of *Outdoor Life* that he had found in the back of the chuck wagon and heaped the scraps also onto the pile. He tossed the gurgling can out of range, struck a match and touched it to the paper.

He hastily remounted Tanglefoot, sat for a moment eying the thin yellow blaze and rode off up the incline and back towards the

camp. On the other side of the outcropping he looked back, half expecting to see a plume of white smoke rising straight into the air, as from an Indian signal fire in an old movie, grim warning to the peaceful settlers in their covered wagons or to the blue-shirted cavalry...and which would be equally ominous to him now. But such smoke as there was, was being carried away from the camp, along the ground and along the contours of the bluff, by the wind.

He rode, fast enough but without galloping, back to and into the wide mouth of the pass and towards the milling herd.

Before him, thoroughly immersed in shadow but silhouetted against a distant wall of glowing cliff, was a cowboy seated rather casually, almost sideways, on his horse, his right leg raised and the boot resting on the saddle. He was overlooking the multitudinous backs of the herd, which filled the pass from side to side and stretched perhaps an eighth of a mile into the distance.

It struck Johnny, when he was about thirty yards away, that the figure might be that of the Ghost Rider — struck him almost literally, would have stopped him in his tracks had he been on foot; but Tanglefoot apparently recognized in the man and horse nothing but what was familiar. The state of the light was such that he couldn't tell whether the rider was dressed in white or not, or even whether he was facing towards or away from him. A few more yards, though, and he saw the man's head turn in his direction and knew that it was Phil. Again, had he been on foot, he would have broken stride. But didn't want to talk to his old friend just now. Phil had a sympathetic quickness where his feelings and thoughts were concerned that was sometimes disconcerting and might be inconvenient at the moment. But he could hardly rein horse or ride off in another direction. As he came nearer, he saw Phil glance again at his hat. He had obviously been puzzled by that hat all day — he knew that Johnny had packed only one hat for the trip, and that had been white. But for some reason he had asked no questions, and Johnny would never have told him that he had spent some precious time last night blacking his hat with liquid boot polish. A white hat was too conspicuous — and he wasn't going to be shot for the Ghost Rider, if he could help it.

"Say, Phil," he began, "I think I saw the Ghost Rider a few minutes ago..."

"Where?" asked Phil. They were now very close, their two horses literally tete-a-tete.

But Johnny didn't have a

chance to give his prepared answer. He was interrupted by the sound of a rifle shot, quickly followed by three or four others. The shots took him as much by surprise as they did Phil. He had been waiting for them, and yet, when they came, his heart, unprepared, leaped in his chest — just as Tanglefoot started in surprise under him. The look he cast back towards the mouth of the canyon was entirely unfeigned; he actually thought for a moment that he had been anticipated, that shooting had broken out at the camp. He realized his mistake, and, in accordance with his previous imagining of this moment, *acted* astonishment, counterfeiting what had a second before been genuine.

But Phil failed to notice this artificial reaction, which would surely have given Johnny away if he had seen it. He too had glanced instantly in the direction of the camp. There came several more shots, the explosions not so much muffled as Johnny had supposed they would be. To his attuned ears they sounded very loud and (this was his impression) like a cat-and-dog fight, a series of barks followed by feline whines.

Phil and his horse leaned forward. In what was apparently a spontaneous, instinctual movement, they were galloping towards the camp with a purposive fluidity of movement that Johnny would have envied if he had had the leisure. And he saw in the distance, on the other side of the herd, the diminutive profile of another mounted figure racing towards the mouth of the pass. A few seconds later and both men were nearing the bend around which lay the camp, for whose safety they were alarmed. Neither of course had given any thought to the fact that they were leaving the cows in his sole care. Not that they cared much about *him*, anyway. Well...good. For once, that was something in his favor.

Now. Now was the moment of truth — the moment he had dreaded and longed for.

9. The Stampede

He had wished, hoped, half expected that the sound of the gunfire would stampede the cows, but that was not to be. They took very little notice of it, but that was hardly fatal to his plans. He waited until he saw the fellow who had been on the other side of the herd (Haycox? Trimble? he wasn't sure), pursue Phil round the curve and out of sight, and then he spurred Tanglefoot into action.

He yelled, as if in surprise and alarm, raced Tanglefoot at the rear echelon of cows, waved his hat, slapped the lean flanks of the hindmost with it, yelled again,

raced around the rear of the mob to the other side. *"Fire! Bears! Mountain lions!"* he cried. A movement stirred through the herd, like a rumor through a crowd. The cows nearest him were nervous and restless. Under his continued agitation, they began to mill about, but more or less where they stood, hemmed in by the others. They lowed and bawled until the others took up the refrain; it was like a traffic jam on the freeway, each driver leaning on his horn.

"Hit the trail!" yelled Johnny. "Git along, little dogies!"

They began to git, to stir forward in one direction, away from him and towards the other end of the pass.

Soon the herd was on the move: lowing, bawling, trotting, loping. He raced Tanglefoot back and forth across the rear of the frantic mass, now to the left, now to the right, urging on the stragglers and the more irresolute, alarming them with his yips.

The cows began getting their stride, an objectless fear overtaking them. They were like lemmings in a suicidal rush to the sea. The sound effects, he noted with a professional ear, were good. There was a dull rumbling through the ground, like the approach of an earthquake, a noise in the air like thunder.

My God! he thought next moment. *It's working.*

He glanced back. Luck was with him. No distant figures of horsemen had as yet appeared at the mouth of the pass, although they must have heard at the camp the noise the cows were making. Probably, they had been hastily saddling up to investigate those shots (which must have sounded to them as if they came from the pass) when Phil and the other rider came charging into their midst. Those guys would be coming along soon, but they would be too late — they couldn't possibly stop this frenzied rush. Nobody could, not even himself. Now he would race ahead around one side of the herd to the front, ostensibly to stop the cows if he could, but actually to get out of sight of Milt and the crew coming into the pass. Then he would pull off to one side, perhaps hide himself and Tanglefoot in one of the shallow clefts that ran up the sides of the walls and wait for the herd to thunder past. He would come out after it was all over, but before the dust had settled — and come upon the other men from behind as they sat "thunderstruck" in their saddles, staring at that crevasse stuffed with cows. Perhaps he would tell them that he had fallen from Tanglefoot — *that* they would believe — and had sprained an ankle. They would never know that he had been pusing the cows on.

And he would say something about that other guy who had been riding along behind the cows, trying to stop them — it must have been Zany, as he was wearing a white jacket. Zany, naturally, would then deny that he had been there, and every man jack of them would instantly leap to the conclusion that it had been the Ghost Rider. He wouldn't use that name himself, but would allow them to congratulate themselves on their shrewdness in figuring out who it had been. That would be more convincing that any direct statement on his part.

Those were his plans. They sounded plausible enough to him. And even if someone, such as Phil, had his doubts, he would never be able to prove anything.

And so far his plans were working beautifully. The cows were on the hoof. And how!

Nothing could go wrong.

But riding to the fore wasn't all that easy to do. The cows were faster than he had thought it possible for them to be. He was reminded of the land rush in *Cimarron*. Trying to get to the front of that blurred and thunderous rush of movement was like trying to overtake the locomotive of a speeding freight train. But running on the higher and sloping ground to the left, he finally made it. He was in the vanguard. Abruptly, he laughed out loud, taking himself by surprise — for it struck him that he was at last the lead driver.

The contours of the Terrain forced Tanglefoot inward somewhat, and Johnny soon found a few cows on both sides of him, with the great mass closely bringing up the rear. He looked back. What a chilling sight! Terrifying — that horde of cows bearing down!

Run, Tanglefoot, run! And Tanglefoot ran.

Johnny cast his eye along the left bank of the pass, looking for a plausible resting and hiding place. He didn't see one...but it was best to get over to that side now, as soon as possible.

He tugged sharply on the left rein, half afraid that it might cause Tanglefoot to stop, which would mean the end of both of them. But he needn't have worried; Tanglefoot failed to respond. He tugged again. With the same result. The horse raced forward wildly, heedlessly, pell-mell, his hammerlike head working back and forth.

Johnny groaned. The damned horse had panicked! He couldn't control it.

Tanglefoot ran as if for dear life — and he, perforce, rode as if for the same.

They were flying through the wind, Tanglefoot's erratic hooves seemingly striking wide in all

directions, his eyes bulging, foam flecking from his mouth. The canyon walls, folding and buckling, advancing towards him and receding, streamed backwards towards the camp.

His hat flew off. Looking back, he saw it rolling along the ground for a flickering moment and then being crumpled by the pounding hooves of the first cow. He had an almost clairvoyant glimpse of its inner white lining as it disappeared into the hungry maw of the crowd, a glimpse that sent a curious pang of fear through him. A cow far to the right of him jumped a bush. A second, third, fourth, went through it, scattering leaves.

He hung on, clung for life, leaning forward. Run, Tanglefoot, run! And Tanglefoot ran. He had to keep pace with the cows! Had to! If Tanglefoot should stumble — my God! Or if he should slip from the saddle —! They were caught up as in a raging river and borne along. It was like being in the midst of the rapids, jostled by spiky driftwood. There was a moving surface of lumpy cowhide — brown and black and splashed with white — all around him. The noise was terrific, the air shredded by thousands of bellows. One cow was running so close beside him that for some seconds his right leg was pinned between it and Tanglefoot's flank. He beat it off, frantically, like the crooked jockey in a horse-racing picture lashing the good jockey. A cow to the other side of him stumbled. It fell forward, its eyes bulging from its head, its neck at a gruesome angle — he heard a loud, unmistakable *crack!* and saw the cows tripping over and piling up behind the fallen bulk. But the racing swarm closed its disorderly ranks again and were soon all around him.

He rode terror-stricken, rode with all his heart, rode better (although he wasn't conscious of this) than he had ever ridden before.

On came the thundering herd — the charge of the heavy brigade. On flew the hysterical Tanglefoot. Johnny couldn't jump off and couldn't stop the horse. He must ride, until —

Until —

Oh my God!

Johnny stood up in the stirrups, stared over Tanglefoot's hammering head. He looked around, his mouth flailing open, and pointed meaninglessly into the distance, as if to show someone what lay ahead there.

The ravine!

They were going to fall into the ravine! His panic-stricken horse would never see that drop in time, and even if he did it wouldn't do any good. Even if he saw it and stopped, the cows would sweep

them brutally into it. Tanglefoot couldn't stop — and he couldn't leap that twenty foot gap. They would take the long plunge, horse and rider, like a trick act in the circus, to the trickling stream at the bottom — and hundreds of cows would rain down around them and upon them, burying them from sight. He would be dead and buried in beef. His rotting carcass would never see the light of day. Probably no one would ever know for sure he was there. His body would never be recovered. He would simply have disappeared from the sight of men.

All this flashed before his eye in one, two beats of a hoof. He himself would fall into the trap he had dug! He would be killed! He was going to die!

He pulled again, desperately, on the left rein, but Tanglefoot, with a toss of his spastic head, jerked the reins from his hands. He grabbed at them, wildly, useless as they were to him, caught them and hung on.

Tanglefoot flew through the wind, the ground blurring away from beneath his hooves. He seemed to be racing the cows to that dreadful finish lines.

And Johnny thought he could see in the distance the ridge — the fatal ridge. His groping terror found words, the first that came to hand, and he bawled them out.

I'M HEADED FOR THE LAST ROUND UP!"

The cry was snatched from his mouth by the wind and carried backwards over the rampaging cows. The clouds overhead, torn to streamers, kept pace with him.

He leaned forward and babbled into the horses's ear, pleading with it, but he might as well have been spurring it on to greater effort. It was as if they were hurtling down some steep hillside, pursued by an avalanche.

And there, unmistakably before him, was the ridge concealing the drop. Up they would go, up and over that rise, as if they were on a roller coaster — and then down!

He gave himself up the one bleat of despairing, unashamed terror. *"Help me! Save me!"* — a prayer heard perhaps above the boiling flood. He dropped the reins and covered his face with his hands. The universe was a thudding, thundering, buffeting darkness.

And there cut through that darkness not a light but a voice, a voice not loud but resonant. He seemed to hear it as much inside his head as out:

"Up Tony! Come on, boy!"

He dropped his hands, looked around. He saw something. A rider coming up very fast on the left side of the racing swarm.

Phil...?

No. Not Phil.

On surged the herd around him.

The rider was a large man dressed all in white, like a fancy rodeo rider, and wearing a ten-gallon hat.

The Ghost Rider.

His horse moved very fast. He was now almost parallel with Johnny, but surely forty feet from him.

And the Ghost Rider called again:

"Whoa there, dogies! Whoa!"

And Johnny saw something he could never have forgotten if he had been destined to live a hundred years. He saw the cows *answer* that command. He saw them look around, every one of them, in the direction of that cry, as a dog might at the sound of its master's voice. And there burst from their thousand throats a curiously concerted, a responsive *Moooo.*

Johnny stared at the Ghost Rider, stared with a horrible fascination; but even as he stared, he knew, at the back of his gaping vacancy, that nothing could save him now.

The Ghost Rider's horse moved with an effortless power and grace. It stepped towards him...and suddenly it was beside him. And he, Johnny Rokesmith, riding at a breakneck speed, stared up at the horse and rider.

A giant man on a giant horse.

It was Tom Mix. And Tony.

Larger than life.

Tom Mix beside him; Tom Mix thundered over the ground with a fantastic impression of easy power. Again came that voice that resonated through his listeners, man, horse and cow:

"Whoa there, dogies, whoa! You've run far enough. Keep your head, Johnny."

And the herd slacked its speed, faltered gracefully in its tracks.

But Johnny's neurotic horse dashed on, unchecked. Up and over the ridge they went! Up and over went Tom Mix and Tony beside them. And there, before them — the ravine. There, under the very hooves of his horse — the drop. Johnny saw the steep sides of raw earth going down and down, saw the silvery glint of water at the bottom.

And he felt and saw Tom Mix bend over him, felt an arm of tremendous strength and great size pass around him and take hold of Tanglefoot's girth.

"Up, Tony!"

And Tony leaped.

Johnny and his horse were lifted up over that dangerous gulf. Up, up! They hung for a long moment suspended in midair. In the sky. Like Valkyries. The wind stilled. There was an eerie silence, the thin air sighing around them. A peaceful silence, as of drifting cloud shapes.

Suspended.

Tom Mix bent over him, around him, protecively. He could see Tom Mix's face floating above him, against the sky; and, below, two cows — mavericks who didn't stop on Tom Mix's command — dropping with a dreamlike slowness, heads downward and oddly resembling bagpipes, into that dizzying ravine.

A suspension as of a skipped heartbeat, a held breath.

The other lip of the ravine slid forward and under them, swelled up to meet them. The iron-shod hooves of Tony the Wonder Horse touched the ground as lightly as the slippered feet of a ballet dancer and tripped lightly forward. And Johnny and Tanglefoot found themselves deposited effortlessly and harmlessly on Tanglefoot's four feet.

10. Into the Sunset

Johnny sat gazing up at Tom Mix...like a little boy on a Shetland pony.

Beneath him, Tanglefoot staggered in astonishment and stared with a dropped jaw at the magnificent horse above him, the equine equivalent of the emotion Johnny felt.

Tom Mix loomed, dynamic, masculine, and with a seemingly illimitable power. He was at least ten feet tall.

Tom Mix. Tom Mix had been killed in the hurtling crash of that massive iron machine in 1940. The man before him was a ghost. — Something like that realization thrilled wordlessly through Johnny's body. But there was nothing wraithlike here, the physicality of the being he faced was overwhelming. Never before had he felt himself so much in the *presence* of someone.

The living cowboy star had been, narrowly, an individual, Tom Mix, and, more broadly, a human being. This also was Tom Mix, but it was not a human being. When the mortal man had died, the mold had not been broken. Some aspiring but unformed vitality, some *genus loci* or elemental force sprung up from this land, had poured itself into the unshattered vessel, as a fiery liquid into an unbroken cup, animating it. Or so it seemed to Johnny. But whatever it was that constituted the being before him, it was just as much Tom Mix as the living man had been. Perhaps more so.

The Great Cowboy looked down upon Johnny with a stern and rather sorrowful gaze. Behind him, on the other side of the crevasse, a chorus of cows stared credulously down their mooing preternaturally harmonious.

Tom Mix raised an arm — and the cows fell silent.

Johnny waited, trembling, for the presence to speak.

The giant's mouth opened. "Hear me, Johnny!" And Johnny heard. That voice! It carried him back to those evenings of long ago, when he used to lie on the rug in front of the radio in that wonderful, shabby old apartment in Brooklyn. And yet it was not merely a voice of sound, however resonant and clear. It seemed to speak directly to some inner, as well as his outer, ear, like a voice heard at the Last Judgment.

"Hear me, Johnny. Turn not a deaf ear, as you have to that other voice, a voice not mine and yet mine, that spoke to you under the roof beam and under the open sky. Heed me.

"Why are you dressed in black, Johnny? What is the meaning of those duds?" Johnny, blushing and trembling, sat with downcast eyes, unable to reply. "What was it you meant to do here? Wasn't it a thing of treachery? Didn't you skulk like the jackal? Didn't you smoke the pipe of peace about the campfire with a tomahawk concealed in your saddlebags? Didn't you try to do here something of which you would have been ashamed all your days, which would have hobbled your pen and turned the pure stream of your love of the Old West into a divided and muddy trickle? You did. You would have lain in your bunk at night and grinned upward at the darkness, exulting in your triumph; but in your heart would have been a silent and a festering sore. Yes, Johnny, heed my prophetic soul: These things would have been. It's the wound that does not bleed that kills.

"I speak to you not only in my own name but in that of another, a man you never met but whose blood flows in your veins. Be such a man as he was: scorn spite and small revenges. To feed upon slights, as you have done, is to feed upon nettles and briers; such victuals are not good or wholesome food. Wear the pelf of the mountain loin or of the bear, not that of the jackal — for the taint of the jackal would be in your nostrils all the days of your life. Turn back to the path. Even the wind changes its course, Johnny. Change yours before it's too late."

Thus spake Tom Mix. Johnny could no more have sneered at these homilies than Moses could have corrected the grammar of the burning bush. He had no private reservations; he was overawed. The maxims were not strangers to him. Quite the contrary, he had heard them all, lying on the rug. But now they were like revelations of fresh discoveries, or like hunches unexpectedly confirmed. They came to him from without, charged with authority and underwritten by an overwhelming personal example.

The voice went on. "I know the man you meant to be when you were a boy, Johnny. Be that man, and when you are an old man, you will look back without regret. Be such a man that when your long day's ride through this world is done, some other man coming after you will find inscribed upon the rocky face of the cliff: *'Un caballero valiente paso por aqui.'* I know, Johnny — heed my prophetic soul — that you can be that man."

There was a relenting of judgment in Tom Mix's voice. He had given a blessing, conditional, but nevertheless a blessing. And there welled from within Johnny a gush of gratitude, an answering rush of generous feeling which, overflowing, brought the water to his eyes. But he was able to raise those eyes (for he had been seeing nothing but Tony's great feet) to the giant's face.

"They are coming," said the spirit, gently, "your companions of the trail. Be forbearing with them. Forget not my words, Johnny. Farewell."

Tom Mix swept his hat from his head, and Tony reared majestically, as in a movie poster, towered rampant, fifteen or sixteen feet into the air; the sight was awe-inspiring and yet not terrifying to Johnny. The great horse came back to earth. Stepping forward, it trotted, cantered and then galloped towards the end of the pass which, facing west, was very near. Johnny looked after the horse and rider. And he saw, or thought he saw, the giant figure of Tom Mix riding not into the sunset but into the sun itself, into apotheosis. But the sun's rays had dazzled him, and he looked away from it...and saw, with a blank sort of dismay, some men riding up on the other side of the crevasse, threading their way single-file on either side of the stationary mass of cattle: *little* men on *little* horses. Or such was his impression. But when he blinked his eyes and looked again, he saw that the men were no smaller than himself — which was small enough, perhaps. It was Phil, Milt and the others, the men of the drive.

And on their faces too was a kind of shock, which he recognized after a moment as concern for *him*. It took him awhile...but after his first surprise, he was touched by that concern.

Before anyone could speak, there came floating to them, as if out of the setting sun, a distant and lonely cry,

"Straight shooters always win. It pays to shoot straight."

Puzzled exclamations broke from several of the men on the other side of the chasm.

Milt: "What was that?"

Phil: "Something about 'Straight shooters'..."

Jack: "Naw, it was the cry of a coyote."

Hank: "A mountain lion."

Shorty: "I didn't hear nothin'."

The cows had before this begun to take up their naturalistic lowing, though somewhat tentatively, like an orchestra tuning up.

"Johnny," called Milt, excitedly, "you were *great!* But you shouldn't have done it! You shouldn't have tried to stop the cows by yourself!"

Each of these sentences amazed Johnny more than the one before. But it seemed clear that Milt and the others thought that he had heroically tried to stop the cows, which had been spooked by the shots or somehow else. Well...it would do no harm to let them go on believing that. Phil. Perhaps someday he would tell Phil the whole story.

"But, Johnny," called Milt, looking about for some sort of side path or bridge, "how did you get over there?"

"We leapt it," said Johnny.

"Leapt it!" There was another disconcerted series of exclamations.

"I wouldn't want to try that, not even on Bluff here," said Hank.

"That's quite a horse," said Shorty, eyeing Tanglefoot enviously. "I wish I had that horse."

"Well, Milt," said Johnny, adding: "Phil. Hank. Shorty. The rest of you guys. I don't think we'll try to leap back, and I don't know any other way to get over there." He was in a chastened mood. That of the others, like that of the cows, was also softened, subdued, by pity for his experience, for his brush with death. "It looks like the drive is over for me. I'll cut out. That is, if you don't mind, Milt. Isn't there a town somewhere near here?"

"Yes, John, there is. If you go

due south for about four miles, you'll come to the river. Follow the river west for maybe another mile, and you'll come to Walker Crossing. Chris Martin, who keeps the motel and stable there, will take the horse. The Greyhound for Los Angeles comes through in the morning. But are you sure you want to ride that far, John? Ride the horse, I mean."

"Yes," said Johnny, leaning forward to pat Tanglefoot, with some feeling of pitying fellowship, on the withers. "No problem. Tanglefoot and I can make it. We'll take it easy, but we'll make it. Come on, hoss, let's mosey."

"Good-bye, Johnny," cried the others in chorus, as he and Tanglefoot turned away. Nevada lay before them. The desert began, as at the very door of the pass, and drifted away by easy stages south by southwest. The mountains to his right were a cool and shadowy blue, those to his left still basked in the mellow and rather reddish glow of the departing sun, a glow that seemed to have been baked into them as into some rough-textured earthenware. It was a scene worthy of a John Ford movie.

The obedient Tanglefoot paced on, picking his way through the purple sage — which, his rider noted, looking about him with a kind of solemn joy, really *was* purple. The contour of the land turned them more directly west for a time...and so Johnny, trying out cadenced phrases to use in his books, followed (in his more earth-bound way) the example of his hero.

C.L. Grant ("Come Dance With Me On My Pony's Grave," July 1973) returns with a good double-twist story about an oddly perfect private school.

The Key To English

by C. L. GRANT

It was a May-and-mountain rain, falling less like drops than ribbons into grass and new leaves with a steady, unnerving hiss that wavered sporadically before a desultory wind. An all-day rain, neither storm nor shower, not hard enough to obscure the campus nor driving enough to keep the students penned within their gray brick dorms. It fell, and dripped incessantly from gutters still clogged with autumn debris and disappeared into the several streams that patchworked the playing fields.

At a window on the third and topmost floor of Hamilton Hall a boy watched the day drag, and he frowned nervously. With classes ended and lacrosse practice postponed by the weather, he could only stare, uncaringly tracing the landscaped delta with the six-story Burr Memorial Class/Administration Building at its apex. He stared, saw and ignored the looming presence of the glass-and-blue-steel structure and the split tongues of walk that joined it with its sisters at the triangle's base. Four o'clock sessions had just ended, and windbreakered students hurried toward him, huddled like driven sheep, with not one stepping on the grass.

With his hands burrowed in his pockets he blinked at the rain and turned around, propping himself against the damp sill. He had just awakened from a restless nap and for a panic-dark moment believed he'd been caught. His underclothes had been drenched, his hands fisted, and tendrils of a dream trailed behind him to the shower.

There were Chandler and Murray and Simpson, smiling...

He thought about visiting the girls' dorm to see Barb or Irene; he thought about sitting, decided to stand. He knew the signs, smiling

at himself, but cautioned his breathing that he would have to wait as he'd planned. Evening would be soon enough; it would have to be whether he liked it or not. In his pocket, fingers curled around the stolen key. The metal was cold, despite his grip, and only disquietingly comforting in its promise. He was beginning to wish his father had never heard of DelMer.

"Listen, son," the seldom-seen man had said this past August. "Public schools and you just aren't getting along. Now this DelMer doesn't seem to be a place for geniuses. It's where normal guys go to get a step ahead of the college game. I've been there, and the instructors seem as tireless and enthusiastic as any I've ever seen. I think you should try it. Maybe it can give you something I can't. What do you say?" Later, the boy had learned that he'd been already enrolled, and his answer had been a mere formality, as always.

But Dad, he wanted to say now that the fear had come, it's no fun here. Everything is too damned perfect, you know what I mean? Those instructors of yours know all the answers all the time, and you can't really kid with them. At least if I needed help in the city, I could stay after for a while. Here, if I don't grab somebody by last class, I'm out of luck. They disappear. Sometimes they hang around the lounges — remember those crummy pictures in the brochure? —but God Almighty, all they do is talk about the school and how great it is and how we're the look of the future and we should tell all our friends what a great education we're getting. They sound like public relations people, not teachers. I tell you, Dad, it scares me sometimes. It really does.

"And I think I know why," he said aloud. "And that scares me even more."

...Becketton, Ainstrom and Tander, grasping; and faces that froze in smiles and frowns, and faded at sunset to rise at dawn...

A distant thud of thunder turned him back to watch the rain, then turn again after pulling down the red-gray shade against a chill that ignored the thick, smoke glass window. At the same moment the door slammed open, and a boy fully a head taller than he stalked angrily in, shaking water from his poncho.

"Randy!" he shouted, "that Becketton is a bald-headed evil-minded bastard." He yanked the slick green plastic over his red hair and threw it into a corner. "Do you know what he did? Do you have any idea?" Randy only smiled. "He waits until we're all there dripping and sneezing, and then tells us we deserve a break and we should all

go back to our rooms and take a nice long nap! I don't think I'll be able to eat dinner I'm so mad. That guy just isn't human. He is just not for real."

Randy's smile broadened to a grin and he shook his head, saying nothing. Kartre's intolerance of the faculty's penchant for being human once in a while was legendary and fanatical, and no one took him seriously when he threatened to revive the long-dead school paper and expose them all.

"Life is hard, Kart," he said while his roommate disappeared into his bedroom and returned in dry jeans and a too-large sweater. "You should learn to take the good with the bad, the evil with the innocent. Remember what Shelley said about blithe spirits and birds."

"Assuming he said anything at all worth remembering, I could care less. It sounds like you had an English Lit session this morning. What did dear old 42C Chandler bull on about that's filled you with such epigrammatical wisdom?"

"I really couldn't tell you," Randy said. "I was thinking most of the time. About tonight." He glanced up at Kartre, but there was no reaction, and he frowned. "All I remember was that she wore a high-necked dress."

"Aha!" Kartre said from within the depths of a refrigerator they'd hidden in the room's only closet.

"Aha what?"

Kartre returned to the room empty-handed and immediately staked out his favorite chair, a rocker that never seemed able to tilt back far enough to suit him; as a result, he always appeared to be talking to the ceiling. "Aha, someone's been pinching our beer. But to return to our favorite girl: it sounds like headmaster Ainstrom had a long talk with her about the birds and the bees after that no-front thing she wore last week. Shame on her! Shame on him more. It certainly wouldn't do to have us wee boys see too much ripe sex. The chicks here are bad enough the way they flaunt themselves."

Thinking of the comparatively drab Philadelphia girls he'd been used to, Randy said, "You should have done three years in a public school, you wouldn't be complaining so much. I —" A pause then as a heavy knock interrupted him. He started to his feet, his hand automatically covering the key in his pocket. "Come on," he called. "Only God and Ainstrom need passes here."

Barbara Black and Irene Rosen were the only girls not intimidated or repulsed by the boys' rough manners and rougher play, and for that reason the four of them found themselves oddly united against the world, faculty and freshman until

graduation blew them apart. This night, however, Randy noticed immediately a perceptible split in their front. Barb, with rounded face and hair as dark as her name, headed straight for the refrigerator without acknowledging either boy's greeting. Irene, who seemed to Randy to be the incarnation of Walter Scott's Rebecca, roughly shoved his legs aside and joined him on the sofa, her hair gleaming wet. She fluffed at it a minute, then pulled a comb from her purse and began pushing it back from her face. Silently. Her eyes nervous, her mouth tightly shut. Kartre began an atonal whistling, and Randy felt the room closing darkly around him.

"All right," he said resignedly. "What's up?"

"You know Evan Johnston?" Irene said. "He's the —"

"Junior, yeah," Kartre interrupted. "We know him, don't we, Randy? Soccer center, shortstop; he's in our chem class."

"Was," Irene corrected. "He's gone. Clothes, books, furniture, everything."

"Uh," Kartre grunted, almost as if he'd been punched. He paled suddenly, and one hand worked at his chin. "Oh, brother, He saw Ainstrom, I guess, huh?"

"He had an appointment first thing this morning," Barb said, gulping her words to keep from crying. "Karen was in the office when that night proctor of yours, Owens, brought him in. Old lady Tander chased her out when she tried to hang around, and she didn't hear a thing. After English she went up to his room, and the door was wide open, the place cleaned out. Like he'd never been there." She stared at the can of beer in her hand, then drained it and popped open another. "I don't think we should go on with it. I'd just as soon not get shipped out that way. It's happened — what, three times? I get the creeps, I don't mind telling you. The least Ainstrom could have done was let him say good-bye. I mean, he was a nice kid, really. Not like a jock at all."

"For crying out loud, Barb!" Randy snapped. "You sound like he was dead. You'll get to see him when his mother comes to fetch him. For crying out loud!" He stood abruptly and went to the window, staring at the shade a moment until he snapped it up into the glare of lightning. He was frustrated, becoming frantic because, despite his rising anger, he sympathized with his friends. Though DelMer had few regulations, their violation brought radical response, and none of the four had any doubts about the reaction to what Randy had planned for that evening: it was the

same investigation that had just cost Evan his junior year, or more.

"We won't even get a letter," Irene said quitely.

And then there were the stories whispered from senior to senior that terrified and tempted. But tales they were, and he was only interested in what was so damned important about the storeroom on Burr Memorial's sixth floor. Closet skeletons intrigued him; school secrets mesmerized him.

"All right, come on," he said loudly, turning suddenly and clapping his hands so that Barb jumped and Irene scowled. "I ain't going to steal anything, so what's the worry? If I get caught and hustled out, my dad'll raise hell and I'll be back in a week. If not, damnit, I'll write."

"No one else has," Kartre said sullenly.

"Okay, okay," Randy said, sitting cross-legged on the floor. "I can take the hint. You want out, right? You're still scared, and you don't think one lousy room that cost a pal his education — and God only knows how many more there are — you don't think that's worth the risk of getting expelled."

Barb nodded quickly. "It's just too silly, Ran. Just because you've got a ... a thing about this stupid room doesn't mean I have to risk my Vassar acceptance. It would kill me to lose it."

"She's right," said Irene. "You and your damned imagination have made a lovely little mystery about this, and it's really quite good. But adventures belong back in your precious Philadelphia, not out here in the middle of nowhere."

Randy began rocking on his buttocks to the tune of the urgency he felt growing with their retreat. "Do you really think this place is so hot? I mean, with teachers you can't talk to, computers that whistle and do tricks with books, TV screens all over the place like a damned spy movie? You call this education? My God, I thought this place was supposed to be experimental with the big sweet government pouring in the money to make us special. Well, where does it go? What's the goddamned experiment? DelMer, shit! Hell, we had computers and TV in Philadelphia too."

"Damnit," Kartre said, ceasing his nervous rocking and leaning forward on his forearms and knees. "I wish you guys would quit your fighting. I want to get this thing settled."

"What's to settle? We're not going," Barb said, looking to Irene for her nod of support. "We're scared. We don't want to get caught."

"But we won't get caught," Randy said, much louder than he'd intended. "All you guys have to do

is stand and watch. I'm the one who's doing the breaking in. What's the big deal?"

"Risk," Kartre said levelly, and Randy twisted around to glare at his betrayal. "Irene's right. Barb's right. Maybe your dad doesn't care about you like you always say, but ours do. We're not going to blow this chance for college. We're not that smart, Randy, but this place gives us an in. I'm sorry, pal, but I'm not going either."

"Well, thanks a hell of a lot. You sure picked a great time to tell me."

Irene, her eyes deer-scared, slid from the couch to sit in front of him. "Randy, you've been on your own for so long, you just can't understand. We have to be safe. We can't afford the risk."

Randy brushed his hair back from his forehead and rubbed his eyes. He was tired, and he wanted to sleep, wanted to drown. "Listen...there are risks and there are risks. Ever since I was nailed for going up those stairs, I've wanted to see what it was they're hiding in that storeroom."

"They're not hiding anything!" Kartre interrupted. "It's only a goddamned place for supplies. What's so damned important about supplies?"

"We are not communicating," Randy said slowly. "It's just that...well, look, remember the day Chandler ran out of comp paper and I offered to go get it? Don't you remember how she looked? Like I'd asked permission to rape her! That's the only time she's ever lost her cool in front of the class. In fact, that's the first time I've seen any of them be anything else but reasonable, calm and god-awful smiling. Now, doesn't something like that get on your nerves?"

"What?" Barb said. "Their smiling?"

"Oh, hell," Randy said in quiet desperation. "How dense can you get? Why would she get so excited about a lousy supply room? Why did I get in trouble for trying to get up there? Why was Johnston expelled? Have you ever seen the parking lot? It's practically empty all the time, every day, even when there're classes going on. Why? Why the hell is that proctor, Owens, so concerned about our room checks? I mean, where would we go?" He stopped, stared, seeking answers in their sympathetic expressions and finding only more sympathy. He scrambled to his feet and headed for the door. "If I'm not back by eleven thirty, cover with Owens for me, will you, Kartre?"

"Hey, wait a minute! You're not going to try this by yourself!"

"Why not? It's the story of my life." And he slammed the door before they could respond, before

he started crying. He hesitated on the landing, then took the stairs two at a time, the hand gliding on the banister for balance burning by the time he skidded to the bottom. The lobby, green and gold, was empty; the proctor, he thought, was probably out hunting a cup of coffee. He leaned back to look up the stairwell, but he heard no pursuit, no calling him back. He trembled, then clenched his fists and ran across the polished floor and out into the wind.

The campus was still. The walks, dotted with light from dark-hooded globes, were deserted and gleaming wetly. The spotlights that flooded the front of Hamilton Hall blinded him until he side-stepped, hunching against the wall away from a rising wind. He wiped a sleeve under his nose, shoved a hand through his hair in a vain attempt to keep it from his eyes. A moment, then, as he watched juniper and holly twist away from him in the path of the wind. Indecision. A radio's blare.

...caught in a fog web while expert fingers, wristless, molded womb-warm plastic to his face, whispering equations in his ear, laughing...

A girl's laugh, a boy's reply.

...while his featureless father shrugged and shredded his picture his dead mother, formless, took when he was two...

Slowly he pushed himself away from the building and walked with eyes down until he found himself beyond the triangle on the edge of the soccer field. The clouds, regrouping, blackened the stars, and the vast treeless field ahead seemed less in shadow than drowned in black water.

"There be demons," he whispered, and turned away, keeping the triangle on his left as he headed toward Burr Memorial. A night watchman, preceded by a wavering pool of gray light, suddenly rounded a corner of the Student Union, and Randy ducked behind a tree, pressing his back to its winter roughness, the spring dampness. The watchman hurried by, muttering to himself, and Randy could not help but grin. Wiping a splatter of rain from his cheek, he waited until the man's footsteps were taken by the wind before he resumed his walking.

He moved slower now, reluctantly allowing his friends' timidity to clutter his thinking. They were as bad as the instructors, promising warmth and withholding it when it was needed. He had had enough of so-called experimental education, of seminars with a TV screen and discussions with souless men who brooked no humanity outside the norm. He had thought his father had rescued him from cousins and aunts in the city, but realized now

that the man could care less. In Philadelphia, at least, he had come to treasure a sense of being alive among living people. At DelMer he had begun to feel like a graveyard caretaker.

The key to English, Miss Chandler had said, is precision of language to facilitate communication.

"Damn, Miss Chandler," he said to the tips of his shoes. "Why don't you practice what you preach?"

And when he looked up, he had reached the rear of the Memorial, as dark as the front was lighted. Cautiously he stepped along the side of the walk, using the grass there to muffle his footsteps. There was a door on the side that the watchmen used to exit for their rounds. On four previous nights, he'd noticed they'd kept it from locking so they could return without trouble. He smiled at their innocent sense of security. DelMer students apparently did not have the nerve to explore. He broadened his smile. Having only been there since September, he had not been conditioned to think that way; and he waited a long and windy minute before dashing to the door, pulling it open and sliding inside.

He immediately flattened against the wall, panting as if he'd just run a wind sprint. The rear stairwell was dimly lighted, and he moved upward without hesitation, on his toes, avoiding the stairs' metal edges. His right hand slid along the outside wall as he climbed in a half crouch, his ears trying to encompass the silence of the building and isolate potential danger. A noise; he froze: the sighing of the wind. On each of the first five landings he hurried past the glowing red fire-exit signs; on the sixth floor, no light, no sign. Only a door without a window.

Cupping one hand into a fist, Randy blew into it to dry his palm. His legs, strained from the awkward ascent, trembled slightly, but not enough to worry him should he have to run. It was like old times, then, creeping around school after basketball games, looking for open lockers or doors and the mischief they promised. Gingerly, he took the door's bar handle in his hand. The sudden thought that it might be wired jerked the hand away, but there was nothing but his counterpoint breathing to the keening wind. He regrasped the handle and pulled slowly until the door slid toward him. Closing his eyes momentarily, he expelled a breath he didn't realize he'd been holding and quickly eased through the opening.

The darkness was unrelieved, and he felt a surge of panic when the door shut silently behind him. Hastily he tested it to be positive he

could leave, then shuffled down the hall. He knew the English Department storeroom was just around the far corner, and, in spite of himself, he hurried, gliding his hands along the tiled wall until a doorknob cracked against a knuckle. He took a lighter from his pocket and checked the tiny, hand-printed card tacked to the frame.

"Bingo," he whispered to himself and pulled out the key, still cold, and heavier than he'd remembered. He snapped the lighter shut, and the renewed darkness immobilized him until his eyes adjusted to the more-than-faint glow that drifted from the front of the building. Using both hands, he felt for the lock and slid in the key, turning it as slowly as he could until it caught and the tumblers clattered over. He pushed with his shoulder and slipped in, shutting the door behind him. He leaned back against the wall and blew in relief when he felt the light switch pressing against his coat. Without turning around, he fumbled until the lights came on, and, in spite of his suspicions, it was all he could do to keep from screaming.

At Chandler, Murray, Simpson, Becketton, rigid and blankeyed, in a neat ordered row against the far wall. At clothing racks, shoe racks, tie racks filled.

He knew that his mouth was open, and he felt silly. Then he shook off a billowing giddiness and inched forward to examine the androids more closely, unable to convince himself that they could not see him. He stumbled once and reached out a hand to steady himself. It came down in something soft, and when he looked down, it was a piece of cherry pie, quite fresh, Proctor Owens' favorite. As if it were blood, he wiped it hastily on his coat and extended a finger to trace Murray's stubbled chin, brush Chandler's gently molded cheek. On impulse, he tossled her hair, pinched her breasts and leered.

He was about to tug at Becketton's beard when suddenly he felt drained, felt nothing. He stared a moment longer, then slumped, backing away until he was somehow in the hall, on the stairs, on the wet grass in the wind, walking until the sun rose and created more shadows. There was the sound of a car speeding noisily away. Still walking. And the harsh sound of a faraway siren as he crossed the still-empty parking lot.

"Hey, Randy! Hey, Baptiste!" Kartre's voice did more than his words to convey his worry, but Randy continued to walk. "Hey, Randy!" and Kartre grabbed his arm and turned him around. "Damnit, man, where've you been? Didn't you hear that ambulance?

Evan's mother came to pick him up, and when they hit the turn down by the bridge, they smacked into a tree and went into the river. Barb was out riding and said a cop told her they were both dead. Hey, Randy, can't you hear me or something?"

The rush of words dammed for a moment, but Randy only nodded and said, "I have to see the old man."

Kartre's eyes widened. "How'd you know that? I was just coming to get you. Old lady Tander just called the dorm. I covered for you like you said, but you'd better get over there. She sounds like she's ticked."

"I'm going," Randy said.

"Hey, wait a minute! Did you get into the room? What did you see? Was there anything there?"

"Nothing," Randy said flatly, pulling away from Kartre's grasp. "Nothing at all."

"Well, damnit, wait a minute, Randy. What kept you? Where were you all night?"

Randy walked away, and a moment later Kartre stopped talking. Watching his roommate walk. Across the grass, through the glass door that marked the front office, irnoring the glare Miss Tander gave him, into Ainstrom's office without knocking.

"You sent for me?" he said.

Ainstrom looked up from a file folder he was holding and nodded. "Sit," he said.

"You even sound like a robot. Does it take you all morning to warm up or something?"

Ainstrom, unimpressively vested and gray-haired, smiled. "If it'll make you any happier, Randolph, I'm real."

"Our proctor, Owens?"

"Sharp lad, indeed. Yes, he's real. You sound a bit bitter, Randolph."

"I thought I was getting an education, not getting experimented on."

"Poor attitude, Randolph."

"Randy."

Ainstrom nodded at the correction and gestured for Randy to sit. "I'm sorry you had to be so curious, Randy," he said when Randy only stiffened.

"So now what? Are you going to expell me like the others?"

The headmaster finally replaced the folder on his empty desk and leaned back. "Expell, Mr. Baptiste? You underestimate me. Surely you can imagine the reaction of parents if they knew their darling children were being taught by androids. They, unenlightened, would react with...horror? Perhaps only disgust, like yourself. It sounds unfortunately melodramatic, but there would undoubtedly be something like a witch hunt, and I'm afraid my, uh, supervisors

couldn't allow for that risk until the first class — your class, sir — has graduated and proven itself."

Randy finally stopped screaming where nightmares are born and began to cast for a way out. But his options were narrow and thorned with fear. "You're going to kill me?" And he knew his voice was getting younger all the time.

"No — not quite."

The siren. He blinked. Kartre. "What about Evan? You probably rigged that one."

Ainstrom began to frown. "He was too close to his family, and his family was too large. You, on the other hand, are very much different." Randy backed away as Ainstrom stood, as tall as the rumors had made him. "Remember what Miss Chandler has taught you, young man. Precision of language is the thing: the key to English is communication. Expell is the wrong word."

Unbidden, Randy remembered his dream. "All right, then, what the hell is the right word?"

"Replaced, Mr. Baptiste. Replaced."

There was nothing Randy could say.

A few minutes later, Ainstrom poked his head out of his office and beckoned to Miss Tander. "You'd better get that Baptiste guy on the next plane back. His son is being expelled."

Miss Tander said nothing. There was, in fact, little she was programmed to do except glare and be threatening. And at that she was an expert.

F&SF Competition

REPORT ON COMPETITION 7

In the December issue we asked for a lexicon of 10 or fewer words from an alien language. And yes, in answer to one query, we were looking for humorous stuff; that's what this space is all about until you hear differently. Not as many entries as usual, but exceptionally high quality overall. Special mention to M. David Johnson, who created a language of clicks and squeals, and James P. Hanrahan, who came up with a Defhardian alphabet of 30 symbols; both entries were fine but hard to reproduce.

FIRST PRIZE: *Bob Leman*, Bethel Park, Pa.

FARN - v. i., to argue politics, esp. with a medicine man.

GARFT - n., a form of chastisement, consisting in removing the skin or other integument by means of heated pincers.

NASIFURM - n., the unbearable ennui that afflicts the wheen player during the lentil season.

OGFARN - v.i., to best a medicine man in an argument.

OGFARN GARFT - p.c., to be admonished by a medicine man.

ORFITIVE - adj., both decorative and nourishing; used only of life-forms with even numbers of limbs.

RHULF - n., a term of opprobrium, properly used only in castigating gravid bark peelers. *Literally*, the egg of the crested greal.

SNOAF - v.i., to lean upon a deciduous plant less than two meters high.

TUNDIFY - v.t, to chew upon the liver of one who has offended you, after the manner of gravid bark peelers.

SECOND PRIZE: *Robert Stewart*, Cambridge, Mass.

MNMNMNMNMNMNMNMNMNMNMN — PK - a fillip or twist on a neutrino; similar to a "curveball" on Earth.

GUGUNUGU::::: :: - unskilled in evolving techniques.

NUNUGUNU - talented in evolving techniques.

NUNUGUNU::::::::::::::NNNU - highest level evolver, with all privileges.

FT:::::FTFTFT - synchronicity status, with all privileges.

YT:YT - Well known exiled group responsible for the Lincoln-Kennedy foci embarrassment.

RUNNERS UP:

JORP NUM- An inanimate object that isn't actually inanimate, but thinks that it is.

GALAXUBYYR- A demanding, composite, tri-planet game derived from Terran chess, Martian pole vaulting, and Plutonian sex.

UIIO- A sexual deviate that eats yogurt; a cost accountant.

WEQOPRE-IO- A religious injunction; a magazine rejection slip written in Intergalatic Common Language; any unpleasant repetitive occurence.

KOBO LIOTTA- An insane person in a position of power; a Uiio that plays Galaxubyyr.

KOBO YU- A serious collector of ear wax and navel lint; a tourist.

NEAMU- The feeling one gets at a zoo when one isn't quite certain which side of bars contains the specimen.

DOGO JOST- An insight into ultimate reality; (Uranian slang) to cut wind while making love; to find a job.

DOGO JOST NI NEAMU- The horrible realization that Dogo Jost (Definition One) has surplanted Neamu, i.e., one is unfortunately no longer uncertain about which side of the bars contains the specimen.

William S. Gray, Greensboro, N.C.

AMCI'SV -- one responsible for the care and upkeep of natural laws.

ET'S'THU -- to commit incest by means other than sexual intercourse.

N'L YENDA -- 1. four days ago. 2. four days hence. 3. a politician.

R'STKY-TKY -- the place where beginnings go; the spontaneous exchange of the populations of two or more cities.

S'NDLY -- to dance or celebrate beneath the sky on a clear night in groups not less than six and not more than 53, utilizing only one manipulating appendage for ritual gestures and with no illumination except phosphorescent ocean water, until a state of amnesia and/or disregard of impending ill-fortune is attained; the sand-floored arena where such a dance or celebration is held.

ZL'AYNZE -- 1. to live as if one will die tomorrow. 2. to live as if one died yesterday. 3. inedible pets.

E. Hunt, Chapel Hill, N.C.

BARSUDWARG--a sudden and overwhelming impulse to hold sexual congress with an inanimate object.

DERISHERZA--a lucid vision of the future; usually accompanied by an unconquerable desire to consume one's progeny.

FEYGARISHIRI--an orgasm lasting for over three hundred years.
GYRSARDUN--an intense and painful love for nobody.
KYNAMAMATI--a glutton's attempt to eat himself.
MALAKUNDKI--a writer who makes his first sale a day before dying of old age.
SESSSTABISNI--one whose physical appearance is the precise mirror of the inner state of his soul.
VADA--the abrupt and traumatic realization that one is being remembered by a descendant after one's own demise.
ZAMAKI--an attempt to cease verbal thought for an extended period of time; loosely, any futile effort.

--*Paul Shelton*, Lompoc, Calif.

COMPETITION 8 (suggested by Roger Klorese)

Submit, please, some near-miss sf or fantasy titles, as many as you like. You know, like Aldiss's BAREFOOT IN THE BATHROOM, Bradbury's I SING THE BODY BATTERY-POWERED, Herbert's SAND-PILE, and so on and so on.

Rules: Send entries to Competition Editor, F&SF, Box 56, Cornwall, Conn. 06753. Entries must be received by May 10. Judges are the editors of F&SF; their decision is final. All entries become the property of F&SF; none can be returned.

Prizes: First prize, *Dracula* by Bram Stoker, *Frankenstein* by Mary Shelley (Doubleday). Second prize, 20 different sf paperbacks. Runners-up will receive one-year subscription to F&SF. Results of Competition 8 will appear in the September issue.

Fantasy and Science Fiction

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