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ROGER ZELAZNY

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Science: Prime Quality ISAAC ASIMOV

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Those of us who do not live on the West Coast tend to be a bit complacent about earthquakes, forgetting perhaps that one of the largest quakes in North American history struck in Missouri in 1811. Ben Bova's story is about the uncertain business of predicting earthquakes; it is very funny, and we think you'll be amused even if your house sits squarely atop the San Andreas Fault.

# A Slight Miscalculation

by BEN BOVA

NATHAN FRENCH WAS A PURE mathematician. He worked for a research laboratory perched on a California hill that overlooked the Pacific surf, but his office had no windows. When his laboratory earned its income by doing research on nuclear bombs, Nathan doodled out equations for placing men on the Moon with a minimum expenditure of rocket fuel. When his lab landed a fat contract for developing a lunar flight profile, Nathan began worrying about air pollution.

Nathan didn't look much like a mathematician. He was tall and gangly, liked to play handball, spoke with a slight lisp when he got excited, and had a face that definitely reminded you of a horse. Which helped him to remain pure in things other than mathematics. The only possible clue to his work was that, lately, he had started to squint a lot. But he didn't look the slightest bit nervous or high-strung, and he still often smiled his great big toothy, horsy smile.

When the lab landed its first contract (from the State of California) to study air pollution, Nathan's pure thoughts turned—naturally—elsewhere.

"I think it might be possible to work out a method of predicting earthquakes," Nathan told the laboratory chief, kindly old Dr. Moneygrinder.

Moneygrinder peered at Nathan over his half-lensed bifocals. "Okay, Nathan, my boy," he said heartily. "Go ahead and try it. You know I'm always interested in furthering man's understanding of his universe."

When Nathan left the chief's sumptuous office, Moneygrinder hauled his paunchy little body out of its plush desk chair and went to the window. His office had windows on two walls: one set overlooked the beautiful Pacific; the other looked down on the parking lot, so that the chief could check on who got to work at what time.

And behind that parking lot, which was half filled with aging cars (business had been deteriorating for several years), back among the eucalyptus trees and paint-freshened grass, was a remarkably straight little ridge of ground, no more than four feet high. It ran like an elongated step behind the whole length of the laboratory and out past the abandoned pink stucco church on the crest of the hill. A little ridge of grass-covered earth that was called the San Andreas Fault.

Moneygrinder often stared at the fault from his window, rehearsing in his mind exactly what to do when the ground started to tremble. He wasn't afraid, merely careful. Once a tremor had hit in the middle of a staff meeting. Moneygrinder was out the window, across the parking lot, and on the far side of the fault (the eastern, or "safe," side) before men half his age had gotten out of their chairs. The staff talked for months about the astonishing agility of the fat little waddler.

A year, almost to the day, later the parking lot was slightly fuller, and a few of the cars were new. The pollution business was starting to pick up, since the disastrous smog in San Clemente. And the laboratory had also managed to land a few quiet little Air Force contracts—for six times the amount of money it got from the pollution work.

Moneygrinder was leaning back in the plush desk chair, trying to look both interested and noncommittal at the same time, which was difficult to do, because he never could follow Nathan when the mathematician was trying to expain his work.

"Then it's a thimple matter of transposing the progression," Nathan was lisping, talking too fast because he was excited as he scribbled equations on the fuchsia-colored chalkboard with nerverippling squeaks of the yellow chalk.

"You thee?" Nathan said at last, standing beside the chalkboard. It was totally covered with his barely legible numbers and symbols. A pall of yellow chalk dust hovered about him.

"Um . . ." said Moneygrinder. "Your conclusion, then . . ."

"It's perfectly clear," Nathan said. "If you have any reasonable data base at all, you can not only predict when an earthquake will hit and where, but you can altho predict its intensity."

Moneygrinder's eyes narrowed. "You're sure?"

"I've gone over it with the Cal Tech geophysicists. They agree with the theory."

"H'mm." Moneygrinder tapped his desk top with his pudgy fingers. "I know this is a little outside your area of interest, Nathan, but . . . ah, can you really predict actual earthquakes? Or is this all theoretical?"

"Sure you can predict earthquakes," Nathan said, grinning like Francis the movie star. "Like next Thursday's."

"Next Thursday's?"

"Yeth. There's going to be a major earthquake next Thursday."

"Where?"

"Right here. Along the fault."

"Ulp."

Nathan tossed his stubby piece of chalk into the air nonchalantly, but missed the catch, and it fell to the carpeted floor.

Moneygrinder, slightly paler

than the chalk, asked, "A major quake, you say?"

"Uh-huh."

"Did . . . did the Cal Tech people make this prediction?"

"No, I did. They don't agree. They claim I've got an inverted gamma factor in the fourteenth set of equations. I've got the computer checking it right now."

Some of the color returned to Moneygrinder's flabby cheeks. "Oh . . . oh, I see. Well, let me know what the computer says."

"Sure."

The next morning, as Money-grinder stood behind the gauzy drapes of his office window watching the cars pull in, his phone rang. His secretary had put in a long night, he knew, and she wasn't in yet. Pouting, Moneygrinder went over to the desk and answered the phone himself.

It was Nathan. "The computer still agrees with the Cal Tech boys. But I think the programming's slightly off. Can't really trust computers, they're only as good as the people who feed them, you know."

"I see," Moneygrinder answered.

"Well, keep checking on it."

He chuckled as he hung up. "Good old Nathan. Great at theory, but hopeless in the real world."

Still, when his secretary finally showed up and brought him his morning coffee and pill and nibble on the ear, he said thoughtfully:

"Maybe I ought to talk with those bankers in New York."

"But you said that you wouldn't need their money now that business is picking up," she purred.

He nodded bulbously. "Yes, but still . . . arrange a meeting with them for next Thursday. I'll leave Wednesday afternoon. Stay the weekend in New York."

She stared at him. "But you said we'd..."

"Now, now . . . business comes first. You take the Friday night jet and meet me at the hotel."

Smiling, she answered, "Yes, Cuddles."

Matt Climber had just come back from a Pentagon lunch when Nathan's phone call reached him.

Climber had worked for Nathan several years ago. He had started as a computer programmer, assistant to Nathan. In two years he had become a section head, and Nathan's direct supervisor. (On paper only. Nobody bossed Nathan; he worked independently.) When it became obvious to Moneygrinder that Climber was heading his way, the lab chief helped his young assistant to a government job in Washington. Good experience for an up-and-coming executive.

"Hiya, Nathan, how's the pencilpushing game?" Climber shouted into the phone as he glanced at his calendar appointment pad. There were three interagency conferences and two staff meetings going this afternoon.

"Hold it now, slow down," Clim-

ber said, sounding friendly but looking grim. "You know people can't understand you when you talk too fast."

Thirty minutes later, Climber was leaning back in his chair, feet on the desk, tie loosened, shirt collar open, and the first two meetings on his afternoon's list crossed off.

"Now let me get this straight, Nathan," he said into the phone. "You're predicting a major quake along the San Andreas Fault next Thursday afternoon at two thirty Pacific Standard Time. But the Cal Tech people and your own computer don't agree with you."

Another ten minutes later, Climber said, "Okay, okay . . . sure, I remember how we'd screw up the programming once in a while. But you made mistakes, too. Okay, look—tell you what, Nathan. Keep checking. If you find out definitely that the computer's wrong and you're right, call me right away. I'll get the President himself, if we have to. Okay? Fine. Keep in touch."

He slammed the phone back onto its cradle and his feet on the floor, all in one weary motion.

Old Nathan's really gone 'round the bend, Climber told himself.
Next Thursday. Hah! Next
Thursday. H'mmm . . .

He leafed through the calendar pages. Sure enough, he had a meeting with the Boeing people in Seattle next Thursday.

If there IS a major quake, the

whole damned West Coast might slide into the Pacific. Naw . . . don't be silly. Nathan's cracking up, that's all. Still . . . how far north does the fault go?

He leaned across the desk and tapped the intercom button.

"Yes, Mr. Climber?" came his secretary's voice.

"That conference with Boeing on the hypersonic ramjet transport next Thursday," Climber began, then hesitated a moment. But, with absolute finality, he snapped, "Cancel it."

Nathan French was not a drinking man, but on Tuesday of the following week he went straight from the laboratory to a friendly little bar that hung from a rocky ledge over the surging ocean.

It was a strangely quiet Tuesday afternoon; so Nathan had the undivided attention of both the worried-looking bartender and the freshly painted whore who worked the early shift in a low-cut black cocktail dress and overpowering perfume.

"Cheez, I never seen business so lousy as yesterday and today," the bartender mumbled. He was sort of fidgeting around behind the bar, with nothing to do. The only dirty glass in the place was Nathan's, and he was holding on to it because he liked to chew the ice cubes.

"Yeah," said the girl. "At this rate, I'll be a virgin again by the end of the week."

Nathan didn't reply. His mouth was full of ice cubes, which he crunched in absent-minded cacophony. He was still trying to figure out why he and the computer didn't agree about the fourteenth set of equations. Everything else checked out perfectly: time, place, force level on the Richter scale. But the vector, the directional value—somebody was still misreading his programming instructions. That was the only possible answer.

"The stock market's dropped through the floor," the bartender said darkly. "My broker says Boeing's gonna lay off half their people. That ramjet transport they was gonna build is getting scratched. And the lab up the hill is getting bought out by some East Coast banks." He shook his head slowly.

The girl, sitting beside Nathan with her elbows on the bar and her styrofoam bra sharply profiled, smiled at him and said, "Hey, how about it, big guy? Just so I don't forget how to, huh?"

With a final crunch on the last ice cube, Nathan said, "Uh, excuse me. I've got to check that computer program."

By Thursday morning, Nathan was truly upset. Not only was the computer still insisting that he was wrong about equation fourteen, but none of the programmers had shown up for work. Obviously, one of them—maybe all of them—had

sabotaged his program. But why?

He stalked up and down the hall-ways of the lab searching for a programmer, somebody, anybody—but the lab was virtually empty. Only a handful of people had come in, and after an hour or so of wide-eyed whispering among themselves in the cafeteria over coffee, they started to sidle out to the parking lot and get into their cars and drive away.

Nathan happened to be walking down a corridor when one of the research physicists—a new man, from a department Nathan never dealt with—bumped into him.

"Oh, excuse me," the physicist said hastily and started to head for the door down at the end of the hall.

"Wait a minute," Nathan said, grabbing him by the arm. "Can you program the computer?"

"Uh, no, I can't."

"Where is everybody today?" Nathan wondered aloud, still holding the man's arm. "Is it a national holiday?"

"Man, haven't you heard?" the physicist asked, goggle-eyed.

"There's going to be an earthquake this afternoon. The whole damned state of California is going to slide into the sea!"

"Oh, that."

Pulling his arm free, the physicist scuttled down the hall. As he got to the door he shouted over his shoulder, "Get out while you can! East of the fault! The roads are jamming up fast!"

Nathan frowned. "There's still an hour or so," he said to himself. "And I still think the computer's wrong. I wonder what the tidal effects on the Pacific Ocean would be if the whole state collapsed into the ocean?"

Nathan didn't really notice that he was talking to himself. There was no one else to talk to.

Except the computer.

He was sitting in the computer room, still poring over the stubborn equations, when the rumbling started. At first it was barely audible, like very distant thunder. Then the room began to shake and the rumbling grew louder.

Nathan glanced at his wrist watch: two thirty-two.

"I knew it!" he said gleefully to the computer. "You see? And I'll bet all the rest of it is right, too. Including equation fourteen."

Going down the hallway was like walking through the passageway of a storm-tossed ship. The floor and walls were swaying violently. Nathan kept his feet, despite some awkward lurches here and there.

It didn't occur to him that he might die until he got outside. The sky was dark, the ground heaving, the roaring deafened him. A violent gale was blowing dust everywhere, adding its shrieking fury to the earth's tortured groaning.

Nathan couldn't see five feet ahead of him. With the wind tearing at him and the dust stinging his eyes, he couldn't tell which way to go. He knew that the other side of the fault meant safety, but where was it?

Then there was a Biblical crack of lightning and the ultimate grinding, screaming, ear-shattering roar. A tremendous shock wave knocked Nathan to the ground, and he blacked out. His last thought was, "I was right and the computer was wrong."

When he woke up, the sun was shining feebly through a gray overcast. The wind had died away. Everything was strangely quiet.

Nathan climbed stiffly to his feet and looked around. The lab build-

ing was still there. He was standing in the middle of the parking lot; the only car in sight was his own, caked with dust.

Beyond the parking lot, where the eucalyptus trees used to be, was the edge of a cliff, where stillsteaming rocks and raw earth tumbled down to a foaming sea.

Nathan staggered to the cliff's edge and looked out across the water, eastward. Somehow he knew that the nearest land was Europe.

"Son of a bitch," he said with unaccustomed vehemence. "The computer was right after all."

# **INNER SPACE: Volume 1, Number 1**

A limited number of copies of the first issue of INNER SPACE, The Magazine of the Psychic and Occult, are available at \$1.00 each.

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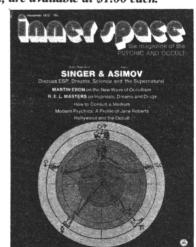
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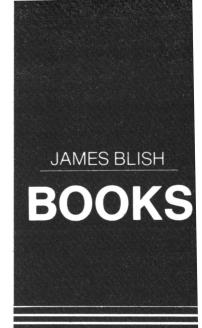


The ATLAS OF THE UNIVERSE—a gigantic volume, 11" x 15"—is far and away the most beautiful book I have ever seen. In organization, layout, typography, text, illustration and over-all professionalism it strongly resembles one of the books from the *Life* Nature Library, except that it is bigger and better than all of them rolled into one—as befits its immodest subject—and is not a *Life* project at all. Instead, it was assembled by an international group headed by the London firm of Mitchell Beazley, Ltd., and printed (in four colors) and bound in the Netherlands.

It is divided into four major sections: Observation and Exploration of Space; Atlas of the Earth from Space; Atlas of the Moon; Atlas of the Solar System; and, Atlas of the Stars, which last includes nebulae and galaxies. Also included are a catalog of stellar objects, a glossary, and a beginner's guide to the heavens, as well as an exhaustive index.

Every single page of the main text is illustrated, more often than not in color in the micrometrically perfect register for which Dutch art books are famous. The astronomical photographs which predominate are breathtaking; the almost as nearly abundant diagrams and other illustrations are clear and elegant; and the maps and charts, many of which have never been published before, are the best I have ever seen in half a lifetime of following amateur astronomy.

The text, by a British amateur astronomer who by now is as much a public figure as Asimov and Clarke in science popularization, is necessarily subordinate to the pictures, but the sheer size of the book nevertheless ensures that there is a lot of it. It includes a few evidences of haste (for instance, the exposition of



ATLAS OF THE UNIVERSE, Patrick Moore; Rand McNally, 272 pp., \$35.00

THE STAINLESS STEEL RAT'S REVENGE, Harry Harrison; Walker, 185 pp., \$4.95

THE SHATTERED RING, Lois and Stephen Rose; John Knox Press, 127 pp., \$3.50

A FEW LAST WORDS, James Sallis; Macmillan, 226 pp., \$4.95 the Keplerian solids on pg. 15 is both unclear and fails to note that he abandoned the scheme more than 20 years before his death), but these are nothing but flyspecks on the windows of a cathedral so vast. In compensation, you will find herein aspects of the universe brand new to you (in my own case, the objects called reflection nebulae).

This book is worth every penny of its price, and more, and should be a central part of the working library of every science-fiction writer who wishes his work to show even minimal respect toward current scientific knowledge. And as for the science-fiction reader—well, if this book does not restore his sense of wonder, no fiction ever will—he is dead.

Thirty-five dollars is, I am aware, a lot of money to spend for one book, even in the rare-book market. Nevertheless, starve your kids and your cats for this; it is the buy of a lifetime.

Walker & Co. entered the science-fiction field with a line of hard-cover reprints of paperback sf originals from the Ballantine Books backlist, which was greeted with hosannas on all sides; and subsequent Walker originals showed considerable dash and imagination. Lately, however, the Walker catalog has been running down into dreariness. It now includes a novel by Jon Hartridge, the author of BI-

NARY DIVINE, easily the most outstanding turkey of the past 20 years; and now Harry Harrison's THE STAINLESS STEEL RAT'S REVENGE.

Harry Harrison has proven, frequently, that he can be a writer of substance when he has his mind on his work. This sloppy, slam-bang adventure story, however, seems to have been thrown out the window of his VW bus during one of his frequent passages from one country to another, to placate tax-collectors and other such wolves.

The story, like its predecessor of nearly the same title, deals with and is told by an interstellar operative named Slippery Jim DiGriz, whose slipperiness seems to consist mostly in being able to conceal upon his person a bigger arsenal than could be packed into a James Bond automobile. Here, he has been re-recruited from a life of crime for an attempt to find out why interstellar warfare, supposedly an impossibility, has suddenly become a going business.

The opposition is conventionally nasty and rigidly military-minded, making them rather easy to outwit on those rare occasions when the narrator runs out of smoke-bombs. Some of the situations have a certain amount of bounce, as is inevitable in a Harrison story—I particularly liked an escape by ejection-seat, possibly because it was the only escape in the book which I could believe. But the whole

has no substance whatsoever.
Okay; authors have to write pot-

boilers now and then, and taken on its own terms, this one is fairly good of its breed. But it certainly doesn't deserve the permanence of hard covers; nor did Walker, if I understood their original propaganda, enter our field to publish such books.

THE SHATTERED RING, sub-titled Science Fiction and the Quest for Meaning, is theological literary criticism; its main title is drawn from Charles L. Harness' THE RING OF RITORNEL, in which the authors see a parable of the way science fiction produces visions of new ways to live and be, by breaking old assumptions about God, society and man.

It is a grandiose thesis which would probably be welcome to many members of the New Wave (about which the book waxes very excited). Unhappily, it is clouded by a good many questions of both fact and style. The Roses, who are characterized by the publisher as philosophers and social radicals, are also examples of that kind of scholar who has to love his field in order to work in it, but whose actual scholarship is spoiled by eagerness to exalt the field. Consider the following passage, from page 15, part of an opening chapter which tries to define the subject:

"Modern science fiction can be traced to the guiding spirit of John W. Campbell, who, as editor of Astounding in 1937 and later as founder-editor of *Unknown* in 1939, ushered in what is sometimes referred to as the classic period of science fiction. New talent emerged and developed—Olaf Stapledon, Isaac Asimov, Robert Heinlein, Theodore Sturgeon, A. E. van Vogt, Jack Williamson, Frederik Pohl."

Stapledon's LAST AND FIRST MEN was published in 1931, his THE STAR MAKER in 1937; he died in 1950 without ever having appeared in any science fiction magazine, let alone the two named, except as the subject of a biographical note in an all-reprint magazine. Jack Williamson first appeared in 1928, and of 59 stories published through 1950, just 11 ran in the named magazines after Campbell's advent; while these are the magazines to which Pohl contributed least.

On the next page, seven novels are cited as books belonging to "the early 1950's"; the citations include the Foundation trilogy (1942-49) and a 1965 Cordwainer Smith collection (this author first appeared in 1958). One of the citations is THE SPACE MERCHANTS which is attributed to Pohl alone, although the Roses do manage to remember later that Kornbluth had something to do with it. The authors make Charles L. Harness a member of the New Wave, in an examination of his novel mentioned above; they seem unaware that Harness flourished 1948-53 and that RI-TORNEL, though considerably better

written, shows most of the same preoccupations that were visible in his 1949 FLIGHT INTO YESTERDAY.

These examples could be multiplied, though with difficulty because the book lacks an index. In style it is variable, probably the result of its dual authorship; I do not care to meet whichever of them reduced "the drawn-out death of infants" to "one thousand daily unrerepeats of foodlessness." As for insight, I report with sorrow that Sturgeon, myself and Heinlein are said to show "a more profound under-standing of evil" than did C. S. Lewis. Not all the judgments are this grotesque, but there are enough like them to make me nervous about the book's uniformly approving mentions of my work.

In short, here is another of those books about science fiction which can be recommended, tentatively, only to readers who already know the subject better than the authors do; such readers may find more areas of agreement in it than I did. As history and/or criticism for newcomers, however, it is just the usual, all too familiar, sloppy performance that passes for scholarship in our field.

The publishers would have you believe that James Sallis' A FEW LAST WORDS is an integrated work, but it is actually a collection—of stories, poems, prose-poems, notes, beginnings, and what-is-its—with no

over-all shape. Even stylistically it is a grab-bag.

Sallis was an interim editor of New Worlds, and some of these pieces show the characteristic preoccupations of that coterie: drugs, on-stage sex, the Vietnam war, experimentation with fifty-year-old techniques borrowed from dada and surrealism. There are even two fragments about Jerry Cornelius, a sort of by-blow of James Bond about whom others of the group have written (mostly, Michael Moorcock). Conceivably, the Cornelius pieces here might make some sort of sense in the overall saga, though I assure you I'm not going to waste a minute testing this notion. In this book, they are incomprehensible, and self-evidently cannot fit into some other structure entirely.

The first section of the book contains a number of quasi-conventional science-fiction stories. They have plots, but they are handled in a fashion that used to be common over at The New Yorker: The reader is presented only with the crisis, and must construct for himself the problem and complications which led to it, and what the solution (if any) might be. Six of them have common backgroundswhich is not shared by any other piece in the book. The two best, 'And Then the Dark" and "Jim and Mary G," both quietly chilling, are independent of the six and of each

other.

Still other sections have been heavily influenced by the French anti-novelists; what little story they have to tell (none in a good many instances) is submerged in the minute observation of irrelevant objects, particularly, of course, cigarettes . . . a space-filling device with a much less arty ancestry, in Raymond Chandler.

There are fugitive flashes of wit and of genuine poetry, but as a whole the performance is wayward, mannered, self-indulgent and unrewarding. It is also pretty depressing; Sallis is steeped in the gloom of the very young. I think we had just better wait, five dollars firmly in pocket, and see if he manages to get through his Sorrows of Werther period. He has obvious gifts, but in this book they are buried in tosh.

### Editorial-in-Brief

Ballantine Books has sent me an ecological novel set in 1989 which contains the following Author's Note: "Any possible resemblance to science fiction is without the faintest encouragement." Not by me, anyhow. I condone this sort of snobbery, not without irritation,

from the writers of jacket-flap copy; but not from authors themselves.

## Department of Availability

Thanks to a hold-up having something to do with jacket design, I seem to have reviewed the Ballantine edition of Cabell's SOMETHING ABOUT EVE (Books, January 1971) three months before publication. It should be on the stands now, however. Summary: Major Cabell, but less than his very best.

#### To the editor

In response to certain of Joanna Russ's comments in the April 1971 Books column: I am not Leo P. Kelley. Nor is Leo P. Kelley me; a clarification I am sure that he would want on the record as much as the undersigned. I have published s-f under my given name and under the pseudonym of "K. M. O'Donnell" but never under any other. Miss Russ's speculation is arrant mischief-making; the lady knows better than this and while criticism is fair play mischief-making is not.

-BARRY N. MALZBERG



Here is the second and concluding part of Roger Zelazny's exciting novel about the adventures of Jack of Shadows. When we last left Jack, he was in the midst of a confrontation with the leaping Borshin, and if you don't know what the Borshin is, you had best read the author's synopsis, which will fill you in rapidly. (Or, if you prefer, send us 60¢ for a copy of the July issue.) A hard cover edition of JACK will be published by Walker in August.

# **Jack of Shadows**

# by ROGER ZELAZNY

SYNOPSIS: Jack of Shadows is a thief who draws an inexplicable power from shadows. He dwells on a world which shows only one face to its sun. The lightsiders are kept from frying by means of electromagnetic force shields, the darksiders from freezing by means of complicated magical spells which hold back the cold. The laws of science do not hold true on the dark side, nor do those of magic prevail in the light.

Jack appears at the Hellgames—an athletic competition being held in the twilight belt—presumably to steal its grand trophy, the Hellflame. He is recognized as a notorious thief, taken into custody, executed. He vows vengeance on all connected with his death. It is not a threat without foundation, for while lightsiders die and remain dead, a darksider possesses more than one life. Accordingly, Jack is resurrected much later at the West Pole of the

world, in the Dung Pits of Glyve.

As he undertakes the treacherous return journey, he comes to realize that his old enemy, the Lord of Bats was actually responsible for his death. He moves his name to the head of his vengeance list. After considerable difficulty with the creatures who would prey upon those who return, he wins his way across the first realm he must traverse and is nearing its border when he encounters a crone who recognizes him. When she was a young tavern wench, Rosalie had been one of his girlfriends. He had promised to return for her one day and take her with him to Shadow Guard, a castle no one had ever seen. but which he had claimed existed and was his. She had waited, grown old, learned some magic, moved west, hated him. She sends a signal for his capture, then learns that he had, in

fact, returned for her—only his sense of time is completely different from hers—and he had not realized she had long since aged and departed. Softening, she then warns him to be on his way, first reading his palm and cautioning him against consulting machines that think.

He flees, reaches the border under close pursuit and realizes that to cross it is to enter into the realm of his enemy, the Lord of Bats. This monarch appears on the scene, however, defeats Jack's pursuers and takes him to his keep, High Dudgeon, where he holds him prisoner. It is there that Jack learns that the woman he loved, Evene, is now the Lord of Bats' consort. Her father had set the Hellflame as her bride price. which is why Jack had initially visited the Hellgames to steal it. He learns that the servants of the Lord of Bats had won it for their master. and that he had used it to obtain Evene, who is now apparently quite in love with him.

While a prisoner, Jack is tormented by glimpses of a magically created being, the Borshin, an only half-successful result of the Lord of Bats' attempt to create artificial life. The creature had been conditioned to hate Jack and seek his destruction.

Escaping by a ruse involving the apparent necessity of his participation in a piece of magic required to maintain the spells which hold back the cold, Jack journeys through twilight and into light, stopping only to visit his one friend, Morningstar, a giant creature affixed to a mountaintop, facing the east, awaiting the dawn that will never come. Powerless, though virtually omniscient,

Morningstar is unable to predict the ultimate outcome of Jack's venturepossibly because he himself may be involved, and he is blind with respect to his own destiny. The venture involves Jack's becoming an instructor at a lightside university, obtaining access to computers, learning to operate them, and using them to seek through the spells that he possesses for the underlying factors involved, so solving for the series of master spells known as the Key That Was Lost, Kolwynia. It takes him a long while to obtain the necessary position, the expertise, and the access to the computers. He teaches anthropology and is considered an authority on darkside culture. In the meantime, suspicions concerning him have arisen-in the minds of his mistress and several professors.

He feels unusual tensions as he nears the completion of his project. Then rumors begin to circulate about the campus, concerning a half-glimpsed, dead-white creature that haunts the grounds.

The head of his department confronts him as he works with the computer on what he hopes will be the ultimate series of spells. As the professor detains him at gunpoint while awaiting authorities who, in the interest of national security, will arrest any trespassing darksider, Jack—who is known at the university as Johnathan Shade—calls out his true name when he sees a white specter near the window.

Then the window is shattered, and the Borshin leaps into the room.

TURNING, QUILIAN SAW THE gashed, rain-drenched thing across the room. He let out an incoherent cry and stood as if paralyzed. Jack dropped his briefcase, found the vial of acid, and unstoppered it. He hurled its contents at the creature's head, and without pausing to observe the results, he snatched up his briefcase and dodged past Quilian.

He was to the door before the creature let out its first shriek of pain. He passed into the hallway, locking the door behind him, having paused only long enough to steal Quilian's raincoat from where it was hung.

ing's front steps when he heard the first shot. There were others, but he was crossing the campus when they came, clutching the raincoat about his shoulders and cursing the puddles, and so did not hear them. Besides, there was thunder. Soon, too, he feared, there would be sirens.

He was halfway down the build-

Thinking stormy thoughts, he ran on.

The weather assisted him in some ways, hindered him in others.

What traffic there was had slowed considerably, and when he did strike a stretch of open road, its long-dry surface had become sufficiently slippery to preclude his moving at the speeds he desired. The darkness of the storm was causing motorists to depart the streets at the first opportunity, as well as keeping those already home where

they were, safe in the glow of many candles. There were no pedestrians in sight.

for him to abandon his vehicle and appropriate another before he had gone very far.

Getting out of town was not difficult, but outrunning the storm was another matter. They both seemed headed in the same direction: one of the routes he had mapped out and memorized long ago as both expeditious and devious in returning him to darkness. On any other occasion he would have welcomed a diminution in that constant glare which had first burned, then tanned his unwilling hide. Now, though, it slowed him; he could not risk an accident at this point. It bathed the vehicle and its winds caused it to sway while its lightnings showed him the skyline he was leaving.

Police lanterns set on the road caused him to slow apprehensively, seeking exit from the highway. He sighed and grinned faintly as he was waved on by the scene of a three-car accident, where a man and woman were being borne on stretchers toward an ambulance.

He played with the radio, obtained only static. He lit a cigarette and opened the window partway. An occasional droplet struck against his cheek, but the air was cool and sucked the smoke away. He breathed deeply and attempted to relax, having just realized how tense he had been.

It was not until considerably later that the storm slowed to a steady drizzle and the sky finally began to lighten somewhat. He was driving through open country at that point and feeling a mixed sense of relief and apprehension which had grown between curses since his departure. What have I accomplished? he asked himself, thinking back over the years he had spent dayside.

It had taken considerable time for him to familiarize himself with the areas involved, obtain the necessary credentials, and learn the teaching routine. Then came the matter of finding employment at a university possessing the necessary data-processing facilities. In his spare time, he had had to learn to use the equipment, then conceive projects which would allow him to do so without question. The while he had had to review everything he possessed in the way of primary data with respect to his real questions, then organize the information, and cast it into the proper form. The entire process had taken years, and there had been failures, many of them.

This time, though, this time he had been so near that he could taste it, smell it. This time he had known that he was close to the answers he had been seeking.

Now, now though, he was running away with a briefcase full of papers he had not had an opportunity to review. It was possible that

he had failed again and was returning without the weapon he had sought, returning to the place of his enemies. If this were the case, he had only postponed his doom. Still, he could not remain—as here, too, he had acquired enemies. He wondered briefly whether there was some cryptic lesson involved, some available but overlooked insight that would show him more about himself than about his enemies. If so, it eluded him.

Just a little longer . . . If he had only had a bit more time, he could have checked, then reformulated and reprogrammed if necessary. Now there was no more time. There could be no going back to hone it if it was a blunted sword he bore. And there were other matters, personal ones, he had wished to draw to better conclusions. Clare, for instance . . .

Later, the rain let up, though the cloud cover remained total and threatening. He risked speeding then and tried the radio once more. Bursts of static still occurred, but there was more music than there was interference; so he let it play.

When the news came on, he was winding his way down a steep hill, and while he thought that he heard his name spoken, the volume had diminished too much for him to be certain. Alone on the road at that point, he began looking back over his shoulder regularly and up every sideway he passed. It infuriated him that the mortals still had a fair

chance of apprehending him before he achieved a situation of power. Ascending a higher hill, he saw a curtain of rain far off to his left and a few feeble flickers of lightning, so distant that he heard no following thunder. Continuing his search of the heavens, he saw that they were barren of traffic, and he thanked the Storm King for that. Lighting a fresh cigarette, he brought in a stronger station, waited for the news. When it came, there was no report concerning himself.

He thought of the distant day when he had stood beside a rainpool and discussed his plight with his reflection there. He tried to see that dead self now-tired, thin, cold, hungry, sore-footed and smelling badly. All of the irritants were erased, save for a small hunger just beginning in his middle and hardly worth comparison with those earlier feelings which were near starvation. Still, how dead was that old self? How had his situation been altered? Then, he had been fleeing from the West Pole of the world, striving to keep alive, evade pursuers and reach Twilight. Now, it was the bright East Pole from which he fled, toward Twilight. Driven by hatred and something of love, revenge had been hot in his heart, warming him and feeding him. Nor was it absent now. He had acquired knowledge of dayside arts and sciences, but this in no way changed the man who had stood beside the pool; he stood there still, within him, and their thoughts were the same.

"Morningstar," he said, opening the window and addressing the sky, "since you hear everything, hear this: I am no different than when last we spoke."

He laughed, then, "Is that good or bad?" he asked, the thought just occurring to him.

He closed the window and considered the question. Not fond of introspection, he was nevertheless inquisitive.

He had noted changes in people during his stay at the university. It was most apparent in the students, and it occurred in such a brief time: that short span between matriculation and graduation. However, his colleagues had also altered in small ways involving attitudes and sentiments. He alone had not changed. Is this something fundamental? he wondered. Is this a part of the basic difference between a daysider and a darksider? They change and we do not. Is this important? Probably, though I do not see how. We have no need to change, and it seems that they do. Why? Length of life? Different approach to life? Possibly both. What value is there in change, anyway?

He turned off onto a desertedseeming side road after the next news broadcast. This one had named him as wanted for questioning in connection with a homicide.

Into the small fire he kindled, he tossed every piece of identification

that he carried. While they burned, he opened his bag and refilled his wallet with fresh papers he had prepared several semesters earlier. He stirred the ashes and scattered them.

Carrying it across a field, he tore Quilian's raincoat in several places and tossed it into a gully where muddy waters rushed. Returning to the vehicle, he decided to trade it for another before very long.

Hurrying up the highway then, he reflected on the situation as he now understood it. The Borshin had killed Quilian and departed, doubtless as it had come, through the window. The reason for Quilian's presence there was known to the authorities, and Poindexter would verify his own presence on campus and his stated destination. Clare, and many others, could testify as to their disliking one another. The conclusion was obvious. Though he would have killed Quilian had the necessity arisen, he grew indignant at the thought of being executed for something he had not done. The situation reminded him of what had occurred at Iglés, and he rubbed his neck half consciously. The unfairness of it all smarted.

He wondered whether the Borshin in its frenzy of pain had thought it was slaying him or was merely acting to defend itself, knowing that he had escaped. How badly injured was it? He knew nothing of the creature's recuperative abilities. Was it even now

seeking his trail, which it had followed for so long? Had the Lord of Bats sent it to find him, or was it following its own feelings, conditioned as it was to hate him? Shuddering, he increased his speed.

Once I'm back, it won't matter, he told himself.

But he wondered.

He obtained another vehicle on the far side of the next town he passed through. In it, he hurried toward Twilight, near the place where the bright bird had sung.

For a long while he sat on the hilltop cross-legged, reading. His clothing was dusty, and there were rings of perspiration about the armpits; there was dirt beneath his fingernails, and his eyelids had a tendency to droop, close, spring open again. He sighed repeatedly and made notes on the papers he held. Faint stars shone above the mountains to the west.

He had abandoned his final vehicle many leagues to the east of his hilltop, continuing then on foot. It had been stalling and knocking for some time before it stopped and would not start again. Knowing then that he had passed the place where the rival Powers held truce, he stumbled on toward the darkness, taking only his briefcase. High places always suited him best. He had slept but once upon his journey, and while it had been a deep, sound, dreamless sleep, he had begrudged his body every mo-

ment of it and vowed not to do it again until he had passed beyond the jurisdiction of men. Now that he had done so, there was but one thing more before he would allow himself to rest.

Scowling, he turned the pages, located what he sought, made a marginal notation, returned to the place of the original markings.

It seemed to be right. It seemed almost to fit . . .

A cool breeze crossed the hilltop, bringing with it wild scents that he had all but forgotten in the cities of men. Now it was the stark light of the everday, the smells and noises of the city, the files and ranks of faces in his classrooms, the boring meetings, the monotonous sounds of machinery, the obscene brightness of colors that seemed a receding dream, these pages its only token. He breathed the evening, and the back-translation he had made from the print-out leaped toward his eyes and quickened within his mind like a suddenly understood poem.

Yes!

His eyes sought the heavens and found the white, unblinking star that coursed them.

He rose to his feet, fatigue forgotten. With his right foot he traced a brief pattern in the dirt. Then he pointed a finger at the satellite and read the words that he had written upon the papers he held.

For a moment nothing happened. Then it stood still.

Silent now, he continued to point. It grew brighter, began to increase in size.

Then it flared like a shooting star and was gone.

"A new omen," he said, and smiled.

#### IX.

When the damned thing entered High Dudgeon, it swept from chamber to chamber in search of its Lord. When it located him at last, casting sulfur into a pool of mercury in the center of an octagonal room, it obtained his attention and suspended itself from the outstretched finger he offered. It conveyed to him then, in its own fashion, the news that it had borne.

With this its Lord turned, performed a curious act involving a piece of cheese, a candle and a feather, and departed the chamber.

He removed himself to a high tower and for a long while there regarded the east. Quickly then, he turned and studied the only other avenue to his keep: the westnorth.

Yes, there too! But it was impossible.

Unless, of course, it was an illusion . . .

He mounted a stair that wound widdershins about the wall, opened a trap door, climbed outside. Raising his head, he studied the great black orb, bright stars all about it; he sniffed the wind. Looking downward, he regarded the massive,

sprawled keep that was High Dudgeon, raised by his own power shortly after his creation upon this mountaintop. When he had learned the difference between the created and the born, had discovered that his power was centered at this point in space, he had sucked power up into him through the roots of the mountain and drawn it down in a whirlwind from the heavens, so that he had glowed, dazzling, like a struck lightning rod, and engaged in creation himself. If his power lay here, then this place was to be his home, his fortress. And so it was, Those who would do him ill had died and so learned their lessons, or they darted the everdark on leathery wings till they earned his favor. The latter he saw sufficiently well tended so that upon their release into the manform, many had elected to remain in his service. The other Powers, perhaps as strong as he in their own ways, in their own spheres, had troubled him little once suitable boundaries had been established.

For anyone to move against High Dudgeon now . . . It was unthinkable! Only a fool or a madman would attempt such a thing.

Yet now there were mountains where no mountains had been. Mountains, or the appearance of mountains. He raised his eyes from his home and studied the distant shapes. It troubled him that he had been unable to detect within his person the existence of such a well-

ing of forces as would be necessary to create even the appearance of mountains within his realm.

Hearing a footstep on the stair, he turned. Evene emerged from the opening, mounted above it, moved to his side. She wore a loose, black garment, short-skirted, belted at the waist, clasped at her left shoulder with a silver brooch. When he put his arm about her and drew her to him, she trembled, feeling the currents of power rising in his body; she knew that he would not favor speaking.

He pointed at the mountain he faced, then at the other, to the east.

"Yes, I know," she said. "The messenger told me. That is why I hurried here. I've brought you your wand."

She raised the black, silken sheath she bore at her girdle.

He smiled and moved his head slightly from left to right.

With his left hand, he raised and drew off the pendant and chain he wore about his neck. Holding it high, he dangled the bright gem before them.

She felt a swirling of forces and seemed for an instant to be falling forward into the stone. It grew to fill her entire field of vision.

Then it was no longer the jewel, but the sudden westnorth mountain that she beheld. For a long while, she stared at the high, gray and black dome of stone, then, "It looks real," she said. "It seems so—substantial."

Silence.

Then, as star by star, the lights in the sky vanished behind its peaks, its shoulders, its slopes, she exclaimed, "It—it's growing!" and then, "No . . . It's moving, moving toward us," she said.

It vanished, and she stared at the pendant as it had been. Then he turned, turning her with him, and they faced the east.

Again the swirling, the falling, the growing.

Now the eastern mountain, its face like the prow of a great, strange ship, lay before them. Cold lights lined its features and it, too, plowed the sky, advancing. As they watched, high wings of flame rose behind it and flashed before it.

"There is someone upon—" she began.

But the jewel shattered and the chain, glowing sudden red with heat, fell from her Lord's hand. It lay smoking at their feet. She received a sudden shock from his body as this occurred, and she pulled away from him.

"What happened?"

He did not reply, but extended his hand.

"What is it?"

He pointed at the wand.

She handed it to him and he raised it. Silently, he summoned his servants. For a long while he stood so, and then the first appeared. Soon they swarmed about him, his servants, the bats.

With the tip of his wand he

touched one, and a man fell at his feet.

"Lord!" cried the man, bowing his head. "What is thy will?"

He pointed toward Evene, until the man raised his eyes and turned his head toward her.

"Report to Lieutenant Quazer," she said, "who will arm you and assign you duties."

She looked to her Lord and he nodded.

With his wand then, he began touching the others, and they became what they once had been.

An umbrella of bats had spread above the tower, and a seemingly endless column of larger creatures filed past Evene, down the stairway and into the keep below.

When all had passed, Evene turned toward the east.

"So much time has gone by," she said. "Look how much closer the thing has come."

She felt a hand upon her shoulder and, turning, she raised her face. He kissed her eyes and mouth, then pushed her from him.

"What are you going to do?"

He pointed toward the trap door. "No," she said. "I won't go. I will

stay and assist you."

He continued to point.

"Do you know what it is that's out there?"

"Go," he had said, or perhaps she only thought that he had said it. She recalled it, standing within her chamber at the eastsouth edge of the keep, uncertain as to what had

occurred since the word had filled her, mind and body. She moved to the window and there was nothing to see but stars.

But suddenly, somehow, then, she knew.

She wept for the world they were losing.

They were real, he knew that now. For they crushed as they came, and he felt the vibrations of their movements within his body. While the stars told him that a bad time was at hand—a long, bad time—he did not require their counsels to this end. He continued to draw upon the forces which had raised High Dudgeon and were now to defend it. He began to feel as he had in that distant time.

On the peak of the new mountain to the east, a serpent began to form. It was of fire, and he could not guess at its size. In the times before his time such Powers were said to have existed. But the wielders had passed to their final deaths, and the Keys had been lost. He had sought them himself; most of the Lords had. Now it appeared that another had succeeded where he had failed—that, or an ancient Power was stirring once more.

He watched the serpent achieve full existence. It was a very good piece of work, he decided. He watched it rise into the air and swim toward him.

Now it begins, he said to himself.

He raised his wand and began the battle.

It was a long while before the serpent fell, gutted and smoking. He licked at the perspiration which had appeared upon his upper lip. The thing had been strong. The mountain was closer now; its movement had not slowed while he had battled the thing sent against him.

Now, he decided, I must be as I was in the beginning.

Smage paced his post, the forward entrance hall to High Dudgeon. He paced as slowly as he could, so as not to betray his uneasiness to the fifty-some warriors who awaited his orders. Dust fell about him, rose again. There would be startled movements among those of his command whenever a weapon or piece of armor, dislodged from its place on a wall, would crash to the floor somewhere within the keep. He glanced through a window and looked quickly away; everything without had been blotted from sight by the bulk which stood now at hand. There came a constant rumbling, and unnatural cries would pierce the darkness. Lightning-like, apparitions of headless knights, many-winged birds, and man-headed beasts passed before his eyes and faded, as well as things which left no forms within his memory; yet none of these paused to menace him. Soon now, soon it would be over, he knew, for the prow of the mountain must be nearing his Lord's tower.

When the crash came, he was thrown from his feet, and he feared that the hall would collapse upon him. Cracks appeared in the walls, and the entire keep seemed to move backward a pace. There came the sounds of falling masonry and splintering beams. Then, after several heartbeats, he heard a scream high overhead, followed by a final crashing note somewhere in the courtyard to his left. This was followed by dust and silence.

He rose to his feet and called for his troop to assemble.

Wiping the dust from his eyes, he looked about him.

They were all of them on the floor and none of them moving.

"Arise!" he cried, and he rubbed his shoulder.

After another moment of stillness, he moved to the nearest and studied the man. He did not seem to be injured. He slapped him lightly and there was no reaction. He tried another; he tried two more. It was the same. They seemed barely to breathe.

Unsheathing his blade, he moved toward the courtyard to his left. Coughing, he entered it.

Half the firmament was shadowed by the now motionless mountain, and the courtyard held the ruins of the tower its prow had broken. The present stillness seemed more terrible than the earlier rumbling and the recent din. The apparitions all had vanished. Nothing stirred.

He moved forward. As he advanced, he saw blast marks, as though lightnings had played about the place.

He halted when he saw the outstretched figure at the edge of the rubble. Then he rushed forward. With the point of his blade, he turned the body.

He dropped the blade and fell to his knees, gripping the mangled hand to his breast, a single sob escaping his throat. He heard the crackling of fires begin suddenly at his back, and he felt a rush of heat. He did not move.

He heard a chuckle.

He looked up then, looked all about him. But he saw no one.

It came again, from somewhere to his right.

There!

Among the shadows that moved on the slanting wall . . .

"Hello, Smage. Remember me?" He squinted. He rubbed his eyes.

"I—I can't quite make you out."

"But I see you perfectly there, clutching the meat."

He lowered the hand gently and raised his blade from the flagging. He stood.

"Who are you?"

"Come find out."
"You did all this?" He made a small gesture with his free hand.

"All."

"Then I will come."

He advanced upon the figure and

swung his blade. It cut but air, throwing him off balance. Recovering, he aimed another blow. Again, there was nothing.

He wept after his seventh at-

tempt.

"I know you now! Come out of those shadows and see how you fare!"

"All right."

There was movement, and the other stood before him. He seemed for a moment tall beyond measurement, frightening, noble.

Smage's hand hesitated upon the blade, and the hilt took fire. He released it, and the other smiled as it fell between them.

He raised his hands and a paralysis overcame them. Through fingers like twisted boughs he regarded the other's face.

"As you suggested," he heard him say. "And I seem to be faring well. Better than yourself certainly.

"I'm pleased to meet you once again," he added.

Smage wished to spit, but he could summon no saliva; besides, his hands were in the way.

"Murderer! Beast!" he croaked.

"Thief," the other said gently. "Also, sorcerer and conqueror."

"If I could but move—"

"You will. Pick up your blade and cut me you carrion's toenails behind the neck, of course."

"I do not . . ."

"Lop off the head! Let it be done with one, quick, clean blow—as by a headsman's axe."

"Never! He was a good Lord. He was kind to me and my comrades. I will not defile his body."

"He was not a good Lord. He was cruel, sadistic."

"Only to his enemies—and they had always earned it."

"Now you see a new Lord in his place. The means whereby you may swear allegiance to him is to bring him the head of your old Lord."

"I will not do this thing."

"I say that to do it willingly is the only means whereby you may keep your life within your body."

"I will not."

"You have said it. Now it is too late to save yourself. Still, you will do as I have ordered."

With this, a spirit not his own came into his body, and he found himself stooping, retrieving the blade. It burned his hands, but he raised it, held it, and turned.

Cursing, weeping, he moved to the body, stood above it, and brought the blade singing down. The head rolled several feet and blood darkened the stones.

"Now bring it to me."

He picked it up by the hair, held it at arm's length, and returned to where he had stood. The other accepted it from him, swung it casually at his side.

"Thank you," he said. "Not a bad likeness at all." He hoisted it, studied it, swung it again. "No, indeed. I wonder whatever became of my old one? No matter. I shall put his to good use."

"Kill me now," said Smage.

"I regret that I must save that chore for a bit later. For now, you may keep the remainder of your ex-Lord company here, by joining all but two others in sleep."

He gestured, and Smage fell snoring to the ground; the flames died as he fell.

When the door opened, Evene did not turn to face it.

After a prolonged silence, she heard his voice and shuddered.
"You must have known," he said,

"that eventually I would come for you."

She did not reply.

"You must recall the promises I made," he said.

She turned then, and he saw that she was weeping.

"So you've come to steal me?" she said.

"No," he said. "I came to make you the Lady of Shadow Guard—my lady."

"To steal me," she repeated.
"There is no other way you may have me now, and it is your favorite way of obtaining what you desire.
You cannot steal love, though,

"That I can do without," he said coldly.

"What now? To Shadow Guard?"

"Why, Shadow Guard is here. This place is Shadow Guard, nor am I ever out of it."

"I knew it," she said, very softly.

". . . And you mean to reign here, in his place, who is my Lord." Then, "What have you done with him?" she whispered.

"What did he do with me? What did I promise him?" he said.

". . . And the others?"

"All are sleeping, save for one who may provide you some amusement. Let us step to the window."

Stiffly, she moved.

He swept the hanging aside and pointed. Inclining her head, she followed his gesture.

Below, on a level place which she knew had never before existed, Quazer moved. The gray, bisexual giant moved through the elaborate paces of the Helldance. He fell several times, rose to his feet, continued.

"What is he doing?" she asked.

"He is repeating the feat which won him the Hellflame. He will continue to re-enact his triumph until his heart or some great vessel bursts within him and he dies."

"How awful! Stop him!"

"No. It is no more awful than what he had done to me. You accused me of not keeping my promises. Well, I promised him my vengeance, and you can see that I did not fail to deliver it."

"What power is it that you have?" she asked. "You could never do things like that when I—when I knew you."

"I hold The Key That Was Lost," he said, "Kolwynia."

"How did you come by it?"

"It does not matter. What does matter is that I can make the mountains walk and the ground burst open; I can call down lightnings and summon spirits to aid me. I can destroy a Lord in his place of power. I have become the mightiest thing in the dark hemisphere."

"Yes," she said. "You have named yourself: you have become a thing."

He turned to watch Quazer fall again, then let the hanging drop.

She turned away.

"If you will grant mercy to all who remain here," she finally said, "I will do whatever you say."

With his free hand, he reached out as if to touch her. He paused when he heard the scream from beyond the window. Smiling, he let his hand fall. The taste is too sweet, he decided.

"Mercy, I have learned, is a thing that is withheld from one whenever he most needs it," he said. "Yet when he is in a position to grant it himself, those who withheld it previously cry out for it."

"I am certain," she said, "that no one in this place has asked mercy for himself."

She turned back to him and searched his face.

"No," she said. "No mercy there. Once there was something slightly gallant about you. It is gone now."

"What do you think I am going to do with the Key, after I have repaid my enemies?" he asked.

"I do not know."

"I am going to unite the Dark-

side, making it into a single king-dom-"

"Ruled by yourself, of course."

"Of course, for there is no one else who could do it. Then I am going to establish an era of law and peace."

"Your laws. Your peace."

"You still do not understand. I have thought of this for a long while, and while it is true that at first I sought the Key only for purposes of revenge, I have come to alter my thinking. I will use it to end the bickering of the Lords and promote the welfare of the state that will ensue."

"Then start here. Promote some welfare in High Dudgeon—or Shadow Guard, if you care to call it that."

"It is true that I have already repaid much that was done to me," he mused. "Still—"

"Begin with mercy and your name may one day be venerated," she said. "Withhold it and you will surely be cursed."

"Perhaps . . ." he began, taking a step backward.

Her eyes covered his entire form as he did so.

"What is it that you clutch beneath your cloak? You must have brought it to show me."

"It is nothing," he said. "I have changed my mind, and there are things I must do. I will return to you later."

But she moved forward quickly and tore at his cloak as he turned.

Then the screams began, and he dropped the head to seize her wrists. In her right hand there was a dagger.

"Beast!" she cried, biting his cheek.

He raised his will, uttered a single word, and the dagger became a dark flower which he forced toward her face. She spat and cursed and kicked him, but after a few moments her movements weakened and her eyelids began to droop. When she grew sufficiently drowsy, he carried her to her bed and placed her upon it. She continued to resist him, but the strength had gone out of her efforts.

"It is said that power can destroy all that is good in a man," she gasped. "But you need have no fear. Even without power you would be what you are: Jack of Evil."

"So be it," he said. "Yet all that I have described to you will come to pass, and you will be with me to witness it."

"No. I will have taken my life long before."

"I will bend your will and you will love me."

"You will never touch me, body or will."

"You will sleep now," he said, "and when you awaken we will be coupled. You will struggle briefly and you will yield to me: first your body, then your will. You will lie passive for a time, then I will come to you again and yet again. After that, it will be you who will come

to me. Now you will sleep while I sacrifice Smage upon his Lord's altar and cleanse this place of all things which displease me. Dream well. A new life awaits you."

And he departed, and these things were done as he had said.

Χ.

After solving all boundary problems involving Drekkheim by conquering that kingdom, adding it to his own and sending the Baron to the Dung Pits, Jack turned his attention to the Fortress Holding, home of the Colonel Who Never Died. It was not long before the place betrayed its name, and Jack entered there.

He sat in the library with the Colonel, and they sipped a light wine and reminisced for a long while.

Finally, Jack touched on the delicate subject of Evene's having been given to the suitor who obtained the Hellflame.

The Colonel, whose sallow cheeks bore matching crescent scars and whose hair funneled up from the bridge of his nose like a red tornado, nodded above his goblet. He dropped his pale eyes.

"Well, that was—the understanding," he said softly.

"It was not my understanding," said Jack. "I took it as a task you had set me, not an offer open to all comers."

"You must admit that you did

fail. So when another suitor appeared with the bride price I'd set-"

"You could have waited for my return. I would have stolen it and brought it to you."

"Return takes a goodly while. I did not want my daughter to become an old maid."

Tack shook his head.

"I confess that I am quite pleased with the way things have turned out," the Colonel continued. "You are a powerful Lord now, and you have my daughter. I would imagine she is happy. I have the Hellflame, and this pleases me. We all have what we wanted-"

"No," said Jack. "I might suggest that you never desired me for a sonin-law and that you obtained an understanding with the late Lord of High Dudgeon as to how the situation might best be settled." "I\_"

Jack raised his hand.

"I say only that I might suggest this. Of course, I do not. I do not really know what did or did not pass between you-other than Evene and the Hellflame—nor do I care. I know only what occurred. Considering this, and considering also the fact that you are now a relative, I shall allow you to take your own life, rather than lose it at the hands of another."

The Colonel sighed and smiled, raising his eyes once more.

"Thank you," he said. "That is very good of you. I was concerned that you might not give me this." They sipped their wine.

Then, "I shall have to change my appellation," said the Colonel.

"Not yet," said Jack.

"True. But have you any suggestions?"

"No. I shall meditate upon the question during your absence, however."

"Thank you," said the Colonel. "You know, I've never done anything like this before . . . Would you care to recommend any specific method?"

Jack was silent for a moment, then, "Poison is very good," he said. "But the effects vary so from individual to individual that it can sometimes prove painful. I'd say that your purposes would best be served by sitting in a warm bath and cutting your wrists underwater. This hardly hurts at all. It is pretty much like going to sleep."

"I believe I'll do it that way then."

"In that case," said Jack, "let me

give you a few pointers." He reached forward, took the

other's wrist and turned it, exposing the underside. He drew his dagger.

"Now then," he began, slipping back into a tutorial mode of speech he had all but forgotten, "do not make the same mistakes of most amateurs at this business." Using the blade as a pointer, he indicated, "Do not cut crosswise, so. Subsequent clotting might be sufficient to cause a reawakening, and the necessity to repeat the process. This could even occur several times. This would doubtless produce some trauma, as well as an esthetic dissatisfaction. You must cut *lengthwise* along the blue line, here," he said, tracing. "Should the artery prove too slippery, you must lift it out with the point of your instrument and twist the blade quickly. Do not just pull upward. This is unpleasant. Remember that. The twist is the important part if you fail to get it with the lengthwise slash. Any questions?"

"I think not."

"Then repeat it back to me."

"Lend me your dagger."

"Here."

Jack listened, nodding, and made only minor corrections.

"Very good. I believe you've got it," he said, accepting the return of his blade and resheathing it.

"Would you care for another glass of wine?"

"Yes. You keep a fine cellar."
"Thank you."

High above the dark world, beneath the dark orb, mounted upon the lazy dragon to whom he had fed Benoni and Blite, Jack laughed into the winds, and the fickle sylphs laughed with him, for he was their master now.

As time wore on, Jack continued to resolve boundary disputes to his satisfaction, and these grew fewer in number. He began, idly at first

and then with growing enthusiasm, to employ the skills he had acquired dayside in the compilation of a massive volume: Assessment of Darkside Culture. As his will now extended over much of the night, he began summoning to his court those citizens whose memories or special skills provided historical, technical or artistic information for his work. He was more than half resolved to see it published dayside when completed. Now that he had established smuggling routes and acquired agents in major dayside cities, he knew that this could be accomplished.

He sat in High Dudgeon, now Shadow Guard, a great, sprawling place, of high, torchlit halls, underground labyrinths, and many towers. There were things of great beauty there, and things of incalculable worth. Shadows danced in its corridors, and the facets of countless gems gleamed brighter than the sun of the one-half world. He sat in his library in Shadow Guard, its former Lord's skull an ashtray on his desk, and he labored with his project.

He lit a cigarette (one of the reasons he had established a clandestine commerce), having found the dayside custom a pleasant thing, as well as a difficult habit to break. He was watching its smoke mingle with that of a candle and climb toward the ceiling, when Stab—a man-bat-man reconversion, who had become his personal servant—

entered and halted at the prescribed distance.

"Lord?" he said.

"Yes?"

"There is an old crone at the gates who has asked to speak with you."

"I haven't sent for any old crones. Tell her to go away."

"She said that you had invited her."

He glanced at the small, black man, whose lengthy limbs and antenna-like plumes of white hair above an abnormally long face gave him a multitactile, insect-like appearance; Jack respected him, for he had once been an accomplished thief who had attempted to rob the former Lord of this place.

"Invitation? I recall no such thing. What was your impression of her?"

"She had the stink of the West upon her, sir."

"Strange . . ."

". . . And she requested that I tell you it's Rosie."

"Rosalie!" said Jack, lowering his feet from his desk and sitting upright. "Bring her to me, Stab!"

"Yes, sir," said Stab, backing away, as always, from any sudden display of emotion on his Lord's part.

Jack flicked an ash into the skull and regarded it.

"I wonder if you're coming around yet?" he mused. "I've a feeling you may be."

He scribbled a note, reminding

himself to inflict several companies of men with severe head colds and set them to patrolling the Dung Pits.

He had emptied the skull and was straightening the papers on his desk when Stab escorted her into the room. Rising, he glanced at Stab, who departed quickly.

"Rosalie!" he said, moving toward her. "It is so good . . ."

She did not return his smile, but accepted the seat he offered, nodding.

Gods! She *does* look like a broken mop, he decided again, remembering. Still . . . It's Rosalie.

"So you have finally come to Shadow Guard," he said. "For that bread you gave me long ago, you shall always be well fed. For the advice you gave me, you will always be honored. You shall have servants to bathe you and dress you and wait upon you. If you wish to pursue the Art, I will instruct you in higher magics. Whatever you wish, you need but ask for it. We shall have a feast for you—as soon as it can be prepared! Welcome to Shadow Guard!"

"I did not really come to stay, Jack, just to look at you again—in your new gray garments and fine black cloak—and what shiny boots! You never used to keep them that way."

He smiled.

"I don't do as much walking as I once did."

". . . Or skulking about either.

No need for that now," she said. "So you've got yourself a kingdom, Jack—the largest I know of. Are you happy with it?"

"Quite happy."

"So you went to the machine that thinks like a man, only faster. The one I warned you about. Isn't that so?"

"Yes.

". . . And it gave you The Key That Was Lost, Kolwynia."

He turned away, groped for a cigarette, lit it, inhaled. He looked at her then and nodded.

"But it is a thing I do not discuss," he said.

"Of course, of course," she said, nodding. "With it, though, you obtained power to match ambitions you once did not even know you possessed."

"I would say that you are correct."

"Tell me of the woman."

"What woman?"

"I passed a woman in the hall, a lovely thing, dressed all in green to match her eyes. I said hello, and her mouth smiled at me, but her spirit walked behind her weeping. What have you done to her, Jack?"

"I did what was necessary."

"You stole something from her—I know not what—as you have stolen from everyone you have known. Is there anyone you count as friend, Jack? Anyone from whom you have taken nothing but given something?"

"Yes," he replied. "He sits atop

Mount Panicus, half of stone and half I know not what. Many times have I visited him and tried with all my powers to free him. Yet even the Key has proven insufficient."

"Morningstar . . ." she said.
"Yes, it is fitting that your one friend should be the accursed of the gods."

"Rosie, why do you chastise me? I am offering to make up in any way that I can for what you have suffered on my account or any other."

"That woman 1 saw . . . would you restore her to whatever she was before you stole from her—if that was what I most desired of you?"

"Perhaps," said Jack, "but I doubt you would ask it. Were I to do so, I feel that she would be hopelessly mad."

"Why?"

"Because of things she has seen and felt."

"Were you responsible for these things?"

"Yes, but she had them coming."

"No human soul deserves the suffering I saw walking behind her."

"Souls! Talk to me not of souls! Or of suffering either! Are you boasting that you have a soul and I do not? Or do you think I know nothing of suffering myself? —You are correct, though, in your observation concerning her. She is part human."

"But you have a soul, Jack. I brought it with me."

"I am afraid I do not understand

"You left yours behind in the Dung Pits of Glyve, as all dark-siders do. I fetched yours out, though, in case you wanted it one day."

"You are joking, of course."

"No."

"Then how did you know it was mine?"

"I am a Wise Woman."

"Let me see it."

He mashed out his cigarette while she undid her parcel of belongings. She withdrew a small object wrapped in a piece of clean cloth, opened the cloth, and held it in the palm of her hand.

"That thing?" he said, and he be-

gan to laugh.

It was a gray sphere which began to brighten with exposure to the light, first becoming shiny and mirror-like, then translucent; colors began to shift across its surface.

"It's just a stone," he said.

"It was with you on your awakening in the Pits, was it not?"

"Yes. I had it in my hand."

"Why did you leave it behind?"

"Why not?"

"Was it not with you each time that you awakened in Glyve?"

"What of it?"

"It contains your soul. You may wish to be united with it one day."

"That's a soul? What am I supposed to do with it? Carry it around in my pocket?"

"You could do better than leave it on a pile of offal."

"Give it to me!"

He snatched it trom her hand and stared at it.

"That's no soul," he said. "It is a singularly unattractive piece of rock, or perhaps the egg of a giant dung beetle. It even *smells* like the Pits!"

He drew his arm back to hurl it from him.

"Don't!" she cried. "It's your—

"—Soul . . ." she finished softly, as it struck against the stone wall and shattered.

Quickly, he turned his head away.

"I might have known," she said.
"None of you really want them.
You least of all. You must admit
there was something more to it than
a simple stone or an egg, though, or
you would not have acted with such
instant rage. You sensed something
personal and threatening about it.
Didn't you?"

But he did not answer her. He had slowly turned his head in the direction of the broken thing, and he was staring. She followed his gaze.

A misty cloud had emerged from the thing, spreading upward and outward. Now it hovered above it. It had ceased its movement and begun to take color. As they watched, the outline of a manlike form began to appear.

Fascinated, Jack continued to stare as he saw that the deepening features were his own. It took on more and more of the appearance of solidity until it seemed that he regarded a twin. "What spirit are you?" he inquired, his throat dry.

"Jack," it replied weakly.

"I am Jack," he said. "Who are you?"

"Jack," it repeated.

Turning to Rosalie, he snarled, "You brought it here! You banish it!"

"I cannot," she said, running a hand through her hair, then dropping it to her lap, where it joined the other and began a wringing motion. "It is yours."

"Why didn't you leave the damned thing where you found it? Where it belonged?"

"It didn't belong there," she said. "It is yours."

Turning back, he said, "You there! Are you a soul?"

"Wait a moment, will you?" it said. "I'm just putting things together. —Yes. Now that I think of it, I believe I am a soul."

"Whose?"

"Yours. Jack."

"Great," said Jack. "You've really paid me back, haven't you, Rosie? What the hell am I going to do with a soul? How do you get rid of one? If I die while this thing is loose, there is no return for me."

"I don't know what to tell you," she said. "I thought it was the right thing to do—when I went looking for it and found it—to bring it to you and give it to you."

"Why?"

"I told you long ago that the Baron was always kind to old Rosie. You hung him upside-down and opened his belly when you took his realm. I cried, Jack. He was the only one who'd been kind to me for a long while. I'd heard much of your doings, and none of what I heard was good. With the power you have, it is so easy to hurt so many, and you have been doing it. I thought that if I went and found you a soul, it might soften your disposition."

"Rosalie, Rosalie," he sighed. "You're a fool. You meant well, but you're a fool."

"Perhaps," she answered, squeezing her hands together tightly and looking back at the soul, which stood staring.

"Soul," said Jack, turning toward it again. "You've been listening. Do you have any suggestions?"

"I have only one desire."

"What is that?"

"To be united with you. To go through life with you, comforting and cautioning, and—"

"Wait a moment," said Jack, raising his hand. "What does it require for you to be united with me?"

"Your consent."

Jack smiled. He lit a cigarette, his hands trembling slightly.

"What if I were to withhold my consent?" he asked.

"Then I would become a wanderer. I would follow you at a distance, unable to comfort you and caution you, unable—"

"Great," said Jack. "I withhold my consent. Get out of here."

"Are you joking? That's a hell of

a way to treat a soul. Here I am, waiting to comfort and caution, and you kick me out. What will people say? 'There goes Jack's soul,' they'll say, 'poor thing. Consorting with elementals and lower astrals and—'"

"Clear out," Jack said. "I can do without you. I know all about you sneaky bastards. You make people change. Well, I don't want to change. I'm happy the way I am. You're a mistake. Go back to the Dung Heap. Go wherever you want. Do whatever you want. Just go away. Leave me alone."

"You really mean it."

"That's right. I'll even get you a pretty new crystal, if you would prefer curling up inside one of those."

"It is too late for that."

"Well, that is the best I can offer."

"If you do not wish to be united with me, please do not throw me out like a vagabond. Let me stay here with you. Perhaps I can comfort and caution and counsel this way, and then you might see my value and change your mind."

"Get out!"

"What if I refuse to go? What if I simply force my attentions upon you?"

"Then," said Jack, "I would expose you to the most destructive powers of the Key, sections I've never essayed before."

"You would destroy your own soul?"

"You're damned right! Go away!"

It turned then toward the wall and vanished.

"So much for souls," said Jack.
"Now we'll find you a chamber and some servants, and we'll see a feast prepared."

"No," she said. "I wanted to see you. Very well, I've seen you. I wanted to bring you a thing, and I've delivered it. That is all."

She began to rise.

"Wait," said Jack. "Where will you go?"

"My time as the Wise Woman of the Eastern Marches having passed, I am returning to the Sign of the Burning Pestle on the coach road by the sea. Mayhap I will find some young tavern wench to nurse me when I grow feeble. I'll teach her of the Art in return for this."

"Stay a while, at least," he said. "Rest, eat . . ."

"No. I do not like this place."

"If you are determined to go, allow me to send you by an easier means than walking."

"No. Thank you."

"May I give you money?"

"I would be robbed of it."

"I will send an escort."

"I wish to travel alone."

"Very well, Rosalie."

He watched her depart and then moved to the hearth, where he kindled a small fire.

Jack worked on his Assessment, becoming an increasingly promi-

nent figure in it, and he consolidated his rule of the night. During this time, he saw countless statues of himself raised in the land. He heard his name on the lips of ballad singers and poets-not in the old rhymes and songs of his roguery, but in tellings of his wisdom and his might. On four occasions did he allow the Lord of Bats, Smage, Quazer, the Baron, and Blite to return partway from Glyve, before he sent them back again, each time in a different fashion. He had decided to exhaust their allotted lives and so be rid of them forever.

Evene danced and laughed at the feast Jack gave in honor of her father's return. Wrists still atingle, he raised in toast a wine from the cellar that had once been his.

"To the Lord and Lady of Shadow Guard," he said. "May their happiness and their reign endure as long as there is night to cover us!"

Then the Colonel Who Had Never Been Slain By Another quaffed it, and there was merriment.

High on Panicus, a part of Panicus, Morningstar regarded the East.

A soul wandered the night cursing.

A beast in a twilit swamp dreamed of blood.

XI.

Then came the time of the true

breaking of the Compact.

It grew cold, and he consulted the Book. He found the names of those whose turn had come. He

those whose turn had come. He waited, he watched, but nothing occurred.

Finally, he summoned those dark Lords before him.

"Friends," he said, "it is your turn for Shield duty. Why have you not done it?"

"Sir," said the Lord Eldridge, "we agreed to refuse it."

"Why?"

"You broke it yourself," he said. "If we cannot have the world the way that it was, we would like it to remain the way that it is. That is to say, on the pathway to destruction. Slay us if you wish, but we will not lift a hand. If you are such a mighty magician, repair the Shield yourself. Slay us, and watch the dying."

"You. heard his request," Jack said to a servant. "See that they are slain."

"But, sir—"

"Do as I say."

"Yes."

"I will attend to the Shield my-self."

So they were taken and slain.

And Jack went forth.

On the top of a nearby mountain he considered the problem. He felt the cold; he opened his being; he found the flaws in the Shield.

Then he began sketching the diagrams. With the point of his blade, he scratched them on a rock. They smoldered as he did so, began to

glow. He recited words from the Key.

"Uh— Hello."

He whirled, raising the blade.

"It's just me."

He lowered it, and gusts of icy wind went by.

"What do you want, soul?"

"I was curious as to what you were doing. I sometimes follow you around, you know."

"I know. I don't like it."

He returned his attention to the diagram.

"Will you tell me?"

"All right," he said, "if it will keep you from whining around—"

"I'm a lost soul. We do whine."

"Then do it all you want. I don't care."

"But the thing you are doing

"I am about to repair the Shield. I think I have the spells worked out."

"I do not believe that you can."

"What do you mean?"

"I do not think it can be done by a single individual."

"Well, let's find out."

"May I help?"

"No!"

He returned to the pattern, elaborated upon it with his sword blade, continued his incantations. The winds went by and the fires flowed.

"Now I have to go," he said. "Stay out of my way, soul."

"All right. I just want to be united with you."

"Maybe sometime when life gets boring—but not now."
"You mean that there is hope?"

"Perhaps. Not at the present

time, however."

Then Jack stood upright and regarded what he had done.
"Didn't work did it?"

"Didn't work, did it?"

"Shut up."

"You failed."
"Shut up."

"Do you want to be united with me?"

"No!"

"Maybe I could have helped you."

"Try it in Hell."

"Just asking."

"Leave me alone."

"What will you do now?"

"Go away!"

He raised his hands and hurled the power. It failed.

"I can't do it," he said.

"I knew that. Do you know what to do now?"

"I'm thinking."

"I know what to do."

"What?"

"Go check with your friend Morningstar. He knows lots of things. I believe he could advise you."

Jack lowered his head and stared at the smoldering pattern. The wind was chill.

"Perhaps you are right," he said. "I feel certain that I am."

Jack swirled his cloak about him.

"I go now to walk in shadows," he said.

And Jack walked among shadows until he came to the place. Then he climbed.

When he reached the summit, he moved toward Morningstar and said, "I am here."

"I know."

"You also know what I desire?"
"Yes."

"Can it be accomplished?"

"It is not impossible."

"What must I do?"
"It will not be easy."

"I did not feel it would be. Tell

me.

Morningstar shifted his great

bulk slightly.

And then he told him.

"I don't know that I can do it," Jack said.

"Someone must."

"Do you know of anyone else? Someone I might appoint?"

"No."

"Are you able to fortell my success or failure?"

"No. One other time I spoke of your shadows."

"Yes, I recall."

There was silence on the mountain, then, "Good-by, Morningstar," Jack said, and, "thank you."

"Farewell, Jack."

Turning, Jack moved into the shadows.

He entered the great hole that led to the heart of the world. In places, there were patches of light on the walls of the tunnel. Then he would enter into shadow and advance great distances in a brief time. In other places, the darkness was absolute and he went as others go.

Occasionally, there were

strangely furnished side galleries and dark doorways. He did not pause to explore these. Infrequently, he heard the scurrying of clawed feet and the clatter of hooves. Once he passed on open hearth in which bones were burning. Twice he heard screams, as of a woman in pain. He did not pause, but loosened his blade in his scabbard.

He passed a gallery wherein a gigantic spider clung to the center of a rope-like web. It began to stir. He ran.

It did not pursue, but after a time he heard laughter far to his rear.

When he paused to refresh himself, he saw that the walls of that place were damp and mold encrusted. He heard a sound as of a distant river flowing. Tiny crab-like creatures fled from him and clung to the walls.

Then, advancing farther, he encountered pits and crevasses from which noxious fumes arose; occasionally, flames leaped from these.

It was long before he came to the bridge of metal but a handspan in width. He looked into the abyss it crossed and saw but blackness. He poised himself, balanced carefully, passed slowly onward. He sighed when he set foot on the far side, and

he did not turn and look back.
The walls of the tunnel widened

The walls of the tunnel widehed and vanished now, and the ceiling rose into invisibility. Dark masses of varying density moved about him, and while he could at any time have created a small light to guide him, he feared to do so, as it could attract whatever was passing. A large light, also, could be managed, but its existence would be brief; the moment he entered the world of the shadows it created, it would cease to be, and he would stand in darkness once more.

For a time he feared he had entered a gigantic cavern and there gone astray, but a ribbon of white appeared before him, and he held it with his eyes and continued to advance. When, after a long while, he came upon it, he saw that it was a large black pond with lights like fish scales glimmering upon it, cast from the faintly glowing fungus that covered the walls and roof of the cavern.

As he circled the pool, heading for a patch of great darkness beyond its opposite shore, there came a thrashing within the water. His blade was in his hand as he turned.

As he had now been discovered, he spoke the words which caused an illumination to appear above the pool.

A large ripple arrowed in his direction, as though a great bulk moved beneath it. From either of its sides now, a clawed tentacle rose up, black and dripping, and extended in his direction.

He squinted against the light he had created and raised up his blade for a double-handed blow.

He spoke the quickest charm he knew, to grant him strength and accuracy. Then, as soon as the nearest tentacle came within striking range, he swung and cut through it. It fell near his left boot, still writhing, struck against him, caused him to fall.

At this, he counted himself fortunate. For as he fell, the second tentacle slashed through the space his head and shoulders had occupied a moment before.

Then a round face, perhaps three feet in diameter, blank-eyed and crowned with a mass of writhing strands as thick around as his thumb, exploded above the water, opened a large hole in its lower portion, and moved toward Jack.

Not rising from where he lay, Jack swung the blade and pointed it directly at the thing, holding it with both hands, and repeated words from the Key as rapidly as his mouth could form them.

His blade began to glow, there came a sputtering sound, then a stream of fire flowed from the point of the weapon.

Jack moved the blade in a slow circle and the stench of burning flesh soon reached his nostrils.

Still, the creature continued to advance, until Jack saw the whiteness of its many teeth. Its good tentacle and the stub of its severed one flailed wildly, striking dangerously near. The beast began a hissing, spitting sound. At that moment, Jack thought to raise the blade, so that the fire fell upon the things that writhed atop it.

With a sound that was almost like a sob, it threw itself backward into the pool.

Its bulk raised a wave that washed over Jack. But before it struck him and the beast vanished into the depths, he saw the creature's backside; and it was not the coldness of the water that caused him to shudder.

Rising then, he dipped his blade into the pool and repeated a spell to intensify a thousandfold the power he had called into the weapon. With this, it began to vibrate within his hands so that he could scarcely hold it. Yet he braced himself and stood there, the light blazing above and the now-still tentacle beside him.

Even with the power he had summoned—and more he feared to use—it seemed ages that he stood there, and the perspiration covered him like a sudden extra garment, warm.

Then, with a hissing that was near to a shriek, half the creature's bulk rose with a rush of waters above the pool's center. Jack did not move as it vanished below once more, but maintained his stance until the pool began to boil.

The creature did not rise again.

Jack did not slow to eat until he had circled the pool and entered the far tunnel, and he knew that he dare not sleep. He strengthened himself with drugs and continued on.

Coming to a region of fires, he was attacked by a hairy man-beast and its mate. But he stepped into shadow and mocked them as they strove to reach him. Not wishing to waste time with torment and death, however, he forsook this pleasure and caused the shadows to transport him to their farthest limit.

Vast was the region of fires, and a moment later when Jack stood at its far edge, he knew he was nearing his goal. There, he prepared himself for what he knew to be the next place of danger he must pass.

After a long walk, he began to detect the odors, reminding him of the Dung Pits of Glyve and something even more foul. He knew that soon he would be able to see again, though there would be no light and, consequently, no shadows into which he might escape. He rehearsed the necessary things.

The odors increased in intensity, until he fought with his stomach to retain what it held.

Then a gradual vision came into his eyes, unlike that of normal seeing.

He beheld a dank land of rocks and caverns, and all over it a certain mournful brooding lay. It was a still place, where mists twined slowly through the air and among the rocks, where faint vapors hung over large puddles of still water, where the odors and the mists and the vapors clotted together but a brief distance overhead, to rain an occasional silent moment, redistributing the filth across the land. Beyond these things, there was nothing to be seen, and a bone-touching chill was everything.

He moved as quickly as he dared. Before he had gone a great distance, he detected the slightest of movements to his left. He saw that in one of the normally still puddles, a tiny, dark creature covered with warty protuberances had hopped forth and now sat staring at him, unblinking.

Drawing his blade, he touched it lightly with its tip and took a rapid step backwards, expecting what might occur.

The air exploded as the creature was transformed. It towered above him on crooked, black legs; it had no face, nor any seeming depth of body, but existed as if it were drawn in outline, filled in with the darkest of inks. Those were not feet it stood upon. Its tail twitched as it spoke.

"Give me your name, that comes this way," said the voice that chimed like the silver bells of Krelle.

"None may have my name ere I have his," said Jack.

A soft laughter emerged from the outline of a horned head.

Then, "Come, come now! I wish

to hear a name," it said. "I have no patience."

"Very well, then," said Jack, and he spoke one.

It fell to its knees before him.

"Master," it said.

"Yes," Jack replied. "That is my name. Now must you obey me in all things."

"Yes."

"Now I charge you by that which I spoke, to bear me upon your back to the ultimate bounds of your realm, leading downward, and you are able to pass no farther. Nor will you betray me to any of your kin or comrades."

"I will do as you have said."

"Yes."

"Repeat it back to me as an oath."

This was done.

"Bend now lower that I may mount you and you be my steed."

He leaped onto the creature's back, reached forth, caught hold of either horn.

"Now!" he said, and it rose and began to move.

There was a clatter of hooves and a bellows-like exhalation. He noted that the texture of the thing beneath him was not unlike that of a very soft cloth.

The pace quickened and the landscape began to blur whenever he attempted to fix his eyes.

. . . And then there was silence.

He became conscious of a black movement about him, and his face was fanned by breezes that came and went with the regularity of pulsebeats. He realized then that they were aloft and that those were great black pinions that swept them above the noxious land.

For a long while did they travel thus, and he wrinkled his nose, for the reek of the beast exceeded that of the countryside. They moved at a great speed, but he saw that similar dark shapes occasionally passed, there in the region of the upper air.

Despite their speed, the journey seemed interminable. Jack began to feel that his strength would fail, for his hands began to ache now even more than they had when he had boiled the black pool. His chief fear was sleep, when his grip might fail him. So he thought upon many things to keep him awake. Strange, he thought, how my greatest enemy did me my greatest favor. Had the Lord of Bats not driven me to it, I would never have sought the power I now contain, the power that made me ruler, that gave me full revenge, and Evene . . . Evene . . . I still am not fully pleased with the terms by which I hold you. Yet . . . What other way is there? You deserved what I did. Is not love itself a form of a spell, where one is loved and the other loves, and the one who loves is compelled to do the other's bidding? Of course. It is the same thing.

. . . And he thought then of the Colonel her father, and of Smage, Quazer, Blite, Benoni, the Baron. All of them paid now, all of them

paid. He thought of Rosalie, old Rosie, and wondered whether she still lived. He resolved to inquire after her one day at the Sign of the Burning Pestle on the coach road by the ocean. The Borshin. He wondered whether the deformed creature had somehow survived, and still-somewhere-sought his trail, with but one burning imperative within his twisted body. He was truly the Lord of Bats' last weapon, his last hope for revenge against him. Like the explosion of a geblinka pod, this made his mind return to things he had not thought upon for a long while: the computers and The Dugout, the classes and that girl-what was her name? Clare! He smiled that he remembered her name, though her face was but a blur now. And there was Quilian. He knew he would never forget Quilian's face. How he had hated the man! He chuckled at having left him in the hands of the pain-crazed Borshin. He remembered that mad drive across the country, fleeing the light, heading darkside, not knowing whether the print-outs he carried did indeed contain The Key That Was Lost, Kolwynia. Then his exultation when he tested it. He had never revisited the light, but now he felt a strange nostalgia for those days at the university. Perhaps it is because I am outside now, he thought, and regarding this as an object; whereas, then I was a part of the object itself.

. . . And always his thoughts returned to the towering figure of Morningstar atop Mount Panicus

He reviewed his entire movement, from the Hellgames to his present situation, from the place where it had all started to this point in his current journey . . .

. . . And always his thoughts returned to Morningstar on Panicus, his only friend . . .

Why were they friends? What had they in common? Nothing that he could think of. Yet he felt an affection for that enigmatic being which he had never felt for another creature, and he felt that Morningstar for some unknown reason cared for him, also.

. . . And it was Morningstar who had recommended this journey as the only means to accomplish what must be done . . .

Then he thought upon the conditions which prevailed upon the darkside of the world, and while realizing that he, Jack, was the only one capable of making the journey, he also realized that it was he, Jack, who was largely responsible for the state of affairs which required that the journey be made. It was not, however, a sense of duty or responsibility that drove him. Rather, it was one of self-preservation. If the darkside died in the freezing Allwinter, he died with it; and there would be no resurrection.

. . . And always his thoughts returned to the towering figure

of Morningstar atop Mount Panicus...

The shudder that shook him then almost made him release the horns of the horrid creature he rode. The resemblance! The resemblance . . .

But no, he thought. This creature is but a dwarf compared to Morningstar, who towers in the heavens. This thing hides its face, where Morningstar is nobly featured. This beast stinks, while Morningstar smells of the clean winds and rains of the heights. Morningstar is wise and kind, and this thing is stupid and wills but malice. It is but an accident that both are winged and horned. This creature may be bound by a magician's spell, and who could bind Morningstar . . .?

Who indeed? he wondered. For is he not bound, though in a different fashion, as surely as I have bound this beast? —But it would take the gods themselves to do such a thing. . .

. . . And he pondered this and dismissed it.

It does not matter, he finally decided. He is my friend. I could ask this demon if he knows of him, but his reply would make no difference. Morningstar is my friend.

Then the world began to darken about him, and he tightened his grip for fear that he was growing faint. But as they swooped lower and the darkness deepened, he knew that they were nearing the edge of the realm.

Finally, the creature he rode alit.

His sweet voice sang out clearly:
"This far may I bear you, master, and no farther. That black stone before you marks the end of the realm of darkness visible. I may not pass it."

Jack passed beyond it, and the blackness there was absolute.

Turning, he said, "Very well, then. I release you from my service, charging only that should we ever meet again you will in nowise attempt to harm me and shall serve my will as you have on this occasion. I bid you depart now. Go! You are sent forth!"

Then he moved away from that realm, knowing he was near to his goal.

He knew this because of the faint trembling of the ground beneath his feet. There was a barely perceptible vibration in the air, as of the hum of distant machinery.

He moved forward, meditating upon his task. In a short while, magic would be ineffectual, the Key itself useless. But the black area through which he now proceeded should be empty of menace. It was simply the blackness that lay before the place.

Because of this, he caused a small light to occur intermittently, that his feet might be guided. As for direction, he needed no guidance; he had but to follow the sound and feel that it strengthened.

... And as it strengthened, his ability to produce the guide light weakened and finally failed.

So he moved more carefully, not missing the tiny light too much. This was because a pinpoint of light was now visible in the distance.

#### XII.

As the light grew in size, the humming and the vibrations increased in intensity. Finally, there was sufficient illumination for him to discern his course. After a time, the brightness was such that he cursed at having forgotten to bring his ancient sunglasses with him.

The brightness resolved itself into a square of light. He lay upon his belly and regarded it for a long period of time, allowing his eyes to make an adjustment. He repeated this many painful times as he advanced.

The floor of the place had become smooth beneath him, the air was cool but pleasant, and free of the odors which had prevailed in the region he had recently departed.

He moved until it was immediately before him. There was nothing but the light. It was a gigantic opening onto something, but all that he could see was the yellow-white blaze; he heard a grinding and clanking and humming, though, as of many machines.

. . . Or the Great Machine.

Again, he lay prone. He crawled forward through the opening.

He lay upon a ledge, and for a moment his mind could not assimi-

all late that was below. It was possessed of so many gears

that it would have taken an eternity to number them, some slowly, some rapidly, big unto small; there were cams and drive shafts, and pulleys and pendulumssome of the pendulums twenty times his own height and slow, ponderous-and pistons, and things that corkscrewed in and out of black metal sockets; there were condensers and transformers and rectifiers; there were great blue-metal banks containing dials and switches and buttons and little lights of many colors, which constantly winked on and off; there was the steady noise, a hum, of still further buried generators-or perhaps they were something else, possibly drawing power from the planet itself, its heat, its gravitational field, certain hidden stresses-which buzzed in his ears like a swarm of insects: there was the blue smell of ozone, reaching everywhere; there was the brilliant light coming from all the walls of the enormous cavern which housed the equipment; there was a battery of buckets which moved on guidelines above the entire complex, occasionally pausing in their courses to dump lubricants at various points; there were power ca-

bles, like snakes, that wound from

one point to another, indicating

nothing he could understand; there

were tiny, glass-enclosed boxes,

connected with the whole by means

of thin wires, which contained com-

ponents so minute that he could not

discern their forms from where he lay; there were no fewer than a hunelevator-type mechanisms, which constantly plunged into the depths or vanished overhead, and which paused at various levels of the machine to extrude mechanical appurtenances into portions of its mechanism: there were wide red bands of light on the farthest wall, and they flicked on and off; and his mind could not encompass all that he saw and felt and smelled and heardthough he knew that he must deal with it somehow-so that he searched for a clue as to the best point of impact, seeking within that massive structure for that which would destroy it-and there he found titanic tools hung upon the walls, tools which could only have been wielded by giants, to service the thing-wrenches, pliers, pry bars, things - that - turned - other - thingsand he knew that among them lay the thing that he required, a thing which-if properly employed-

could break the Great Machine. He crept farther forward and continued to stare. It was magnificent; there had never been anything like it before, and there never would be again.

He looked for a way down and saw a metal ladder, far off to his right. He made for it.

The ledge narrowed, but he managed to reach the topmost rung, and from there he swung himself into position.

shadow.

He began the long climb down.

Before he had reached the bottom, he heard the footsteps. They were barely discernible over the sounds of the machinery, but he distinguished them and backed into a

While the shadow was not possessed of its normal effects, it hid him. He waited there, near the ladder, next to a generator of sorts, thinking upon his next move.

A small, white-haired man limped by. Jack studied him. The man paused, found an oil can, dripped lubricant upon various of the gears.

Jack watched as the man moved about the machine, finding slots and openings, squirting oil into them.

"Hello," he said, as the man passed.

"What - Who are you?"

"I am one who has come to see you?"

"Why?"

"I came to ask you some questions."

"Well, that is pleasant enough and I am willing to answer you. What do you wish to know?"

"I was curious as to the make-up of this machine."

"It's quite complex," he replied.

"I daresay. Could you give me details?"

"Yes," he answered, dazzling him with the explanation.

Jack nodded his head and felt his hands grow stiff.

"You understand?"

"Yes."
"What is the matter?"

"I believe that you are going to die," he said.

"What—" and Jack hit him in the left temple with the first knuckle of his right hand.

Crossing to a rack of tools that stood near the machine, he studied the great array of equipment it held. He selected a heavy bar of metal, the function of which he did not understand. Hefting it, he sought a small glass case the old man had indicated. He studied the hundreds of tiny, delicate gears which turned within it, moving at varying rates of speed.

Raising the bar, he smashed the glass, then set to work destroying the intricate mechanism. With each blow he struck, a sound of mechanical protest arose from some new portion of the vast machine. There came an irregular humming, then a series of clanking sounds, as if something large had snapped or been torn loose. This was followed by a shrill whine, a grating sound, and the screech of metal against metal. Then came a banging noise, and smoke began to rise from several segments. One of the more massive gears slowed, hesitated, halted, then began again, moving more slowly than before.

While Jack was smashing the other cases, the lubricant buckets went wild overhead, racing back and forth, emptying their contents,

returning to wall spigots for more. There came the smell of burning insulation and a popping, sizzling sound. The floor began to shake and several pistons tore loose. Now there were flames amid the smoke, and Jack coughed at acrid fumes.

The machine quivered, ground to a halt, and began again, wildly. It shook as gears raced and axles snapped. It began tearing itself to pieces. The din grew painful in his ears. Wheeling, he hurled the bar into the machine and fled in the direction of the ladder.

When he looked back, there were huge figures, partly hidden by the smoke, racing toward the machine. Too late, he knew.

He fled up the ladder, reached the ledge, raced into the darkness from which he had come.

Thus began the destruction of the world he had known.

The return journey proved in some ways more dangerous than the downward one had been, for the ground trembled now, stirring the dust and débris of the ages, cracking walls, causing portions of the roof to collapse. Twice, coughing, he had to clear litter from his way before he could pass. Then, too, the inhabitants of that great tunnel ran in panic now, attacking one another with a new ferocity. Jack slew many to pass there.

The first thing he did after emerging was regard the black orb, high in the heavens. The coldness still came by it, more perhaps now than when he had begun his mission of sabotage. He studied that sphere and saw that it appeared to have moved slightly from the position it had previously occupied.

Then, hurriedly, to keep a recent promise he had made to himself, he employed the Key to transport himself to the Sign of the Burning Pestle, on the coach road by the ocean.

He entered that inn, built of nightwood, repaired a thousand times and ancient almost beyond his memory. As he descended into the central dining area, the ground gave a shudder and the walls creaked about him. At this, there came a silence, followed by a babble of voices, from a group of diners near the fire.

Jack approached them.

"I'm looking for an old woman named Rosalie," he said. "Does she reside here?"

A broad-shouldered man with a blond beard and a livid scar on his forehead, looked up from his meal.

"Who are you?" he asked.

"Jack of Shadow Guard."

The man studied his clothing, his face; his eyes widened, then dropped.

"I know of no Rosalie, sir," he said in a soft tone. "Do any of you others?"

The other five diners said, "No," keeping their eyes averted from Jack, and hastily added, "sir," to this reply.

"Who is the proprietor here?"
"Haric is his name, sir."

"Where may I find him?"

"Through that far doorway to your right, sir."

Jack turned and walked toward it. As he went, he heard his name whispered in shadows.

He mounted two stairs and entered a smaller room, where a fat, red-faced man, wearing a dirty apron, sat drinking wine. A yellow candle, sputtering on the table before him, made his face seem even ruddier. His head turned slowly, and it took his eyes several moments to focus as he peered in Jack's direction.

Then, "What do you want?" he asked.

"My name is Jack, and I've traveled far to reach this place, Haric," he replied. "I seek an old woman who was coming here to spend her final days. Her name is Rosalie. Tell me what you know of her."

Haric creased his brow, lowered his head and squinted.

"Bide a moment," he said. "There was an old hag . . . Yes. She died some time ago."

"Oh," said Jack. "Tell me then where she is buried, that I might visit her grave."

Haric snorted and quaffed his wine. Then he began to laugh. He wiped his mouth on the back of his hand, then raised it so as to wipe his eyes with his sleeve.

"Buried?" he said. "She was worthless. We only kept her here

for charity's sake, and because she knew somewhat of healing."

Tiny bulges of muscle appeared at the hinges of Jack's jaws.

"Then what did you do with her?" he inquired.

"Why we threw her carcass into the ocean. —Small there was for the fishes, though."

Jack left the Sign of the Burning Pestle burning at his back, there on the coach road by the ocean.

Beside the flat, black ocean now, he walked. The stars within it danced whenever the ground and the waters trembled. The air was quite chill, and he felt a great fatigue. His swordbelt was almost too heavy to bear. He longed to wrap his cloak about him and lie down for a moment. He wanted a cigarette.

As he advanced like a sleepwalker, his boots sinking into the sand, he was shocked back to full wakefulness at the sight of the one who appeared before him.

It appeared to be himself.

He shook his head, then, "Oh, it's you, soul," he said.

His soul nodded.

"There was no need for you to destroy that inn," it said, "for soon the seas will be unchained and mighty waves will wash the land. It would have been one of the first things destroyed."

"You are incorrect" said lack

"You are incorrect," said Jack, yawning. "There was a reason: It did my heart good. —How is it that

you know of the seas' coming behavior?"

"I am never far from you. I was with you atop Mount Panicus, when you spoke with mighty Morningstar. I descended with you into the bowels of the world. When you smashed the Great Machine, I stood at your side. I returned with you. I accompanied you to this place."

"Why?"

"You know what it is that I want."

". . . And you have had my answer on numerous occasions."

"You know that this time it is different, Jack. By your actions, you are stripping yourself of most of your powers—perhaps all of them. You have possibly destroyed all your lives, save for the present one. You need me now. You know that you do."

Jack stared at the ocean, the stars like luminous insects, darting.

"Possibly," he said. "But not yet."

"Look to the east, Jack. Look to the east."

Jack raised his eyes, turned his head.

"That is the inn, burning," he said.

"Then you will not see us united?"

"Not now. But neither will I drive you away. Let us return to Shadow Guard."

"Very well."

Then the ground shook with its most terrific tremor thus far,

and Jack swayed where he stood.

When the land grew still once again, he drew his blade and commenced tracing a pattern in the sand.

He began to pronounce the spell. As he was nearing its completion, he was dashed from his feet by a great wave which covered him over completely. He felt himself flung upon higher ground, and his lungs burned for air. He tried to follow it even farther, knowing what would happen next.

Lights darted before his eyes as he dug at the sand and pushed forward. He made some progress in this fashion before the waters began to recede.

Then he fought their pull, now clawing at the sand, now making sculling motions with his hands, kicking out with his feet, trying to crawl...

. . . And then he was free.

He lay with half his face in the cold, wet grit, his fingernails broken, his boots filled with water.

"Jack! This way! Hurry!"

It was his soul calling.

He lay there, gasping, unable to move.

"You must come, Jack! Or accept me now! There will be another wave shortly!"

Jack groaned. He tried to rise, failed.

Then from the inn, whose flames cast a pale, ruddy glow along the beach, there came a crash as the roof and one wall collapsed.

There was some blockage of the light now, and shadows danced about him.

Almost weeping, he drew strength from them each time they fell upon him.

"You must hurry, Jack! It's turned! It's coming!"

He rose to his knees, then pushed himself to his feet. He staggered forward.

He reached higher ground and continued inland. He saw his soul waiting up ahead and moved toward it.

Behind him, there came up the rising sound of the waters now.

He did not look back.

Finally, he heard the wave break and he felt the spray. Only the spray.

He grinned weakly at his soul.

"You see? I did not require your services, after all," he said.

"You will soon, though," said his soul, smiling back.

Jack felt at his belt for his dagger, but the ocean had taken it from him, along with his cloak. His sword, which had been in his hand when the wave struck, had gone the same way.

"So the sea has robbed the thief," he chuckled. "It makes things more difficult."

He dropped to his knees and, wincing because of the broken nail, retraced the pattern he had drawn on the beach, using his forefinger.

Then, without rising, he spoke the spell.

He knelt in his great hall in Shadow Guard, and torches and enormous tapers flickered all about. For a long while, he did not move, but let the shadows bathe him. Then he stood and leaned against the wall.

"What now?" his soul asked him. "Will you cleanse yourself and sleep a long while?"

Jack moved his head.

"No," he replied. "I would not risk missing the time of my greatest triumph—or failure, as the case may be. I will bide here a moment, then fetch strong drugs to keep me alert, to give me strength."

He moved to the cabinet where he kept his drugs, unlocked it by uttering the spell of the door, prepared himself a draught. As he did so, he noticed that his hands shook. He had to spit several times before drinking the orange liquid, to clear his mouth of sand.

Then he closed the cabinet and proceeded to the nearest bench.

"You have not slept in a long while—and you took similar drugs on your way to the Great Machine."

"I believe I am even more aware of this than you," said Jack.

"The strain on you will be con-

"The strain on you will be considerable."

Jack did not reply. After a time, there came a tremor. Still, he said nothing.

"It's taking longer to affect you this time, isn't it?"

"Shut up!" said Jack.

Then he rose to his feet and raised his voice.

"Stab! Damn it! Where are you? I've come home!"

After a brief while, the dark one entered, almost scurrying.

"Lord! You've returned! We did not know . . ."

"Now you do. Bring me a bath, fresh clothing, a new blade and food—lots of it! I'm starving! Shake your ass!"

"Yes, sir!"

And Stab was gone.

"Do you feel insecure, that you need a blade about you in your own redoubt, Jack?"

He turned and smiled.

"These are special times, soul. If you've stayed as near to me as you say you have, you know that I do not ordinarily go in such fashion within these walls. Why do you seek to irritate me?"

"It is a soul's privilege—you might even say duty—to occasionally do so."

"Then find a better time to ex-

ercise your privilege."

"But now is the perfect time, Jack—the most appropriate which has occurred so far. Do you fear that if you lose your powers, your subjects may rise up against you?"

"Shut up!"

"You know, of course, that they call you Jack of Evil."

Jack smiled once again.

"No," he said. "It will not work. I will not allow you to anger me, to trick me into something foolish.

-Yes, I am aware of the title they have given me—though few have ever said it to my face, and none of these a second time. Do you not realize, however, that were any one of my subjects to occupy my position, he would soon come to bear a similar title?"

"Yes, I do realize this. It is because they lack souls."

"I will not argue with you," said Jack. "Though I would like to know why it is no one ever comments on your presence?"

"I am only visible to you, and

then only when I wish to be."

"Excellent!" said Jack. "Why don't you become invisible to me now, too, and leave me to my bath and my meal?"

"Sorry. I am not quite ready."

Jack shrugged and turned his back.

After a time, his tub was brought in and filled with water. Some of it was spilled by a world-shudder so violent that it sent a jagged crack like black lightning across one wall. Two candles toppled and were broken. A ceiling stone fell in a nearby chamber, harming no one.

Before he had fully undressed, a fresh blade was brought to him. He paused to test it, nodded then.

Before he had entered the tub, fresh garments were laid beside him on a bench.

Before he had finished bathing, a table was set nearby.

By the time he had dried himself, dressed and picked up his blade, the

food was upon the table and his place was set.

He ate slowly, savoring each mouthful. He ate an enormous quantity.

Then he rose and retired to his study, where he located cigarettes. From there he moved to the foot of his favorite tower and mounted its stairs.

Atop this tower, smoking, he studied the black sphere. Yes, it had moved considerably since last he had regarded it. Jack blew smoke in its direction. Perhaps it was an effect of the drugs, but he felt a sense of elation over what he had done. Come what comes, he was the mover, father of the new circumstances.

"Are you sorry now, Jack?" asked his soul.

"No," said Jack. "It had to be done."

"But are you sorry it had to be done?"

"No," said Jack.

"Why did you burn the inn at the Sign of the Burning Pestle, on the coach road by the ocean?"

"To avenge Rosalie, for the treatment she received at that place."

"What were your feelings as you walked along the beach afterwards?"

"I don't know."

"Were you just angry and tired? Or was it more than that?"

"I was sad. I was sorry."

"Do you get that way very often?" "No."

"Do you wish to know why you have felt more such things recently?"

"If you know, tell me."

"It is because I am about. You have a soul, a soul which has been freed. I am always near you. You have begun to feel my influence. Is it such a bad thing?"

"Ask me another time," said Jack. "I came here to watch things, not to talk."

. . . And his words reached the ears of one who sought him, as a distant mountain shrugged off its peak, spewed fire into the air, belched and was still once again.

### XIII.

Jack listened to the sound of snapping rocks and watched the black spot fall; he heard the groans within the world; he saw the lines of fire cross the land.

To his nostrils now, there came the acrid odors of the inner world. Ashes, like the bats of his predecessor, swarmed, rose, fell in the chilly air. The stars executed movements never before recorded in the heavens. Seven torch-topped mountains stood in the distance, and he recalled the day he had made one move. Flocks of meteors constantly strung the sky, reminding him of the appearance of the heavens on the day of his last resurrection. Clouds of vapor and trails of smoke occasionally obscured the con-

stellations. The ground did not cease its trembling, and far below him Shadow Guard was shaken upon its foundation. He did not fear the falling of the tower, for such was his fondness of the place that he had laid mighty spells upon it and knew that it would stand so long as his power held.

His soul stood silent at his side. He lit another cigarette. watched a landslide on a nearby mountain.

Slowly then, the clouds gathered. They collected in the distance, where a storm began. Like manylegged, fiery-legged insects, they strode from mountain to mountain. They lit up the northern sky, were assailed by the meteors, were spat at by the attacked land. After a time, Jack could hear the growling attendant upon the conflict. After a greater time, he noted that the battle was moving in his direction.

When it was almost upon him, Jack smiled and drew his blade.

"Now, soul," he said, "we'll see how my powers hold."

With this, he scratched a pattern on the stone and spoke.

The river of light and thunder parted, flowing about Shadow Guard, passing it on either side, leaving it untouched.

"Very good."

"Thank you."

They stood now enveloped: the ground burned and shook beneath them; the storm raged about them; the sky was barred by shooting stars above.

"Now how will you be able to tell?"

"I'll be able to tell. In fact, a lot can be told already, can it not?" lack said.

His soul did not reply.

Hearing a footfall, he turned toward the stairs.

"It will be Evene," he said. "Storms frighten her, and she always comes to me when they occur."

Evene emerged from the stairwell, saw Jack, rushed to his side. She did not speak. He wrapped his cloak and his arm about her. She stood there shivering.

"Do you not feel any remorse over what you have done to her?"

"Some," said Jack.

"Then why do you not undo it?" "No."

"Is it that remembering, she would hate you?"

Jack did not reply.

"She cannot hear me. If I phrase questions, you could reply briefly, and she would think you are but muttering. —Is it more than hate?"

"Yes."

Both were silent for a time, then, "Is it that you fear she will go mad if restored?" his soul asked.

"Yes."

"This means you possess more emotions and sentiments than once you did, more than even I had suspected."

Jack did not reply.

The noise and the flashing lights were still all about them, and Evene finally turned her head, faced him, and said, "It is terrible up here. Shall we go below, my dear?"

"No. You may, if you wish. But I must remain."

"Then I will stay with you."

Slowly, very slowly, the storm began to pass, died down, was gone. Jack saw that the mountains still burned, saw too, that the ruptured land heaved forth fires of its own. Turning, he noted a whiteness in the air that he finally realized was not smoke, but snow. This was far to the west, however.

He had a sudden feeling that it was not going to work, that the devastation would be too complete. But there was nothing to do now other than watch.

"Evene . . . ?"

"Yes, lord?"

"I have a thing to say . . ."

"What is it, my love?"

"I- Nothing!"

And his soul drew nearer, standing directly behind him now, and the strange feeling rose until he could bear it no longer.

Turning back to her, he said, "I am sorry!"

"For what, my dear?"

"I cannot explain it now, but there may come a time when you will recall that I said it."

Puzzled, she said, "I hope that such a time never comes, Jack. I have always been happy with you."

He turned away and his eyes

went to the east. He stopped breathing for a moment, and he felt his heartbeat everywhere in his body.

Through the dust, the noise, the chill, it followed the trail. The flaring lights, the trembling land, the stalking storm meant nothing to it, for it had never known fear. It glided down hills like a ghost and slithered among rocks like a reptile. It leaped chasms, dodged falling stones, was singed once by lightning. It was a blob of protoplasm on a stick; it was a scarred hulk, and there was no real reason why it should be living and moving about. But perhaps it did not truly live-at least, not as other creatures, even darkside creatures, lived. It had no name, only an appellation. Its mentality, presumably, was not great. It was a bundle of instincts and reflexes, some of them innate. It was lacking in emotions—save for one. It was incredibly strong, and capable of enduring extreme privation, great amounts of pain, and excessive bodily damage. It spoke no language, and all creatures it encountered fled from it.

Now, while the ground shook and the rocks rattled about it, it began its descent of the-mountain-whichonce-had-moved, currents of blazing cloud dropping fires along its way.

The landslide did not stop it any more than the tempest could.

It picked its way among the

strewn boulders at the mountain's base and for a moment regarded the final ascent.

There led the trail; there must it follow.

High, high-set, walled and well-guarded . . .

But in addition to its strength, it possessed a certain cunning.

. . . And its one emotion.

"Win or lose, it's working," Jack said, and although Evene did not eply, his soul did.

"You lose. Whether it is the world's gain or loss is another matter. But you lose, Jack."

. . . And as he gazed into the lightening east, Jack felt that this was true.

For the sky had grown pale with something other than volcanic fires and storms. Within him, he felt his power begin to break. Turning to the west, he saw again how far the black orb had fallen, and the dawn exploded in his mind.

As his power slipped away, the walls of Shadow Guard began to crumble.

"We'd best flee now."

"What do you care, spirit? You can't be harmed. I'll not flee. I say this tower will stand against the dawn."

Below him, stones and masonry raining into a courtyard, a wall gave way, revealing the interiors of several chambers. Jack heard the cries of his servitors, and several rushed across the courtyard. There

came another shaking of the ground, and the tower itself swayed slightly.

Jack faced the pink-skied east once more. "The Key That Was Lost, Kolwynia, is lost again," he said. "This time forever."

For he had tried a simple spell and it had failed.

He heard a roaring, as of waters unlocked, and a far portion of the citadel burst and was scattered.

"If you will not flee, then what of the girl who stands by your side?"

Jack turned toward Evene, having almost forgotten her presence. He saw that a curious look had come onto her face.

At first, he was unable to fathom her expression, and when she spoke, he noted that the timbre of her voice had changed.

"What is happening, Jack?"

As she spoke, he felt her body stiffen and sway slightly away from him. He immediately relaxed his arm to accommodate her movement.

In an instant, it filled his mind. With the slipping away of his magical powers, the spell he had laid upon her so long ago was coming undone. As the dawn spread over the troubled world, her mind cleared proportionately.

He began to speak, hoping to occupy her full attention, to keep her from suddenly considering her changing condition.

"It is my doing," he stated. "The seven listed in the Red Book of Ells

would not co-operate in maintaining the Shield against the outer cold, so I slew them. I was mistaken, however, in considering them expendable. Though I had thought I could manage it, I proved incapable of performing the feat on my own. There was but one alternative. I destroyed the Great Machine which maintained the world as it was. Now, we darksiders-drawing our legends from that near-incomprehensible thing called science—say it is a machine that drives the world. The daysiders, equally superstitious, see the world's core as filled with fire elementals and molten minerals. Who is to say who is correct and who incorrect? Philosophers on both sides have often speculated that the world of the senses is an illusion. It does not really matter to me. Whatever the reality from which we appear to be permanently isolated, I journeyed to the world's center and effected a catastrophe there. You see its results all about you now. Because of my actions, the world is beginning to rotate. There will no longer be a dark side and a light side. Rather, there will be both darkness and light in succession in all portions of the world. The darkness, I feel, will always hold in some form the things we have held, and science will doubtless prevail in the light."

That is, he added mentally, if the world is not destroyed.

He wondered, at that moment,

what it was like in the lands of light—back at the university, say—to have evening come on, then darkness, to see the stars. Would some Poindexter think it an elaborate semester's end prank?

"This way," he went on, "there will be no need to shield against the cold or the heat. The warmth of the star about which we move will be distributed rather than concentrated. I—"

"Jack of Evil!" she cried, backing quickly away from him.

From the corner of his eye, he saw that a blazing orange arc had appeared above the horizon.

As its rays fell upon them, the tower trembled, quaked, began to rock violently. He heard the sound of falling stones within the tower itself, felt through his boots the vibrations of their dislodgment.

. . . . And Evene crouched, and her eyes were wide and wild behind the masses of her now-freed hair which the wind whipped past them

. . . And he saw that in her right hand she held a dagger.

He licked his lips and backed away.

"Evene," he said. "Please listen to me. I can take that toy away from you, but I don't want to hurt you. I've hurt you enough. Put it away, please. I'll try to make—"

She sprang at him then, and he reached for her wrist, missed, stepped to the side.

The blade went by; her arm and

shoulder followed. He seized her shoulders.

"Jack of Evil!" she said again, and she slashed at his hand, cutting it

As his grip weakened, she broke free and was upon him, thrusting for his throat.

He blocked her wrist with his left forearm and pushed her away with his right hand. He glimpsed her face as he did so, and there were flecks of foam at the corners of her mouth; lines of blood crossed her chin from where she had bitten her lip.

She stumbled back against the balustrade and it gave way, almost soundlessly.

He lunged toward her but arrived only in time to see her billowing skirts as she fell toward the courtyard below. Her scream was brief.

He drew back when the tower's shifting threatened to topple him also.

The sun was now half risen.

"Jack! You've got to leave! The place is falling apart!"

"It doesn't matter," he said.

But he turned and headed toward the stairwell.

It searched the corridors, after having entered the citadel through a gaping hole in its northern wall. It left the bodies where they fell, whenever it had to slay. At one point a section of roofing fell upon it. It dug its way out and continued on.

It crouched behind rubble, as brigades of water bearers rushed by to quench flames; it concealed itself in niches and behind hangings, furniture, doors; it glided like a ghost and slithered like a reptile.

It picked its way through the débris until it located the trail once more.

High, high it led, and winding . .

There would it go.

The sky split by the light, the broken balustrade so clear in his mind, the flower of her skirts blooming behind his eyes, her spittle and blood the ink of his indictment, the thunder of the tortured land a form of silence by virtue of its monotony, the shattered stones sharpened by dawn's shadowy clarity, the winds a dirge, the movements of the decaying tower an almost soothing thing now, Jack came to the head of the stairwell and saw it ascending.

He drew his blade and waited, as there was no other way down.

Strange, he thought, how the instinct to survive prevails, no matter what.

He held the point of his blade steady as the Borshin sprang up the final steps and attacked.

It pierced the creature's left shoulder but did not halt it. The blade was torn from his grasp, as the Borshin struck him, knocked him over backwards, leaped for him. He rolled to the side and managed to achieve a crouched position before the creature attacked him again. His blade was still in its shoulder, gleaming in the light; no blood lay upon it, but a thick, brownish fluid was oozing slightly about the edges of the wound.

He managed to dodge the second onslaught and strike it with both hands, but the blows had no apparent effect. It felt as if he were striking a pudding that would not splatter.

Twice more he succeeded in evading its attack, kicking its leg once in the process and jabbing the back of its head with his elbow as it passed.

On the next occasion, it caught him loosely, but he jostled the blade within its shoulder and escaped with a torn tunic.

Crouching, circling, attempting to keep as much distance as possible between them, he scooped up two pieces of masonry and leaped backward. It would have had him then, save for his leap. It turned with great speed, and he hurled one of his new-found weapons, missing.

Then, before he could recover from his throwing stance, it was upon him, bearing him over backwards.

He struck it about the head with his remaining weapon, until it was dashed from his hand. His chest was being crushed, and the creature's face was so near his own that he wanted to scream, would have screamed, had he the breath. "It is unfortunate that you did not choose properly," he heard his soul saying.

Then the creature's one hand came to the back of his neck and the other to his head. They began a twisting motion.

As the blackness rose from his middle and the tears of pain mingled with the perspiration on his face, his head was turned in such a fashion that he saw a thing which gave him an instant's wonder.

The magic was fled, but this dawn was still like twilight. He had been able to function in Twilight, not as a magician, but as a thief.

Because of his power within Shadow.

. . . No blade could touch him there, no power harm him.

The rising sun, striking a section of balustrade, cast a long dark shadow that fell but a foot away.

He struggled to reach it, but could not. So he flung his right arm as far in that direction as it would go.

His hand and half his forearm fell within the shadow.

The pain was still there, and the creaking of vertebrae; he still felt the crushing weight upon his chest.

Only now, the old, dark feeling entered him and flowed through his body.

He resisted unconsciousness; he stiffened his neck muscles. With the strength he had drawn, he twisted and pushed until he had dragged his entire arm and shoulder into the shadow. Then, using his elbows and heels, he managed to force his head within the potent shade.

He pulled his other arm free, and his hands found the Borshin's throat. He dragged him into the shadow with him.

"Jack, what is happening?" he heard his soul say. "I cannot see you when you are in Shadow."

After a long while, Jack emerged from the shadow.

He leaned heavily upon the nearest balustrade and stood there panting. He was smeared with blood and a gummy, brownish substance.

"Jack?"

His hand shook as he reached within what remained of his tunic.

"Damn . . ." he half whispered, hoarsely. "My last cigarettes are crushed."

He seemed as if he were about to cry over the fact.

"Jack, I did not think you would survive—"

"Neither did I. —All right, soul. You've bothered me long enough. I've been through much. There is nothing left for me. I may as well make you happy, anyhow. I give you my consent. Do what you would."

Then he closed his eyes for a moment, and when he opened them, his soul had vanished.

"Soul?" he inquired.

There was no reply.

He felt no different. Were they truly united?

"Soul? I gave you what you wanted. The least you can do is talk to me."

No answer.

"All right! Who needs you?"

Then he turned and looked out over the devastated land. He saw how the slanting rays of the sun brought color to the wilderness he had wrought. The winds had subsided somewhat, and it was as if there were a singing in the air. There was a blasted beauty to the place, for all the wreckage and smoldering. It would not have been necessary that it be racked so, had it not been for that within him which had brought pain, death and dishonor where it had not been before. Yet, out of the carnage, or rather, overlaying it now, was something he had never seen previously. It was as if everything he looked upon contained the possibility of perfection. There were smashed villages in the distance, truncated mountains, charred forests. All the evil was upon his head, for he had indeed earned the title he had borne. Yet, out of it, he felt, some other thing would grow. For this, he could take no credit. He could only bear blame. But he felt that he was no longer precluded from seeing what might come now that the order of the world had been altered, from feeling it, delighting in it, perhaps even— No, not that. Not yet, anyhow. But the succession of light and darkness would be a new order of things, and he felt that this would be good. He turned then and faced the sunrise, wiped his eyes and stared some more, for he felt it the most lovely thing he had ever seen. Yes, he must have a soul, he decided, for he had never felt this way before.

The tower ceased its swaying and began to come apart about him.

I meant it, Evene, he thought. I even said it back before I had a soul. I said I was sorry and I meant it. Not just for you. For the whole world. I apologize. I love you.

. . . And stone by stone, it collapsed, and he was pitched forward toward the balustrade.

It is only fitting, he thought, as he felt himself strike the rail. It is only fitting. There is no escape. When the world is purged by winds and fires and waters, and the evil things are de-stroyed or

washed away, it is only fitting that the last and greatest of them all be not omitted.

He heard a mighty rushing, as of the wind, as the balustrade snapped and its rail slipped forward. For a moment, it was an intermittent thing, similar to the flapping sound of a garment hung out to dry.

As he was cast over the edge, he was able to turn and look upward.

Falling, he saw a dark figure in the sky that grew even as his eyes passed over it.

Of course, he thought, he has finally looked upon the sunrise and been freed...

Wings folded, his great, horned countenance impassive, Morningstar dropped like a black meteor. As he drew near, he extended his arms full length and opened his massive hands.

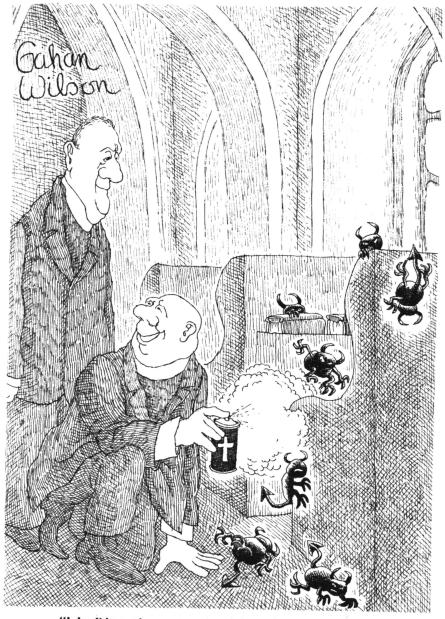
Jack wondered whether he would arrive in time.

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"I don't know how we ever got along without the stuff."

This gripping story concerns a man who sets out to kill a twelve-foot, white-tipped shark. The hunter is aware of the great danger, to the point where he has compiled an agonizing mental list of the many things that could go wrong, but he has not included the one fantastic thing that does.

## A Ring of Black Coral

by D. R. SHERMAN

HE HAD BEEN THINKING ABOUT IT for three long days, and then finally he made up his mind and did it. He had speared and killed small sharks before when they had come too close for comfort, but this was different, because he was deliberately going out to kill a twelve-foot white-tipped shark.

On two consecutive days it had torn into the floating fishnet he trailed behind him on an inflated inner tube. It wrecked the net and the tube and made off with his fish. If he didn't do something about it, he himself would probably be providing it with its next meal. He believed in that saying about familiarity and contempt.

He was afraid. He had no illusions about sharks. He had seen them idling, and he had seen them at speed. They were incredibly fast, and he truly believed from his ob-

servations that if a shark really made up its mind to have you, there wasn't a great deal you could do about it. Regardless of what the experts wrote.

A single flick of its mighty tail and it was a blur under water. It could come in from behind, strike and be gone before a man had the time to turn and face it. They were silent and deadly and fast, and against them in the water a man was as helpless as a fish out of it. But he had a brain, and the brains of other men had fashioned weapons which reduced the odds against him.

He checked his gun. It was made by Mares of Italy, a bazooka, the most powerful pneumatic underwater gun in the world. The fiftyseven-inch stainless steel harpoon weighed two pounds, and it was propelled from the gun by a piston which was driven by an air bubble of thirty atmospheres.

He loaded the gun. He thumbed the power lever to maximum. He put the point of the spear against the wooden wall of the boathouse. He leaned into the gun, his feet braced, throwing all of his weight against it. He squeezed the trigger. He eased the gun back slowly. At first he had control of the thrusting spear, but when it was halfway out of the barrel, the tremendous force of expanding air pushed him away from the wall. He stumbled as it drove him backwards. He almost fell, and if the spear had been any longer he would have fallen.

He stroked the barrel of the gun with something close to affection. He returned the power lever to minimum; then against the massive compression, he pumped the spear down into the barrel, once and then once again; and when the air had been diverted to the subsidiary reservoirs and the pressure reduced inside the barrel, he drove the spear right home till the catch-hook locked with the piston head. He thumbed the safety catch on and propped the loaded weapon against the wall.

Next he selected a headless shaft. To it he screwed the heavy steel powerhead. It took a twelve-bore cartridge, which exploded on contact with whatever it struck. From a box on the shelf he took four cartridges of SSG. He wrapped them in a polyethylene bag and waded

out to the boat with his equipment. The cartridges were waterproofed, but he always gave them that extra protection.

It was a beautiful boat. A Boston whaler of thirteen feet, made out of fiberglass, and capable of almost thirty mph with the 25-hp Evinrude outboard.

He unshackled the boat from the mooring chain. He made a final check of his equipment. Nothing was missing. He rowed out into deeper water and then started the engine. It fired on the second pull on the starter cord. He throttled back slightly, slipped it into gear, and then sat back and opened the throttle.

The bows lifted and the stern settled. The wind tore at his face, and behind the skimming whaler the early morning darkness of the sea boiled up in a foaming white roadway.

He steered straight out to what he called Shark Alley. It was a deep sandy channel which cut through a confusion of coral and eel grass about a hundred and fifty yards off Pointe Rouge, the southeast tip of Curieuse Island. It was about two miles and a half from Praslin, and it took him only a little over ten minutes.

He anchored the boat in fifty feet of water directly above the channel. It was a cruising ground for many different sharks and fishes, and it was here that the bluntmouthed white tip had twice ripped into his fish-filled net.

He felt his heart begin to beat a little faster. He wasn't going for the shark, not just yet, but at the back of his mind was the knowledge of the eventual encounter. So many things could go wrong. He might miss, which wouldn't be so bad, because the shark would probably take off in fright at a great speed. Then again it might not. He might wound it, and then it might turn on him and tear him apart in a cold, mindless fury. And then perhaps the cartridge might misfire, and

He shut his mind to all the possibilities of disaster. The first thing he wanted was a ray, and they were harmless, unless you were careless and got in the way of the whipping tail.

He had been careless once, and the great lasting pain of it almost made him cry. Only a single barb had entered his calf. Some rays had up to seven barbs, each one five inches long. He didn't like to think about it.

He wet his flippers over the side and tugged them on. He spat into his face mask, rubbed the spit over the faceplate, and then rinsed the mask in the sea. He slipped it on and threaded his snorkel up under the strap of the mask.

The loader for the gun was on a short nylon cord. He slipped the noose over his wrist and drew it tight. Then picking up his gun, he sat on the gunnel of the boat and somersaulted backwards into the water.

He loved it under the water. It was, he thought, almost like dreaming, all the weird, fantastic shapes and colors. But it was better than dreaming, because he knew it was real, and the gun in his hand gave a meaning and sharp, frightening clarity to that reality.

He found his bait in less than ten minutes. It was at about thirty feet, barely moving, just above the bottom. He hyperventilated, breathed in once more, and then dived.

Black it was, night black with small purple spots on its midnightcolored wings. Ten feet from it he slowed his rate of descent. The wash and vibration of rapid movement often sent them flying away just before you pulled the trigger.

Five feet from it he extended his spear gun. He squeezed the trigger. One moment it was swimming free, next the beautiful wings writhed and contorted as it sought to escape. It somersaulted onto its back and flew plunging towards the surface. And then suddenly, before it got there, with the death in it and all the great beautiful strength gone, it sank back towards the bottom. Still now, the wings spread wide again but shivering now and then. Dead, forever dead, with the harpoon through and through it just behind its head.

The man surfaced in a welter of spray and foam. The dive had winded him, and for a while he lay inert on the surface, breathing in and out in short, harsh gasps, his eyes on the motionless ray floating at the end of his line, but wary and watchful too, searching the water around him, because now there was blood and invitation in it.

When he was strong again, he swam for the boat. He hauled himself on board. He brought the ray up carefully over the side. Keeping it well clear of him on the end of the harpoon, he reached out and severed the tail with a single slash of his knife. He flung it overboard and then cut the ray free of his harpoon.

He uncoiled a thirty-foot length of cod line. He secured one end to the boat, and to the other end he attached the dead ray, cutting a slit in one of the wings to do it. He was almost ready now.

He untied the harpoon from his line. He replaced it with the shaft that had the powerhead. He loaded a cartridge into it, locking it on safe with the threaded plastic nut. He shoved two extra shells down inside his trunks. He was ready now, except for one last thing.

He stood up in the boat. There was a hollow tightness in his belly, and the quick, rhythmic beats of his heart were like blows inside his chest. He held the ray over the side. He slashed it twice across the head. Flesh and cartilage gaped and bled. He ripped its belly open. It quivered briefly on the end of the line, and then he dropped it into the water. The sea darkened momentarily

with its blood and juices, and then it sank slowly into the black blueness.

He went into the water right after it. He loaded the bazooka quickly, and then with slightly shaking fingers, he unscrewed the safety ring on the powerhead.

He could feel his eyes bulging starkly behind the plate of his mask as he searched the dark water. He stayed on the surface, with just the top of his head and his snorkel clear, paddling himself round in circles, checking on the dark smudge of the ray now and then, his eyes straining for that first flicker of shadow and movement.

He had been there about five minutes when something moved far below him. His mind quivered once and then became still. He gulped air and jackknifed. He went down quickly, clearing his ears every ten feet or so, the spear gun out in front of him and his finger fluttering on the trigger.

The electric tension drained from him abruptly. The shadow he had seen resolved itself into two large carangue or amberjack, swimming head to tail. He watched them till they went out of sight, and then he finned slowly back to the surface, searching and turning as he came up, always searching.

The fear and the heart-squeezing uncertainty gripped him again on the surface. Time dragged, each minute a long eternity of unbearable waiting. Out of the corner

of his eye he caught a flash of movement. He spun in the water, his heart hammering crazily. But it was only a needlefish, motionless now, just below the surface. It watched him for a while and then darted off as he flicked the spear gun towards it.

He glanced down at the suspended ray. He dived suddenly in a flurry of spray and half-caught breath. He wasn't sure what it was, but it was big. It was about fifty feet away and coming up towards the carcass of the ray from deeper water.

At twenty-five feet he froze. Shocked incredulity numbed his mind. He wondered whether he was dreaming or whether he had gone mad.

Five feet from him she stopped. Her milk-white skin shone like pale silver, and the shifting current streamed her long black hair behind her, first to one side and then the other. She was naked and beautiful, and he thought in that first instant of shock that she was the most beautiful woman he had ever seen. He was wondering about her when he saw that she had no mask.

And then he noticed the other things. On either side of her slender neck and just below her ears there were three tiny slits. They pulsed slowly. He stared in astonishment, and then the incredible truth struck him.

His eyes darted over her in a lightning examination. He forgot all

about the shark and the dead ray just below him that was there as bait for the shark. He saw that her feet were webbed and her hands too, and the webbing looked like transparent silver.

Her hands were what held his attention. They moved lazily in front of her, like the fins of a fish holding balance, the fingers spread wide and the silver webbing stretched taut between them.

Between the thumb and first finger of each hand there was no webbing. But on each thumb she wore what appeared to be a ring. They were jet black.

With a flick of her arms she suddenly straightened into a vertical position. He stared at her, and the perfection of her body sent a vibrant tremor through him.

He wanted to reach out and touch her, He wanted to do more than that, but that would only be the beginning. She smiled at him, as if she had read his mind.

She reached a hand towards him. He back-paddled, suddenly wary and suspicious. His lungs were beginning to grow hot and heavy. He glanced quickly towards the surface. The dull, glittering mirror wasn't too far above. He still had time.

She swam closer to him. She reached out her hand. Once more he backed away. But then she smiled again. It was like no smile any woman had ever given him. There was invitation in it, yes, but

there was also a naked, hungry adoration that whispered its beguiling message.

He reached out. He felt her webbed fingers close on his wrist. They were cold, so cold that they burned, and they clamped so tight that he thought that his wrist was being crushed.

She turned in a flash. He felt himself being dragged down, deep down into the cold water where the pressure drove red-hot pain into his ears.

For a few seconds he was too stunned to react. Then he kicked out fiercely, but she was too strong for him, and it didn't even slow his rapid, headlong descent.

She glanced back at him once. The look of adoration was still on her face. It didn't make sense, and because it was senseless, it was frightening. Or perhaps she just liked to kill.

He remembered the gun in his right hand. He leveled it, not aiming but simply extending it till he knew he was on target and ready to fire. He snatched at the trigger.

The harpoon struck her behind the head, but there was no ear-shattering explosion. It was like that dream that so often woke him up sweating and shivering, that dream where the powerhead misfired. But he always woke up the instant before the shark reached him.

But this was no dream, and he didn't wake up safe in bed. He felt the pressure on his wrist slacken.

He hadn't killed her, but he must have stunned her badly. He tried to tear his wrist free, but her grip held. He reached across with his other hand. It was difficult because he was holding the gun in it. He pried her fingers loose, and then with a sudden wrench he tore himself free and started up.

He felt something hard against the fingers of his right hand, clamped between them and the smooth stock of the spear gun, something that shouldn't have been there. He lifted his hand till it was up in front of his mask. In the struggle to free himself, he must have torn it from her thumb. He eased it out and slipped it onto the little finger of his left hand.

He glanced down below him. He saw her wallowing sluggishly in the water, her movements erratic and disjointed. She looked up then, and even though she was deadlier than any shark, he was glad that the cartridge had misfired. On her face was an expression of grief and desolation.

For a moment he was puzzled, but then in a flash he understood. He wished desperately that there were some way of explaining to her that they inhabited different worlds.

He became conscious again of the knifing pain in his ears. He cleared them quickly, clamping his nostrils through the recess in his mask and blowing hard. He thrashed out with all his failing strength for the surface, wondering if he was going to make it. His lungs were throbbing leadenly, and bubbles were already beginning to stream from his snorkel as the dead air forced itself through his compressed lips.

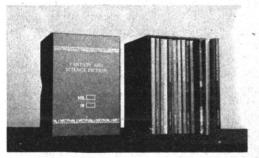
He woke up in his bed, gasping for breath. It was early morning. For a moment he was too stunned to think, but then he felt a great surge of relief. It had, after all, only been another of those terrifying dreams.

The bed was damp with perspiration. It was more than damp, it was soaking. He always perspired,

but never like this. He flung back the sheet and sat up. He stared in mounting disbelief at the sodden swimming trunks in which he was dressed.

He lifted his left hand. He had been going to scratch his head, a gesture of conditioned reflex. His hand never got as far as his head. It froze midair. His heart thundered, and then it slowed down and seemed to stop altogether.

On the little finger of his left hand was a smooth black ring. It looked as if it might have been carved from a branch of black coral.



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A. Bertram Chandler, a long-time contributor to this magazine as well as others in the field, returns with a story about a frightening experiment. The experiment deals with the City of the Future, a city peopled not by human beings, but by rats.

### The Pied Potter

### by A. BERTRAM CHANDLER

WE'D TALKED ABOUT MOST THINGS that evening; it had been one of those parties where everybody has something to say about something—or everything. Rather surprisingly, quite a few of those present actually knew what they were talking about. Bingham, for example. When Croucher said confidently that Old Mother Nature would take care of the population explosion in her own way, Bingham laughed, but not happily.

"There," my wife whispered to me, "is a man who knows too much. But what's he so frightened about?"

Bingham overheard her. He said to us, "Yes, I am frightened, and I don't care who knows it. So would you be, if . . ."

"If what?" demanded Croucher, getting back into the conversation.

"If you could watch the experiment I'm carrying out. That

I'm carrying out? No, it's carrying itself out. But it should be shown on the screen of every TV set in the world every night, and then people would realize . . . ." He sipped from his almost empty glass, then wandered away to the bar to get a refill. But he returned to us. "Why don't you come out to the university tomorrow? You should see the experiment . . ."

Croucher said that he couldn't spare the time, and neither could his wife. But Sandra and I were free; the life of a self-employed writer has its compensations. We made arrangements and then got caught up in an argument about student unrest and then another one about pot. Everybody was talking and nobody was listening and a good time was being had by all.

I hoped the next morning that

Bingham had remembered the invitation, and a telephone call to the university confirmed that he had. He had told us that we would find him in the Biological Research Block, which turned out to be a rectangular slab of concrete not harmonizing at all well with the pseudo-Gothic of the older buildings. We gave our names to the girl at the desk in the office just inside the main entrance. She told us that Dr. Bingham was expecting us, and got a uniformed messenger to take us to his laboratory.

We followed the man along what seemed like miles of featureless, brilliantly lit corridors. We came at last to a plain grey numbered door set in the plain grey wall. It was, I recall, number 13. Whether or not that has any significance I can't say.

Our guide knocked on the door. Bingham opened it. He was wearing a badly stained white smock over a rumpled suit as well as his habitual worried expression. He managed to turn on an apology for a smile and said, "Come in. Welcome to the City of the Future."

The City of the Future?

The first thing I noticed was the smell. Like most of us I kept pet white rats as a kid, and during World War II, I served for several months in an ancient, rat-infested freighter. I know what rats smell like—but this stink was concentrated essence of rat.

"You'll get used to it," Bingham told me. "You get used to anything

in time." He laughed harshly. "That's the trouble with us. We get used to the most appalling conditions, and do nothing about them."

"Appalling is the word!" complained Sandra through the handkerchief she was holding to her nose.

"But you've seen nothing yet," said Bingham.

"If it looks as bad as it smells," my wife told him, "I'm not sure that I want to see anything!"

And it did look as bad as it smelled. It was a huge cage, glasssided for the observation of its inmates. There were twenty-four floors, originally transparent like the cage walls, but now badly befouled. On each floor were . . . streets of little, box-like houses, There were ladders from floor to floor and up the inside walls of the cage. I remembered again those childhood pets. They would have regarded a cage like this as a sort of rat paradise-but I never owned more than six of the little brutes at any one time. This, obviously, was no rat paradise; it was more like the Hell painted by Hieronymus Bosch, only it was peopled not by human beings but by a squirming mass of white-furred rodents.

"How . . . how many?" asked Sandra in a muffled voice.

"Too many," replied Bingham.
"Too many, Mrs. Whitley. To be precise, five thousand one hundred. Seventeen times more than the number that would be living in that

same space in natural conditions."
"How about . . . food?"

"They're quite well fed. A balanced diet, with all that's required for physical health. Facilities for exercise—if they don't mind crawling

over each other on the ladders

"And they fight as well, I suppose?" I asked, looking with horrified fascination at a poor little brute, a piebald one, cowering at the bottom of one of the ladders. He had lost most of his tail, and the stump was still oozing blood.

"Oddly enough, no. Once the pecking order's been established, they seem to stick to it. Look closely; you'll see that the rats on the top levels are all fat and sleek, whereas the lower classes are scrawny and bedraggled . . . But the general apathy is rather frightening. Not even sex seems to interest them any more. We thought at first that the overcrowding would become worse as Nature, as Croucher would say, took its course, but we have to put in new rats to replace those who die . . ."

"H'm." That glass cage was horridly fascinating. It reminded me far too much of cities I had seen in the Orient—but the people in such cities are still too fecund. Could there be a missing factor in this artificial environment? I recalled the drug shops that I had seen in the poorer quarters of Calcutta, and their signs. How did they read? Licensed to sell Charas, Bhang and

Ganja . . . Was there some connection? Does the overcrowded human animal need some sort of drug to enable him to copulate, and his mate to conceive? "H'm."

"And what's biting you?" asked Sandra. She still had her handkerchief to her face, but she could not take her eyes away from the pullulating rat city.

"Just an idea . . ."

"What is it?"

I laughed. "I'm only a layman."
Bingham said seriously, "Ethology is a very young science. The status of all of us is little, if at all, better than that of laymen."

"Oh, all right. It just occurred to me that there's one feature of an overcrowded human city you haven't duplicated. Pot smoking."

He laughed. "Rats are intelligent, but I somehow can't see them rolling their own reefers, although I'm sure that our bright boys in engineering would be able to make a supply of miniature lighters for them!"

"So marijuana's out. But there're more ways of getting high than by smoking. How about . . . hashish?"

Bingham showed signs of increasing interest. "You have something there, Whitley. But how do we get hold of the stuff, even for research? You know what the customs are like."

"Too right. But . . . some of your students possibly . . .?

"You're putting the most shockingly illegal ideas into my head."

"Or perhaps your chemistry people could whip you up a batch of LSD..."

"I'd sooner keep them out of it." Then, speaking more to himself than to us, "Hashish . . . Charas . . . Cannabis indica . . . Can be taken in a number of ways . . . as a food, or as a drink . . ."

"Can't we leave, George?" asked Sandra imploringly. "This . . . stink. I'm sorry, Dr. Bingham, but it's getting me down."

So we left, and as Bingham escorted us from the building, he promised to keep me informed and to let me know when to come out to the university again. Sandra, in the car on the way home, hoped that he would forget his promises. She said she had seen enough rats in one morning to last her for several lifetimes. I was inclined to agree with her.

I was rather surprised when Bingham rang me up just over a week later. It has been my experience that people who promise to keep one informed very rarely do so. "Can you come out?" he asked.

"Yes," I told him. Sandra said that I could do as I pleased but that she was staying at home. She did not, repeat not, like rats, and the more rats there were, the more she didn't like them.

Bingham was waiting for me at the entrance to the Biological Research Block. He said, without preamble, "You've started something . . ."
"I've started something?" I

countered defensively. "It was just an idea . . ."
"But your idea, Whitley. Don't worry, I'll see that you're given full

credit."

He said nothing more as he led

me to his laboratory.

The huge, glass-walled cage was still there. The stink was just as bad as before. To first glance the rat city was unchanged; its furry masses were still crawling around and over each other, still apathetic, still acting out for us the all-toopossible doom of mankind.

I said, "I can't see anything different."

"Just watch carefully. And listen to what I tell you. I was able to get hold of a supply of hashish, never mind how. I made it up into little pellets, which I mixed in with the food supply. But rats are suspicious brutes, as you'll already know if you'd tried to get rid of the wild variety with poison. The 'upper classes' got the lion's share of the food, as usual, and left all the drugged pellets. The 'middle classes' didn't starve either, and took none of the hashish. The 'lower classes' got enough food to sustain life, so weren't obliged to adopt new eating habits. All but one, that is. Do you see him?"

I looked for him on the ground level of the cage—not that I knew what I was looking for. I stared at the skinny, bedraggled little brutes, crawling listlessly through their own filth. None of them seemed any different from his companions in misery.

"Not there," Bingham told me. "Halfway up. Do you see him? That little, piebald fellow . . ."

I saw him then. I recognized him. It wasn't altogether due to his coloring, although he was one of the few animals that were not entirely white. He was the one whose tail had been gnawed off. But the stump was healed now. He was fatter; his fur, although not yet sleek, was glossier. He came out of the little box in which he had made his home (and who had been evicted. and how?) and walked quite deliberately to the glass wall, staring out at us. He was not, as were the majority of his fellow inmates, a true albino, so his eyes were brown and not red. And they were . . . wrong. Damn it all, one does not expect to be looked down on by a lower animal, a little brute to whom one is a towering giant by comparison, intellectually as well as physically. But that was the very strong impression I gained.

"That's him," said Bingham.

"He's risen in the world," I remarked.

"He has." Bingham turned away from the cage, walked slowly to his desk, where there were two chairs. He sat down in one, motioned me to the other. "Drugs aren't my field, Whitley. What do you know about them?"

"Precious little. Only what I've read."

"Oh. I thought that you, as a writer, might have firsthand experience. I thought that you might have tried the hallucinogens, the consciousness-expanders . . ."

"Not me."

"A pity. I was hoping that you'd be able to tell me what the effects are like."

"Why not try it yourself?"

He laughed uneasily. "Intellectually I can see nothing wrong with the idea. But emotionallythat's different. It's my upbringing, I suppose. I just feel that some things are wrong, and taking drugs is one of them." He carefully filled and then lit a battered pipe. He asked suddenly, "What does happen when you expand the consciousness of a rat?"

"What has happened so far?"

"I'll tell you. Our little, piebald friend got the hashish pellets. He nibbled one. There wasn't much else for him to nibble. He seemed to like it. He had several-but they didn't put him out, as I thought they would. They didn't slow him down, even. Then he gathered up those that were left and rolled them into a corner, where he stowed them under a pile of refuse. None of the others were at all interestedbut then, they aren't very interested in anything.

"The next feeding time he stood

up for his rights. He managed to get his share, more than his share, of the normal food. And all the hashish pellets. Shortly afterward, I noticed that he was acquiring a harem, from among the females on the lower levels. Those females, as you might have noticed, are much more aggressive than the males—but somehow he gained ascendancy over them. One of them, in fact, is the vicious little bitch who chewed his tail off a while back."

"Good for him."

"H'm. Yes. Very good for him. His . . . gang made a raid yesterday on the middle-level boxes, bundled their occupants out and took over."

"A sort of rodent Old Man of the Mountain."

He stared at me. "Yes. You could be right. That angle never occurred to me until now. Assassins, rewarded with hashish . . ."

I said, "I suppose you'll cut the supply off now."

"Why?"

"Isn't the experiment getting rather out of hand?"

"It's developing in an unexpected direction, that's all." He looked at his watch. "Almost time to feed the brutes."

A chittering from the cage was distinctly audible.

"They know it, too," I commented.

"They always do. But they didn't use to be as noisy as this when they got impatient."

I watched with interest as he fed the rats. This was done through a sort of air lock in the flat roof of the cage. The food pellets were pushed through a double, spring-loaded door into the chamber—the yellow ones that were normal nutriment, the green ones that had been made up from the drug—and then, at the touch of a button, the lower double-door opened, letting the food fall to the floor of the first level.

Until now, Bingham told me, the "upper classes" had taken their leisurely pick of what was available; then the "middle classes" and finally the "lower classes" had got what was left, scurrying back down to their own level as though they were guiltily conscious of having trespassed among their betters.

But the pattern of behavior had changed.

The pellets fell, forming a mound on the floor. The fat, sleek rat aristocracy gathered around it. in no hurry at all to begin their meal. Suddenly their composure was shattered. The little piebald animal had appeared on the scene, and following him was a half dozen of his tribe-tough, scarred, vicious-looking brutes, and even through the thick, glass walls their menacing chittering was loud. The inhabitants of the upper level gave way, ludicrously clumsy in their panic haste. One or two of them were too slow, and screamed rather than squeaked as the intruders used their teeth.

Sudden blotches of blood bloomed on white fur.

The piebald rat scrabbled in the mound of pellets while his followers stood guard. He was working with intelligent deliberation, separating the green ones from the yellow ones, using his paws to arrange them in a neat pile. Meanwhile there was an eviction in progress; three of his bodyguard made their way into one of the box houses, and, very shortly thereafter, its two former occupants stumbled out dazedly, their fur ruffled and bloodied. One of them had lost half its tail.

The hashish pellets were rolled into the vacated box. Only then did the raiders eat, slowly, taking their time, while the cowed population of the cage watched timidly. Their meal finished, the gangsters (for so I was beginning to think of them) defecated deliberately on the remaining food.

"Charming animals . . ." I said.
"They were, comparatively speaking, until I started trying out your bright idea. But it's fascinating, isn't it?"

"H'm." I looked at my watch. "I told Sandra that I'd be home for

lunch. I'd better be going."

"Thanks for coming out," said Bingham. "I'll let you know how things go."

"Do that, Doctor. But I still think that you should make another switch—from hashish to cyanide!"

As it happened, I didn't see Bingham again, although I heard from him. His voice on the telephone sounded frightened, almost hysterical. He said, "They got out. Not all of them. Just the pied one and a dozen of his followers..."

"I thought that the cage was escape-proof."

"So it was-to normal rats. But

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those bastards of yours . . . They made a ladder. They must have worked at night when there was nobody round. They cut up the walls of one of the boxes with their teeth and fitted the pieces together. The catch on the lower doors of the feeding hatch wasn't working properly. I'd been meaning to get it fixed, but . . . you know how it is. And they forced the upper doors open somehow . . . I found a piece of tail that had been cut off when they snapped shut . . .

"Where are they now, the ones

that escaped?"

"I . . . I don't know."

"Have you notified the authorities?"

"What authorities? And why should I?"

"Those things could be dangerous."

He laughed then, with genuine amusement. "Come off it, Whitley.

This isn't one of your science fiction stories. I can imagine what you'd make of it-a plague of rats, their intelligence expanded by hashish, taking over the world. These things don't happen in real life!"

And that was it. I hope that he was right in what he said, that these things don't happen in real life. I sincerely hope so, especially since I have read a small item in the morning paper. It was about a raid by the police on a house from which a suspected hashish smuggler was operating. They found the man there. He was dead. His throat had been torn out by some small animal or animals. The official theory was that he had been murdered by a person or persons unknown and that rats had partially devoured his corpse.

They found the hashish-but not all of it.

The rats had been at that too.

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It has been almost ten years since a Wayne State University professor named R. C. W. Ettinger sent out a tract called "The Prospect of Immortality." Most sf readers are now familiar with his argument: i.e, that people be frozen after death, with the assumption that, "no matter what kills us . . sooner or later our friends of the future should be equal to the task of reviving and curing us . . ."

# A Rag, A Bone

## by PATRICK MEADOWS

ZEKE STOOD AT THE FRINGE OF scrub. For a long time he looked out over the acres of gray slag. Once his nostrils flared and he searched the light breeze for the touch of man-smell brought to him. He exhaled smoothly. It was an old odor and had been carried a long way. Once more he searched the distant edges of the clearing. Surely his silver-gray eyes moved to each thicket of cover. Nothing. He picked up the skinsack.

His senses of sight and smell increased sharply as he edged onto the black shingles of rock. Something moved off to his right. The hair prickled on the back of his neck, and he quickly pulled himself back into cover. He stood rigid, nostrils flaring, ears straining. He had pulled up his sharpstick without knowing it, ready to strike.

A white bird rose from the bushes and flew diagonally across the slate away from him. He could hear the air disturbed by the flapping wings.

The breeze dried the sweat from Zeke's face while he watched the bird grow smaller, and he passed his tongue over his lips. He was relieved, but annoyed that he had not caught the bird. It would have been a rare taste for his women.

Again he became as still as a tree and scanned the landscape.

When the sun had moved so that he would soon be in full light, he edged once more into the clearing. The heat burned from the rock into the soles of his feet. He moved cautiously, testing for pits. The slate had stopped burning a long time ago, but occasional rings of red dust showed where the fires had hollowed under the surface. He perspired heavily after a few minutes in the hot sun. Salt burned his eyes and his own odor covered all others. By the time he had reached the entrance to the coal mine, he was in a frenzy of fear from having been deprived of his most valuable senses.

He flung himself through the opening of the mine and took a position with his back to the wall, one shoulder against a shoring post. His arms held the sharpstick high to protect his throat while his eyes adjusted to the darkness. The perspiration stopped in the color air.

Soon he was able to judge that he was still alone, and he pulled some meat from his waistband and chewed it slowly. Then he crawled to the water which dripped from the rocks further inside. He sprawled on his stomach over his sharpstick and lapped at the shallow pool.

He returned to the entrance and placed two sharp pieces of burnt slate in his skinsack. Then he retreated down the shaft until he found a safe resting place. He climbed up onto the ledge where he would be out of sight.

He ran over the incantations in his mind as he rested, Forgive me Father, for I do what I must do, and, as always, he reflected on his own father. When he was thirteen summers, he had been brought here to be taught the Way of Food Getting. That first summer he had learned how to find his way to the lockers, and how to clean his find, and how to protect himself. He learned also that only men could bear knowing about Food Getting, and that it was absolutely forbidden to reveal in any way how it was done. The women knew how to preserve and prepare the meat, and his survival depended on them as much as theirs did on him. The price of revealing the source of meat would be the loss of his women. He did not know if Others would come to take them away, or if they would die from knowing, but he took pains never to disclose the secret.

The last time his father had brought him to the mine, a stranger had hidden himself at the entrance and had pierced his father's throat with a sharpstick before either of them could drop their loaded sacks. The stranger had not expected two men, however, and Zeke had split his forehead with slate.

Now Zeke must gather alone. It would be many summers before his male child would be ready to learn the Way. It was a heavy burden,

and there were too many women with too many young ones.

Zeke felt refreshed from the food and rest. He slung the sack over his shoulder and tied it so that it would not interfere with the movement of his legs. The sharpstick was in his right hand, and his left hand felt the way along the wall until he touched the box. He found the twig and chanted silently before he forced it up.

Around the curve ahead he saw the light flicker and hold steady. Filled with wonder again though he had seen it many times, he scrambled through the rubble at the opening and eased around the bend. Long rods of light stretched along the ceiling and slanted away into the distance. He knew that he would feel exposed in that tunnel, and adrenalin pumped through his body and prepared him for the sprint to the first turning and the next box.

He arrived out of breath and pulled the twig to darken the tunnel behind him. He waited, sniffling and listening. Certain he was still alone, he moved the third twig and raced along the corridor toward the next lower level.

Zeke fell to his knees in the darkness. He had reached the end of the tunnels and was about to enter the Room. He had been well taught and carefully he performed each portion of the ritual. He laid his sharpstick outside the Room, pointed the

way he came, showing no malice. He wrung his hands in anguish. His fingers lifted the skin under his eyes to make pools for the tears he must shed. He sucked circles of his own blood to the surface of his arms. He made a double cradle of his arms offering his children as proof that he had no choice.

As always, he felt near to panic as the mystery, dread and urgency combined in his mind.

Finally he moved into the Room and flipped the last twig. The lights blinded him. When he focused his eyes, he surveyed the chamber. Both walls were lined into the distance with metal hummocks bedded in concrete. Shimmering fittings connected the end of each one to the floor. Zeke walked down the rows, counting the smashed quartz plates in sequence. Last time there had been thirteen empty on this level. Now there were eighteen. He felt the urge to count the ones remaining untouched, but fought it down.

At the nineteenth container he stopped and removed the skinsack from his shoulder, and he removed the chunks of slate. He began chipping at the edge of the quartz plate. When he had scored the plate on all sides, he lifted the larger slate over his head and brought it down with all his strength near one corner. Again. The third time there was a cracking sound, and the quartz fell away into the container. Zeke felt the freezing

fog touch his hands and feet before he could pull away to a high corner of the room. There he chewed salty meat and watched the mist form and flow up the tunnel. The chilled air licked at his face.

All the mist had spirited away. Zeke remained where he was, wary, watching, chanting inside his head to allay his instinctive fears. Then he approached the hummock and lifted out the quartz panel. His hands were black from touching the walls.

She had brown hair. Her eyes were closed. The features on her face were composed in the most gentle expression he had ever seen. No woman he had ever seen walked on legs as straight and beautiful. Her lips and the nipples of her breasts were white against the yellow-gold of her body.

Zeke drew back, blood rushing into his throat. He had forgotten a law. He must not see anything but a Source; he must not recognize any articulations of the body except as joints to be severed.

He regained some control and fought the images as they tried to flood his mind. Reaching inside, he grabbed the left hand of the girl. He pulled it straight up so that it would snap at the shoulder and he could work it loose with the slate edge. He was startled as the fragile wrist popped and the hand came away in his own. He dropped it to the floor and stared at his own dark fingers with disgust, wiping them

on his leg. He took a firm hold on the lower arm and the elbow and pried the arm up and out until it gave, and he jammed the slate into the frozen cartilage with a frenzy he knew he must overcome, but could not.

By the time he had scooped his skinsack full, leaving the distinctly recognizable portions in the case, he was emotionally numb. He broke into two more to take as much as he could possibly carry. Finally with relief he drew the thong closed on the sack and blew on his fingers to warm them.

In a protected place in the field of slate, he spread out the joints to thaw and relaxed against a shelf of rock. He watched the cumulus clouds pass over him and then slept for a while.

He awoke from the shallow sleep when the sun was low in the sky. He began stripping the meat with quick, practiced motions, shoving it into the skinsack, throwing the bones into a nearby pit. The opening was small, but the walls inside had been cut away by fire.

He had just finished with the last large piece and was ready to take some small bits as a meal before leaving. A sudden gust of wind took the odor of fresh meat away from him and brought the smell of a man. His hand moved slowly to the sharpstick as he tried to determine where the man was. He was close, because Zeke caught the tinge of

fear mixed with stalking tension. He hunched as much as he could under the overhang and halted his breathing as often as possible, sucking in occasional draughts of air for traces of the other. His eyes were wide.

He saw the shadow almost at the same moment the Other sprang. Slate shards clattered at Zeke's feet. His chin dropped as he growled and showed his teeth. The Other answered and lunged. Zeke saw that the man was crazed by the smell of the fresh meat. He could not have eaten recently. He knew that he would kill the Other in his weakness and screamed with youthful pride as he rolled under the lunge, knocking the Other from his feet. He twisted up from the ground and leaped. Both heels struck the Other in the kidneys, and the sharpstick went in at the base of his skull.

Zeke thought he would be able to carry more in the sack and thought of stripping some meat from the Other, but more Others might be waiting for him. He kicked the rest of the meat he had cleaned into the skinsack and made it fast on his shoulders. He did not take time to use stealth crossing the rest of the slag. Anyone could have heard the screams and would know he would leave the slag heap. He didn't stop to rest on the way to his women, though he took indirect paths in case he was being followed.

At the mouth of the narrow en-

trance to the cliff-bound valley, Zeke waited facing the way he had traveled. At the same time, he smelled the smoke of the fires for cooking and curing the meat and the tang of the salt in which some of it would be laid away. When he was sure that no one was behind him on the trail, he turned and trotted the last hundred yards.

The women heard him coming and caught the odor from the skin-sack. The small ones too were running to meet him, and they called to him. He felt the pride and strength of the good hunter rise up in him.

In front of their cave he took the skinsack from his chafed shoulders and dumped the contents on a flat rock. He turned to beam at his clan. He had proved himself again, and he waited for their words of praise.

It took a moment for him to realize that they were backing away, terror in their eyes. The women started at a stumbling run toward the entrance of the gorge, and the children followed them, not comprehending, but infected by fear.

Zeke cried out for them to return. He gestured toward the pile of meat angrily.

When they had disappeared from view, he turned. Immediately he saw why they had fled. He struck himself in the chest again and again. His voice keened in the valley.

On one side of the flayed, unrecognizable flesh, lay the hand he

must have kicked into the skinsack in his haste. A tiny ring caught some of the last rays of sunlight and sparkled brilliantly.

He flung back his head and cried out to the cliffs, knowing that Others would take his women and children. He would be hunted in this

place. He had broken the first law.

He ran the way his women had gone, a new kind of fear gripping the muscles of his throat.

Behind him he thought he felt the brown-haired woman matching his pace, running on straighter legs than his own.

### Loups — Garous

It was late when I arrived at Dr Glosspan's office. Overhead, the replenished moon Rode high, spending itself Upon the aquiescent earth. He was none too pleased to see me. Indeed, As he explained, under the glare of the framed vellum and the framed sheepskin, He had agreed to do so only to explain again How impossible it was For him to take me as a patient-His work-load was already so heavy, Dr Glosspan said. I seized his cold, reluctant hands And poured out my plaints and pleas. I told him how I was tortured by dreadful dreams Of running, naked, on all fours Swiftly, fleetly, through the endless woods and fields-And all the rest of it—the chase, the quarry, the hazard, and the blood. Oh, the blood! Oh, the blood!

Scarcely had I begun to realize
That the hand I held had a hairy palm, when
Dr Glosspan groaned.
We watched each others' faces push out to muzzles
And our teeth grow long and white and sharp
And hair grow thick and grey on all our changing limbs.
Together we slipped from alien clothes and,
Laughing, laughing, howling, growling, we leaped
Through the open window
To run forever through the endless woods and fields
Beneath the festering fullness of the moon:
The chase, the hazard, the quarry, and the blood.

Oh, the blood! Oh, the blood!

-AVRAM DAVIDSON

Phyllis Eisenstein's first story for F&SF is an immensely entertaining tale of a young minstrel with a talent for teleportation. Mrs. Eisenstein writes, "I worked my way through the University of Chicago by cutting meat in a black ghetto grocery store and setting pins in the Physical Education Department bowling alley, then decided the U of C Psychology Dept. couldn't teach me to be a science fiction writer and gave up a year short of graduation. I married, spent two years in Germany and upper Michigan with my husband, then in the Air Force; when the USAF released him, we returned home to Chicago."

## **Born to Exile**

### by PHYLLIS EISENSTEIN

THE SUN OF ALARIC'S FIFteenth summer beat down on his head as he stared at the moat, the drawbridge, and the broad walls of Castle Royale. A dusty wind swirled about him, adding another layer of grime to his dark, travelstained clothes and drying the rivulets of sweat on his face and neck. He shifted his knapsack with a shrug, and the lute that was strapped to it twanged softly.

Presently, a man in light armor came out of the shack on the near side of the bridge and glared at the boy from under an enormous, beetle-browed helmet. He held a broadsword at ready. "Identify yourself."

Alaric swept off his peaked black

cap and bowed as much as his pack permitted. "My name is Alaric, and by trade I'm a minstrel. Having been advised by many that my songs are worthy, I come to offer them to His Majesty and, in short, to become a hanger-on at court."

The guard grunted. "What weapons do you carry?"

Alaric's slender fingers touched his worn leather belt. "None but a paltry dagger, useful for carving fowl and bread. And the feather in my cap, for tickling my enemies to death."

"Empty your pack on the ground and give me that stringed thing."

While Alaric demonstrated that the pack held nothing but a brown cloak, a gray shirt, and four extra lute strings, the guard examined the lute. He shook it, peered into it, rapped it with his knuckles. At last, satisfied that it was nothing dangerous, he returned it to its owner and motioned for the boy to repack his knapsack.

"Gunter!" he shouted. A second man, seeming, in his identically patterned armor, to be a twin to the first, appeared from the shack. "Take him inside and turn him loose in the Great Hall. Seems to be a jester, even if he says he's a minstrel. Don't push the jokes, kid. We already got a jester."

Alaric swung the pack over one shoulder, the lute over the other, and followed Gunter across the bridge. He did not glance back, but in his mind's eye he could see the twisting, turning road that had brought him to this place. How many miles it was, he knew not. For him, it was measured in months, beginning on that gray day in the Forest of Bedham-eight long months and tens of thousands of steps carrying him away from Dall's lonely grave. Eight months through forest and field, asking directions of peasants in hovels and of merchants shepherding their caravans of goods to market; eight months in which he was hardly even tempted to use his witch's power to speed the journey-he needed a clear and precise knowledge of the location of his destination for that, and he had none. He had walked, as normal men did, pretending to be one of them as Dall had always advised, and he had finally arrived at Castle Royale, in search of his fortune.

The minstrel and his escort passed under the portcullis and entered a large courtyard in which a dozen or so well-muscled, half-naked men were practicing various forms of personal combat. Alaric's eyes roamed from swordsmen to wrestlers and boxers, and he was painfully aware of his own slight physique. Battles were not for his untrained hands. His way was to vanish, as he had vanished from beneath his father's whip.

He was seven that day, the day his mother died and his father revealed the fearful secret: that Alaric had been found on a hillside. a helpless newborn babe clothed only in blood. He was obviously a witch child, for a gory hand, raggedly severed just above the wrist, clutched his ankles in a deathlike grasp. The local peasants were frightened, and some wanted to destroy the infant that was surely a changeling or worse, but gentle, barren Mira loved him instantly and took him into her hut. Her husband grumbled sullenly under the lash of Mira's sharp tongue, but he acted the role of a father, albeit distastefully, until she died. And then his strong, gnarled fingers reached greedily for the whip.

Alaric, who had practiced his power in secret, flitting imperceptibly from one tree to another in the nearby wood, backed away in

terror. As the vicious leather thong slashed toward him, he pictured a particular tree in his mind, complete to the mushrooms that ringed its trunk and clung to its bark. Suddenly, he stood in its shade and the loamy smell of the forest floor filled his nostrils. He never dared return home.

Gunter led the young minstrel toward a side door of the Palace, the largest building inside the fortress. Just before reaching it, they passed a raised wooden platform where an eight- or nine-year-old boy stood alone and unsheltered under the beating sunlight. He was naked but for a loin cloth, his head and wrists were encased in stocks, and his back was covered with raw wounds and clods of dried mud. Tears stood out in stark relief against his dirty cheeks.

"What's that?" Alaric asked his escort.

Gunter glanced back and shrugged. "A page. He misplaced some silver."

"I didn't take it, Master!" the boy whimpered. "I don't know what happened to it, but I didn't take it!"

Pity welled up in Alaric, not for the boy's innocence but for his stupidity in being caught. Theft was an art a youthful vagabond knew well—theft of money, chickens, and laundry—an art that had kept him alive from the day he left home till the night he met Dall, the minstrel with the silver voice. And the silver coins. The money had been tucked under the straw pallet that served as Dall's bed at the Inn of Three Horses. It was easy for an eleven-year-old boy with slender fingers to slip them out in the middle of the night; it was easy for an eleven-year-old boy with a witch's power to vanish to the safety of the forest. But Dall's voice was too compelling, and morning found Alaric waiting eagerly to listen again.

Dall sat in front of the hearth, strumming his twelve-stringed lute and singing lays of ancient times. When he noticed the child, however, he drew him outside. "I'm not going to hurt you," he said in low tones, "so don't be afraid. If you'd like to learn a song or two, I'll be glad to teach you, but first you must give me back my silver. And then you must tell me who you are and how you come by that vanishing trick."

"What?" the boy muttered. "I haven't any silver."

"You have." The older man lifted Alaric's chin with his index finger and gazed into the boy's eyes. "I saw you enter my room last night, and I saw you leave. What is your name?"

"Alaric."

"Tell me, Alaric." More than his words, the tone of his voice was the key that opened the boy's lips and heart; his story poured out torrentially, beginning with the discovery of his infant self on the hillside and ending half an hour later with his most recent exploit. At that point,

he dug deep in his pockets for Dall's silver and returned the coins with trembling, suddenly shy fingers.

"There is no future in this," Dall said. "No matter how careful you are, you have no eyes in the back of your head; someday an arrow or a knife will find you."

"I've managed so far."

"You've already made your first mistake. Anyone but myself would have raised the cry of witch last night. You'd be an outlaw at this moment, and no one gives shelter to an outlaw, on pain of death."

Alaric hung his head and gnawed at his lower lip. "I thought you were asleep."

Dall plucked pensively at the strings of his lute. "I saw you sitting in the corner yesterday. You spent the whole day watching my fingers. Are you interested enough in the lute to learn to play it yourself?"

"Oh, sir, I'd like that very much!"

"Well then, I happen to need an apprentice..."

And after that, they traveled together.

Here I am, Dall, Alaric thought. Where you always planned to go when and if the wanderlust left you. It's all just as you said it would be, cobblestone courtyard and all. You used to tell me we'd sing for His Majesty and find our fortunes here.

Gunter stopped at a watering trough and let Alaric clean some of

the dirt off his face and arms, change into his extra shirt, and stuff his ragged cap into the depths of his knapsack. Then they entered the building that was the Palace proper.

In order to use his power, the minstrel had to be able to visualize his position and his goal, each in relation to the other. Through years of practice—some of them behind Dall's back and against his advice—he had become adept at this. Though other strangers to the Palace might have been hopelessly confused, he was not when, after many twists and branchings, their path gave into an enormous, high-ceilinged hall which was filled with voices and the clatter of dishware.

"Just in time for the midday meal," said Gunter. "The King will want entertainment."

On a dais on the other side of the room sat the King-a big man, still on the near side of forty, blond and ruddy-cheeked, dressed in a goldencrusted red tunic. He was eating a joint of meat and waving it to punctuate booming sentences. To his left sat a handsome, dark-haired, blue-clad boy, and to his right was the most beautiful girl Alaric had ever seen. She resembled the boy enough to be his sister, but where his features were boldly cut, hers were fine and delicate. Her eyes were wide and green, her nose barely turned up, and her thin lips perfectly shaped. Her hair, which was very dark, she wore long and caught in a white lace net that allowed curling tendrils to escape its confines and nestle on her shoulders. Her green linen gown clung to a shapely breast and betrayed a narrow waist with the aid of a heavy girdle of chain.

"A minstrel, you say!" boomed the King's hearty voice. "Sit ye down, boy, and give us a song."

"And if it's good, we'll have you for lunch," said the jester, a wiry, big-headed dwarf who wore the traditional motley and bells and sat at the King's feet playing jacks. "And if it's bad, we'll have you for lunch anyway. Fee fi fo fum!" He turned a handspring and wound up on the floor in front of Alaric, looking curiously into the hole of the lute. "Anybody in there?"

"A silver coin lived there once. Maybe he'll come back, if you put in another so he won't be lonely."

"We'll see whether you're worth a coin after you've sung!" The King motioned to a blue-uniformed man behind him, who called for silence in the room.

Alaric's clear tenor rang out with an old, well-loved ballad.

"Upon the shore of the Northern Sea

Stands a tower of mystery,
Long abandoned, long alone,
Built of weary desert stone
For a purpose now unknown . . ."

Afterward, the King nodded. "I haven't heard that song in years. There was a minstrel who stopped

here for a while once and sang that quite well. What was his name?"

"It was Dall, Father," said the girl in green. "Five years ago." She eyed Alaric with half-concealed interest, and when he met her glance she dropped her eyes. She concentrated on a square of green satin in her hands, twisting it and winding it around her fingers as if the action had some use. Alaric was fascinated by the smooth white skin of her hands—untouched by sun, wind, or work—and by her delicate, tapering fingers.

"Ah, yes, Dall," said the King. "He stayed the winter, I remember, and left with the spring thaw. Palace life was too soft for him, I guess."

"He was my teacher," Alaric said.

The King chuckled. "Now I know why you do so well at your trade. He was a master, that fellow. Whatever became of him?"

"He was murdered by bandits eight months ago," Alaric replied.

The Princess gasped, then her left hand flew to cover her mouth, and she turned her face away.

The King frowned sympathetically. "Ah, that's a shame. Were the culprits punished?"

Alaric shook his head. "I... I wasn't able to catch them." The vivid picture of Dall's scarlet blood splashed over the dry leaves and mold of the forest floor returned once more to haunt him.

"It's hard to watch someone you

love die unavenged. I know, lad. But at least his place was taken by someone worthy of it. You're more than welcome here. Join the table." He gestured toward the left side of the hall, where twenty or thirty brightly dressed men were eating. At the movement of his hand, the noise level, temporarily low during and after the song, regained its former height.

Alaric bowed low and went to a vacant seat at one end of a table. preferring the solitude of his own thoughts and an opportunity for observation to the boisterous conversation of the courtiers. Taking wine and beef from two passing stewards, he pretended to be engrossed in eating. Presently, he noticed the jester wandering through the crowd, joking and capering, but coming unmistakably in his direction. With a last cartwheel, the jester was beside him, jarring the bench a trifle with the impact of his small but solid frame.

"What ho, minstrel!"

"What ho, indeed, motley."

"Here's a silver coin," said the jester, holding out one hand. "Now show me its brother."

The youth looked at him quizzically for a moment; then he recognized the reference. "Sorry, that was just a figure of speech. I haven't even a copper."

"Tch," said the dwarf. "Here I thought you were slyly hinting that you were a magician as well as a singer."

"Not at all. I can make food disappear, but that's my only conjuring trick."

"Then let me try." The jester's empty hand darted toward the lute that hung over Alaric's shoulder and seemed to pluck a coin from it. "Both for you, from the King, with his invitation to stay until he tires of you."

You're the magician, not I," said Alaric.

"Wrong both ways," the jester replied. "The magician is over there." He pointed across the room to a small, lonely table occupied by a bearded man in long black robes. "That's Medron, said to be a cockatrice in disguise. I believe it. Without the beard, he'd turn his own mother to stone. This trick? Nothing, my boy. Medron can pluck gold coins from the King's mouth." The jester cleared his throat. "As long as he's gotten them from the King's purse beforehand."

"He's not a magician?"

"So some would say. Myself, I don't look cross-eyed at him. He doesn't have to be a magician to put itching powder in your clothes."

"My clothes?"

"What I mean, boy, is that if you do know any sleight-of-hand tricks, don't use them. And don't ask me to teach you any. Medron's a good wizard. He makes gold out of lead, though I've never seen any of it. But that won't stop him from denouncing you as a witch if he thinks

you're competition. And he has lots of little tricks that would convince even you of your guilt."

"But the King—"

"Burned three witches last year, just outside the castle walls. Good thing, too. The time before that was inside the courtyard, and the place stank for a week."

Alaric swallowed slowly. "Thanks for the warning. Thanks a lot."

"Nothing at all. I like to keep the ship rolling along smoothly. My last message is from the Princess Solinde: She wants you to sing in her sitting room at sundown. Second stairway on the left, three flights up, the door has gilded birds carved into it." He grinned and did a backflip off the bench. "Keep your wits about you," he said as he walked away on his hands. "My grandmother was an owl."

Alaric ate mechanically as he watched the dwarf meander back toward the dais, which was now occupied only by the King. The brother and sister had gone.

Toward sunset, blazing torches were scattered around the room, and the twin fireplaces at either end of the hall were loaded up against the approaching chill of night. The courtiers abandoned the tables and clustered around the two hearths, laughing, playing with their huge hunting dogs, and gambling with dice. Alaric plucked idly at his lute for a while, and then he made his way toward the stairway that the jester had indicated. He

was stopped at the top of the steps by a blue-uniformed guard who stood beneath a wall-bracketed torch and carried a spear.

"I was invited to sing for the Princess Solinde," Alaric said.

The guard peered into Alaric's knapsack and shook his lute before allowing the boy to walk on, and he pivoted on one foot to watch the minstrel all the way to the door of the carved birds.

Alaric knocked.

The oaken panel swung inward, revealing the beautiful girl and her handsome brother surrounded by giggling, chattering young attendants. The crowd parted in the middle to allow Alaric to enter. He found himself in a small but sumptuously appointed chamber hung with brilliant tapestries depicting opulent, idealized banquet scenes and lit by dozens of large candles hanging in a chandelier. The floor, instead of being strewn with rushes, was covered by an exquisite purple and blue carpet of oval shape and intricate, swirling design. Upholstered chairs of various bright hues were scattered on the rug, and his host and hostess waved Alaric to one of them.

"I am Solinde," said the pale, dark-haired girl. Her lips curved upward in the faintest of smiles—a smile that betokened the poise and confidence of a woman twice her age. "And this is my brother Jeris."

Alaric bowed, not quite certain that he should sit in the presence of royalty, even though the royalty was no older than himself.

"Sit down, for God's sake," said young Jeris. "You made me tired by standing up all through your song for Father this afternoon." The Prince threw himself into the nearest chair, his head resting on one upholstered arm and his legs dangling over the other.

Princess Solinde seated herself on a velvet-covered divan, and the dozen or so young courtiers sank to the floor around her couch. Only then did Alaric perch gingerly on the edge of his chair.

"Dall always sat when he entertained us," said Jeris.

"Did you know him well, Your Highness?" Alaric inquired.

"He was a fine fellow. He used to play hide and seek with us, and draughts, and follow the leader. We always hoped he'd come back sometime."

"Be quiet, Jeris," said his sister. "The minstrel came to entertain us, not we him. Do you know any of Dall's other songs?"

"I know all of them, Your Highness."

"Then play us a happy air."

Alaric complied with the amusing tale of the butcher's wife and the magic bull. While he sang, he noticed that the Princess watched him very closely. Her eyes were pale blue, fringed with thick lashes, and they met his boldly now instead of lowering. She looked him up and down until he wondered what she

could be searching for.

Jeris whooped at the conclusion of the song, which found the butcher's wife hanging by her heels from the rafters of her husband's shop, waving a cleaver at all the customers. "He never sang us that one, sister. I'll wager he thought it too salty for young children."

"Yes, he did consider us chil-

dren," she murmured. "Tell us something about his life these last few years."

"How did he die?" Jeris de-

manded, sitting forward eagerly. "Was it a fair fight, and what were the odds?"

"Oh, Jeris, let's not ask about his

"Oh, Jeris, let's not ask about his death! It's bad enough that he is dead; let's not dwell on the circumstances." She glanced around at the young people gathered about her. "Out! All of you out! I wish to speak to this minstrel privately. Not you, Jeris. How would it look to leave me alone with a stranger? My maid Brynit may also stay."

The room emptied as fast as the youngsters could bow or curtsy and flash through the doorway. The last one out closed the door behind himself.

"Tell us now, Master Alaric," the Princess said breathlessly, leaning forward in her chair, "was his hair still jet black and his manner proud but kindly?"

"Faugh!" muttered Jeris. "She wishes it were he sitting there instead of you. I shall be sick if you speak of him again in that way, So-

linde."

"Very well, brother. We shall satisfy your curiosity now and mine at some other time." Daintily, she folded her hands in her lap. "Did he suffer much, Master Alaric?"

"No. It was a broad-bladed hunting arrow, and he bled to death quickly." Alaric remembered too much too well: Bending over the knapsack to count the gleaming coppers won in the marketplace of Bedham Town, his shoulder brushing Dall's as the two of them knelt by the fire. The smell of burning hickory branches that almost covered the lighter scent of the rich, black earth around them. Crickets chirping a mindless chorus. And then, the snick of an arrow being loosed from a longbow somewhere to his left. Alaric vanished reflexively, without thinking, and found himself at their campsite of the previous night, still clutching the knapsack and a handful of coins. He returned to Dall instantly, but it was too late. The gray-feathered shaft had pierced the singer's chest—a shaft aimed at Alaric, that passed through the space he had suddenly ceased to occupy and struck his friend. Desolated, the boy blamed himself.

"In a sense, it was my fault. The arrow was meant for me, but I moved just before it struck." He felt a tear grow in his eye and petulantly brushed it away. "I'm sorry, Your Highness. I think about it often and bitterly. I loved him as if he

were inv father."

Solinde sighed and leaned back. "We loved him, too. And we shall always think of you as part of him. I'm glad you came to us, Master Alaric."

"He wanted to return, Your Highness. He spoke of it often. He never told me why, but I see now that it must have been because of you and your brother." Mentally, he crossed his fingers over that white lie. Dall had always said that fortune awaited them at Castle Royale, and now Alaric understood that he had meant the patronage of the heirs to the throne.

"That's . . . very good to know," she murmured. "You had better leave now minstrel; it grows late."

Alaric stood up and bowed deeply. "Good night, Your Highnesses," he said and backed politely to the door. As he slipped out and gently shut the heavy, carved panel, he heard a woman sobbing beyond it and wondered whether it were the Princess herself or her little maid, who had sat silently in a far corner of the salon throughout the interview.

The guard at the top of the stairs gave him leave to descend with a curt nod, and when he reached the main floor and the Great Hall, Alaric found preparations for sleep in progress. Many of the courtiers who had dined at the long table on the left side of the room had no private apartments in Castle Royale; they were solitary knights and mi-

nor nobles without retinues seeking temporary hospitality from their overlord or desiring audiences with him. A few were pilgrims in sackcloth, and these huddled close to one fireplace, as if their very bones were perpetually chilled. A number of maidservants were moving through the throng with quilts and blankets, heaping them over cushions or couches as bedding for the guests. One by one the men settled down, some with their dogs posted beside them, some with more congenial bedmates. Alaric found himself alone with a voluminous, multicolored down-stuffed comforter: he squeezed into a narrow space near the pilgrims, wrapped himself in the coverlet, and lay down with his knapsack as a pillow and the lute under his protecting arm.

The pilgrims were murmuring to each other in low tones.

"Listen to the wind wail," said a bent-backed oldster in a coarse, hooded robe. "It's a night for evil."

"It's a night for rain," replied one of his companions, a younger man with a blond mustache and no eyebrows.

"See the flames flicker and blow? The Dark One himself will be out with his witches tonight," insisted the first.

"How many days before we come to the Holy Well?" asked a third companion, a swarthy, grizzled fellow in his fifties.

"Two more, and not soon enough for me. I feel the Darkness creeping up to strangle me."

"We're safe enough here, uncle," said the fourth member of the group, a beardless youth. "They say Lord Medron has powerful spells wound all around this castle, keeping the Dark Ones always outside."

"I don't know why our good King trusts him. Witches are evil, nephew, every one of them. At night they turn invisible for their foul purposes, and they fly to the ends of the earth for their filthy revels. Darkness oozes from their limbs like honey from a crushed hive."

"I saw nothing oozing from Lord Medron," said the boy.

"After our visit to the Holy Well, perhaps you will see things differently. My old eyes know a witch when they see one." He glanced suspiciously around the room, his eyelids narrowed to slits.

Alaric felt every muscle in his body stiffen as the old man's gaze swept past him. Was there really some unmistakable visual clue to a witch's identity—the color of an eye or the tilt of a nose or the thickness of a brow—that would be apparent a knowledgeable observer? Alaric had never noticed anything physically special about his body, but that might only mean that he didn't know what to look for. Had that gray-feathered arrow been loosed at him because he possessed a double handful of coppers or because he was obviously a witch who could only be destroyed by stealth and surprise? Would it be best to leave instantly before anyone recognized the power that he always felt glowing softly inside him?

"Perhaps the King has a talisman that binds Medron to his bidding," suggested the grizzled pilgrim.

"Well, our good King is surely a likely person to possess such," the old man muttered, and then he launched into an arcane discussion of talismans and their hypothetical attributes.

Alaric relaxed slowly. The elderly pilgrim had seen his face and not blinked an eye. The man was wrong about Medron, too. Alaric remembered what the jester had said about the court magician being a clever fake. But that in no way lessened the very real danger that the old man presented: He was convinced that he could identify witches, and there was no way of knowing what insignificant action might cause him to raise a cry. More and more, Alaric wondered if he wasn't wrong about seeking his fortune at Castle Royale. One slip, like the reflexive self-defense of that day in Bedham Forest, would mean outlawry and perpetual pursuit. In eight months, he had not used his power once, had steeled himself to forget it existed, but it glowed deep within him still, as strong as ever. He balanced the advantages: acceptance, companionship, physical comfort, and infinite diversion in Castle Royale against the nomadic existence of his childhood. There was no in-between. He was a minstrel, like it or not, and he had no desire to become a farmer or a man-at-arms for some small baron. He had to have a single rich patron or wander from village to village for a few coppers a year. Without a companion, the latter was no pleasant prospect. So he had to take his chances here, stifle the glow, and pretend to be a normal human being. He felt like a bird that had given up the lonely freedom of the skies for the security of a golden cage.

He turned his face away from the whispering pilgrims and drifted to sleep, and the delicate, pale face of Princess Solinde loomed in his dreams.

In the morning, he forced himself to greet the four pilgrims and break fast with them. He inquired after their destination as if he had not overheard their conversation the previous night.

"We go to the Holy Well at Canby," said the old man, "to drink and bathe and be cleansed."

"I wish you good speed on your journey," Alaric said.

"And good speed to yourself on your journey through life, minstrel," replied the old man, his gnarled fingers drawing a fleeting holy sign in the air in front of Alaric's nose. "May you and your fine songs, that we heard yesterday, ever be safe from evil."

Alaric watched them troop out of the Great Hall in single file, the old man leading and the boy bringing up the rear. It seemed a good, though ironic, omen that a pilgrim as resolutely holy and evil-hating as the old man should denounce a false witch and bless a real one.

In midmorning, the King strode into the room—having broken fast in private—to judge civil and criminal cases among the nobility. The jester ambled in behind him, trailing a tiny wheeled cart containing variously shaped trinkets. He planted himself at the King's knee and sorted his colored baubles into two piles according to some plan known only to himself. Occasionally, he juggled three or four objects at once while His Majesty deliberated. Alaric watched and listened for a time, but finding the proceedings overlong, complex, tedious, he drifted away, his lute slung over his shoulder. His pack he left safe in the hands of the Palace Oversteward. Navigating the twisting, branching corridor through which he had first entered the Palace with ease, he returned to the side door that led to the cobblestone courtyard. Outside, in the brilliant summer sunlight, his eyes were dazzled for a moment, and when his vision cleared, he noted that a number of men who had been practicing combat there the previous day were clustered about a pair of fighters in a corner of the

yard. One figure about his own size, garbed in quilted gray cloth "ar-

mor" and steel helmet, tested his

swordsmanship against a heftier man in dirty blue. The two were slashing furiously with wooden swords, and their wooden shields were splintered and cracked. At last the smaller one heaved a strong overhand blow at the heavier man's helm, striking the metal with a loud clunk, and that signaled the end of the match.

"Well struck, my Lord Prince!"

exclaimed the man in blue, and he took off his helmet to reveal the ruddy, sweating face and balding pate of a seasoned veteran. "That would have split my head open!"

Prince Jeris removed his own helmet and handed it to a retainer who had stepped forward to receive it. Dark hair was plastered in wet points across his forehead, and he was breathing heavily, but he grinned his satisfaction at his prowess and the compliment.

"Damn, it's hot, Falmar. I've got

to get out of this suit!"

A second retainer stepped behind the young prince and deftly began to undo the complex lacings that held the quilted armor together. In a few moments, Jeris was able to shrug off the shirt and kick the leggings aside. Underneath, he wore only abbreviated breeches.

"Ho, it's the minstrel!" he exclaimed, spying Alaric in the throng. "Step aside and sing me a short song while I clear the dust from my throat." Jeris trotted to the scant shade of an overhanging roof, where a table of wines and cheeses

was spread for his refreshment. He poured three cups of wine, handed one to his sparring partner, and indicated that the third was for Alaric.

"Thank you, Your Highness."

The Prince tossed down his drink. "You can call me my Lord, minstrel. It feels less formal and far less cumbersome than spouting Your Highness in every sentence. The rest of you can go about your usual business." He waved at the crowd, which immediately dispersed, except for two unobtrusive armed guards who stood a few yards away. Jeris glanced sideways at Alaric. "Were you betting on me?"

"I wasn't aware that wagering was going on, my Lord."

"It was. Father doesn't allow it, but that won't stop them. They think it flatters me."

"And does it, my Lord?"

"Only Falmar's own praise flatters me." He poured himself a second cup of wine and sipped at it. "I see our jester has been thrown out of His Majesty's High Court, as usual." He pointed past Alaric's left shoulder.

The minstrel turned and saw the dwarf skipping across the cobble-stones toward them, his little wagon bouncing along behind. He chanted:

"Oh, blue is blue and red is red, But black and white are gray; The more you try to take yourself. The more you throw away!"
He did a flip in midair and landed
on his hands in front of the two
young men. He peered at them upside down. "A bat may look at a
prince," he sang.

Jeris laughed. "What have you done this time, motley?"

The jester lowered his legs, twisting as he did so, until he sat crosslegged on the warm cobblestones. "Baron Eglis . . ." His right hand plucked a blue cube from the pile of gewgaws in his wagon. ". . . who recently had that unfortunate accident which will forever deprive him of the ability to beget a legitimate heir, is suing the King . . ." His left hand chose a red ball. ". . . for permission to make his child by droit du seigneur . . " He transferred ball and cube to one hand and picked up a black pyramid with the other. ". . . which he ex-

..." He juggled the three playthings. "... heir to the Barony." The pyramid landed on top of his head, and the cube and ball each came to rest on one of his upturned palms. He winked at Jeris. "And so I was cast out of the High Court for

ercised for an entire week last year

being on the wrong side."

"Father ruled that the Barony would revert to the Crown when Eglis dies." The Prince turned away, rubbing his cheek with the knuckles of his index finger. "Did you get the names of the child and

its mother?"

The dwarf was arranging the

contents of his wagon more neatly. "The mother is Dilia, quite a hand-some wench, wife of a peasant named Marnit. The baby is Pon, now four months old."

Jeris nodded. "And where is my lovely sister?" he said in a lighter tone.

The jester stepped out of the shade and looked toward the sky speculatively, scanning it from horizon to horizon and up toward the zenith. "There," he said finally, pointing upward.

The Prince leaned into the sunlight and glanced almost straight up, shading his eyes with one hand. He waved broadly toward the sky with the other.

Alaric followed the line of Jeris's gaze up the sheer masonry wall beside him, past two small windows to a third, set in the high tower just a few feet beneath its conical roof.

Princess Solinde leaned from the openings, and her long dark tresses fluttered in the wind.

"Let down your hair!" shouted the jester.

"Foolish dwarf, she can't hear you. And I don't think she'll live long enough for her hair to grow that long."

"The lady approves of her brother's prowess with the wooden sword, or else she's letting the wind dry her hair. Who could tell from this distance?"

"Arm yourself, motley knave, and we'll give her a show with sharp-edged steel," Jeris said, lean-

ing indolently against the wall.

The dwarf tapped the Prince's right knee with two fingers. "Why, my Lord King would surely fire me if I caused his son to lose a leg. And where would I find another livelihood so plush?"

Jeris clapped the little man on the head and then picked him up and swung him to a perch on his left shoulder. "The older I grow, the lighter you become, motley."

"And the higher becomes this seat of authority, Your Highness."

The Prince boosted his small companion into the air, where the dwarf executed a series of rolls and landed on his feet on the ground.

"Come with me, my Prince," the jester said, his eyes dancing and his cheeks red. "We will be traveling acrobats and earn our fortunes while seeing the world."

Jeris laughed. "Sometimes I think you're almost serious when you say that. Now, minstrel . . ." He turned abruptly toward Alaric. "I haven't forgotten you standing here so silent. If you have some desire to hold a wooden sword, we can give my curious sister something to watch."

"I know nothing of swordsmanship, Your Highness."

"What, have you never wished to taste the reality of your songs?"

"I never had the opportunity. I am too poor to own a sword."

"What a fate! To sing forever of valorous deeds but never to do them. Motley, we must remedy

this!"

"I will hold his lute," the jester offered.

"Wait, Your Highness! I'm not at all sure—"

"How did you manage to survive all this time without knowing anything of swordplay?"

"I've never had money worth stealing, I avoid quarrels, and I run away if I must. I'm sure no one will

ever write a song about me."

"Well, you might need it sometime, minstrel, and it's best learned early. Come on, we'll get some practical instruction from Falmar, and those wooden swords don't hurt nearly as much as one would think."

In spite of his protests, Alaric soon found himself swaddled in quilting and paired off with a young squire who knew almost as little of the art of swordsmanship as Alaric did. They slashed awkwardly at each other, collected a few bruises, and gave up from exhaustion in a very short while. There was a certain exhilaration to even such a comparatively harmless exchange of blows-Alaric suddenly felt very masculine and self-assured, and these sensations stayed with him after he removed his guilted armor.

"You enjoyed it, didn't you, minstrel," said Jeris.

"Indeed I did, my Lord."

"Practice well, and by spring you'll be able to face me. Ha! It'll be good to see a new nose beyond the other shield."

The midday meal found things much as they had been the previous day: the King sat at a low table on the dais, flanked by his children and the jester. But this day Alaric sat there, too, though at the far end away from the King, who signaled him to play while the others ate. Alaric himself dined afterward.

The Princess wore scarlet today and a white kerchief covering her hair and veiling her forehead. Perhaps it was a trick of the light, but Alaric thought her eyes were redrimmed and bloodshot, as if from weeping. She spoke little and only nodded to most of the conversational sallies aimed in her direction. She hardly touched her meal, passing most of it under the table to a pair of clamoring mastiffs. Her father finally noticed her behavior and remarked that she must be getting ill.

"I'm just not hungry, Father."

"Perhaps you need to be bled."

'No, thank you, Father. I'm all right."

Jeris leaned over and whispered something in her ear.

She shrugged, then nodded. "Father, may I be excused from the table?" When the King signaled with one hand, she rose and glided out of the room, her long skirts swishing softly.

"The Moon, you know, Father,"

Jeris said in an undertone.

"Ah, yes, the Moon, I hadn't thought of it."

"Perhaps some quiet music would soothe her. . ."

"I know you want the minstrel as a playmate, my son." More loudly, he said, "Another song, Master Alaric, and then you may accompany the Prince away."

A little later, the two young men passed through the familiar carved and gilded door. Inside the sitting room, Solinde reclined upon her velvet divan, her feet tucked under her crimson skirt, her head and back propped up by a dozen bolsters. In her hands was a black cloth that she was embroidering with fanciful flowers of red, purple, and blue. In a nearby chair, her maid Brynit embroidered in green on a small white glove.

"We've come to cheer you, sister," Jeris said.

"Cheer me, then, with sad songs of love and death," she replied. She glanced up at Alaric, and when her gaze met his, her busy fingers fell suddenly still.

Alaric felt a flush of heat sweep through his body, and he yearned to cool himself in the bottomless oceans of her eyes. He dropped to one knee, lowering the lute to the rug beside him, and reached for her hands that lay like nestling birds in her lap. He touched her slim, white fingers, encircled them with his own, and drew them to his lips for a brief kiss. "I will always sing anything you wish, my Lady Princess."

A firm hand touched his shoulder. Jeris. "If someone should

chance to walk in, this would find our minstrel having a very short career in Castle Royale. Up, Master Alaric, and take a chair." "Forgive me, Your Highness,"

Alaric murmured as he moved away from her. "There is nothing to forgive," she said, and her fingers resumed their

said, and her fingers resumed their embroidery. "We will never speak of this, Brynit."

"Yes, ma'am," the maid replied,

bobbing her head.
Safely ensconced in a high-

backed chair, the young minstrel sang a song of love and heard the words as if for the first time. They fit her, moved toward her, seemed almost to be composed specifically for her hair, her eyes, her lips. As he sang, he reconsidered Dall's desire to come to Castle Royale someday. He tried to imagine Solinde as Dall had known her: a child of ten or so, not yet budded into womanhood, but promising charm and beauty with her every word, gesture, and expression. Was it only patronage that Dall had expected, or was it something more?

Later that day, the King sent for Alaric to play for two noblemen, who had arrived for an audience and a night's guesting. Still later, the youth slept restlessly by the fire in the Great Hall, and Dall's face haunted his dreams.

The days passed and the weeks passed. On alternate mornings, the minstrel would train with the squires, absorbing the skills of

swordplay and horsemanship; at noon he entertained the King's table: after sunset he would often be asked to play in the Great Hall until the torches guttered. Of the time that was his own, he devoted most to Jeris, who took him as a companion for hawking and deer and boar hunting, who taught him the game of draughts, and who secretly split a bottle of His Majesty's finest wine with him. The jester became a friend, too, and in spite of his initial refusal to teach the young man any sleight-of-hand tricks, he deftly demonstrated the palming of coins and other small objects, leaving Alaric to perfect the art on his own.

The only person in the Palace with whom he was not on friendly, or at least neutral, terms was Medron the wizard, that strange, silent, yet baleful figure who dined at a table of his own and only spoke to the King in a whisper inaudible to onlookers. He felt Medron's eyes on the back of his neck sometimes while singing in the Great Hall, and if he turned to test the accuracy of the feeling, he would see the man at his table or skulking in some dim corner. The wizard's eyes were black as pitch and sunk deep into his skull. He never smiled behind his beard but returned every glance with a cold stare. Did he see the something that the old pilgrim had spoken of?

The days passed and the weeks passed, and Medron, remaining si-

lent, became part of the background blur of the Palace. Alaric found himself caught up in the routine of Palace life as if he had always been a part of it. He could almost fancy himself a nobleman, playmate of the Prince and Princess from their earliest years. But, of course, there was a line beyond which he dared not go, though often he found himself leaning over it.

One morning when he wasn't training in the courtyard, he sat in the high-backed chair in Solinde's sitting room while she wove on her loom, surrounded by her chattering maids. He sang a plaintive love song, oblivious to the whispers and titters of the girls, seeing only Solinde's flawless profile as she bent over the loom. He had a sudden urge to walk up behind her and kiss the tender nape of her neck, and he almost rose before a loud giggle jarred him back to reality.

His fingers and lips remembered the softness of her hand, and he felt youth racing through his veins like fire. Three maids had already offered him liaisons, but pretty as they were, they faded to drabs beside Solinde. With every day that passed, her image swelled in his mind until it dominated him utterly. She drew his eye as a lodestone draws iron: Whenever she entered a room, a thousand fantasy candles lighted; even though autumn waned, she kept summer in the Palace.

His own new attitude amazed him; previously he had always considered women a momentary diversion. His own songs of yearning and unrequited passion, which he sang so fervently—as Dall had taught him—had never meant anything to him. A woman he couldn't have had always been a woman he didn't want; another just like her waited somewhere beyond the next hill. Peasants or townspeople, they blurred together in his memory: dark-haired and fair, plump bodies and slim.

Somehow, in some way he couldn't recognize consciously, Princess Solinde was different.

She glanced up from her loom. "There is another verse, if I recall correctly."

Alaric strummed a discord. "The lover dies of longing. Too late his lady realizes that she cares for him and now can only strew roses on his grave. You see, Your Highness, why I prefer to leave it off."

"A sad fate, I suppose, if one assumes a person can die of longing."

"Well, if one forgets to eat . . ."

Solinde laughed. "How like Dall you are! That is exactly what I would expect him to say!"

Then, as if her unintentional mention of a subject they had avoided discussing for many weeks jarred the good mood out of her, she bent intensely over her weaving once more. "You may go, minstrel. No doubt my father will soon be requiring your services."

The abrupt dismissal disappointed him—he had thought to remain as long as his voice held out—and he turned and left dejectedly amid a flood of giggling farewells.

Downstairs, a cockfight was in progress, and the Great Hall was filled with shouts as the men crowded around the circle that had been cleared on the floor. The King himself presided and led the wagering. As the morning waned, the defeated roosters were thrown one by one into the pot for dinner. When all but the ultimate victor were dead, the King called on Alaric for some song appropriate to its triumph.

Evening fell at last, the torches were lit, and when his songs were no longer desired, Alaric went out into the courtyard. The air was brisk, and he drew his cloak tightly about his shoulders as he crossed the cobblestones. Above him, the stars shone clear and cold, and the tower which housed the Princess's rooms rose to meet them. A pale yellow light flickered in the window, occasionally dimming as a passing body masked the flame. Alaric imagined it to be Solinde herself, clad only in a translucent nightgown-though in this weather it would more likely be flannel-and he wondered if she would come to the window. How many nights had he stood here like a character from one of his songs, hoping for one last glimpse of her before he slept?

To his right, from a parapet overlooking the yard, came the metallic sounds of the mailed night guard making his rounds. They ceased as the man leaned into an embrasure to survey the yard.

"Who is there?" he demanded of the dark-cloaked minstrel.

Alaric strummed his lute in reply, improvising a verse about the long, tedious hours of night guard duty, and the watchman walked on.

With a last glance upward, the youth sighed, shivered, and retraced the tortuous route that led to his sleeping place. Halfway there, he was met by Brynit, the princess's plump little maid, who carried a lit candle stub whose wavering flame she shielded with one cupped palm.

"My Lady's not feeling well this night and wishes a few songs to while away the darkness, minstrel," she said.

Alaric bowed elaborately to conceal his excitement. "If Her Highness wishes, I will sing till the birds begin." He offered the maid his arm, but she turned on her heel and led the way.

The Great Hall had settled down while the minstrel was outside, and only the whispers of the pages assigned to stoke the hearths could be heard above sporadic snores and sleepy mutters. Brynit climbed the stairs quietly, lifting the front of her dress well above her knees; Alaric followed, trying not to tread on her short train. At the top of the stairs, in the puddle of light shed by the

wall torch, the guard reclined. One of his knees was bent, the other straight out before him. His spear rested across his lap, and his head lolled forward, bobbing occasionally as he breathed heavily.

"Is he all right?" Alaric whispered, stooping to look at the man's face.

Brynit touched the minstrel's arm and motioned him onward preemptorily. She stepped over the unconscious guard.

Smelling nothing but strong wine, Alaric straightened and gingerly passed the man. He glanced back once before they reached the door of the carved birds, and the scene had not changed.

Inside, the sitting room was transformed by dimness to a tapestry-lined cave. No one was there. Alaric walked toward the chair he usually occupied and started to place his lute upon the seat.

"This way," said Brynit. She stood by the far wall, one plump arm holding aside a hanging to reveal another door. It opened.

The other room was the one with the window, the Princess's bedchamber. It was small and cosy, three walls hung with woolen panels and the fourth, opposite the window, occupied by a fireplace containing a roaring fire that warmed the room considerably more than two hearths warmed the Great Hall. In the center of the chamber, resting on a round brown rug, stood the Princess's bed. "Good evening, minstrel," said Solinde. She reposed on a cushioned

boudoir chair near the fire.

"Is there something else, Your Highness?" asked the maid.

Solinde shook her head.

Brynit curtsyed low and left the room, closing the door behind herself.

"Won't you sit down?" said the

Princess.

Alaric glanced around. The only other chair was beside the bed, close to the window. He sat there and shrugged off his cloak. The room was pleasantly warm even though the window shutters were slightly ajar to allow in fresh air.

The Princess stood up and walked around the bed toward him, passing in front of the fire as she did so. Her pale blue gown became translucent for a moment, exposing her youthful contours to Alaric's eye; and as he stopped breathing, he could hear his pulse hammering wildly at his temples. He forced his gaze upward to her face, framed by unbound dark hair over which the flames laced red highlights.

"Am I pretty?" she asked.

"Yes, Your Highness. More than pretty."

She stepped nearer and touched his shoulder with her left hand. "Would you like to kiss me?"

His hand crept up of its own accord and covered her fingers. "What will happen if someone should come here now?" he whis-

pered.

"No one moves at this time of night, not even Father. You saw the guard—he'll wake before dawn and merely think the night unusually short. And Brynit, who has served me faithfully most of my life, is watching the corridor."

"What do you want of me, Your Highness?"

"Nothing. Everything." Her hand moved up his shoulder to the back of his neck, and she was closer, much closer, her body brushing the arm of his chair. "You have no idea of what it's like to be a princess. Everyone very polite, very afraid to offend. No one dares touch me but Father and Jeris and the maids. Yet I've been a woman for four years now, and I want to be touched." Her hand moved over Alaric's close-cropped hair. "One would not have been afraid, but he came too early . . . would you like to kiss me, minstrel?" She knelt on the floor beside his chair, and her hand slipped down his arm and came to rest on his knee.

"I've wanted to kiss you for a long time, my Princess." He held her face between his palms and bent forward to press a chaste kiss against her forehead. He breathed in the scent of her hair and felt dizzy. Her cheeks were hot beneath his hands, or perhaps it was his own skin that blazed. He kissed the tip of her nose, and then he saw her lips, upturned, waiting for him like a blossom awaits a butterfly. He

tasted them for a long moment they were cool and soft—and his hands moved back, tangling in her hair.

"Again," she said.

"I can't trust myself again, Your Highness." He forced his hands to let go of her, to push her away gently. He rose, reaching for his cloak and lute.

She clasped him, clinging, staying him with the pressure of breast and hip and thigh. Her arms locked around his waist, and as she tossed her head her hair trapped his upper body in a silken net. "Don't leave me," she whispered.

Their lips met hungrily now, and their tongues fenced. His hands grew bold, caressing her body through the single thin layer of cloth. He bent her back till they lay prone on the bed, and she never pulled away but urged him closer. Soon, her gown was twisted around her waist and he could stroke her naked flesh while she found the lacings of his tunic and breeches.

"Oh, be gentle, my love, I'm a virgin," she whispered, but her body had no fear of violence as it squirmed and thrashed beneath him. For an instant, he felt a slight resistance at the juncture of her thighs, but one abrupt motion allowed him to pierce her maiden head.

"I love you, Solinde," he whispered as they rocked to and fro.

Then a sound penetrated the haze of his pleasure. Voices. Foot-

steps. The thud of a door swung all the way back on its hinges. He froze, all desire suddenly draining away from his body. He thrust Solinde away from him, rolled across the bed, dived for his boots, cloak, lute...

. . . and hit the cold cobblestones hard, bruising his right shoulder. The lute twanged softly as it bumped the ground beside him; he felt it all over till he was sure it was undamaged and until his eyes became accustomed to outdoor blackness. He laced up his awry clothing, slipped into his boots, and wrapped the cloak tightly around his quivering shoulders. Sweat dripping down his neck chilled him, and he wiped it away with the back of one hand. When his eyes were dark-adapted, he looked at the parapet-the guard was out of sight for the moment.

Alaric stood and nearly fell over again. A strip of the Princess's sheet was tangled about his ankles—in his haste to escape, he'd taken it with him. He wadded the fabric up and stuffed it into the hole of his lute.

High above his head, the shutters of Solinde's window were flung wide and the light within flickered wildly as people passed back and forth behind the casement.

Staring upward, he felt dead inside. It was all over. Right at this moment, she was probably confessing everything to her father, if she wasn't in hysterics from his damned show of instinctive self-preservation. Tears brimmed in his

eyes for the first time in many weeks; he didn't want to leave and he dared not stay. A single instant would suffice to whisk him to the Forest of Bedham where he could sit by Dall's grave and meditate upon the lovely woman that neither of them could have. But he delayed, looking up toward her window, hoping against hope that she would lean out to let her hair float on the wind, that he might see her one more time.

The shutters closed.

"Still awake, minstrel?" called the night guard.

"Just going in," Alaric replied, and he stepped quickly into the shelter of the doorway, fearing unreasonably that the man was readying his spear. He pressed against the chill stone wall, telling himself over and over that the word could not have spread so quickly.

And still he stayed, tracing the familiar route to the Great Hall. He had a vague desire to get his knapsack from the Oversteward, to be warm again for a little while, to see familiar faces before he bid them farewell forever. Just as he entered the Hall, the King passed through, swiftly and suddenly, clad in his nightwear and a crimson cloak; anger showed on his face, but as he neared Alaric, who was one of the few awake and standing, he nodded a greeting and strode on. The jester trailed after him, and in sudden desperation, Alaric drew the little man aside.

"What's going on? Why is the King abroad so late?"

The dwarf shrugged, grinding sleep out of his eyes with the heel of one hand. "Rumor went out that the Lady Solinde was abed with a man, but the King's righteous wrath went to investigate, the Princess was found abed with herself and no other, peacefully asleep and loath to wake. As who wouldn't be at this ridiculous hour? A certain informant may be finding herself a new job in the laundry before long. Good night, minstrel, before the birds awaken."

Alaric stepped back into the shadows of his usual sleeping place as the royal entourage disappeared from view. His mind was juggling the idea of safety, afraid to accept it, afraid that all that had transpired since he left Solinde was a dream taking place in the split second before he appeared in the courtyard. He pinched his arm, and the pain seemed real. He stamped his foot, and the muttered grumblings of sleepers sounded real.

He had to talk to Solinde. He had to explain himself, defend himself, assure himself that she was as calm and unafraid as the dwarf's words implied. But there was no way; surely a maid would be sleeping in her room now—he dared not take a chance on being discovered now that he seemed so safe.

He found a stray quilt and curled up into a troubled sleep. In his dreams, Solinde alternately screamed and kissed him.

The next morning passed as many mornings did, in mock combat. Alaric did badly, being vanquished more often than usual. He was nervous, and his strokes were wilder than normal, but when the exercise was finished, he felt less tense.

Jeris commented as they were sipping wine in the shade of the overhanging roof, "Did last night's uproar rouse you, too? I thought I'd never get back to sleep."

Alaric nodded.

The Prince chuckled. "Father was rather annoyed at being wakened for nothing."

A clattering on the far side of the courtyard, accompanied by a great outburst of mutters from bystanders, caused the two young men to look in that direction. The magician Medron, flanked by four mailed guards with halberds, approached. His long black robe, embroidered in red and yellow with astrological symbols, swept the cobblestones, raising a cloud of dust. In his outstretched hands he held a short rope twisted of white satin and silver cord. He stopped in front of Alaric and Jeris and made a few passes in the air with the rope while he murmured unintelligibly under his breath. Then he deftly looped a slip knot around the minstrel's left wrist and pulled it tight.

"Alaric the minstrel," he intoned, "in the name of all that is holy, I bind you over to the judgment of the High Court on the charge of witchcraft!"

Outside, dawn was barely breaking over the courtyard, but in the dark depths of Castle Royale, eternal night ruled. Flickering torches cast wild shadows against the walls, and low moans floated in the air like wisps of smoke. Brynit, the Princess's faithful retainer, made her cautious way to the underground alchemical hideaway of Medron the magician. The stone stairs leading downward were slippery with dampness and fungi, and as her fingers trailed the walls for balance, they picked up a slimy coating. At every step, she held her breath and listened, but the loudest sound she heard was the terrorfilled beating of her own heart.

At last she reached the massive oaken door to Medron's chambers. A heavy knocker hung at eye level. She grasped it, pulled outward, and allowed it to descend with a muffled clang. Long moments passed, and the door swung slowly inward, revealing Medron himself, swathed in a gray robe spattered with stains of all shapes and colors.

"What do you want?" he said.

Brynit curtseyed nervously. "I need a charm, Lord Medron. A powerful charm against a witch."

He eyed her fiercely. "Come in." He stepped aside to let her enter.

Within was a warm, comparatively dry room of long tables and strangely shaped vessels of ceramic and glass containing colored liquids both cloudy and clear. On the far side of the chamber was a large fireplace that connected somewhere above with one of the hearths in the Great Hall, through which, occasionally, foul smells emanated. A bright blaze filled the fireplace. Overhead, in the corners of the room, were grates through which fresh, cold air entered.

Medron seated himself on one of a pair of stools near the hearth and motioned for Brynit to take the mate. "You must tell me who this witch is and why you fear her."

"Him," said Brynit. "It is Alaric the minstrel. He's bewitched my Lady to love him, and this night she arranged to have him visit her bedchamber after His Majesty slept."

Medron shrugged. "This is nothing but the way of young people."

Brynit twisted her handkerchief unmercifully. "So I thought. I've been my Lady's maid almost since she was born, and she's like a sister to me or even a daughter. I saw this young man and saw her eye on him and I thought, he's well enough made . . . but His Majesty would have my head if I allowed such fancies to go on. The boy is common and low and hardly a fit lover for my Lady. She wheedled and begged and ordered until at last I told her I would help; we gave the stairway guard a sleeping draught my Lady once had for her vapors. The boy came upstairs, and I left them alone together.

Medron plucked at his beard.

"And so?"

She squirmed atop the stool and kicked her legs like a bashful child. "There's a chink in the wall between sitting room and bedchamber . . . I've arranged the hangings so that I can see the one from the other. When I was sure that . . . I locked the door and called His Majesty immediately, then returned to watch again." The handkerchief was wound tightly round her white-knuckled fingers by this time. "As the King entered the sitting room, making a great deal of noise, I saw the boy . . . I saw the boy fly out the window!" Medron stood suddenly. "What?"

"Yes, yes, he flew out the window and my Lady fainted."

The magician began to pace back

The magician began to pace back and forth before the fireplace. "Now, this is a serious charge you bring. Can you recall exactly what happened?"

"Oh, yes, exactly! The minstrel flew past his cloak and lute, which were lying on the chair beside the bed, grabbed them and went on out the window. When we all entered the bedchamber, he was gone. The King never saw him and of course assumed no one had been there. I didn't dare tell, my Lord Medron, until I got a charm from you. I'm so frightened . . . he'll turn me into a toad if I tell without a charm, won't he?"

"He might." Medron went to the

"He might." Medron went to the nearest table and stood beside it, tapping his fingers on the smooth surface. "How long ago did this happen?"

"This very night! The King has threatened to send me to the laundry for lying, my Lord. Please help me!" She slipped off the stool and fell to her knees before the magician. "I will give you whatever I have. What could I need as a toad? Anything you wish, my Lord!"

Medron looked down at the short, plump, plain woman cringing before him. "Not for you will I do this, silly wench, but for her. Come, I will make you a charm to wear about your neck, and you will be able to sleep. In the morning we will bring this matter before the King."

"What's this?" cried Jeris.

Alaric was paralyzed and could only stare at his trapped wrist. The cord meant nothing, of course; he could disappear and take it with him if he chose, or with a little more concentration, leave it hanging limply from Medron's fingers. It was a symbol, though, of the resumption of the wanderer's life which he had wanted so much to leave behind and which he had thought, for a night, he was free of.

"You will accompany me," said

the magician.

Alaric glanced at Jeris and shrugged.

"I forbid this!" said the Prince. "State the reasons for your vile accusation!"

"I will do so in the King's Court,

and you will do well to hold your tongue while the King's commands are carried out."

Jeris's face reddened, but he fell behind and allowed the magician and the guards to lead Alaric indoors.

Alaric bent to retrieve his lute from the corner in which it rested. but one of the guards snatched it from beneath his fingers and carried it along. Again, the youth shrugged. He thought bleakly of the future; he would wait to see her once more, and then he would vanish in front of the entire court, perhaps taking a section of the floor with him as a parting gesture. He thought longingly of lifting Solinde in his arms and taking her along to live in some foreign land, but he knew that was impossible—she would be too well guarded, too well surrounded. Even using his power to get close . . . before he could swing her free of the floor to be sure of taking her whole body along, he would be impaled by a dozen spears. No, alone he would go, and he would have to make this last memory of her worth a lifetime of running from the King.

"And what do you have to say for yourself, witch?" the King shouted as soon as Alaric entered the Great Hall.

"Only that it is not true," the minstrel replied softly when he reached the foot of the throne and bowed.

"Let the first witness be called!"

The guard who had slept at the top of the stairs stepped forward and knelt to the King. "I saw no one pass, Your Majesty. If he entered the Princess's room, he must have been invisible."

"Let the second witness be called!"

The night guard who walked the parapet presented himself. "I saw the minstrel in the courtyard after everyone else slept. He was not there for the space of five rounds; then I heard the lute again and saw a shadowy figure. I called out and his voice answered, and then I saw him go inside."

"Let the third witness be called!"

Brynit stepped forward. She wore a gaudy red and yellow amulet about her neck. "He burst in on us as the Princess readied for bed, Your Majesty. I found myself bewitched, moving backward into the sitting room. Then, the bedchamber door, of its own accord, closed and locked." She pulled herself up to her full height of four and a half feet and glared at Alaric defiantly. "I called out the downstairs guard to rouse His Majesty, our own guard being in some sort of bewitched stupor; and while they dallied I pounded on the door, which did not yield. At last, I remembered a spy-hole which was used when political prisoners were kept in the tower room, and I looked into the Princess's bedchamber. My Lady was helpless, and the witch was working his will on her poor limp body. I screamed and called on the Holy Name, but none of it affected this powerful witch. Then, as Your Majesty arrived," she fingered the amulet, "I saw the witch grab his lute and his cloak and fly out the open window, banging it shut behind him!"

"Oh, Father, this is monstrous!" screamed Solinde as she tore away from the arms of a number of ladies who had held her in an obscure corner behind the throne. She ran across the dais and down the steps, her dark hair flying behind her, her cheeks flaming angrily, until the King caught the sleeve of her blue dress and swung her around. "He is no witch!" she cried.

"Neither are you a virgin," the King replied. "If not last night, when?"

She looked away and her eyes caught Alaric's, scant yards away. "Oh, why have you stayed?" she murmured.

"Hush, child," said the King, jerking her arm sharply. "Your bewitched mind is clouded with false love of this fiend." In a kindlier tone: "Lord Medron shall cure you, my daughter, just as successfully as he has caught and bound this witch." He handed her over to a lady-in-waiting who had come hurrying up. "Now, witch, that tower is sheer; the only way to enter it other than the stairs is by flight, and our faithful Brynit has confessed to seeing you fly. Therefore, what say you?"

Alaric still looked at Solinde, etching the vision of her loveliness indelibly on his brain. "I say that faithful Brynit is a liar. I can no more fly than you can."

"The evidence is against you, witch. Have you a final request before I pass sentence?"

For an instant Alaric felt more like laughing than anything else. If a band of roving actors had presented this situation as a farce, Alaric would have helped to boo them off the stage. He sighed. "May I have my lute?"

Medron stepped forward, still holding one end of the white and silver cord attached to Alaric's wrist. "I am most interested in the lute," he said. "The maid has attested that he took the lute as he flew out the window. Might I examine the instrument?"

The King nodded, and Medron slipped the end of the cord into his belt to free both hands to receive the lute. He turned it over, shook it curiously, and then his skinny fingers deftly reached between the strings and plucked white fabric from the hole. He held the wrinkled cloth out for all to see.

"A corner ripped out of my Lady's sheet!" exclaimed Brynit. "It was missing this morning when I straightened the bed!"

"I think we may assume," said Medron, holding the rag gingerly between two fingers, "that this is the object through which he controls the Princess, with the aid of the lute. As part of her cure, I will burn them both."

"And we will do the same for her bewitcher," announced the King, rising to his feet.

Regretting the loss of his lute and riveting his eyes on Solinde, Alaric chose between a number of places he was able to travel to. Yet he hesitated, just to see her face for another moment and another and another.

The jester cartwheeled past him and up onto the dais.

"Away, motley," said the King. "We're to burn a witch today." He stepped past the little man, descended from the dais and stood before Alaric, towering over him. "I am not afraid of you, witch." And he slapped the young man across the mouth.

Alaric fell to his knees, his head spinning and his ears ringing. For a moment, the hot anger that rose in his chest tempted him to take the King's leg with him as he disappeared, leaving only a bloody stump. Or even to spring for the monarch's head and leave a corpse behind. Revulsion for the very thought made him gag, and as his brain cleared, he knew he couldn't do any of it. He had to be satisfied by noting, from the corner of his eye, that Medron, too, had been thrown off balance by the slap, had lost the end of the white and silver cord, and had to scrabble for it frantically.

"If you're going to burn a witch,

you'll have to look farther than this room for one," piped the dwarf.

"Quiet, motley," replied the King. "On your feet, witch, and march to your pyre!"

"Your Majesty, I have something here that will certainly interest your pious soul."

The King turned reluctantly. "What is it? Quickly!"

"The device by which our poor minstrel escaped Her Highness's room without relying on the power of flight." The small metal object he handed to the King was a long spike with the blunt end bent into a ring. "It was hammered into the wall outside Her Highness's window. A rope twice long enough to reach from courtyard to window is coiled inside the quilt the minstrel slept in last night. Two guards were with me when these items were found and will gladly vouch for the truth of my statements. Can the faithful maid Brynit say as much?" He turned toward the short, plump woman expectantly.

Brynit shrank back, fingering her amulet and looking at Medron. "It was not bright in the room, but still I know what I saw..."

"And she saw him diving through the window to escape by the rope, nothing more," said the dwarf. "He took the lute in order to leave no evidence, and the fragment of sheet is easily explained under the energetic circumstances." The jester cleared his throat noisily and winked at Alaric. "She lied about everything," Solinde said in a cold voice. "I begged her to help me meet him alone, and she agreed. We mixed a sleeping potion for the guard, and that is why he saw nothing. She fetched him, and she let him into my room, and then she betrayed me. I swear on my mother's grave that all this is true. I spit on you, Brynit. Father, if this woman remains my maid, I will kill her."

The King stepped back and glanced from his daughter to Alaric, who was just climbing unsteadily to his feet. "This becomes another matter entirely."

"Father, I love this man."

"You are young. This love will pass and leave you ready to make a proper marriage."

"I will always love him." She tried to step forward, but the ladies held her back.

"Alaric the minstrel, this is my decision: We will do without your songs from this time forward. I give you a horse and one week to reach the border. After that, you are a dead man in my realm. Go." He whispered to a nearby guard, then strode out of the room.

Alaric dusted himself off and shucked the white and silver rope with a show of distaste. He snatched his lute from Medron, who merely sniffed superciliously and walked away. The Hall emptied quickly; Solinde was dragged away even as she gazed sadly back at him over one shoulder. At length, he

was left alone with the jester and the guard to whom the King had whispered.

"I am to give you Lightfoot,"

said the guard.

"And no doubt to kill him as soon as we enter the stable," commented the dwarf. "You may walk ahead. We will follow at considerable distance."

The guard led the way.

"Well, this is good-by, motley."

"Let's stop with the Oversteward and pick up your knapsack."

They did that.

"I wish I could say good-by to Solinde."

"Perhaps she'll wave from the tower."

But when he looked up toward her room, the window was shuttered.

"I wish . . ."

"That you could undo it all?" supplied the dwarf.

"I don't know. I love her."

"You'll sing your songs much better after this."

"Does it go away-this empty feeling?"

"I don't know."

"Have you ever loved, motley?"

"A few times. A man like me can't really take things like that too seriously."

Alaric glanced at him in surprise and saw a big-headed, funny-looking dwarf and knew he wasn't alone in his despair.

Leading the gray horse, they crossed the drawbridge and stepped

onto the dirt road that had brought the minstrel to the castle so many weeks before. It had been deep summer then, but now the wind was chill and winter was near. Dry leaves swirled against their legs.

A clatter of hoofs caused Alaric to glance back once more. It was Jeris, astride a coal-black war horse divested of its heraldic trappings.

"I'll ride a little way with you," he said.

At the dwarf's suggestion, Alaric lifted him up to a perch behind Jeris, and then he mounted his own, smaller nag. In silent companionship, they ambled along the road until the forest closed in and hid the castle from sight, forcing Alaric to stop looking back every few seconds.

"This is as far as I can go," said Jeris when they reached a bend in the road.

Alaric looked up at the Prince, who towered over him much as the King had. He caught the youth's gloved left hand and bowed his head over it. "I'm sorry, my Lord."

Jeris clapped him on the shoulder. "She needed it. And more. We'll miss you, minstrel. She'll plague me with you for a long time, I know. Here, she gave me this for you." From the pouch at his waist he drew a square of black cloth embroidered with fanciful flowers of red, purple, and blue.

"I remember it well. It was for Dall, but now I'm gone, too." He folded it carefully and tucked it inside his lute. "This makes a better favor than a bit of sheeting."

"And from me, I thought you'd find this useful." From the bag on the left side of his saddle, Jeris drew a belt and a sword in a tooled-leather scabbard. "At worst, you can sell it for a reasonable sum." He handed it over.

"And from me," said the dwarf, "this." In his open palm lay the spike that had changed Alaric's fate. "I knew it would be useful someday."

The minstrel drew a deep breath. "You know."

"We know," said Jeris. "Solinde thought your life in danger and confided in us. But I think her fears were groundless—they could never burn you. Am I right?" Alaric nodded.

"Still, existence as a known witch would be unpleasant. As things are, you trail the glory of having seduced a princess, a reputation which will certainly have its advantages." He clasped Alaric's hand. "I want to say that when I am King you'll be welcome here again . . . but Father will probably live a long, long while, and by the time you could return there would be nothing but me and motley to return for. Good luck, my friend, and take care of vourself." He wheeled his horse and galloped away while the jester hung on with one hand and waved with the other.

Alaric pulled his cloak more tightly around his shoulders. A bitter wind was rising.

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### Prime Quality

NOT LONG AGO I GOT A LETTER FROM A young amateur mathematician which offered me a proof that the number of primes was infinite and asked first, if the proof were valid, and second, if it had ever been worked out before.

I answered that first, the proof was a valid and elegant one but, second, that Euclid had worked out the same proof, just about word for word, in 300 B.C.

Alas, alas, this is the fate of almost every single one of us amateur mathematicians almost every single time. Anything we work out that is true is not new; anything we work out that is new is not true. —And yet, if we work out what is true, from a standing start, without ever having had it worked out for us, then I maintain it to be a feat of note. It may not advance mathematics, but it is a triumph of the intellect just the same.

I told my young correspondent this, and now I would like to tell you about the proof and about a few other things.

First, what is a prime or, more correctly, a "prime number"? A prime is any number that cannot be expressed as the product of two numbers, each smaller than itself. Thus, since  $15 = 3 \times 5$ , 15 is not a prime. On the other hand, 13 cannot be expressed as a product of smaller numbers and is therefore a prime. Of course,  $13 = 13 \times 1$ , but 13 is not smaller than 13, so that this multiplication does not count. Any number can be expressed as itself

# isaac asimo

multiplied by 1, whether it is prime or not  $(15 = 15 \times 1$ , for instance) and this sort of business is no distinction.

Another way of putting it is that a prime number cannot be divided evenly ("has no factors") other than by itself and by 1. Thus, 15 can be divided evenly by either 3 or 5, in *addition* to being divisible by 15 and 1; but 13 can be divided *only* by 13 and 1. So again, 15 is not a prime and 13 is.

Well, then, what numbers are prime? Alas, that is not an easy question to answer. There is no general way of telling a prime number just by looking at it.

There are certain rules for telling if a particular number is *not* a prime, but that is not the same thing. For instance, 287,444,409,786 is *not* a prime. I can tell that at a glance. What's more, 287,444,409,785 is *not* a prime, either, and I can tell that at a glance, too. But is 287,444,409,787 a prime? All I can tell at a glance is that it *may* be a prime; but also it may *not*. There is no way I can tell for certain unless I look it up in a table—assuming that I have a table that gives me all the prime numbers up to a trillion. If I don't have such a table, and I don't, I have to sit down with pen and paper and try to find a factor.

Is there any systematic way of finding all the primes up to some finite limit? Yes, indeed, there is. Write down all the numbers from 1 to 100. (I'd do it for you here, but I'd waste space, and it will be good exercise for you if you do it.)

The first number is 1 but that is *not* a prime by definition. The reason for that is that in multiplication—which is the way we have of distinguishing primes from non-primes—the number 1 has the unique property of not changing a product. Thus, 15 could be written as  $5 \times 3$ , or as  $5 \times 3 \times 1$ , or, indeed, as  $5 \times 3 \times 1 \times 1 \times 1 \times 1$ ... and so on forever. By simply agreeing to eliminate 1 from the list of primes, we eliminate the possibility of a tail of 1's and get rid of some nasty complications in the theoretical work on primes. No other number acts like 1 in this respect and no other number requires special treatment.

We next come to 2, which is a prime since it has no factors other than itself and 1. Let's eliminate every number in our list that can be divided by 2 (and is therefore non-prime) and to do that we need only cross out every second number after 2. This means we cross out 4, 6, 8, 10 and so on, up to and including 100. You can check for yourself that these numbers are not prime since  $4 = 2 \times 2$ ;  $6 = 2 \times 3$ ;  $8 = 2 \times 4$ , and so on.

We look at our list of numbers and find that the smallest number *not* crossed out is 3. This is a prime since 3 has no factors other than itself and 1. So we begin with 3 and cross out every third number after it: 6, 9, 12, 15

and so on, up to and including 99. Some of the numbers, 6 and 12, for instance, are already crossed out when we were dealing with 2, but that's all right; cross them out again. The numbers now crossed out are all divisible by 3 and are therefore *not* prime:  $6 = 3 \times 2$ ;  $9 = 3 \times 3$ , and so on.

The next number not crossed out is 5, and you cross out every fifth number after it. Then 7 and you cross out every seventh number after it. Then 11, then 13, and so on. By the time you reach 47 and proceed to cross out the 47th number after it (94) you find you have crossed out every number below 100-that you can. The next available number is 53, but if you try to cross out the 53rd number after it, it will be 106, which is beyond the end of the list.

So you have left the following numbers, under 100, which are not crossed out: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.

These are the twenty-five prime numbers below 100. If you memorize them you will be able to tell at a glance whether any particular number under 100 is a prime or not; just by knowing whether it is or is not on the list I just gave you.

Is there a simple connection among all these numbers; some formula that will give only the primes up to 100 and no other numbers? Even if you could work out such a formula, it wouldn't help, for it would break down as we proceed above 100, for after all, we can if we want to, continuing to use the same system of stopping at each uncrossed number and counting off every one that is its own number after it. We would then find out that above 100, there are prime numbers such as 101, 103, 107, 109, 113, 127 and so on.

If we had written all the numbers up to 1,000,000,000,000, we would eventually have worked out all the primes up to that point, and we would have determined, mechanically and without flaw (provided we make no mistake in counting), whether the number I gave you previously, 287,444,409,787, is or is not a prime.

This perfect system for finding all the prime numbers up to any finite number, however large, is called "the sieve of Eratosthenes" because the Greek scholar, Eratosthenes, first used it somewhere about 230 B.C.\*

There is one trouble with the sieve of Eratosthenes, and that is that it takes an unconscionable length of time. Working it out through 100 isn't

<sup>\*</sup>When Frederik Pohl (the well-known science-fiction writer and editor) was young, he worked out the steve of Eratosthenes all by himself and was most chagrined to find out he had been anticipated. But one needs no more evidence than that to demonstrate Fred's brightness. Working it out independently (simple though it seems after it is explained) was more than I was ever able to do.

bad, but time yourself working it through 1000 or through 10,000 and you'll agree that it soon piles up prohibitively.

But wait. After all, you keep piling up more and more prime numbers and each one sieves out some of all the still higher numbers remaining. This means that a larger and larger percentage of those still higher numbers is crossed out, doesn't it?

Yes, it does. There are twenty-five primes under 100, as I just pointed out, but only twenty-one primes between 100 and 200, and sixteen primes between 200 and 300. This dwindling is an irregular thing, and sometimes the number jumps, but on the whole, the percentage of primes does dwindle—there are only eleven primes between 1300 and 1400.

Well, then, do the primes ever come to a complete halt?

Put it another way. As one goes up the line of numbers, there are longer and longer intervals, on the average, between primes. That is, there are longer and longer lists of successive non-primes. The longest successive stretch of non-primes under 30 is five: 24, 25, 26, 27, and 28. There are seven successive non-primes between 89 and 97; thirteen successive non-primes between 113 and 127, and so on. If you go high enough, you will find a hundred successive non-primes, a thousand successive non-primes, ten thousand successive non-primes and so on.

You can find (in theory) any number of non-primes in succession no matter how high a number you name, if you proceed along the list of numbers long enough. *But*, and this is a big "but," is there ever a time when the number of non-primes in succession is infinite? If so, then after a certain point in the list of numbers, *all* the remaining numbers will be non-prime. The number marking that "certain point" would be the largest prime number possible.

What we are asking now, then, is whether the number of primes is infinite or whether there is, instead, some one prime that is the largest of all, with nothing prime beyond it.

Your first thought might be to work out the sieve of Eratosthenes till you reach a number beyond which you can see that everything higher is crossed out. That, however, is impossible. No matter how high you go, and how long a vista thereafter seems to be non-prime, you can never possibly tell whether there is or is not another prime somewhere (perhaps a trillion numbers further) up ahead.

No, you must use logical deduction instead.

Let's consider a non-prime number that is a product of prime numbers: say  $57 = 19 \times 3$ . Now let's add 1 to 57 and make it 58. The number 58 is *not* divisible by 3, since if you try the division you get 19 with a remainder of 1; nor is it divisible by 19 for that will give you 3 with a remainder of 1.

This is not to say that 58 is not divisible by any number at all for it is divisible by 2 and by  $29 (58 = 2 \times 29)$ .

You can see, however, that any number that is the product of two or more smaller numbers, is no longer divisible by any of *those* numbers if its value is increased by 1. To put it in symbols:

If  $N = P \times Q \times R$ ..., then N + 1 is *not* divisible by either P or Q or R or any other factor of N.

Well, then, suppose you begin with the smallest prime, 2, and consider the product of all the successive primes up to some point. Begin with the two smallest primes:  $2 \times 3 = 6$ . If you add 1 to the product you get 7, which cannot be divided by either 2 or 3. As a matter of fact, 7 is a prime number. You go next to  $(2 \times 3 \times 5) + 1 = 31$  and that's a prime. Then  $(2 \times 3 \times 5 \times 7) + 1 = 211$ , and  $(2 \times 3 \times 5 \times 7 \times 11) + 1 = 2311$ , and both 211 and 2311 are primes.

If we then try  $(2 \times 3 \times 5 \times 7 \times 11 \times 13) + 1$ , we get 30,031. That, actually, is *not* a prime number. However, neither 2, 3, 5, 7, 11, nor 13 (which represent *all* the primes up to 13) are among its factors so any primes that must be multiplied to make 30,031, must be higher than 13. And, indeed 30,031 =  $59 \times 509$ .

We can say, as a general rule, that 1 plus the product of any number of successive primes, beginning with 2 and ending with P, is either a prime itself and is therefore certainly higher than P, or is a product of prime numbers all of which are higher than P. And since this is true for any value of P there can be no highest prime, since a mechanism exists for finding a still higher one, no matter how high P is. And that, in turn means that the number of primes is infinite.

This, in essence, is the proof Euclid presented, and it is the proof my young correspondent worked out independently.

The next problem is this: Granted that the number of primes is infinite, is there any formula that has as its solution only primes and never non-primes so that we can say: Any number that is a solution of this formula is a prime; all others are not. You see, to determine whether 287,444,409,787 is a prime or not by the sieve of Eratosthenes, which will surely tell you, you must work your way up through all the lower numbers. You can't skip. A "prime-formula" will enable you to crank in 287,444,409,787 directly and tell you whether it is prime or not.

Alas, there is no such formula, and it is not likely that any can ever be found (although I am not sure that it has been *proven* that none can be found). The order of primes along the list of numbers is utterly irregular and no mathematician has ever been able to work out any order, however

complicated, which would make a "prime-formula" however complicated, possible.

Let's lower our sights then. Is it possible to work up some formula that will give us not *every* prime, but at least *only* primes. We could then grind out an infinite series of known primes by turning a formula-crank, even though we know we are skipping an infinite quantity of other primes.

Again, no. No matter how we try to find a system that will yield primes only, non-primes will always sneak in. For instance, you might think that adding 1 to the product of successive primes beginning with 2 might yield only prime numbers. The numbers I got this way a little earlier in the article were 7, 31, 211, 2311—all primes! But then, the next in the series was 30,031 and that was not a prime.

Formulas have been worked out in which the value n was substituted by the numbers 1, 2, 3, and so on, with prime values obtained for every value up to n = 40. And then for n = 41, a non-prime will pop out.

So let's lower our sights again. Is there any system that will allow us to crank out only non-primes? Non-primes may not be interesting but at least we can get rid of them and study a group of remaining numbers that will be denser in primes.

Yes! At last we have something to which the answer is, yes! In working out the sieve of Eratosthenes, for instance, perhaps you noticed that in crossing out every second number after 2, you crossed out *only* numbers that ended with 2, 4, 6, 8, and 0, and that you crossed out *every* number that ended with 2, 4, 6, 8, 0. This means that any number, no matter how long and formidable, even if it has a trillion digits, is *not* a prime if the last digit is 2, 4, 6, 8 or 0; if it's an "even number," in other words.

Since exactly half of all the numbers in any finite successive list end in these digits, that means that all primes (except for 2 itself, of course) must exist in the other half—the odd numbers.

Then again, when you begin with 5 and cross out every fifth number, you cross out *only* numbers that end with 5 and 0, and *every* number that ends with 5 and 0. Numbers ending with 0 are already taken care of, but now we can eliminate any number from the list of possible primes, if the last digit is 5 (except for 5 itself, of course).

This means we need look for primes (other than 2 and 5) only in those numbers that end in the digits 1, 3, 7 or 9. This means that in any successive list of numbers we can eliminate 60 percent and look for primes only in the remaining 40 percent.

Of course, if we take into account not a finite successive list of numbers (say from 1 to 1,000,000,000,000) but *all* numbers, the forty percent that may contain primes is still infinite and still contains an infinite number of

primes—and an infinite number of non-primes, too. Restricting the places in which we look for primes doesn't help us in the ultimate problem of finding all the primes by some mechanical method easier than the sieve of Eratosthenes, but at least it clears away some of the underbrush.

Of course, there are other possible eliminations. Any number, no matter how long and complicated, whose digits add up to a sum divisible by 3 is itself divisible by 3 and is not a prime. However, digit-adding is tedious, so let's restrict ourselves to just looking at the last digit. The trick of looking at the last digit is the only elimination device that is simple enough to be pleasing. Is there anything we can do to improve the situation that exists?

To answer that, let us ask what the magic is of 2 and 5 that enables them to make their mark on the final digit. The answer is easy. Our number system is based on 10 and  $10 = 2 \times 5$ . What we have to do is find a number that is the product of two separate primes that is *smaller* than 10. Maybe we can then crowd the "magic" into a smaller area.

Only one number smaller than 10 will do and that is  $6 = 2 \times 3$ .

All numbers are either multiples of 6 or, on being divided by 6, leave remainders that are equal to 1, 2, 3, 4 or 5. There are no other possibilities. This means that any number is of the class 6n, 6n + 1, 6n + 2, 6n + 3, 6n + 4, or 6n + 5. Of these, any number of the form 6n cannot be a prime since it is divisible by both 2 and 3 ( $6n = 2 \times 3n = 3 \times 2n$ ). Any number of the form 6n + 2 or 6n + 4 is divisible by 2 and 6n, and any number of the form 6n + 3 is divisible by 3.

That means that all primes (except 2 and 3) must be of the forms 6n + 1 or 6n + 5. Since 6n + 5 is equivalent to 6n - 1, we might say that all prime numbers are either one more or one less than a multiple of 6.

Suppose, then, we make a list of multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102. . . .

With that as a guide, we could next make a double list of all numbers one less than these multiples, and one more, underlining those numbers which are prime:

5, 11, 17, 23, 29, 35, 41, 47, 53, 59, 65, 71, 77, 83, 89, 95, 101 . . . 7, 13, 19, 25, 31, 37, 43, 49, 55, 61, 67, 73, 79, 85, 91, 97, 103 . . .

As you see, the numbers in the list occur in pairs of which one is 2 more than the other (with a multiple of 6 in between). You might think, after looking at the list above, that at least one of each pair must be a prime and that that imposes some kind of additional order on the primes. That is not so, unfortunately. At least one of each pair is a prime as far as we've gone, but if you go further, you will find that in the pair 119, 121, neither one is a prime. The number 119 which is  $6 \times 20 - 1$  is equal to  $7 \times 17$  and 121 which is  $6 \times 20 + 1$  is equal to  $11 \times 11$ . The higher up you go the more

common the non-prime pairs get.

Sometimes only the upper and smaller number of the pair is a prime as in 23 and 25; sometimes only the lower and higher number, as in 35 and 37. In the end, both upper and lower lists get an equal share but in an absolutely irregular fashion.

There are also occasions, when both numbers of the pair are prime, as in 5 and 7, 11 and 13, and 101 and 103. Such pairs are called "prime twins," and they can be found as far as the list of numbers has been investigated for primes. The density of their occurrence diminishes as the numbers grow larger, just as does the density of the primes themselves. It would seem, however, that the density of prime twins never falls to zero and that the number of prime twins is infinite. That, however, has never been proved.

If we consider the numbers of the form 6n + 1 and 6n - 1 only we find they contain every single prime in existence (except 2 and 3) yet make up only one-third of all the numbers in any finite successive list. Is there any way we can translate this into the final-digit business?

The answer is yes!!!! And I use those exclamation points because I come here to something that I am sure has been well-known to mathematicians for at least two centuries, but which I have never seen mentioned in any book I have read. I have worked this out independently!

All you have to do is use a six-based system in which our ordinary numbers look as follows:

10-based: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 . . . 6-based: 1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 20, 21, 22, 23, 24, 25 . . . (There is no space here to go into details on other-based number systems, but see ONE, TEN, BUCKLE MY SHOE, F & SF, December 1962).

In the 6-based system, only numbers ending in the digits one and five could possibly be prime. In the 6-based system we would know at once that 14313234442, 14313234443, 14313234444, and 14313234440 were not prime, just by looking at the last digit. On the other hand, 14313234441 and 14313234445 might be prime (and, unfortunately, might not).

The point is that in a 6-based system you could instantly eliminate 2/3 of the numbers in any finite successive list of numbers just by looking at the final digit, leaving 1/3 to contain all the primes (except 2 and 3). This is better than we can do in the 10-based system where we eliminate 3/5 and leave 2/5.

But what if we use a number as base that does not have two different prime factors as do 6 and 10, but *three* different prime factors. The smallest number which qualifies is  $30 = 2 \times 3 \times 5$ .

If we use 30 as base, consider that all numbers are of the form 30n, 30n + 1, 30n + 2, 30n + 3... all the way up to 30n + 29. Of these, numbers of the form 30n, 30n + 2, 30n + 4 and so on, are divisible by 2 and are therefore non-prime; numbers of the form 30n + 3, 30n + 9, 30n + 15 and so on are divisible by 3 and are therefore non-prime; numbers of the form 30n + 5 and 30n + 25 are divisible by 5 and are therefore non-prime. In the end, the only numbers that cannot be divided by 2, 3 or 5 (except for 2, 3, and 5 themselves) and therefore may be primes, are numbers of the classes 30n + 1, 30n + 7, 30n + 11, 30n + 13, 30n + 17, 30n + 19, 30n + 23, and 30n + 29.

This sounds like a large number of classes to contain primes, but in the 30-based system there are thirty different digits, one representing every number from 0 to 29 inclusive. And in a 30-based system, numbers ending in twenty-two of these thirty digits are non-prime on the face of it. Only those ending in the eight digits equivalent to our ten-based numbers 1, 7, 11, 13, 17, 19, 23, and 29 may be primes.

In the 30-based system, then, we eliminate 11/15 or 73 1/3 percent of any finite successive list of numbers and crowd all the primes (except 2, 3 and 5) into the 26 2/3 percent remaining.

Of course, you can go still higher. You can use a number system based on 210 (since  $210 = 2 \times 3 \times 5 \times 7$ ) or 2310 (since  $2310 = 2 \times 3 \times 5 \times 7 \times 11$ ) or still higher, going up the scale of multiplied primes as far as you care to go. In each case, you have to leave out of account all the primes that are factors of the number base, but will find all other primes crowded into a smaller and smaller fraction of any finite successive list of numbers.

Here's the way it works as far as I've gone:

Number Base	% eliminated	% remaining
2	50	<b>50</b>
$2 \times 3 = 6$	66 2/3	33 1/3
$2 \times 3 \times 5 = 30$	73 1/3	26 2/3
$2 \times 3 \times 5 \times 7 = 210$	77 1/7	22 6/7

I refuse to go higher. You can work it out for 2310 or for any still higher number base yourself.

Now mind you, the larger you make the number on which you base your number-system, the more inconvenient it is to handle that system in practice, regardless of how beautiful it may be in theory. It is perfectly easy to understand the system for writing and handling numbers in a 30-based system, but to try to do so in actual manipulations on paper is a one-way ticket to the booby-hatch—at least if your mind is no nimbler than mine.

The gain in prime-concentration in passing to a 30-based system (and I won't even talk about a 210-based system or anything higher) is simply not worth the tremendous loss in manipulability.

Let us therefore stick with the 6-based system, which is not only more efficient as a prime-concentrator than our ordinary 10-based system is, but is actually easier to manipulate once you are used to it.

Or we can put it another way. It is the 6-based system which is, in this respect at least, of prime quality.

### **Addendum**

In the December 1969 issue of F & SF, I published an article entitled THE LUXON WALL, in which I discussed tachyons, the faster-than-light (or "superluminal") particles, first hypothesized by Olexa-Myron P. Bilaniuk and his co-workers. At the conclusion of the article, I said, "I have an idea which . . . is purely intuitive and arises only because I am convinced that the overriding characteristic of the Universe is its symmetry . . ."

I suggested that in the tachyon-universe, the tachyons did not seem (to themselves, so to speak) to be going faster than c (where c is the usual symbol for the speed of light), and that to them it would be our Universe that would seem to be the faster-than-light one. The two Universes, then, would seem to be identical twins if they could be viewed from outside both.

Well, in the 1971 McGraw-Hill Yearbook of Science and Technology, Prof. Bilaniuk, in his article "Space-time," says, "Further, it may be seen that the relative velocity of two tachyons is always smaller than c. Conversely, in a hypothetical superluminal frame of reference, an ordinary particle, one which possesses a real positive proper (rest) mass in our frame of reference, would appear to travel faster than light. There seems to be, at least mathematically, a profound symmetry between the subluminal and the superluminal worlds."

The penetrating mathematical analysis by Prof. Bilaniuk results in a view that is remarkably like what was in me merely a guess, and you have no idea how happy it makes me feel to have my guesses seem so intelligent in hind-sight. I am even happier that this was pointed out to me by none other than Prof. Bilaniuk himself who, in a gracious letter to me, said that the sentences I quoted above "fully corroborate your uncanny insight."

Wow!

<sup>\*</sup>Let there be no groaning in the gallery!

Good short-shorts are hard to find, but this one refreshed our enthusiasm for the genre. It begins as a conventional and suspenseful trouble-in-space drama, and, with one lovely twist, turns into something quite different.

## An Occurrence on the Mars-to-Earth Run #128, at Approximately 2400 Hours, 21 January 2038

by WILLIAM DEAN

HE HAD HARDLY CLOSED HIS EYES or so it seemed—when he heard the warning buzzer. He scrambled out of his bunk and into the gaping spacesuit, hard-by, and slapped the self-sealing fasteners to just in time. There was a silent shuddering, as in an earthquake, and he saw the walls split open and peel back. The next instant the ship sank out from under him. As it dropped, he saw one-two-three spacesuited figures spew out of the ugly gash along its side, saw the ugly gash revolve out of sight and the stenciled letters Gus Grissom climb into view. He was outside the ship. He was suspended in vacancy, falling and not falling. And there, forward and to his right, looming as large as a house, was . . . Home, a bank of dazzling blue and white heavily

smudged behind by shadow.

"What-?"

A voice spoke beside his right ear. "Keep hold of yourself, Smith, until we see what the situation is." Poulson.

Two other voices spoke then, simultaneously. One was that of Commander Morrell, who said again:

Virg, did you get a look at it?"

"On the radar, yes. It came up behind us, at a speed slightly greater than ours and coincided with our orbit for—"

"Was it a meteorite?"

"Probably a piece of junk."

"Oh, no," groaned Smith. "A piece of junk!" The irony of that was, for the moment, too much to take in, for he was one of the prime movers of a Clean Up the Skies

campaign.

Poulson. "It sliced us open. Pretty neatly too. When the air went, we went with it." There was something like satisfaction in his voice, as if he took pride in a feat deftly accomplished.

Morrell. "Did everyone make it?"

Smith. "I'm here . . . I think." Poulson. "I know I'm here."

And Virgilio de la Cruz. "Here."

"Hackworth! Where's Hackworth?"

"He was in the latrine," said de la Cruz, quietly. "I'll bet he didn't hear the buzzer because the recycling unit was on."

Poulson. "There he is now. At ten

o'clock.'

"Oh, Christ!" said Morrell. And his voice was heavy with pity. "He didn't even have time to pull up his pants."

Smith saw something very far below and to his left-past the series of spacesuited figures comprised (although he didn't know in what order) of Morrell, de la Cruz and Poulson; saw an un-suited body somersaulting head over heelstumbling and tumbling, but absurdly making no progress. That was illusion, of course. All was illusion. Hackworth was moving, they were all moving, towards . . . His eye turned to the right, to their destination, to the Place of Safety, which now bulged towards them threateningly. His mind was filled with awe; but out from under that

crushing weight there squeezed a thought.

What are our chances?

He must have asked the question aloud, for he heard Morrell say, "They are not good, Smith."

Poulson. "'Not good' is hardly an accurate phrase in this case. Our chances are nonexistent."

Morrell "Do you think that's

Morrell. "Do you think that's right, Virg?"

"Yes."

They didn't appeal to Smith for an opinion. He was a nonprofessional, a writer returning from a trip undertaken to gather material and background information. He volunteered something, though. "We could be picked up."

Poulson. "There's no chance of that."

"But . . ." said Smith, "you're wrong. You must be. The Lowell leaves for Mars today. In a few hours. I know because I almost shipped on it instead of the Grissom." Good Lord, if only I had!

som." Good Lord, if only I had!

De la Cruz. "The Lowell is scheduled to lift at 8:00 on the 22nd

"They'll see us!"

"No." Poulson, with a kind of dry smack of his lips. "We'll hit the atmosphere before then."

"At about 7:00 on the 22nd," confirmed de la Cruz. "We're moving apart because of the way we were dispersed from the *Grissom*, but we still have the forward velocity of the ship. We'll make schedule."

"We'll hit the air," summed up Poulson, "at about one hour before the *Lowell* goes up. We'll be dead a few minutes later."

"But surely," pleaded Smith, "there must be some chance. If we spread our arms and legs wide—like this—radar will pick out our manlike shapes and . . ."

It was the first time he had ever heard Poulson laugh. "Now you're fantasying, Smith. Radar picks out no shapes. Not when they're as small as ours."

"But when we don't call in! There must be constant radio contact with Kennedy, and when we don't call in for some hours . . ."

Again, the dry laugh. "There's a periodic transmission, all right, from the *Grissom*, but that's going on now. The signal is routine and sent automatically. They won't have any idea at Kennedy there's anything wrong. Radio now and radar later will only indicate that the ship is slightly off course, and that often happens. Any small aberration in orbit is corrected before entering the atmosphere. By the time they do realize there's something wrong, it will be too late to do anything about it."

Morrell. "I'm afraid he has us there, Smith. We don't have a chance."

"But . . . we have to have." To Smith's own surprise, to his dismay and humiliation, he began to cry. He tried to hold back the sobs—they came despite him. "I'm get-

ting married next week. My new book is being published. I'm receiving the National Book Award."

Poulson's voice spoke with an objectionable intimacy into his very ear, so close, so quiet, that it might have been inside his head. "Those are not rational arguments. What you wish, what you want, has nothing to do with the facts—which are," with another dry smack of the lips, "that we're going to be fried to a crisp in about 7 hours."

Smith's hand groped at the glass before his face; his inability to wipe his eyes exasperated his sense of helplessness into a kind of suffocating horror.

"Where'd we find this guy, anyway?" said Poulson. "Under a rock?"

Morrell and de la Cruz, perhaps numbed by their own tragedies, said nothing. Smith, in the midst of his misery, clearly understood Poulson's scorn and aggression. The man was snatching a kind of victory, the only victory possible to him in this last defeat, and he was exulting in the triumph of repression over his own weakness. He had met other men like that in his career, brief as that career had been. Men who not merely recognized facts, but acquiesced in them, enlisted themselves on the side of the facts-"If you can't lick 'em, join 'em,"-and became bullies of realism. It was all so familiar! But that recognition, that understanding, was not in the least consoling to him now.

"I saw your character from the start, Smith. You're a weakling—a liberal, which is much the same thing. You're soft in the head. You can't face facts. You can't accept the cold equations. 'A liberal knows that water runs down hill,' "—he was evidently quoting someone—" 'but prays God may it never reach the bottom!' "

Morrell. "Let him alone, Rolf."

But Poulson went on. "I recognized your political type the moment I saw you on the newscasts. You're a bleeding-heart, a muddle-headed reformer, a visionary. You're a dreamer, Smith!"

"Oh, my God! This is a night-mare!"

"Ah, that's it!" Poulson's voice grew sly, mocking. It whispered. It

gloated. "Perhaps if you will pinch yourself, you'll wake up. Yes. Just reach down to where the material is thinnest on your thigh, and you can give yourself a good pinch. Perhaps then you'll wake up safe and snug in your bunk, with touchdown at Kennedy just a few hours away. Wouldn't that be wonderful? Your girlfriend waiting for you there! Your publisher waiting for you, with advance notices in his hand. Your—"

"Shut up, you—!" said Smith, choking with rage and grief. In sheer frustration, he reached down, and—taking hold of the outside of his right leg, as if he were taking hold of Poulson's windpipe—squeezed hard.

And woke up.

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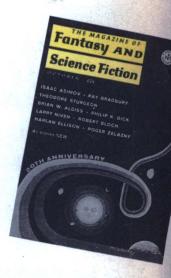


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