# Science Fiction

## Readings & Assignments: Week Eight

# Science Fiction

## Quiz: Week Eight

1. In *Science Fiction: A Guide for the Perplexed,* put into your own words what you think Sherryl Vint means when she is discussing the concept of the "megatext."

2. In "The Literature of Ideas," Vint uses the categories of feminist sf, queer sf, and race and ethnicity in sf as among her explanations. Create a brief definition of science fiction of your own based on the assumption that the genre of SF is the "literature of ideas."

3. "Snow": What was the downside to accessing the wasp's videos?

4. "A Clean Escape": What object did Dr. Evans place under the handkerchief as a memory test?

5. "Tourists": What nationality did Charles think he was?

6. "Face Value": Where do the Mene live?

7. "Karl and the Ogre": What was the first thing that fell out of the changeling girl's mouth?

8. "Piecework": How did Lo avoid drinking the spiked drink?

9. "Bears Discover Fire": What did the bears use to hold their newberries?

10. "One": What does Leslie realize long after his wife has died?

# Science Fiction

## Journal: Week Eight

1. "Snow": What moments are important in a person's life? If writing a biography, what events should be recorded and which left out? Discuss cemeteries. How are they constructed and what function do they serve? How have we, do we, and might we in the future preserve our memories of the deceased?

2. "A Clean Escape": Robert Havelmann relives the same day over and over and Dr. Evans is doomed to witness it, despite her examinations. It is a fanciful story, but recalls the all-to-real problem today of dementia, especially for those of you who have any experience with it. How can "A Clean Escape" be related to the social issue of dementia that affects so many families, of terrible problems with memory loss?

3. "Tourists": Here, the locals send Debbie home, confiscate Charles's credentials—his identification, wallet, and passport—and money, then years go by and he has lost himself, essentially been brainwashed and absorbed by a foreign culture, forgetting his former life and original purpose and reason for traveling to this foreign country in the first place. Could this story be reminiscent of any of today's news stories of college students who travel to countries and arrested, interrogated, sentenced to hard labor and often forced to pledge allegiance to a religious ideology? What else might the story be about?

4. "Face Value": In what ways is this story about the science fiction theme of alien invasion and/or body possession? How is this story about a different method of communication? What does poetry have to do with the story? What does the utility or lack of utility of wings have to do with it? Explain the relevance of the title.

5. "Karl and the Ogre": This story upon a first reading may seem to belong to the genre of fantasy, but explain instead why it is science fiction even though it has no obvious markers such as advanced technology, space travel, or the usual SF motifs.

6. "Piecework": In this disturbing story, mankind has learned how to convert the female womb into a factory for a wide variety and grade of biologically engineered components. In the end, after doing "piecework" for a while" to put herself through college, Io learns that she is carrying the highest form of this biotech, a "starbrain," something that actually thinks and can pilot spaceships. Because of this, she receives official certification as a mother. Discuss the implications genetic engineering on the concept of motherhood.

7. "Bears Discover Fire": Here, bears literally have mastered the power of fire and can be seen from one's car on a cold Virginia evening off to the side or in the median of a highway huddled around a bonfire and passing around snacks. Do you find this story interesting? Why or why not? What sub-genre does it belong to?

8. "One": Do you agree or disagree with Dr. Gillette's conclusion? Explain.

'Sherryl Vint is one of the sharpest science fiction critics of her generation. . . This is a fantastic start for those encountering science fiction for the first time, because it provides a tool-kit of critical resources to help formulate responses to a dynamic and exciting genre. Highly recommended.'
**Roger Luckhurst, Professor in Modern and Contemporary Literature, Birkbeck College, University of London, UK**

'Vint does a brilliant job of integrating important critical concepts into this sophisticated and highly readable introduction to the field of science fiction. . . [This book] offers a view of where the genre is going and why it matters that is both persuasive and empowering.'
**Michael Levy, Chair of English, University of Wisconsin-Stout, USA**

'Sherryl Vint's fascinating survey of the range and variety of science fiction is full of detailed, insightful readings of important texts from the genre's early days to now.'
**John Rieder, Professor of English, University of Hawai'i at Manoa, USA**

From its beginnings in the works of H.G. Wells and Jules Verne to the virtual worlds of William Gibson's *Neuromancer* and *The Matrix*, *Science Fiction: A Guide for the Perplexed* helps students navigate the often perplexing terrain of a perennially popular genre. Drawing on literature, film and television, the book explores the different answers that criticism has offered to the vexed question, 'what is science fiction?'

Each chapter of the book includes case studies of key texts, annotated guides to further reading and suggestions for class discussion to help students master the full range of contemporary critical approaches to the field.

**Sherryl Vint** is Professor of Science Fiction Media Studies at the University of California, Riverside, USA. She is editor of the journals *Science Fiction Studies* and *Science Fiction Film and Television*. Her previous publications include *Beyond Cyberpunk* (2010) and, as co-editor, *The Routledge Companion to Science Fiction* (2009).

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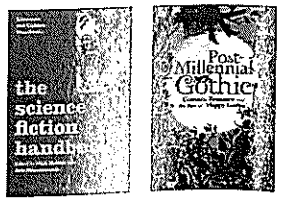





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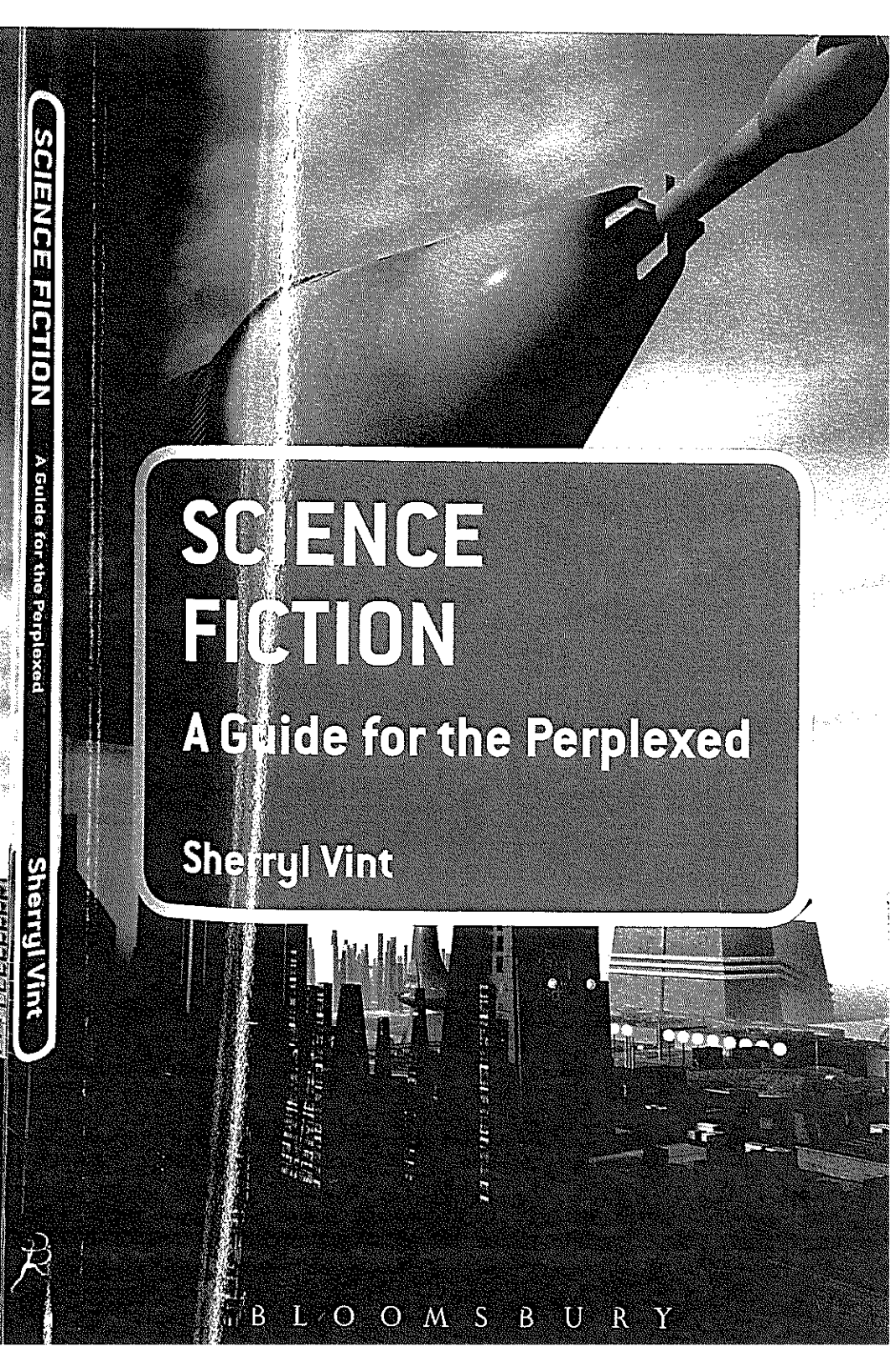

# SCIENCE FICTION

## A Guide for the Perplexed

**Sherryl Vint**

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A GUIDE FOR THE PERPLEXED

# Science Fiction

SHERRYL VINT

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# CONTENTS

material explanation, and the tendency of this mode of narrative is to prompt us to see given reality in a new way. The framework of cognitive estrangement is premised on the belief that human agency creates our social world, and thus understands sf as a tool that helps us see more clearly the ways we do so.

## Discussion questions

1. Watch the film *District 9* discussed in this chapter. Compare the way it represents the alien figures with the way it represents the Nigerian gang members. Does the film cognitively estrange your understanding of racism? How? Overall do you think the film does more to question racism or to reinforce it?
2. Consider Suvin's definition of sf as the literature of cognitive estrangement as it applies to two texts discussed in Chapter Two, H. G. Wells's *The War of the Worlds* and Stanley Weinbaum's "A Martian Odyssey." Are both reflections *on* reality as well as reflections *of* reality? Do their themes rely on the significance of the difference between the text's world and our own?
3. Does "Vintage Season" cognitively estrange your experience of The Great Fire of London in 1666? Of the ongoing conflicts in Rwanda related to control of minerals used to manufacture personal electronics? Does estrangement of distance in time function differently than estrangement of difference in space? Why or why not?

# CHAPTER FOUR

# The megatext

Despite the fact that there is considerable debate about the precise definition of sf, a number of images reliably spring to mind when one hears the label. These well-recognized emblems of the genre have been organized and categorized by a number of critics. Many have focused on a specific use of language to achieve the effect we call sf. Marc Angenot, for example, argues that the genre is best understood as the semiotic practice of what he calls "the absent paradigm," an idea he develops through structuralist linguistics. Signs (words) gain their meaning from two sources: conventions shared between reader and writer (i.e. English speakers know that the word "cat" refers a class of beings that includes housecats, lions, tigers, kittens, and more) and through difference (words in this field connote differences of size, color, and domestication; also, the word "cat" is not the word "dog"). Readers can "reconstitute the meaning of some signs in the texts" only if they know "the full array of classes complementary to a given sign" (12). In sf, parts of this system are always absent; the reader must interpolate a world of referents that exceeds analogues that might be found in his or her material world, and in this way the larger world of the novel is produced through the act of reading specific words and creating larger frameworks of meaning around them. The genre invents new words to refer to the new things it imagines, and slowly many of these words come to be shared across texts, creating new communities of shared linguistic convention.

Similarly relying on the idea that sf readers are trained to read language differently, Samuel R. Delany argues that science fiction

is defined by a specific way of using language to create meanings different from the meanings possible in realist fiction. Statements such as "her world shattered" (43) may no longer be just a metaphor in sf, while one of Delany's most extended examples, "the red sun was high, the blue low" (44), whose possible meanings he works through as they emerge word by word, succinctly lets readers know that the setting is not earth but an alien world with two suns. Delany distinguishes language use in fiction by its subjective level: sf is the fiction that *has not happened*, a mode that includes *might happen, will not happen, has not happened yet*, and *could have happened in the past but did not*; this mode is distinct from both naturalist fiction's *could have happened* and fantasy fiction's *could not have happened*. The particular subjunctive level of sf, Delany contends, "expands the freedom of choice of words that can follow another group of words meaningfully; but it limits the way we employ the corrective process as we move between them" (44): that is, sf expands the realm of *might happen* beyond the constraints of naturalism's *could*, but it cannot alter what is known of the material world to the extent of fantasy's *could not*.

More recently, in *Do Metaphors Dream of Literal Sleep?* Seo-Young Chu suggests understanding sf's poetics as *an intensification of* rather than *an other to* realism. She argues that sf is "a mimetic discourse whose objects of representation are nonimaginary yet cognitively estranging" (LOC 44–5) and argues that the genre's chief project is to thus find ways to make available for concrete representation, and hence understanding, experiences that exceed referents available to realist language. Language is central to the specificity of sf, but language alone does not capture its aesthetics. Istvan Csicsery-Ronay Jr organizes his thinking around what he calls sf's seven beauties, qualities that make the genre a distinct "mode of thought and art" (5). These beauties begin with sf's way of using language, *fictive neology*, but extend to other ways the genre creates "a mood or attitude, a way of entertaining incongruous experiences, in which judgment is suspended" (3). This attitude is generated via *fictive novums*, *future history*, *imaginary science*, the *science-fictional sublime*, and the *science-fictional grotesque* (both dislocations from "habitual perception" [147]), and the *technologiade* (modifying existing story structures to orient them toward the transformation of human societies by technological innovation).



Each method of conceptualizing sf stresses that there is some quality that repeats in the texts we recognize as sf, whether this is a particular set of motifs or icons, a unique way of using language, or a recurring set of thematic preoccupations and critical orientations. The predictability of genre, of course, is not unique to sf: any popular genre is formed by the repetition of commercially successful qualities, and indeed the only recently waning hierarchy between genre and other fictions rests on the belief that genre is formulaic and predictable while literature is innovative and surprising. Science fiction is nonetheless positioned somewhat differently than other popular genres in its relationship to repetition because it has an unusually close relationship among writers, readers, editors, and fans; the fan community that formed when sf first appeared in the pulps continues today and is knowledgeable about its own history. This self-reflexivity of the genre is referred to as the "sf megatext," a term coined by Damien Broderick to explain the way that sf is "generated and received . . . within a specialised intertextual encyclopaedia of tropes and enabling devices" (xi). Deriving his term from comparison with the postmodern metatext (a work of fiction that refers back to itself as fiction), Broderick argues that the megatext reveals the way that sf explicitly refers back to earlier instances of itself, each text adding to and playing with the larger body of signs, images, and scenarios that make up sf's shared world.

The idea of the megatext goes beyond mere allusion and seeks to capture how the intertextuality of sf works differently than in other genres. Megatext describes a context in which writers operate within an understanding of a certain set of established images and motifs, such as cyborgs or hyperspace or FTL travel, that do not belong to any single text or author, but are shared, each new iteration both relying upon established meanings and associations, and also opening them up to new possibilities, creating a vast and interconnected web of meanings that exceeds what appears in any single text. Certain prominent texts become dense centers of gravity, inevitably pulling the meaning of icons toward their influential formulations. For example, any created being in sf carries a trace of Frankenstein's Creature and every tale of alien invasion is shaped by the connection between alien invasion and colonialism established by *The War of the Worlds*. This conception of the genre requires a certain kind of apprenticeship of both

reader and writer to fully perceive the complex web of meanings evoked by certain words, images, and scenarios. Thus, Broderick suggests, it is impossible to try to define sf by compiling some sort of exhaustive list of required techniques; we should grasp it instead as "an analytic device for understanding the *moves* in the game of writing and reading, as negotiations in a social institution regulating the terms of the contract between reader and text" (39). A large part of the pleasure of reading sf comes from the interplay between familiarity and novelty that is created by interactions between individual texts and sf's larger history.

## Robots in the megatext

Isaac Asimov's robot stories are one of the most prominent examples of this playfulness in action. His series of stories, set in a future of ubiquitous robots, are organized around the Three Laws of Robotics (a formulation suggested by Campbell) that become the constraints for robotic beings not only in Asimov's stories but in almost all subsequent sf. Asimov's Three Laws—"One, a robot may not injure a human being, or, through inaction, allow a human being to come to harm"; "Two . . . a robot must obey the orders given it by human beings except where such orders would conflict with the First Law"; and "three, a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws" (37)—are first fully articulated (versions appear in earlier stories) in "Runaround" (1942), a story whose climax pivots on forcing a robot out of a feedback loop caused by conflict between the second two laws by putting a human life in danger. Articulating these rules allows Asimov to create a fictional world in which humans can interact with robots in predictable (and mainly safe) ways, and also creates a series of logic puzzles that serve as engines for this fiction.

In "Liar!" (1941), for example, a series of misunderstandings is launched by a mind-reading robot, RB-34 "otherwise known as Herbie" (285): it misleads the plain robotopsychologist Susan Calvin into believing her colleague, Peter Bogert, is romantically interested in her; it convinces the ambitious Bogert that Alfred Lanning, the director of US Robot & Mechanical Men, will soon step down, enabling Bogert to take his place; and finally, it insists to Lanning that it does not know what has gone wrong with its assembly to



create its unique ability to read minds, thereby flattering Lanning's intellect. Dr Calvin, who learns of the deception when Bogert announces his engagement, quickly realizes that the robot has been lying to them because of the first law. It cannot allow any harm to come to a human being, including "hurt feelings," "the deflation of one's ego," and "the blasting of one's hopes" (293): it has told them all what their minds most wanted to hear, from Calvin's longing for love as well as science, to Lanning's desire to believe that if he could not discover the mathematical error of Herbie's assemblage then no one could. The story is rather cruel in its depiction of Calvin's thwarted desires in particular, "the inexpertly applied rouge" converging into "a pair of nasty red splotches upon her chalk-white face" (291) marking her attempts to be attractive as pitiable and hopeless. Nonetheless, it is her superior reasoning and ability to see clearly beyond her hopes to plausibility that solves the mystery of the robot's lies. The men are less willing to give up their dreams for cold fact. Bitter with both Herbie and herself, Calvin ruthlessly confronts the robot with an impossible dilemma: hurt the men by revealing the solution to the error in its manufacture (a blow to their egos), or hurt the men by refusing to reveal it (a blow to their pocketbooks). Rather than be victimized by an emotional response to depression, she embraces the logical faculty privileged by Golden Age sf, defining herself more successfully than do the men (or the robot) and driving the robot to insanity by repeating the insoluble mantra, "if you don't tell them, you hurt, so you must tell them. And if you do, you will hurt and you mustn't, so you can't tell them; but if you don't, you hurt, so you must; but if you do, you hurt, so you mustn't. . ." (295).

The value of logic over other capacities is at stake in another Asimov robot story, "Reason" (1941). On Solar Station 5, engineers Powell and Donovan struggle to convince a newly assembled robot, QT-1 (Cutie), that humans have created him to replace human labor on stations that channel solar energy to earth. Relying on reason and sensory data, Cutie concludes that it is impossible that humans could have created him. "Look at you," he insists, "the material you are made of is soft and flabby, lacking endurance and strength, depending for energy upon the inefficient oxidation of organic material." Further, humans periodically "pass into a coma, and the least variation in temperature, air pressure, humidity or radiation intensity impairs your efficiency." In short, humans "are *makeshift*" while Cutie is "a finished product" (165), capable, durable, and

efficient. The story concludes with Cutie performing as Powell and Donovan wish, but he never capitulates to their interpretation of the situation. Theorizing that both he and the humans were created by some third entity he calls the Master, Cutie submits himself to fulfilling the Master's directives. Donovan and Powell's version of events is a product of their lesser ability to reason, he concludes, but he is capable "of deducing truth from *a priori* causes" (173) and thus requires no mythology. The crisis of an electron storm raises concern that Cutie will fail to keep the solar energy beam focused on the receiving station, potentially causing massive damage on earth, and Powell and Donavan's insistence that "we're the *bosses*" (170) is blithely ignored. Yet the morning after the storm they discover that all is well because Cutie has had his own interpretation of his task, keeping "all dials at equilibrium in accordance with the will of the Master" (175), which achieves the same end.

"Reason" thus reinforces an ideal by which reason is privileged over emotion and a hierarchy between humans and robots is sustained; the story simultaneously makes visible the contradictions and tensions that strain the stability of such views. The limitations of privileging logic over all other human capacities is suggested by the absurd (from a human perspective) conclusions Cutie deduces and, despite a conclusion that reinforces human hegemony, Cutie offers good reasons for regarding robots as superior in some contexts. The sf megatext will take up and explore pathways hinted at in these stories, such as C. L. Moore's "No Woman Born" (1944), about a dancer who comes to prefer her reincarnation in an impervious robot body, or the child-substitute robot boy in Brian Aldiss's "Super-Toys Last All Summer Long" (1969), who struggles with the question of whether or not he is real since he knows his Mummy does not love him as she would an organic boy. The film *Forbidden Planet* (Wilcox 1956) names its robot Robby (Asimov's first is named Robbie), and includes a scene in which the crew realize that a human is behind the attacks on the planet when they order this robot to attack what they think is a monster and he refuses because he cannot harm a human. Eventually, revisions to the robot megatext cohere into a new concept in the megatext, the superior artificial being, whether cyborg or AI, who threatens to displace humanity. Awareness of this larger body of work, of what has been explored or critiqued in earlier texts, enhances the genre as each new iteration ideally both innovates and contributes to an ongoing exploration of recurrent ideas.



Echoes of both these Asimov stories can be heard in the *Star Trek: The Original Series* episode "The Changeling" (September 29, 1967). The *Enterprise* crew discovers a probe named Nomad, sent out from earth in the twenty-first century, that interprets its exploratory mission as the requirement to sterilize imperfection, a quality it attributes to all biological life. Mistaking Captain Kirk (William Shatner) for its creator Dr Jackson Roykirk, Nomad is willing to accept commands but is suspicious of the limitations of these life forms, just as Cutie doubts Powell and Donovan's authority. Scanning the mind of Lieutenant Uhura (Nichelle Nichols), Nomad finds "a mass of conflicting impulses," a sign of imperfection, and erases her memory. Spock (Leonard Nimoy) discovers that Nomad's encounter with an agricultural probe conflated its original exploratory mission with that probe's mission to sterilize soil samples. Knowledge of the megatext, however, adds to this characterization, connecting Nomad to other robots who question their creators' authority. Kirk defeats Nomad much as Calvin destroyed Herbie. Nomad has made a number of errors, Kirk tells it: mistaking Kirk for its creator, failing to correct this mistake (another error), and then not immediately killing Kirk (a third). Only imperfect beings make errors, and if Nomad's mission is to destroy imperfect beings, then it must destroy itself.

It is not necessary to know Asimov's robot stories to understand this *Star Trek* episode, but knowing them enriches our sense of the episode's meanings. Through knowing the sf megatext, we can understand the episode to be in dialogue with issues that recur in sf: the relationship between humans and robots, the privileging of reason over emotion, the value of biological over artificial life. The genre returns to such questions in some of his most celebrated texts, such as the disposable androids that haunt bounty hunter Deckard in Philip K. Dick's *Do Androids Dream of Electric Sheep?* (1968): their difference rests on the question of empathy, a capacity androids are said to lack, a reversal of the typical preference for reason. The rights, or lack thereof, held by artificial beings are explored and refined in later sf, from Jael's chimpanzee-DNA-derived artificial lover in Russ's *The Female Man*, who horrifies the other women, to the fully integrated thinking drone and AI Mind citizens in works such as Iain M. Banks *Culture* novels (1987–2012).

The *Star Trek* universe returns to these themes in a direct homage to Asimov's vision in *The Next Generation* character Data (Brent Spiner), an android whose positronic brain is described as Asimov's

dream made reality ("Datalore," January 16, 1988). Over a number of episodes, the series explores megatext questions such as the relationship between emotion and humanity in "Brothers" (October 6, 1990), when we learn that a potential capacity for emotion distinguishes Data from his unstable brother Lore; Data's status as an autonomous being in "The Measure of a Man" (February 11, 1989), in which a trial determines that while Data is a machine he is not property; and the question of what it means to be a living entity entitled to autonomy in "The Quality of Life" (November 14, 1992), when Data defends machines called exocomps from being treated as mere tools after they have shown capacities for decision-making and self-preservation. In each of these episodes, the series activates prior knowledge not only of the show's history (in "The Quality of Life," Data makes reference to his trial from "The Measure of a Man") but also the wider megatext of sf. Additions to the megatext also work retroactively to help us see previous work in a new light. The trial to determine Data's status, for example, evokes the specter of a created race of beings deemed property, "whole generations of disposable people," which as Guinan (Whoopi Goldberg) notes has already happened in human history. The direct analogy between slavery and the use of robots highlights otherwise perhaps unnoticed aspects of racial allegory in Asimov's work, such as the robots' potential resentment at being kept servile by the first law, explored briefly in "Little Lost Robot" (1947).

## Parabolic narrative

This vast shared set of images and ideas means that the best works of sf are always both fictional and critical, new additions to the field *and* critical commentaries on the genre's history. Brian Attebery has refined the idea of the megatext to argue that sf plots are structured like parabolas, an image that explains why the notion of genre *formula* is insufficient to capture the variety in sf. The parabola, an arc shape that opens to infinity at one end, describes the narrative trajectory of sf in which, evoked by this specific icon, an author can rely on the reader to supply background information evoked by this specific icon, and the story then opens up to multiple possibilities of improvisation, a process Attebery likens to playing jazz. Key to Attebery's shift from sf as megatext to sf as parabola is motion: sf parabolas are both self-conscious and social; they are about formal



qualities of the genre but they are fluid dynamics, not fixed items in a massive database. In Attebery's example of the multigenerational starship that opens Molly Gloss's *The Dazzle of Day* (1997), for example, descriptive language identifies the setting as a space station without ever naming it as such, enabling the skilled reader to decode the setting and the kind of society inhabiting it through clues such as proper names for mechanical devices (indicating a site of permanent rather than temporary habitat, and a poetical rather than technical ethos). Further, once the setting is recognized as a generational starship, practiced readers will also supply a series of narrative associations with the themes explored by this parabola: What home-world event has prompted the exodus? Do inhabits know that their world is artificial and not natural? By what criteria were people included on this voyage?

The importance of this megatextual recognition goes beyond merely the pleasurable game of familiarity to remind genre readers of axioms explored on this narrative trail, where "the oldest meanings do not go away, but they are complicated, obscured, and rendered ironic by subsequent reimaginings" (15). Parabolas are not formulaic: they may structure the openings of sf stories, but they do not predict or constrain the endings. Writers engage with and alter the meanings conventionally attached to specific parabolas in response to a variety of factors: changing social and political contexts (the post-Civil Rights era *Star Trek: The Next Generation* episode, for example, compels a different conversation about free labor, race, and exploitation than Asimov's work in the 1940s); conversations within the field about perceived limitations of certain parabolas (Joanna Russ's *We Who Are About To . . .* [1976] undermines the adventure parabola of stranded survivors restarting civilization, critiquing the way women are reduced to breeders); and changing aesthetic conventions (J. G. Ballard's avant-garde, condensed novels, collected in *The Atrocity Exhibition* [1970], are in dialogue with the contemporary modernist literary experiment). Understanding sf through its evolving parabolas, then, is one way to conceptualize the genre's multiple and historically mutable history. Although other genres may similarly expand or revise their foundational formulas, sf is distinct, Attebery contends, because "no degree of mode stretching is enough to throw a work out of the category" given that "innovation is part of the game" (23).

Alfred Bester's story "Fondly Fahrenheit" (1954) not only rewards a reader who comes to it with megatextual knowledge, but

it further uses the power of the parabola to comment on what sf has overlooked in its attachment to rational explanation. The story is about James Vandaleur, a privileged member of the leisure class whose inheritance is being squandered as he is continually forced to flee and adopt new identities due to murders committed by his android. This model is one of the "rare multiple aptitude androids, worth $57,000 on the current exchange" (286) and, despite the risk it presents, Vandaleur is reluctant to turn it in since he is dependent upon the wages he earns selling its labor. He could not take the chance of repair, he rationalizes, because "if they started fooling around with lobotomies and body chemistry and endocrine surgery, they might have destroyed its aptitudes" (289). The android is "a chemical creation of synthetic tissue" (287), rather than a machine, but within the story it is clear that it was manufactured according to Asimov's Three Laws. The story playfully inverts our usual understanding of the master/slave relationship as enshrined by these Three Laws by creating a situation in which Vandaleur's exploitation of the android's labor traps him into serving it by covering up its crimes. Indeed, when his frustration reaches the point where he announces that he will either sell the android for a fraction of its worth or turn it in to the police, the android confidently replies, "I am valuable property. . . . It is forbidden to endanger valuable property. You won't have me destroyed" (294), turning the Laws inside out.

Huntington notes that the publication of this story marks an important moment in sf's history because it "is meaningful only in relation to the genre's past" (173). In proper megatext mode, Bester simply mentions that the android is presumed unable to harm or kill, relying on his readers to supply the rest of the information about the implied relationship between human and android this structure requires. Knowledge of the megatext means that "Fondly Fahrenheit" becomes a story not about *who* committed the murders but rather *how* it was possible. The story achieves its innovative effect largely through style: its intriguing voice—which shifts confusingly from first to third person, often conflating "he," "it," and "I" in a single sentence—engages the reader in a puzzle to be solved. Unlike the rational logic puzzles of Asimov's robot stories, Bester's play with language creates a sense of ontological instability in the fictional world (another motif of the sf megatext, explored extensively in Dick's work). The opening line "he doesn't know which of us I am these days, but they know one truth" (284)



catapults the reader into a strange world in which we cannot even be sure if one or several people are described. The description of Vandaleur's flight with the android contains enough narrative exposition that readers follow the basic plot—the murders happen, Vandaleur is angry, he beats the android and moves on, and this happens again—but the agent of any action is never quite clear: when the android kills its next employer, a jewelry designer, with a cup of molten gold, the pair rush off and we are confusingly told "he wept and counted his money and I beat the android again" (290). The one constant is that the temperature after each incident is always over 90 degrees Fahrenheit.

The section of most conventional narration involves a desperate Vandaleur ordering the android to attack and rob a man. It refuses, primly telling him, "I cannot endanger life or property. The order cannot be obeyed" (294), frustrating Vandeleur, who knows of its many murders. The man they confront, Blenheim, proves to be "a wizard of the Theory of Number" (295) and the mugging is transmuted into an exchange: they will be given shelter in return for giving Blenheim new purpose, finding the number that solves the mystery of the android's murder among all the data Vandaleur has accumulated. Blenheim's murder, once he has realized the significance of temperature, is committed in a temperate setting; the mystery deepens with this murder. Vandaleur begins to sing the nonsense rhyme that plagued the android just before the other crimes, and although the android at first refuses to participate in the violence against Blenheim, the blurring pronouns leave the final event ambiguous. The pronoun "we" is used to describe all the actions of covering up this murder before they burn down the house and flee, but the last sentence in the paragraph qualifies, "No, I did all that. The android refused. I am forbidden to endanger life or property" (297). Further research diagnoses synesthesia, a confusion of sense in which stimulation of one cognitive pathway leads involuntarily to a reaction in another, as the source of the android's malfunction. The tactile sensation of heat provokes an endocrine response of aggression. This confusion of the senses is also used to describe the poetic technique of cross-sensory metaphor to prompt novel perceptions, and in "Fondly Fahrenheit" the literary and scientific meanings of the term collide.

The final key to the puzzle is projection, the psychological attribution of one's own ideas or impulses onto another, but by the time the story ends we are unclear if Vandaleur has projected his

murderous impulses onto the android, thus producing its specific behavior when stimulated, or whether the android, made psychotic by malfunction, has projected its affect on to Vandaleur. Whatever the original source, by the end of the story both are psychotic, and although the original android is killed in a fire while pursued by police, the Vandaleur who narrates this story survives, but tells us "I don't know which of us he is these days" (302). Vandaleur has a new companion, "a cheap labor robot," merely a "servo-mechanism," but it, too, has begun to abduct young girls—and the temperature is only "10° fondly Fahrenheit" (302). The danger of projection is "believing what is implied" (298) and becoming the thing that is cast upon you. Huntington suggests that this is "very consciously a story not only about projection as it works in other stories, but about the very process of fantasizing itself"; he argues that the story "exposes how projection and identification allow one to participate deeply in atrocity and yet maintain one's innocence" (176). Examining this theme within the megatext, we might see in the story a resistance to some of the more violent and exploitative motifs in the genre, a critique of sf's own posture of innocence while indulging narratives of atrocity. Just as Vandaleur wants to benefit from easy android labor without facing the consequences of the android's deeds, some of sf's more popular fantasies enable us imaginatively to participate in things like colonial occupation while ignoring their dark side. "Fondly Fahrenheit" thus reworks not only Asimov's Three Laws, but also the entire notion of servitude without consequences.

## Alien invasion in the megatext

Along with the motifs of the generational starship or the artificial being, one of the most frequent parabolas of sf is contact with a superior alien species, which branches into the more sinister permutation of alien invasion, but has a more benevolent version in which superior beings presage human transcendence into a higher life form, or save us from our destructive trajectory through some technological or spiritual intervention. Arthur C. Clarke's *Childhood's End* (1953) is one of the most influential visions of the benign alien invasion parabola. It recounts the coming of the alien Overlords, whose superior technology makes them seem like gods to humans (religious allusions are central to the novel); they establish a Golden Age on Earth of peace, prosperity, and equitable



world government. Some humans express frustration that human culture is infantilized by the Overlords, but for the most part people embrace the improvements they bring. Through the relative time experience of FTL travel, a single human is able to live beyond the normal human lifespan. In the final section of the book, he witnesses human children who have evolved into a new, telepathic, and collective species. The Overlords, it transpires, saw and nurtured the potential of humanity to become this transcendent being, carefully shepherding us through a violent period to safeguard the birth of this new species, one whose capacities transcend those of both humans and Overlords. Despite the misperception of a few people with limited perspective, then, the interventionist colonial policies of the Overlords were all for the best, and *Childhood's End* absolves rather than examines the imperial ideology so central to the first contact parabola.

William Tenn's contemporary "The Liberation of Earth" (1953) directs the same opening story arc to quite different thematic ends, satirizing the way colonial discourse promotes—in the fashion of the Overlords—the belief that serving the colonizer's ends produces the best possible future for those they colonize. The story seems to be another tale of benevolent alien invasion, looking back on first contact, explicitly praising "the breathless and majestic simplicity of the present" compared to the "frightful mass of cumulative detail" of the world of the unenlightened ancestors. Like Clarke's Overlords, these aliens might appear frightening to humans (Tenn's aliens are insect-like; Clarke's resemble Satan), but only irrational prejudice would indulge this superficial conclusion. This benign invasion "placed us in a sort of benevolent ostracism" (270), pending our intellectual development such that we might warrant inclusion in their intergalactic federation, and in the meantime they protect us from "a race of horrible, worm-like organisms" (271) seeking territorial conquest. The entire galaxy is a battlefield for the struggle between these Troxxt, "almost as advanced technologically as they were retarded in moral development," and our liberators, the Dendi, "one of the oldest, most selfless, and yet most powerful races in civilized space" (271). Unless the Dendi establish a base on earth, it risks falling to the Troxxt; hence by enlisting human land and personnel in their battle, they have liberated us.

Without ever breaking its tone of bombastic praise for the Dendi mission, "The Liberation of Earth" undermines the thematic associations with transcendence (and the concomitant absolution

of colonialism) in *Childhood's End* by narrating the suffering of humans caught in this struggle between superpowers (the analogy with contemporary US and USSR exploitation of Latin American, South Asian, and African countries as each superpower sought to secure the world for its own ideology is abundantly clear). Earth leaders wait for direction from their Dendi masters, as economies are thrown into chaos by the disruption inadvertently caused by the Dendi carelessly discarding fragments of their transformative technologies, and humans die "in the thousands in the boiling backwash of war" (276). The irony underlying the voice that carefully mimics imperialist propaganda becomes obvious when the Troxxt defeat the Dendi and the story's tone does not shift as it goes on to extol the wonders of "the Holy Day of the second Liberation" (277). Humans are taught a new version of galactic history in which the Dendi are no longer an altruistic police force, but rather an army of occupation ensuring "against any contingency of revolt that might arise in the future" (277) in their vassal states. The expected purges of those associated with the old regime follow, and humans gratefully sacrifice their economies and health in dangerous mining operations as the entire planet is oriented toward the production of "other-worldly armaments": "it is very exhilarating to realize," this narrative insists, "that we had taken our lawful place in the future government of the galaxy and were even now helping to make the Universe Safe for Democracy" (279).

Whereas *Childhood's End* narrated a series of human suspicions against the Overlords only to then demonstrate that such fears emerge from the limited perspective of unevolved humanity, Tenn's story sardonically establishes that this fantasy of benevolent alien intervention is complicit with the ideologies of imperial manipulation that it satirizes. Its last pages accelerate the pace of reversals between Dendi and Troxxt occupation, struggling not to fall into camp as it recounts "the Second Reliberation" and other events "possible . . . at this time—possibly a liberation or so later" (281) as human life is relentlessly ground under to serve alien ends.

As Attebery's theory of the parabola anticipates, sf continues to return to and elaborate elements of these benevolent invasion tales. Octavia Butler's powerful *Xenogenesis* series, for example, explores issues of prejudice and the struggle to build homogeneous communities in its tale of the interactions between humanity and the Oankali, a race who save (and interbreed with) a few human survivors after nuclear holocaust. Butler uses the image



of the ugly (by human standards) yet benevolent alien to explore human tendencies to fear difference and our histories of racial discrimination, thus transforming a minor detail of earlier narratives into a new thematic trajectory for this parabola. The motif of idealized aliens saving humanity from its own most destructive impulses is also used in the celebrated sf film *The Day the Earth Stood Still* (Wise 1951) to warn against a nuclear arms race, and revised in Scott Derrickson's 2008 version to expose the risk humans continue to pose to the planet through environmental destruction.

Gwyneth Jones's important *Aleutian* trilogy, *White Queen* (1991), *North Wind* (1994), and *Phoenix Café* (1997), is among the most critically incisive of such reworkings, a complex exploration of cultural difference and the misunderstandings that occur due to projection and paranoia. Accurate information about the aliens' culture and intentions is revealed only gradually in the series, after a number of incidents based on misconceptions have already shaped human and alien interaction. Even the name Aleutian refers to the aliens' arrival on the Aleutian Islands, yet humans never learn another name for them. Humans read Aleutians through an assumption of difference while Aleutians read humans with the expectation of similarity. Humans understand this contact through fantasies of sf, observing, for example, that "it was a truism that the aliens who landed, whoever they were, *had to be superior.* Or else we'd be visiting them" (71), and coming to the erroneous conclusions that the Aleutians are immortal (since humans do not understand Aleutian belief in individualized reincarnation) and telepathic (because they cannot read the Aleutians' nuanced and biochemical body language). Much of the drama in *White Queen* centers on the human quest to determine which sf parabola they are in: Are the aliens benevolent or hostile? Will this be the start of a new golden age, or the end of human civilization? The novel demonstrates a reality more nuanced than either of these extremes allow, showing how first contact between Aleutians and humans is a dialectic of both.

Jones's trilogy explores the consequences of two cultures colliding, a nuanced evaluation of the colonial underpinnings of this sf parabola that understands that the result is never entirely beneficial or catastrophic. Human culture is irrevocably changed by the coming of the Aleutians, modifications that extend from the new economics of alien technologies, which "made an immense difference to the poor; far more difference, more quickly than we

could have made with political solutions" (*North Wind* 107), to the new identities embraced by half-castes, humans who modify their bodies to better imitate Aleutian hermaphroditic morphology. Those who fear the Aleutians are correct that their arrival means the end of human culture as we know it, yet this change is figured as neither apocalypse nor transcendence. The aliens came seeking trade with "the locals," as they call humans, and they are quick to seize what advantage they can when they realize the humans have mistaken them for "some other, important people" (*White Queen* 93) they were expecting. Over the course of 300 years of contact, the key revelation humanity gains is that the aliens are not as different from us as we first imagined, and this insight that similarity is more probable than alterity may help the humans to avoid the potentially catastrophic use of Aleutian bioweapon technology. When the Aleutians leave earth at the end of the series, their legacy has provided both solutions and new problems. They are not the superior aliens of the transcendent sf parabola, nor the destructive conquerors of the alien invasion parabola, but merely agents of cultural difference. The aliens will not save us, and the trilogy exhorts us to recognize this and save ourselves.

## Megatext as dialectic

Robert Silverberg's "When We Went to See the End of the World" (1972) similarly engages both playfully and seriously with the sf megatext to encourage readers to connect the genre's themes with opportunities for action in the material world. Set in a decadent and superficial near future, the story is about a new time-travel vacation package, going to see the end of the world, only recently accessible to the middle class and hence a valued expression of conspicuous consumption. Jane and Nick, the first to take the trip, tell of a crab-like being they watch limp across a beach until it finally collapses and "the loudspeaker told us we had just seen the death of Earth's last living thing" (563). Readers familiar with sf's megatext will recognize the allusion to the Time Traveller's trip to the year 802,701 in Wells's *The Time Machine* (1895), where he witnesses the displacement of humanity by similar beings, their monstrous alterity a warning against human hubris in thinking ourselves the pinnacle of evolution. The cocktail party audience within the story, however, is unaware of this sinister note and



responds to this death only with pragmatic questions about the cost of the trip, the hassles of arranging a babysitter, and the like. As others in their social set take the vacation, apocalyptic ends proliferate: some see a vast flood, others an ice age, others the sun going supernova.

Myopically obsessed with social climbing, they worry over who received the most exciting and authentic vacation package, but show no affective concern with the concept of the end of the world as such. Nick assures them, "I'm convinced that each of us had a genuine experience in the far future. . . . That is to say, the world suffers a variety of natural calamities, it doesn't just have *one* end of the world, and they keep mixing things up and sending people to different catastrophes" (566); but his intervention is concerned with recapturing how good he felt when his story was the center of attention. Silverberg, however, clearly mixes details from their vacation disasters with those from the apocalypse unfolding around them: one couple's 12-year-old son interrupts a party to tell them "mutated amoebas escaped from a government research station and got into Lake Michigan. They're carrying a tissue-dissolving virus" (563); one man tries to remember the day of their trip, linking it to "the day of the big riot, anyway, when they burned St. Louis" (564); another women leaves the conversation to take a phone call from her sister checking in after an earthquake that "wiped out most of Los Angeles and ran right up the coast practically to Monterey" and seems to be linked to "underground bomb tests in the Mohave [*sic*] Desert" (565); and a couple describe their vision of the far future as "like Detroit after the union nuked Ford" (566). Conceiving of the end of the world only as a far-future possibility, they fail to acknowledge the ways their choices in the present are actively producing an apocalyptic future, one likely growing nearer all the time. The story ends on a note of bitter satire: an executive of the time-travel company enthuses that "business is phenomenal" in a television interview, and that their end-of-the-world trip is immensely popular in "times like these"; the reporter asks him to elaborate, but further discussion of "times like these" is "interrupted by the commercial" (567). Although the characters within Silverberg's story fail to change their perceptions or actions, readers' awareness of the meanings attached to the sf motif of time-travel will not fail to see the causal connection they miss.

Conceiving of sf as a megatext requires thinking of the genre always in terms of a set of multiple texts working together continually

to revise and renew images, ideas, and themes. Meaning can never be fully decoded from a single text, and both author and reader are expected to be familiar with certain reading protocols and previously established constraints or paradigm-changing innovations that accrue around specific sf motifs and scenarios. The sf megatext suggests that each work in the genre is both an independent fiction and also a new addition to the large, comprehensive text of sf itself.

## Discussion questions

1 The idea of living life through an avatar figure is a megatext idea frequently revisited in sf. Read and compare "Baby, You Were Great" by Kate Wilhelm, "Burning Chrome" by William Gibson, "The Girl Who Was Plugged In" by James T. Tiptree, and "Pretty Boy Crossover" by Pat Cadigan. How does each use this megatext idea to different purposes? What are the advantages of sharing this image across these different texts? Can you think of other examples that also use this megatextual motif?

2 In their book *Screen Adaptations: Impure Cinema* (Palgrave Macmillan 2010), Deborah Cartmell and Imelda Whelehan argue that adaptation studies needs to move beyond the idea of a pure "original" text as the final determinant of meaning in a text, measuring films according to novels they adapt or television series according to films they are based on. Instead, they propose adaptation produces something new that should be studied in its own right. Discuss the way this idea might be used for thinking about sf megatexts and parabolas.

3 James Tiptree's story "And I Awoke and Found Me Here on a Cold Hill's Side" (1972) is part of the sf parabola of cultural contact that explores what happens when two different cultures, human and alien, meet. Discuss the story as an example of an sf parabola, thinking in particular about how the story encourages the reader to fill in certain background knowledge or have certain expectations based on the established parabola. To what new ends does Tiptree adapt this story?

# CHAPTER FIVE

# Speculative fiction

The conditions of production for sf changed significantly in the 1950s. The publishing industry shifted away from the monopoly on popular forms held by the magazines, with new companies publishing original as well as reprint work in paperback, and many established specialized genre series. Editors for these early sf paperbacks, such as Frederik Pohl and Donald Wollheim, had ties to the fan community. Some of the early sf novels had originally been serialized in pulp magazines, or were extended treatments of ideas first published in story form in the pulps; increasingly, opportunities to publish original work opened up in the paperback market, loosening the tight hold of magazine editors such as *Astounding*'s Campbell. Many of the pulps' most successful writers, such as Heinlein and Asimov, shifted their attention toward the new paperback venue, and emerging writers who would be among the most important in the field, such as Philip K. Dick and Ursula K. Le Guin, began in the pulps but would establish their reputations in paperback. The genre changed as it entered this new venue.

New competitor magazines such as *Galaxy Science Fiction* (1950–80) focused on social rather than technological issues, challenging the hegemony of long-lived *Amazing Stories* and *Astounding* (renamed *Analog* in 1960 to reflect its hard sf orientation). At the same time, changing conditions of production in Hollywood led to new marketability for sf films, such as *Forbidden Planet* (Wilcox 1956), *Invasion of the Body Snatchers* (Siegel 1956), and *Them!* (Douglas 1954). Although earlier movie serials such as *Buck Rogers* (1939) and *Flash Gordon* (1936) had already established sf as a multimedia genre, many in the fan community insisted that

# CHAPTER SEVEN

# The literature of ideas

Within fan and academic communities, sf is often referred to as the literature of ideas. This formulation signals many widely held truisms about the genre: that it works through problems logically; that it is distinct from mainstream fiction of inner life and explores questions of the wider world; that it is a thought experiment that asks *what if?* and works through the possible outcomes. Through a critical reading of sf that focuses on identifying which aspects of the fictional world bear explanation, and which go without saying, we understand the particular intervention a text makes in the social construction of reality, the ways it encourages us to rethink a reality we take as inevitable and natural. As the literature of ideas, sf is less an aesthetic mode than an interpretative framework for working through difficult issues of social power and cultural meaning. Teresa de Lauretis argues that sf uses signs in a way that is "potentially creative of new forms of social imagination, creative in the sense of mapping out areas where cultural change *could* take place" (161). Feminists were quick to recognize sf as a tool to critique the current social formation and offer alternatives. In *What Are We Fighting For?* Joanna Russ cites sf as one of the sources that inspired her to think, "*things can be really different*" (xv). Fellow author Suzy McKee Charnas similarly contends, "instead of having to twist 'reality' in order to create 'realistic' free female characters in today's unfree society," sf provides a context to envision such characters "not as exceptions of limited meaning and impact, but as the healthy, solid norm" (qtd in Lefanu 158). The genre's aesthetic of world-building is ideal for rethinking social norms.

Donna Haraway contends in "The Promises of Monsters" (1992) that sf is concerned "with the interpenetration of boundaries between problematic selves and unexpected others and with the exploration of possible worlds" (300). Her three critical terms (selves, others, worlds) are sites where the status quo is contested. Haraway's own creative works of theory are themselves a kind of sf as cultural critique. For example, her "Cyborg Manifesto" (1991) uses this image from the sf megatext to ground a nonbinary politics that embraces both/and rather than either/or, an image that allows her to reconceptualize subjectivity beyond oppositions of culture/nature, male/female, white/black, or human/machine. In Haraway's design, sf becomes a mode of critical thought that can map otherwise incomprehensible "social and bodily reality" (457) in a world where the boundaries between human/machine, human/animal, and material/virtual are dissolving due to technological development, scientific discovery, and changing social relations of labor in the information age. Haraway's cyborg overtly challenges patriarchal hierarchies, opening up space to rethink what counts as "women's experience" (456) and "nature" (460), and to imagine "a world without gender" (457). Extrapolating as sf does, Haraway writes this socialist feminist manifesto addressed to a world in which "the boundary between science fiction and social reality is an optical illusion" (457). She calls for feminists to engage with rather than fear technoscience and to practice cyborg writing that embraces hybridity and transcends the dualisms of Western tradition that "have all been systemic to the logics and practices of domination of women, people of color, nature, workers, animals—in short, domination of all constituted as others" (471).

## Feminist science fiction

Feminist sf is both inspiration for Haraway's vision of cyborg writing and answer to her call to explore hybrid subjects. The genre includes work that challenges the domination of these various others since its earliest days. Leslie F. Stone's "The Conquest of Gola" (1931), for example, is one of the earliest gender-reversals. In its vision of a humanoid species covered with fur or feathers, rather than the "raw, pinkish-brown skin looking as if it had been recently plucked" (100) that distinguishes humans, the story's critique of patriarchal domination obliquely maligns binaries that



privilege humans over animals and culture over nature as well. "The Conquest of Gola" is written from the point of view of a female inhabitant of the matriarchal society on Gola, recounting a failed invasion from Detaxal, a planet we understand is earth. The story begins with typical sf estrangements to prompt questions about this strange world, the use of "*tas*" as a unit of measurement, for example, then quickly moves from extrapolations of a different physical world to extrapolations that constitute a different social world when the narrator rhetorically asks, "we, too, might have gone on exploring expeditions to other worlds, other universe, but for what? Are we not happy here?" (98). The society of Gola is a communal utopia compared with the competitive struggle for acquisition that characterizes life on Detaxal.

Stone continues to challenge our normative perception of both physical and social norms, reminding us that the different embodiment and conditions for life on Gola result in different values and social structures as well. For example, the strange males from Detaxal have a fixed biology rather than the ability "to call forth any organ at will, and dispense with it when its usefulness is over" (100); they have an equally strange mission, "exploration and exploitation" (103), that is culturally indecipherable to the Golans. The men's proposal to establish Gola as a luxury resort for humans is received as "so much gibberish to us, with his prate of business arrangements, commerce and trade, tourist, profits, cloud dispensers and what not" (104), while the men, unable to take women seriously, respond to the lack of immediate submission with the threat of force. Gola has a vastly superior technology, quickly subduing the Detaxalan ships; Detaxalans retaliate and our narrator awakens to find herself in his arms of her consort/slave, Jon, and "for a moment an new emotion swept me, for the first time I knew the pleasure to be had in the arms of a strong man" (107). Unlike a number of role-reversal stories written by men, however, that use such reversals to enable women to discover that, in Russ's acerbic phrasing, "heterosexuality is so much physically pleasanter than lesbianism, that it binds a woman not only to sexual pleasure but to one man in particular and to a whole ideology of male dominance" ("Amor" 9), our narrator is quick to see through Jon's tender embrace to realize his pleasure in her fear and helplessness. The Detaxalans succeed briefly in co-opting the Golan males, but eventually the women exert their superior mental powers, compelling their males back to servitude and the Detaxalan males back to earth.

"The Conquest of Gola" ends on a rather pessimistic note of eternal vigilance against the encroachment of Detaxalan men and their commercial exploitation, and a belief that social equality between men and women is impossible: the Golan matriarchy can either repress the Detaxal patriarchy or be oppressed by it. While it might be easy to condemn Stone for such a bleak vision, it is important to keep in mind the context in which she published, a time when women had only recently gained the right to vote and were denied most of the educational and career opportunities open to men. Although some women such as Stone, Clare Winger Harris, C. L. Moore, Leigh Brackett, and Lilith Lorraine did gain publication in the early sf pulps, many disguised their gender (Moore's use of initials; Brackett's gender-neutral first name), and others, such as Harris, Lorraine, and Stone herself, published little into the 1940s as a technocratic view of sf was promoted by Campbell. Indeed, the editors of the *Wesleyan Anthology of Science Fiction* write that Stone directly blamed such editorial bias for the end of her career, revealing that Campbell returned one of her submissions with a note announcing, "I do not believe that women are capable of writing science fiction—nor do I approve of it!" (96). The role of many of these early women writers was all but forgotten in the field by selective histories that privileged a male canon of the Golden Age, until feminist scholarship and a generation of writers and critics actively engaged with second-wave feminism recovered their work.

An important way to understand "The Conquest of Gola," then, is as an active rewriting of stereotypical ways of representing women in—or erasing women from—patriarchal sf. Russ has done more than any other writer or critic to make visible and rewrite the patriarchal assumptions embedded in much of the sf megatext, both in her subversive transformation of genre tropes and in her critical indictments of sf's failure sufficiently to envision social as well as technological transformation. Her essay "The Image of Women in Science Fiction" (1971) polemically insists that this is precisely what too much of the genre is: *images* of women rather than fully realized female characters. Dismissing these tales as "present-day, white, middle-class suburbia" (81) migrated to space, Russ desired instead a more ambitious use of the genre's capacity to reinvent society from the ground up, an sf that would not only reveal the gender bias in formulaic plots but might also begin to imagine those spaces where cultural change could take place. Key to both projects



was the need to expose and dissect the damage done to women by patriarchal ideals of femininity and pervasive heteronormativity. Russ aspired to sf that expanded the possibilities for women's agency and happiness, ideas explored most fully in her celebrated postmodern, parallel-worlds masterpiece *The Female Man* (1975). It tells the story of four versions of the same women made different by radically different cultural conditioning: Jeannine, a librarian, lives in a world without World War II or second-wave feminism, struggling against cultural pressure to define her success via marriage; Jael, a warrior, lives in a near-future of total war between absolutely polarized and gender-segregated Manland and Womanland; Janet, a diplomat of sorts who travels to the other worlds, lives in a far-future utopia, Whileaway, in which all the men have died of a gender-specific plague; finally Joanna, an English professor like the author herself, lives in contemporary New York, struggling with the demands of the women's movement. All the Js are the same woman, differentiated by distinct regimes of gender conditioning, and thus the novel interrogates gender ideology as a technology that damages women's lives.

Joanna describes herself as a female man as she concludes that the only way to be a full person in the current ideological order is to be a man. Jael and Janet offer separate solutions to this problem of female identity within patriarchy. Jael has brought the women together, proposing a cross-worlds revolution against all men. She represses affect, sees a rapprochement between men and women as futile, and gratifies her sexual needs with Davey, an artificially created man generated from chimpanzee DNA and lobotomized. Janet is appalled by Davey, and believes that women, too, lose their humanity if militant gender discrimination is their only path to full personhood. Only Janet is a full person, self-confident, at home expressing her emotions as much as expressing her physical strength, and able to embrace both marriage and career because she comes from a world without gender difference. Never having had to be an other to man, Janet never thinks of herself as inferior or different, problems that plague the other Js whether they react with rage like Jael or despair like Jeannine. Janet's rejection of militancy, Jael insists, comes from a place of privilege that disavows the extreme steps her ancestors may have taken to free her from the burden of being, in Simone de Beauvoir's phrase, the second sex. Hopeful for the possibility of a less extreme solution through feminist cultural change in Joanna's world, the final paragraphs are

addressed directly to the book itself, encouraging it to go out into the world and not to "scream when you are ignored" or "complain when at last you become quaint and old-fashioned" (213), for the day when this book can no longer be understood by its audience is the day "we will be free" (214).

Russ began to explore the ideal of an all-female society in her earlier short story "When It Changed" (1972), which presents a version of Whileaway not as an alternative world but as a colony isolated from Earth by accident and populated by only women after a virus kills the men. The story succinctly captures both the possibilities for full personhood in a society without gender and the barriers patriarchal culture erects against women's development. The Whileaway colony is a model of cyborg society in Haraway's use of the term, a world beyond gender that is disrupted by the "Real Earth men!" (509), who arrive at this colony after a long period of cultural isolation. Like Stone, Russ effectively uses the techniques of sf to disrupt perceptions we take for granted, narrating the story from the point of view of what is normal to Whileway rather than what is normal to readers. No gender is identified for the first-person narrator in the opening paragraphs, and textual cues are confusing if we rely on the gender stereotypes of patriarchal culture. Our narrator speaks of a wife, Katy, who drives too fast, can "take the whole car apart and put it together again in a day" (508), but is afraid of guns. The narrator, in contrast, lacks mechanical ability but has fought three duels. Even the description of their children, "one of hers and two of mine" (508) does not necessarily reveal that the couple is not heterosexual, but the description of the eldest, Yuriko, prompts the attentive reader to ponder the implications of this child being one the narrator calls "mine" although she has "Katy's eyes, Katy's face" (509). Thus readers are positioned to experience gender difference as the odd—rather than the natural—state of affairs.

The story hinges on the gap between what is normal and natural for Whileaway and what is normal and natural for the earth men, who have a great deal of difficulty accepting a female-only culture. Our narrator, Janet, sees masculinity as strange, the men "obviously of our species but *off*, indescribably off" (509), indulging weird and archaic customs such as shaking hands and appearing almost animal-like, "heavy as draft horses" with "blurred, deep voices" (509). Such descriptions alienate the otherwise natural assumption that men are the neutral embodiment of humanity and that women



are defined by the ways in which they deviate from this norm. Russ's story was published at a time when it was common to use masculine words as universals—mankind instead of humanity, for example—and these men create confusion by operating within that paradigm. Despite meeting many of the citizens and learning of Whileaway's social order and history, one man keeps asking "where are all the people?" prompting Janet finally to realize "he did not mean people, he meant *men*, and he was giving the word the meaning it had not had on Whileaway for six centuries" (511). The lack of gender difference produces more significant changes on Whileaway than individuals such as Janet, capable of fighting duels and giving birth without perceiving any contradiction between the two activities. Whileaway society, like Stone's Gola, has a different economic and social structure than earth. Their government is organized into two houses, "the one by professions and the geographical one," they rely on steam power rather than polluting sources of energy, and they guard against "sacrific[ing] the quality of life for an insane rush into industrialization" (511).

Janet fears the changes contact with a gender-differentiated society will bring to Whileaway, both for these ways of life and for her daughters' development. The men see themselves as saviors of a damaged culture that has managed to survive but is populated by "only half a species" (513), labeling it "unnatural," which prompts Katy to retort "humanity is unnatural" (512). They also see in Whileaway their own salvation, providing new breeding stock for a world in which "there's been too much genetic damage in the last few centuries. Radiation. Drugs" (512); one confidently asks Janet, "Did you know sexual equality has been reestablished on Earth?" (512). Whatever sexual equality might mean to these men—and whenever it first existed to now return—it is clear that their version is meager by Whileawayean standards. This man sees Janet and Katy's marriage as "a good economic arrangement" and adequate for "randomizing heredity" but assumes that heteronormativity can offer "something better" for their daughters, something that they "must miss" (513). Russ thus not only critiques the limitations of patriarchal constructions of female identity, but also caricatures an earlier generation of male-authored dystopias of all-female societies, such as Philip Wylie's *The Disappearance* (1951), in which the return of heteronormativity is a welcome relief, or John Wyndham's *Consider Her Ways* (1956), in which a female protagonist experiences the absence of men as a catastrophe.

Men can return to Whileaway only as oppressive colonizers, Janet concludes, "when one culture has the big guns and the other has none, there is a certain predictability about the outcome" (514). This predictability extends to the inevitability that a return to gender-differentiated society will damage Whileawayeans, transforming them from full people into second-class women. Janet comments that confronting these men's attitudes "made me—if only for a moment—feel small" (514), and worries about a future "of myself mocked, of Katy deferred to as if she were weak, of Yuri made to feel unimportant or silly, of my other children cheated of their full humanity or turned into strangers" (514). Russ's story was among the first[1] of a number of gender-segregated or all-female societies in sf, mainly written by women, which transformed this trope in the megatext from its originally dystopian portrait of the tyranny of female rule to an incisive critique of patriarchy and a celebration of women's culture. Haraway argues that "Cyborg writing is about the power to survive, not on the basis of original innocence, but on the basis of seizing the tools to mark the world that marked them as other" (469). Russ and other feminist sf writers did precisely this in rewriting the all-female society from misogynistic roots that are now all but forgotten.

This intervention significantly changed sf from a genre in which women's contributions and feminist perspectives were marginal, as in technocratic Golden Age sf, to a genre understood as a significant tool of feminist critique. Contemporary with the aesthetic transformations of the New Wave, the feminist embrace of sf's potential brought a new constituency of creators and fans to the field. Among the most influential was Alice Sheldon, who published under the pseudonyms Raccoona Sheldon and—more importantly—James Tiptree. The Tiptree stories attained significant standing in the field, and although it was known that the name was a pseudonym, the gender reversal was not revealed until 1976 (Sheldon continued to publish under this name until her death). Tiptree's work often explores themes of gender difference, including "The Women Men Don't See" (1973), a tale of plane crash survivors who stumble upon alien anthropologists visiting earth. Told from the point of view of the sexist narrator, Don, the story uses his unreliable narration to enable the reader to understand, even if Don cannot, why the female survivors would rather go to an alien planet than remained alienated by patriarchy on earth.



Tiptree's successful passing as a male author, as well as her gender-themed fiction, were extremely important for revolutionizing the discussion of sf, gender, and women's place in the field. A crucial moment in this history was Robert Silverberg's introduction to Tiptree's collection *Warm Worlds and Otherwise* (1975) that opined:

> It has been suggested that Tiptree is female, a theory that I find absurd, for there is to me something ineluctably masculine about Tiptree's writing. I don't think the novels of Jane Austen could have been written by a man nor the stories of Ernest Hemingway by a woman, and in the same way I believe the author of the James Tiptree stories is male. (xii)

Gender was already a hot topic in sf communities. The two major scholarly journals, *Science Fiction Studies* and *Extrapolation*, were publishing articles on feminism and sf, and fanzines were debating these issues as well. Two feminist fanzines, *WatCh* and *Janus*, were founded in the mid-1970s to promote feminist sf and feminist topics at fan conventions, and in 1975 the fanzine *Khatru* published a symposium on gender, feminism, and sf, whose participants included Russ, Ursula K. Le Guin, and Tiptree, whose female identity would be revealed only the following year. With Silverberg's gender-essential appraisal in print, and Tiptree's identity as Alice Sheldon revealed, statements that categorically segregated men's and women's interests and fictional modes could no longer stand.

## Queer science fiction

Science fiction has come a long way from Campbell's dismissal of Stone: WisCon, an explicitly feminist sf convention that remains one of the most significant annual events, was founded in 1977, and in 1991 sf writers Karen Joy Fowler and Pat Murphy launched a new award in the field, the Tiptree Award, to recognize works of sf and fantasy that explore and expand understandings of gender. These two institutions, now central to the field, are evidence of the genre's capacity not only to imagine where cultural change might take place but also to produce such change within itself. Questions of gender identity and the limitations of patriarchal, gender ideology are critiqued by both feminist and queer sf traditions, which are

equally a part of today's Wiscon and Tiptree Award communities. The Tiptree Award is given annually to new work, but it has also been given retroactively to acknowledge important texts that prepared the way for challenging gender and sexuality norms to define a facet of sf. Both "When It Changed" and *The Female Man* received retrospective Tiptree Awards, as did a significant novel by another *Khatru* symposium participant: *The Left Hand of Darkness* (1969) by Le Guin. Part of her Hainish cycle of novels set in a universe of loosely federated planets held together by the Ekumen, an interplanetary League of Nations, it recounts the experiences of ambassador Genly Ai, sent to the remote planet Gethen, who undergoes a cultural transformation as he learns to accept as normal the Gethen gender-neutral biology and to relinquish his expectations of distinct masculine and feminine capacities.

Gethens spend most of their lives in a gender-neutral state, taking on distinct masculine or feminine secondary sexual characteristics only during a mating period called kemmer. During kemmer, each Gethen may become masculine or feminine, never knowing in advance which gender might be expressed each time. In her preface, Le Guin calls her work a "thought experiment" (n.p.) of "describing" the world that might emerge if gender were not so foundational to culture. This *what if* shares many of the same concerns explored by Simone de Beauvoir in *The Second Sex* (1949; trans. 1953), where she argues that woman—as understood within patriarchal culture—is not an entity or identity onto herself, but rather "she is determined and differentiated in relation to man, while he is not in relation to her; she is the inessential in front of the essential. He is the Subject; he is the Absolute. She is the Other" (6). De Beauvoir's work is a comprehensive survey of women's lives as they appear in discourses of knowledge from biology to myth and psychoanalysis, an overview of the ubiquity of patriarchy historically and across geographical locations, and an interrogation of the roles played by religion and literature in producing "woman" as a category of otherness and inferiority. A constitutive text of second-wave feminism, de Beauvoir's work established that there was no part of human life and culture untouched by ideologies of gender difference. Starting from this premise, Le Guin uses sf extrapolation to work through how different civilization might be if gender difference did not exist.

*The Left Hand of Darkness*, like Russ's work, encourages us to see gender difference as constructed and hence open to change. As



Genly experiences Gethen, he reminds himself—and hence readers—not to read people and situations according to the expectations of gender difference. Genly makes a number of political mistakes in his negotiations with the planet, many attributable to his tendency to project gendered traits onto Gethens. By the novel's end, he has become educated in Gethen history and culture, and he no longer sees the world through gender difference. This shift allows him to realize how much the bifurcation of gender has shaped his own culture according to a self/other distinction that is often antagonistic. Genly's mission of first contact connects the gender experiment in the novel to a wider discussion of the relationship between self and other played out in the colonial ideologies so central to this motif in sf. Coming together across difference on both a personal and cultural level is the novel's central theme, embodied in the relationship between Genly and a Gethen, Estraven, whom he first sees as his political antagonist and only later recognizes as his ally and friend. Although Estraven, more experienced and educated, has accepted Genly from the start, Genly distrusts Estraven and his nation, Karhide, in general because he associates them with femininity and thus duplicity. By the novel's end, when other humans from Hain join Genly on the planet, he has become so transformed by his experiences on Gethen that he now sees such gendered bodies as strangely inhuman, just as Russ's Janet found male bodies alien.

Le Guin uses Genly's experience to demonstrate the richer life that is possible if we can engage with the other as an equal. As de Beauvoir analyzes, patriarchal cultures are based on differentiation between masculine subjects and feminine objects, a necessarily hierarchical relationship. The Gethens are not troubled by this problem since they have no permanent gender, but their solution is one that avoids hierarchy by eliminating difference. Genly achieves the more difficult insight that equality does not require sameness, becoming able to respect Estraven's personhood even though his culture and embodiment are different from Genly's own. The novel thus suggests that gender ideology unduly limits the lives of both men and women, cutting off parts of the self by allowing only certain affects to be expressed by each. The Gethens' lack of permanent gender becomes an ideal to which humans can aspire, cultivating both male and female aspects of oneself and recognizing that there is no universal ratio. This opens the door not only to richer personal lives but also to more harmonious cultures, no

longer invested in hierarchies of self and other. Le Guin insisted in her essay "Is Gender Necessary?" (1976) that *The Left Hand of Darkness* was not a specifically feminist novel but one that was about these interpersonal connections.

Feminists embraced the novel, nonetheless, although it also generated accusations that it had not gone far enough, that it continued to perpetuate aspects of patriarchy. A key concern is language. Le Guin uses the pronoun "he" to refer to Gethens in their non-kemmer state, reflecting the contemporary use of masculine pronouns to describe humanity collectively. Further, some commentators thought that her characterization of Gethens made them default masculine characters, reinforcing the patriarchal idea that masculinity is neutral, the undifferentiated, while femininity is the marked distinction, the other that appears only in kemmer. Although initially dismissive of these critiques, in a revised version of the essay, "Is Gender Necessary? Redux" (1987), Le Guin acknowledges some merit to these critiques. Her novel remains a crucial intervention in the field, opening up explorations of gender and sexuality, many of them using the sf technique of neologism to invent new pronouns able to convey the estranging experience of a world without gender or with multiple genders: Marge Piercy's feminist *Woman on the Edge of Time* (1976) uses *per* as a universal pronoun in its utopian future; Raphael Carter's cyberpunk novel *The Fortunate Fall* (1996), concerned with resisting heteronormativity, uses *zie/zir*.

Drawing on the work of biologist Anne Fausto-Sterling in *Sexing the Body* (2000), which outlines a theory of five naturally occurring genders, both Greg Egan's posthuman novel *Distress* (1995) and Melissa Scott's space opera *Shadow Man* (1996) portray multigendered worlds with new pronouns and new names for the various sexual partnerships beyond the binary of heterosexual/homosexual. *Shadow Man* won a Lambda Literary Award, given to works (not exclusively in the sf genre) that explore LGBT themes. The novel carefully delineates the five genders that make up its multiworld Concord society, giving each their own embodied specificity via possible combinations of reproductive sexual organs (ovaries/testes), second sexual characteristics (breasts, facial hair, musculature), and chromosomes, and providing each with their own pronouns that textually remind us that each is a distinct gender and that people of all these genders are regularly found in the world: fem (ðe, ðer, ðerself), herm (ʒe, ʒer, ʒimself), man (he, him, himself), mem (þe, þim, þimself), and woman (she, her, herself). These five gender identities create nine recognized sexual preferences—bi, demi, di, gay, hemi, omni, straight, tri, and uni—defined by whether on prefers specific combinations of the "same" or "opposite" genders, the quotation marks used in the glossary to emphasize the sameness and opposition are only ever approximations. Even within this world certain sexual identities are marginalized, and being omni carries connotations of being, at worst, promiscuous or, at best, indecisive. The inclusion of familiar words such as man and woman, gay and straight, within these many permutations remind us that such identities are products of culture and convention, not necessary facts of nature.



The Concord worlds have so many intersexed citizens because of a side effect of a drug, Hyperlumin-A, needed to tolerate FTL travel that was widely ingested in their period of colonial expansion. The novel is careful to remind readers, however, that the drug merely *increased the incidence* of intersexed births, and that the reality of five genders is always the case for the human species. The action is set on the long-isolated world of Hara, cut off from the wider Concord during a ban on FTL travel while Hyperlumin-B, designed to avoid the miscarriages caused by Hyperlumin-A, was developed. Concord worlds have accepted the reality of five genders and nine sexual preferences, but Hara insists on a legal fiction of only two genders (man and woman), which creates tensions in its interactions with other Concord worlds. People of all five gender-embodiments exist on Hara, but they must choose a status of either man or woman, although the possibility of legally switching one's gender serves as evidence that these identities are legal fictions. Fems, herms, and mems are collectively called odd-bodied on Hara, although legally each is either a man or a woman. Hara is the site of a significant sex market, called trade, that allows Concord citizens "who couldn't quite accept the new roles that came with the five sexes, the ones who looked back to the good old days when there were only two genders, two roles, two complementary parts to play" (24) to indulge their fantasies with Haran prostitutes. Trade and the demand on the part of some Haran citizens to have their embodied gender (fem, herm, mem) legally recognized are a site of political conflict, which breaks into crisis and overt violence.

Tendlethe, a man who is son and successor to the current leader, Temelathe, hates trade, resents and denies the existence of five sexes,

and is extremely defensive about his own gender identity because his childhood best friend, Warreven, is known to be a herm, although legally classified as a man. The two were close in childhood, so similar they were regarded as brothers, and so Warreven's openness about his gender identity and queer sexuality threatens Tendlethe's sense of his masculinity. This is particularly the case because at one point it was politically proposed that Warreven and Tendlethe should marry, Warreven legally changing his gender to female. An attraction clearly exists between them, but Tendlethe violently disavows it. He wants to expel Concorders from Hara and "seems to think that if they could just get rid of trade, all the herms, mems, and fems would just—disappear" (173). He fosters a political base of ultra conservatives whose militant arm begins openly to harass those involved in trade or indulging their own sexual preferences beyond straight sexuality, and eventually kills his own father in a violent confrontation that traps Temelathe between these forces and the odd-bodied rebels rallying under Warreven, who has long used his legal practice to challenge the restrictions of the Haran gender system. The odd-bodied demand "we need names of our own" (203) and refuse the invisibility that comes with the legal fiction of the two-sexed system, and invisibility that is highlighted in the text by the use of all five gendered pronouns so that the reader is continually reminded that more than two genders exist in this world.

The title, *Shadow Man*, reminds genre readers of Russ's *The Female Man* and this novel enacts a similar critique of the erasures and distortions of a patriarchal, heteronormative gender system. Two narrative voices, chapters alternating between Warreven's perspective and that of a Concord citizen, Tatian, who becomes his ally, skilfully remind us of the vast gap between the world as it appears to Warreven given his immersion in a system in which only two genders "exists" and the world as it appears to Tatian. For him, recognizing five genders is normal, but he is confused by the cues of the two-gendered world where clothing is central to signifying one's legal gender and care is taken to discuss odd-bodied morphology. After Warreven is severely beaten by militia forces and Tatian helps him to bathe, however, the description of his unclothed bodied firmly demonstrates to both Tatian and readers that Warreven is not an effeminate man or a masculine woman, but is something else entirely: a herm, possessing and defined



equally by both his conventionally masculine and conventionally feminine attributes:

> Not that ʒe was particularly feminine, anymore than ʒe was masculine—ʒer body beneath the water drew his eyes, long legs, long, clearly defined muscles, cock and the swell of the cleft scrotum behind in. ʒe had forgotten to hunch ʒer shoulder, and ʒer breasts, herm's breasts, small and definite against the bony ribs, were fully exposed. (253)

The political crisis is unresolved at the novel's end. Tendlethe is momentarily successful and Warreven is forced to flee off world for his own safety, blamed for Temelathe's death. He takes this as an opportunity, however, to learn how truly to be a herm in a society able to see him as such, and how to enact revolutionary change, another tradition absent—thus far—from Hara. *Shadow Man* compellingly examines the damage done by restrictive concepts of gender identity and sexuality, and reminds us how far our own world has to go before we recognize the complex variety of human sexuality.

## Race and ethnicity in science fiction

More recently, discussions have begun to address that way that sf can denaturalize our understanding of racialized and ethnic difference. Prominent writers-of-color such as Samuel R. Delany and Octavia Butler have long addressed race in their fiction, but they were frequently regarded as the "first" or "first female" black writers. In an article published in *The New York Review of Science Fiction* (NYRSF), "Racism and Science Fiction" (1998),[2] Delany challenged this perception, drawing attention to a number of nonwhite writers using sf techniques, although he acknowledges that they are a minority in the field. His essay further recounts anecdotes to demonstrate how sf as an institution remains shaped by a culture of systemic racism despite the good intentions of many individuals. The editorial clout exercised by Campbell emerges in one incident as Delany recalls how Campbell declined to serialize *Nova* (1968)—a novel that went on to become one of the most celebrated in the field—because "he didn't feel his readership

would be able to relate to a black main character." The novel's success establishes that Campbell was wrong in his prediction, but Campbell's bias significantly hampered the field beyond merely the failure of *Analog* to publish Delany's work. As Delany explains, although the paperback market was important and *Nova* did appear to great acclaim, the absence of the additional revenue he might have received through serialization meant the difference between supporting himself with his writing and requiring other sources of income. By thus presuming that the sf community would not embrace nonwhite protagonists, Campbell perpetuated systemic barriers against the entry of nonwhite writers into the field.

In another reminiscence, Delany recalls a speech given at the 1968 Nebula Awards denouncing the recent, more literary turn in the field, a condemnation in part attacking Delany's *The Einstein Intersection* (1967), a book filled with references to classical and canonical literature, which had just received the award for best novel. Most of those present did not share the views offered in this rant, but in seeking to reassure Delany his supporters mentioned his race, reinforcing a sense that while he might be welcome, he was nonetheless marked in comparison to their presumed neutrality. In the conclusion to his NYRSF essay, Delany asserts:

> Because we still live in a racist society, the only way to combat it in any systematic way is to establish—and repeatedly revamp—anti-racist institutions and traditions. That means actively encouraging the attendance of nonwhite readers and writers at conventions. It means actively presenting nonwhite writers with a forum to discuss precisely these problems in the con programming. (It seems absurd to have to point out that racism is by no means exhausted simply by black/white differences: indeed, one might argue that it is only touched on here.) And it means encouraging dialogue among, and encouraging intermixing with, the many sorts of writers who make up the sf community.

The following year a group of sf fans at WisCon responded to this call, establishing the Carl Brandon Society, named for a fictional black sf fan created by writers Terry Carr and Peter Graham in the 1950s to provoke discussions of race. The Carl Brandon Society seeks to promote racial and ethnic diversity in sf writer and fan communities. It works to include topics of race and racism on



convention programs, and it gives out two awards each year: the Parallax Award to a work of speculative fiction created by a self-identified person of color, and the Kindred Award given to any speculative work that addresses issues of race and ethnicity. It also offers an Octavia E. Butler Memorial Scholarship Fund to support writers of color to attend the Clarion Writers' Workshop, an important institution for training new writers in the field.

The Carl Brandon Society and the increasing visibility of people of color in sf is positioned to refashion sf as radically as did earlier interventions around issues of gender and sexuality. Recently a number of anthologies have contributed to this trend. Sheree D. Thomas's anthology *Dark Matter* (2000) makes visible "the contributions of black writers to the sf genre [that] have not been directly observed or fully explored" (xi). In *So Long Been Dreaming* (2004), Nalo Hopkinson argues that postcolonial sf stories "take the meme of colonizing the natives and, from the experience of the colonizée, critique it, pervert it, fuck with it, with irony, with anger, with humor, and also, with love and respect for the genre of science fiction that makes it possible to think about new ways of doing things" (9). Grace Dillon's anthology of Indigenous futurism, *Walking the Clouds* (2012), explores such postcolonial perspectives and stories of indigenous science and sustainability, and describes Indigenous futurism as "narratives of *biskaabiiyang*, an Anishinaabemowin word connoting the process of 'returning to ourselves,' which involves discovering how personally one is affected by colonization, discarding the emotional and psychological bagged carried from its impact, and recovering ancestral traditions in order to adapt in our post-Native Apocalypse world" (10). Latino futurism is evident in works such as Sesshu Foster's *Atomik Aztex* (2005), a slipstream narrative whose protagonist shifts between an alternate reality where Aztecs rule the earth and have colonized Europe, and a contemporary LA in which he is a disenfranchised laborer in a slaughterhouse; Alex Rivera's film *Sleep Dealer* (2009), premised on a fantasy of telecommuting labor that enables the United States to have all the Mexican labor-power without any of the Mexican people; and Sabrina Vourvoulias's *Ink*, a novel that explores discrimination in a near-future in which immigration visas become permanently tattooed and traceable technologies. Encompassing these new voices and perspectives has changed sf, not only its themes and ideological orientations, but also the media in which we see the genre, opening up a space for sf music in the

work of Afrofuturists such as Sun Ra or sf performance art in the work of Chicano futurists such as Guillermo Gómez-Peña.

The project to achieve a more ethnically and racially diverse sf is far from over. In "A Reluctant Ambassador from the Planet of Midnight," a keynote address that was a hybrid of performance art and academic lecture, delivered in 2009 and published the following year, Hopkinson both praised the promise of sf "to use mythmaking to examine and explore socioeconomically configured ethnoracial power imbalances" (347) and rebuked ongoing expressions of systemic racism that thwarted this potential. Embodying the critical potential of sf, Hopkinson takes on the persona of an alien possessing her body for the first part of her address. Wearing a t-shirt that identifies her as Speaker to White Folks, this entity explains that her planet has been receiving broadcasts from Earth that confuse them: are these "gestures of friendship, or, of aggression" (339), she wonders, before taking the audience through examples of sf culture that persistently display the myopia of white privilege, even while they overtly strive to be more inclusive. The first example is the original cover of Hopkinson's novel *Midnight Robber* (2000), which accurately depicts its Afro-Caribbean protagonist, compared with the Italian edition in which she is rendered as a blue-skinned figure with European features: the original title, drawing on Caribbean folklore, has been replaced by Italian for "the planet of midnight," thus erasing the cultural specificity of the novel's imagery.

This speaker goes on to review several examples of her culture's struggle to translate human speech to more forcefully make the point that erasing the particularity of racialized experience is an example of—not the solution to—systemic racism. For example, they have interpreted the statement "this story is a universal one" to mean "this story is very specifically about us, and after all, we're the only ones who matter," or possibly "the thing that you made doesn't belong to you. It's universal" (343). In this way, Hopkinson's alien persona confronts the white sf community with an estranging vision of how some of their actions and statements are heard and experienced by people of color within the community. A racism-free, but by default white, sf future is not an inclusive utopia and only the arrogance of white privilege can produce this illusion: the speaker admonishes her audience, "You must understand that on our planet, everyone has an ethnicity" (344). The visitor leaves, and Hopkinson continues her lecture on what she finds valuable about sf, but also points out that the genre frequently fails to have



the frank and open discussions about systemic racism, cultural appropriation, and heterogeneous community that are required to fulfill its potential.[3] She ends on a positive note: although blindness and ignorance on the part of some members of the community have obstructed change, the community is having this conversation, however vexed. The transformation of the field achieved by feminist interventions similarly was not instantaneous or universally embraced, and there is no question that more writers of color, such as Nnedi Okorafor, N. K. Jemison, S. P. Somtow, and Daniel H. Wilson, are achieving prominence in the field.

Like the feminist tradition of sf, work by writers of color often rewrites or provides an awry perspective on well-known genre motifs and narratives. For example, Larissa Lai's "Rachel" (2004) exposes the techno-orientalism of *Blade Runner* (1982),[4] rewriting the narrative from the point of view of the eponymous android. The film, one of the most popular in sf cinema, centers on bounty hunter Deckard (Harrison Ford), charged with "retiring" escapee replicants, manufactured workers denied human rights and prohibited from returning to earth. Replicants can pass as human except for their absence of empathy, and so Deckard's main tool is the Voight-Kampff machine that measures emotional response to stimuli. Rachael (Sean Young) believes herself to be the niece of the founder of the Tyrell Corporation, which manufactures the replicants, but Deckard's test reveals she is a replicant with implanted memories of a human childhood, identical in fact to one of the escapees whom Deckard will kill. She is taxed to help him with his investigation, work that inevitably raises conflicts for her as she had believed herself to be human; they become sexually involved, and at the end of the film Deckard refuses to continue his work and they run off together.[5]

Lai's story restages certain scenes in the film, adding the interiority of Rachel's experience of discovering she is not really human and having sex with a man charged with killing her kind. Her parents met through a "catalogue of women in China who wanted to marry Western men," "fell in love," and "were married a week after they first met" (55). This romanticized version of their marriage obscures a context of economic and ethnic power imbalance, making perhaps painful and pragmatic choices appear human and natural, prompting us to read Rachel's own vulnerability and her relationship with this man in a new light. Struggling to reconcile her inner feelings of loss and her memories of a now-dead

family, Rachel is emotionally overwhelmed when asked simply to accept her nonhuman status and assist the policeman, who is never named in the story; she begins to hate him, but her feelings are complicated by her desire for connection with another human being that would validate her sense of her humanity. She longs for her father, "the only one who could see that I'm not cold, only sad" (58) and does not fully understand her own impulses when she later kills an android[6] to save the policeman, just before they have sex. "When the policeman tells me what he wants," she ponders, "I can only reflect his desire back to him. Is that because I am eighteen and inexperienced or because I am nothing more than a wind-up doll? He treats me like a wind-up doll" (59).

The story ends not with romantic escape but with Rachel struggling with her shattered sense of self. Lying in bed with him, "contemplating what it means to be a machine" (59), she thinks of the day her mother died. She recalls a person in her parents' wedding photos that looks like her, and on this day her parents argued about it in the car: "My father insisted it was his niece. . . . My mother said that it was obvious the girl was Chinese, and that she was, in fact, the daughter of her friend who had left the village to marry a Shanghainese businessman" (59). The ferocity of the fight confused the young Rachel, leading her at the time to suspect "a subtext to the argument I didn't understand" (59). The family arrives at Rachel's skating competition, ending the argument, but after her performance she learns that her mother and brother left early and were killed in a car crash; she never sees them again and lacks any confirmation of event. The story ends at a midpoint in the film, with the policeman leaving Rachel's bed to kill the last two androids, one of whom looks like her. She says, "you don't have to do this," but he responds, "you don't have to remember" (60). This anecdote draws our attention to differences between the film's Rachael (Tyrell's niece) and the story's Rachel (his daughter). They challenge stereotypes that see marginalized others as interchangeable and lacking subjectivity: the androids may look alike but they have distinct identities and desires just as one wife from a catalog of Chinese women is not interchangeable with another, despite their appearance to Western eyes. Lai's rewriting challenges stereotypes of Asians as machine-like, and the conflation of images of Asians with IT technology and overpopulation evident in popular culture, including the noir version of LA depicted in *Blade Runner*.



"Rachel" brings into visibility cultural assumptions and projections prevalent in white culture's depiction of people of color by enabling Rachel to speak her own experience. The story leaves the question of her identity open—will she choose to be what her implanted memories have made her, or will she rewrite them as well?—and it is by no means certain that she will accept the new script the policeman desires. By overtly racializing Rachel, Lai also foregrounds a long history of class exploitation conflated with and mapped onto racism that informs sf's depictions of disposable entities such as robots and androids. Like Lai, Hopkinson recognizes the centrality of labor exploitation to the construction of racialized categories of disenfranchised subjects, and the very term robot entered the field via Karel Čapek's play *R.U.R.* (1920), whose title refers to Rossum's Universal Robots, manufacturers of organic but artificial workers that will fulfill capitalism's dream of workers who are "the cheapest . . . whose requirements are the smallest," beings simplified so that they lacked "everything that did not contribute directly to the progress of work" (237). These dehumanized and expendable entities he calls robots, the Czech word for worker.

Thinking of sf as the literature of ideas makes the genre an important site of social critique and an important tool for expanding our social imaginary and envisioning more equitable worlds. The genre has proven a powerful tool for making visible patriarchal oppression and systemic racism, and has become a more inclusive community as it embraces voices that articulate futures imagined by those previously marginalized. This capacity of the genre to imagine new and better realities continues to expand sf's constituencies, such as the environmentally informed work of writers John Brunner and Kim Stanley Robinson, or the bioethical sf work of artists Natalie Jeremijenko, Ionat Zurr, and Oron Catts.

## Discussion questions

1 Read Delany's article for NYRSF (see footnote). Think about the conflation between anxiety about stylistic changes in the genre and anxiety about race and racism that emerge in his anecdote about the 1967 Nebula Awards banquet. Is it surprising to find this resistance to change in a community

rack leads home again. Perhaps we *are* their children—eight and a quarter million ears removed."

"O ye makers of myths. Do your work, space-farer. Tangle the skein with legends. Teach fables to the races you meet. Brighten the universe with them. I put my faith n you. Don't you know—this world is all I came to find, but you—child of the oyage, you have to have more. For you the voyage is the Mission. Goodbye to you. Fare well. Nothing is complete calamity. The equation here is different, by a multitude of microorganisms let free—Bothogi has stopped grieving and begun to have quite different thoughts on the matter. His algae-pools may turn out a different breed this ime—the shift of a protein here and there in the genetic chain—who knows what it will breed? Different software this time, perhaps. Good voyage to you, lord-navigator. Look for your Ancients under other suns. We're waiting for their offspring here, under this one."

## JOHN CROWLEY

# Snow

John Crowley's writing has earned comparisons to the epic fantasy of J. R. R. Tolkien and the magic realism of Gabriel García Márquez. He is generally regarded as a writer of mythic fantasy who has freely mixed elements of science fiction into his allusive and richly symbolic fiction. His first three novels all develop fantasy plots in nominally science fictional settings. *The Deep* tells of a medieval power struggle convulsing two feudal households on a planet geographically distinct but historically similar to Earth. *Beasts* is set in a balkanized near-future America where proponents of totalitarian centralized government struggle to stamp out a war of independence spearheaded by genetically manipulated human/animal hybrids. *Engine Summer* unfolds a primitive rite-of-passage tale against the backdrop of a postapocalyptic America descended into a new dark age. Crowley's World-Fantasy Award–winning *Little, Big* marked his departure from science fiction–accented explorations of the human social structures for modern treatments of traditional high fantasy. Redolent with echoes of classic romantic literature, the tale chronicles an eccentric multigeneration family alive in a reality-skewed modern world who enjoy a rapport with the world of faerie that is eventually threatened by the rise of a president with antipathy to the faerie kind. Considered a landmark of modern fantasy, this inventive novel sets the pattern for Crowley's subsequent work with its playful depiction of ordinary lives touched by the strange and magical. *Aegypt, Love and Sleep,* and *Daemonomania* are the first three in a projected quartet of novels intended to interlock as a single all-encompassing philosophical romance that blends historical fact, imaginary world fantasy, occult mystery, Renaissance metaphysics, alternate history, quest legend, and classic mythology. Crowley's collection *Novelty* features four visionary novellas concerned with artistic creation. His fiction has also been collected in *Antiquities.*

I DON'T THINK Georgie would ever have got one for herself: She was at once unsentimental and a little in awe of death. No, it was her first husband—an immensely rich and (from Georgie's description) a strangely weepy guy, who had got it for her. Or for himself, actually, of course. He was to be the beneficiary. Only he died himself shortly after it was installed. If *installed* is the right word. After he died, Georgie got

rid of most of what she'd inherited from him, liquidated it. It was cash that she had liked best about that marriage anyway; but the Wasp couldn't really be got rid of. Georgie ignored it.

In fact the thing really was about the size of a wasp of the largest kind, and it had the same lazy and mindless fight. And of course it really was a bug, not of the insect kind but of the surveillance kind. And so its name fit all around: one of those bits of accidental poetry the world generates without thinking. O Death, where is thy sting?

Georgie ignored it, but it was hard to avoid; you had to be a little careful around it; it followed Georgie at a variable distance, depending on her motions and the numbers of other people around her, the level of light, and the tone of her voice. And there was always the danger you might shut it in a door or knock it down with a tennis racket.

It cost a fortune (if you count the access and the perpetual care contract, all prepaid), and though it wasn't really fragile, it made you nervous.

It wasn't recording all the time. There had to be a certain amount of light, though not much. Darkness shut it off. And then sometimes it would get lost. Once when we hadn't seen it hovering around for a time, I opened a closet door, and it flew out, unchanged. It went off looking for her, humming softly. It must have been shut in there for days.

Eventually it ran out, or down. A lot could go wrong, I suppose, with circuits that small, controlling that many functions. It ended up spending a lot of time bumping gently against the bedroom ceiling, over and over, like a winter fly. Then one day the maids swept it out from under the bureau, a husk. By that time it had transmitted at least eight thousand hours (eight thousand was the minimum guarantee) of Georgie: of her days and hours, her comings in and her goings out, her speech and motion, her living self—all on file, taking up next to no room, at The Park. And then, when the time came, you could go there, to The Park, say on a Sunday afternoon; and in quiet landscaped surroundings (as The Park described it) you would find her personal resting chamber, and there, in privacy, through the miracle of modern information storage and retrieval systems, you could access her, her alive, her as she was in every way, never changing or growing any older, fresher (as The Park's brochure said) than in memory ever green.

I MARRIED GEORGIE for her money, the same reason she married her first, the one who took out The Park's contract for her. She married me, I think, for my looks; she always had a taste for looks in men. I wanted to write. I made a calculation that more women than men make, and decided that to be supported and paid for by a rich wife would give me freedom to do so, to "develop." The calculation worked out no better for me than it does for most women who make it. I carried a typewriter and a case of miscellaneous paper from Ibiza to Gstaad to Bial to London, and typed on beaches, and learned to ski. Georgie liked me in ski clothes.

Now that those looks are all but gone, I can look back on myself as a young hunk and see that I was in a way a rarity, a type that you run into often among women, far less among men, the beauty unaware of his beauty, aware that he affects women profoundly and more or less instantly but doesn't know why; thinks he is being listened to and understood, that his soul is being seen, when all that's being seen is long-lashed eyes and a strong, square, tanned wrist turning in a lovely gesture, stubbing out a cigarette. Confusing. By the time I figured out why I had for so long been indulged and cared for and listened to, why I was interesting, I wasn't as interesting as I had been. At about the same time I realized I wasn't a writer at all. Georgie's investment stopped looking as good to her, and my calculation had ceased to add up; only by that time I had come, pretty unexpectedly, to love Georgie a lot, and she just as unexpectedly had come to love and need me too, as much as she needed anybody. We never really parted, even though when she died I hadn't seen her for years. Phone calls, at dawn or four A.M. because she never, for all her travel, really grasped that the world turns and cocktail hour travels around with it. She was a crazy, wasteful, happy woman, without a trace of malice or permanence or ambition in her—easily pleased and easily bored and strangely serene despite the hectic pace she kept up. She cherished things and lost them and forgot them: things, days, people. She had fun, though, and I had fun with her; that was her talent and her destiny, not always an easy one. Once, hung over in a New York hotel, watching a sudden snowfall out the immense window, she said to me, "Charlie, I'm going to die of fun."

And she did. Snow-foiling in Austria, she was among the first to get one of those snow leopards, silent beasts as fast as speedboats. Alfredo called me in California to tell me, but with the distance and his accent and his eagerness to tell me *he* wasn't to blame, I never grasped the details. I was still her husband, her closest relative, heir to the little she still had, and beneficiary, too, of The Park's access concept. Fortunately, The Park's services included collecting her from the morgue in Gstaad and installing her in her chamber at The Park's California unit. Beyond signing papers and taking delivery when Georgie arrived by freight airship at Van Nuys, there was nothing for me to do. The Park's representative was solicitous and made sure I understood how to go about accessing Georgie, but I wasn't listening. I am only a child of my time, I suppose. Everything about death, the fact of it, the fate of the remains, and the situation of the living faced with it, seems grotesque to me, embarrassing, useless: And everything done about it only makes it more grotesque, more useless: Someone I loved is dead; let me therefore dress in clown's clothes, talk backwards, and buy expensive machinery to make up for it. I went back to L.A.

A year or more later, the contents of some safe-deposit boxes of Georgie's arrived from the lawyer's: some bonds and such stuff and a small steel case, velvet lined, that

contained a key, a key deeply notched on both sides and headed with smooth plastic, like the key to an expensive car.

WHY DID I go to The Park that first time? Mostly because I had forgotten about it: Getting that key in the mail was like coming across a pile of old snapshots you hadn't cared to look at when they were new but which after they have aged come to contain the past, as they did not contain the present. I was curious.

I understood very well that The Park and its access concept were very probably only another cruel joke on the rich, preserving the illusion that they can buy what can't be bought, like the cryonics fad of thirty years ago. Once in Ibiza, Georgie and I met a German couple who also had a contract with The Park; their Wasp hovered over them like a Paraclete and made them self-conscious in the extreme—they seemed to be constantly rehearsing the eternal show being stored up for their descendants. Their deaths had taken over their lives, as though they were pharaohs. Did they, Georgie wondered, exclude the Wasp from their bedroom? Or did its presence there stir them to greater efforts, proofs of undying love and admirable vigor for the unborn to see?

No, death wasn't to be cheated that way, any more than by pyramids, by masses said in perpetuity. It wasn't Georgie saved from death that I would find. But there were eight thousand hours of her life with me, genuine hours, stored there more carefully than they could be in my porous memory; Georgie hadn't excluded the Wasp from her bedroom, our bedroom, and she who had never performed for anybody could not have conceived of performing for it. And there would be me, too, undoubtedly, caught unintentionally by the Wasp's attention: Out of those thousands of hours there would be hundreds of myself, and myself had just then begun to be problematic to me, something that had to be figured out, something about which evidence had to be gathered and weighed. I was thirty-eight years old.

That summer, then, I borrowed a Highway Access Permit (the old HAPpy cards of those days) from a county lawyer I knew and drove the coast highway up to where The Park was, at the end of a pretty beach road, all alone above the sea. It looked from the outside like the best, most peaceful kind of Italian country cemetery, a low stucco wall topped with urns, amid cypresses, an arched gate in the center. A small brass plaque on the gate: PLEASE USE YOUR KEY. The gate opened, not to a square of shaded tombstones but onto a ramped corridor going down: The cemetery wall was an illusion, the works were underground. Silence, or nameless Muzak-like silence: solitude—whether the necessary technicians were discreetly hidden or none were needed. Certainly the access concept turned out to be simplicity itself, in operation anyway. Even I, who am an idiot about information technology, could tell that. The Wasp was genuine state-of-the-art stuff, but what we mourners got was as ordinary as home movies, as old letters tied up in ribbon.

A display screen near the entrance told me down which corridor to find Georgie, and my key let me into a small screening room where there was a moderate-size TV monitor, two comfortable chairs, and dark walls of chocolate-brown carpeting. The sweet-sad Muzak. Georgie herself was evidently somewhere in the vicinity, in the wall or under the floor, they weren't specific about the charnel-house aspect of the place. In the control panel before the TV were a keyhole for my key and two bars: ACCESS and RESET.

I sat, feeling foolish and a little afraid, too, made more uncomfortable by being so deliberately soothed by neutral furnishings and sober tools. I imagined, around me, down other corridors, in other chambers, others communed with their dead as I was about to do, that the dead were murmuring to them beneath the stream of Muzak; that they wept to see and hear, as I might, but I could hear nothing. I turned my key in its slot, and the screen lit up. The dim lights dimmed further, and the Muzak ceased. I pushed ACCESS, obviously the next step. No doubt all these procedures had been explained to me long ago at the dock when Georgie in her aluminum box was being off-loaded, and I hadn't listened. And on the screen she turned to look at me—only not at me, though I started and drew breath—at the Wasp that watched her. She was in mid-sentence, mid-gesture. Where? When? *Or put it on the same card with the others,* she said, turning away. Someone said something, Georgie answered, and stood up, the Wasp panning and moving erratically with her, like an amateur with a home-video camera. A white room, sunlight, wicker. Ibiza. Georgie wore a cotton blouse, open; from a table she picked up lotion, poured some on her hand, and rubbed it across her freckled breastbone. The meaningless conversation about putting something on a card went on, ceased. I watched the room, wondering what year, what season I had stumbled into. Georgie pulled off her shirt—her small round breasts tipped with large, childlike nipples, child's breasts she still had at forty, shook delicately. And she went out onto the balcony, the Wasp following, blinded by sun, adjusting. *If you want to do it that way,* someone said. The someone crossed the screen, a brown blur, naked. It was me. Georgie said: *Oh, look, hummingbirds.*

She watched them, rapt, and the Wasp crept close to her cropped blond head, rapt too, and I watched her watch. She turned away, rested her elbows on the balustrade. I couldn't remember this day. How should I? One of hundreds, of thousands. . . . She looked out to the bright sea, wearing her sleepwalking face, mouth partly open, and absently stroked her breast with her oiled hand. An iridescent glitter among the flowers was the hummingbird.

Without really knowing what I did—I felt hungry, suddenly, hungry for pastness, for more—I touched the RESET bar. The balcony in Ibiza vanished, the screen glowed emptily. I touched ACCESS.

At first there was darkness, a murmur; then a dark back moved away from the Wasp's eye, and a dim scene of people resolved itself. Jump. Other people, or the

same people, a party? Jump. Apparently the Wasp was turning itself on and off according to the changes in light levels here, wherever *here* was. Georgie in a dark dress having her cigarette lit: brief flare of the lighter. She said, *Thanks.* Jump. A foyer or hotel lounge. Paris? The Wasp jerkily sought for her among people coming and going; it couldn't make a movie, establishing shots, cutaways—it could only doggedly follow Georgie, like a jealous husband, seeing nothing else. This was frustrating. I pushed RESET. ACCESS. Georgie brushed her teeth, somewhere, somewhen.

I understood, after one or two more of these terrible leaps. Access was random. There was no way to dial up a year, a day, a scene. The Park had supplied no program, none; the eight thousand hours weren't filed at all, they were a jumble, like a lunatic's memory, like a deck of shuffled cards. I had supposed, without thinking about it, that they would begin at the beginning and go on till they reached the end. Why didn't they?

I also understood something else. If access was truly random, if I truly had no control, then I had lost as good as forever those scenes I had seen. Odds were on the order of eight thousand to one (more? far more? probabilities are opaque to me) that I would never light on them again by pressing this bar. I felt a pang of loss for that afternoon in Ibiza. It was doubly gone now. I sat before the empty screen, afraid to touch ACCESS again, afraid of what I would lose.

I shut down the machine (the light level in the room rose, the Muzak poured softly back in) and went out into the halls, back to the display screen in the entranceway. The list of names slowly, greenly, rolled over like the list of departing flights at an airport: Code numbers were missing from beside many, indicating perhaps that they weren't yet in residence, only awaited. In the *D*s, three names, and DIRECTOR—hidden among them as though he were only another of the dead. A chamber number. I went to find it and went in. The director looked more like a janitor or a night watchman, the semiretired type you often see caretaking little-visited places. He wore a brown smock like a monk's robe and was making coffee in a corner of his small office, out of which little business seemed to be done. He looked up startled, caught out, when I entered.

"Sorry," I said, "but I don't think I understand this system right."

"A problem?" he said. "Shouldn't be a problem." He looked at me a little wide-eyed and shy, hoping not to be called on for anything difficult. "Equipment's all working?"

"I don't know," I said. "It doesn't seem that it could be." I described what I thought I had learned about The Park's access concept. "That can't be right, can it?" I said. "That access is totally random . . ."

He was nodding, still wide-eyed, paying close attention.

"Is it?" I asked.

"Is it what?"

"Random."

"Oh, yes. Yes, sure. If everything's in working order."

I could think of nothing to say for a moment, watching him nod reassuringly. Then, "Why?" I asked. "I mean why is there no way at all to, to organize, to have some kind of organized access to the material?" I had begun to feel that sense of grotesque foolishness in the presence of death, as though I were haggling over Georgie's effects. "That seems stupid, if you'll pardon me."

"Oh no, oh no," he said. "You've read your literature? You've read all your literature?"

"Well, to tell the truth . . ."

"It's all just as described," the director said. "I can promise you that. If there's any problem at all. . . ."

"Do you mind," I said, "if I sit down?" I smiled. He seemed so afraid of me and my complaint, of me as mourner, possibly grief crazed and unable to grasp the simple limits of his responsibilities to me, that he needed soothing himself. "I'm sure everything's fine," I said. "I just don't think I understand. I'm kind of dumb about these things."

"Sure. Sure. Sure." He regretfully put away his coffee makings and sat behind his desk, lacing his fingers together like a consultant. "People get a lot of satisfaction out of the access here," he said, "a lot of comfort, if they take in the right spirit." He tried a smile. I wondered what qualifications he had had to show to get this job. "The random part. Now, it's all in the literature. There's the legal aspect—you're not a lawyer are you, no, no, sure, no offense. You see, the material here isn't for anything, except, well, except for communing. But suppose the stuff were programmed, searchable. Suppose there was a problem about taxes or inheritance or so on. There could be subpoenas, lawyers all over the place, destroying the memorial concept completely."

I really hadn't thought of that. Built-in randomness saved past lives from being searched in any systematic way. And no doubt saved The Park from being in the records business and at the wrong end of a lot of suits. "You'd have to watch the whole eight thousand hours," I said, "and even if you found what you were looking for there'd be no way to replay it. It would have gone by." It would slide into the random past even as you watched it, like that afternoon in Ibiza, that party in Paris. Lost. He smiled and nodded. I smiled and nodded.

"I'll tell you something," he said. "They didn't predict that. The randomness. It was a side effect, an effect of the storage process. Just luck." His grin turned down, his brows knitted seriously. "See, we're storing here at the molecular level. We have to go that small, for space problems. I mean your eight-thousand-hour guarantee. If we had gone tape or conventional, how much room would it take up? If the access concept caught on. A lot of room. So we went vapor trap and endless tracking. Size

of my thumbnail. It's all in the literature." He looked at me strangely. I had a sudden intense sensation that I was being fooled, tricked, that the man before me in his smock was no expert, no technician; he was a charlatan, or maybe a madman impersonating a director and not belonging here at all. It raised the hair on my neck and passed. "So the randomness," he was saying. "It was an effect of going molecular. Brownian movement. All you do is lift the endless tracking for a microsecond and you get a rearrangement at the molecular level. We don't randomize. The molecules do it for us."

I remembered Brownian movement, just barely, from physics class. The random movement of molecules, the teacher said; it has a mathematical description. It's like the movement of dust motes you see swimming in a shaft of sunlight, like the swirl of snowflakes in a glass paperweight that shows a cottage being snowed on. "I see," I said. "I guess I see."

"Is there," he said, "any other problem?" He said it as though there might be some other problem and that he knew what it might be and that he hoped I didn't have it. "You understand the system, key lock, two bars, ACCESS, RESET. . . ."

"I understand," I said. "I understand now."

"Communing," he said, standing, relieved, sure I would be gone soon. "I understand. It takes a while to relax into the communing concept."

"Yes," I said. "It does."

I wouldn't learn what I had come to learn, whatever that was. The Wasp had not been good at storage after all, no, no better than my young soul had been. Days and weeks had been missed by its tiny eye. It hadn't seen well, and in what it had seen it had been no more able to distinguish the just-as-well-forgotten from the unforgettable than my own eye had been. No better and no worse—the same.

And yet, and yet—she stood up in Ibiza and dressed her breasts with lotion, and spoke to me: *Oh, look, hummingbirds.* I had forgotten, and the Wasp had not; and I owned once again what I hadn't known I had lost, hadn't known was precious to me.

The sun was setting when I left The Park, the satin sea foaming softly, randomly around the rocks.

I had spent my life waiting for something, not knowing what, not even knowing I waited. Killing time. I was still waiting. But what I had been waiting for had already occurred and was past.

It was two years, nearly, since Georgie had died; two years until, for the first and last time, I wept for her—for her and for myself.

OF COURSE I went back. After a lot of work and correctly placed dollars, I netted a HAPpy card of my own. I had time to spare, like a lot of people then, and often on empty afternoons (never on Sunday) I would get out onto the unpatched and weed-grown freeway and glide up the coast. The Park was always open. I relaxed into the communing concept.

Now, after some hundreds of hours spent there underground, now, when I have long ceased to go through those doors (I have lost my key, I think; anyway I don't know where to look for it), I know that the solitude I felt myself to be in was real. The watchers around me, the listeners I sensed in other chambers, were mostly my imagination. There was rarely anyone there.

These tombs were as neglected as any tombs anywhere usually are. Either the living did not care to attend much on the dead—when have they ever?—or the hopeful buyers of the contracts had come to discover the flaw in the access concept—as I discovered it, in the end.

ACCESS, and she takes dresses one by one from her closet, and holds them against her body, and studies the effect in a tall mirror, and puts them back again. She had a funny face, which she never made except when looking at herself in the mirror, a face made for no one but herself, that was actually quite unlike her. The mirror Georgie.

RESET.

ACCESS. By a bizarre coincidence here she is looking in another mirror. I think the Wasp could be confused by mirrors. She turns away, the Wasp adjusts; there is someone asleep, tangled in bedclothes on a big hotel bed, morning, a room-service cart. Oh, the Algonquin: myself. Winter. Snow is falling outside the tall window. She searches her handbag, takes out a small vial, swallows a pill with coffee, holding the cup by its body and not its handle. I stir, show a tousled head of hair. Conversation—unintelligible. Gray room, whitish snow light, color degraded. Would I now (I thought, watching us) reach out for her? Would I in the next hour take her, or she me, push aside the bedclothes, open her pale pajamas? She goes into the john, shuts the door. The Wasp watches stupidly, excluded, transmitting the door.

RESET, finally.

But what (I would wonder) if I had been patient, what if I had watched and waited?

Time, it turns out, takes an unconscionable time. The waste, the footless waste—it's no spectator sport. Whatever fun there is in sitting idly looking at nothing and tasting your own being for a whole afternoon, there is no fun in replaying it. The waiting is excruciating. How often, in five years, in eight thousand hours of daylight or lamplight, might we have coupled, how much time expended in lovemaking? A hundred hours, two hundred? Odds were not high of my coming on such a scene; darkness swallowed most of them, and the others were lost in the interstices of endless hours spent shopping, reading, on planes and in cars, asleep, apart. Hopeless.

ACCESS. She has turned on a bedside lamp. Alone. She hunts amid the Kleenex and magazines on the bedside table, finds a watch, looks at it dully, turns it right side

up, looks again, and puts it down. Cold. She burrows in the blankets, yawning, staring, then puts out a hand for the phone but only rests her hand on it, thinking. Thinking at four A.M. She withdraws her hand, shivers a child's deep, sleepy shiver, and shuts off the light. A bad dream. In an instant it's morning, dawn; the Wasp slept, too. She sleeps soundly, unmoving, only the top of her blond head showing out of the quilt—and will no doubt sleep so for hours, watched over more attentively, more fixedly, than any peeping Tom could ever have watched over her.

RESET.

ACCESS.

"I can't hear as well as I did at first," I told the director. "And the definition is getting softer."

"Oh sure," the director said. "That's really in the literature. We have to explain that carefully. That this might be a problem."

"It isn't just my monitor?" I asked. "I thought it was probably only the monitor."

"No, no, not really, no," he said. He gave me coffee. We'd gotten to be friendly over the months. I think, as well as being afraid of me he was glad I came around now and then; at least one of the living came here, one at least was using the services. "There's a *slight* degeneration that does occur."

"Everything seems to be getting gray."

His face had shifted into intense concern, no belittling this problem. "Mm-hm, mm-hm, see, at the molecular level where we're at, there is degeneration. It's just in the physics. It randomizes a little over time. So you lose—you don't lose a minute of what you've got, but you lose a little definition. A little color. But it levels off."

"It does?"

"We think it does. Sure it does, we promise it does. We *predict* that it will."

"But you don't know."

"Well, well you see we've only been in this business a short while. This concept is new. There were things we couldn't know." He still looked at me, but seemed at the same time to have forgotten me. Tired. He seemed to have grown colorless himself lately, old, losing definition. "You might start getting some snow," he said softly.

ACCESS RESET ACCESS.

A gray plaza of herringbone-laid stones, gray, clicking palms. She turns up the collar of her sweater, narrowing her eyes in a stern wind. Buys magazines at a kiosk: *Vogue, Harper's, La Mode. Cold,* she says to the kiosk girl. *Frio.* The young man I was takes her arm: they walk back along the beach, which is deserted and strung with cast seaweed, washed by a dirty sea. Winter in Ibiza. We talk, but the Wasp can't hear, the sea's sound confuses it; it seems bored by its duties and lags behind us.

RESET.

ACCESS. The Algonquin, terribly familiar morning, winter. She turns away from the snow window. I am in bed, and for a moment watching this I felt suspended between two mirrors, reflected endlessly. I had seen this before; I had lived it once and remembered it once, and remembered the memory, and here it was again, or could it be nothing but another morning, a similar morning. There were far more than one like this, in this place. But no; she turns from the window, she gets out her vial of pills, picks up the coffee cup by its body: I had seen this moment before, not months before, weeks before, here in this chamber. I had come upon the same scene twice.

What are the odds of it, I wondered, what are the odds of coming upon the same minutes again, these minutes.

I stir within the bedclothes.

I leaned forward to hear, this time, what I would say; it was something like *but fun anyway,* or something.

*Fun,* she says, laughing, harrowed, the degraded sound a ghost's twittering. *Charlie, someday I'm going to die of fun.*

She takes her pill. The Wasp follows her to the john and is shut out.

*Why am I here?* I thought, and my heart was beating hard and slow. *What am I here for? What?*

RESET.

ACCESS.

Silvered icy streets, New York, Fifth Avenue. She is climbing, shouting from a cab's dark interior. *Just don't shout at me,* she shouts at someone; her mother I never met, a dragon. She is out and hurrying away down the sleety street with her bundles, the Wasp at her shoulder. I could reach out and touch her shoulder and make her turn and follow me out. Walking away, lost in the colorless press of traffic and people, impossible to discern within the softened snowy image.

SOMETHING WAS VERY wrong.

Georgie hated winter, she escaped it most of the time we were together, about the first of the year beginning to long for the sun that had gone elsewhere; Austria was all right for a few weeks, the toy villages and sugar snow and bright, sleek skiers were not really the winter she feared, though even in fire-warmed chalets it was hard to get her naked without gooseflesh and shudders from some draft only she could feel. We were chaste in winter. So Georgie escaped it: Antigua and Bali and two months in Ibiza when the almonds blossomed. It was continual false, flavorless spring all winter long.

How often could snow have fallen when the Wasp was watching her?

Not often; countable times, times I could count up myself if I could remember as the Wasp could. Not often. Not always.

"There's a problem," I said to the director.

"It's peaked out, has it?" he said. "That definition problem?"

"Actually," I said, "it's gotten worse."

He was sitting behind his desk, arms spread wide across his chair's back, and a false, pinkish flush to his cheeks like undertaker's makeup. Drinking.

"Hasn't peaked out, huh?" he said.

"That's not the problem," I said. "The problem is the access. It's not random like you said."

"Molecular level," he said. "It's in the physics."

"You don't understand. It's not getting more random. It's getting less random. It's getting selective. It's freezing up."

"No, no, no," he said dreamily. "Access is random. Life isn't all summer and fun, you know. Into each life some rain must fall."

I sputtered, trying to explain. "But but . . ."

"You know," he said. "I've been thinking of getting out of access." He pulled open a drawer in the desk before him; it made an empty sound. He stared within it dully for a moment and shut it. "The Park's been good for me, but I'm just not used to this. Used to be you thought you could render a service, you know? Well, hell, you know, you've had fun, what do you care?"

He was mad. For an instant I heard the dead around me; I tasted on my tongue the stale air of underground.

"I remember," he said, tilting back in his chair and looking elsewhere, "many years ago, I got into access. Only we didn't call it that then. What I did was, I worked for a stock-footage house. It was going out of business, like they all did, like this place here is going to do, shouldn't say that, but you didn't hear it. Anyway, it was a big warehouse with steel shelves for miles, filled with film cans, film cans filled with old plastic film, you know? Film of every kind. And movie people, if they wanted old scenes of past time in their movies, would call up and ask for what they wanted, find me this, find me that. And we had everything, every kind of scene, but you know what the hardest thing to find was? Just ordinary scenes of daily life. I mean people just doing things and living their lives. You know what we *did* have? Speeches. People giving speeches. Like presidents. You could have hours of speeches, but not just people, whatchacallit, oh, washing clothes, sitting in a park . . ."

"It might just be the reception," I said. "Somehow."

He looked at me for a long moment as though I had just arrived. "Anyway," he said at last, turning away again, "I was there awhile learning the ropes. And producers called and said, 'Get me this, get me that.' And one producer was making a film, some film of the past, and he wanted old scenes, *old,* of people long ago, in the summer, having fun; eating ice cream; swimming in bathing suits; riding in convertibles. Fifty years ago. Eighty years ago."

He opened his empty drawer again, found a toothpick, and began to use it.

"So I accessed the earliest stuff. Speeches. More speeches. But I found a scene here and there—people in the street, fur coats, window-shopping, traffic. Old people, I mean they were young then, but people of the past; they have these pinched kind of faces, you get to know them. Sad, a little. On city streets, hurrying, holding their hats. Cities were sort of black then, in film; black cars in the streets, black derby hats. Stone. Well, it wasn't what they wanted. I found summer for them, color summer, but new. They wanted old. I kept looking back. I kept looking. I did. The further back I went, the more I saw these pinched faces, black cars, black streets of stone. Snow. There isn't any summer there."

With slow gravity he rose and found a brown bottle and two coffee cups. He poured sloppily. "So it's not your reception," he said. "Film takes longer, I guess, but it's the physics. All in the physics. A word to the wise is sufficient."

The liquor was harsh, a cold distillate of past sunlight. I wanted to go, get out, not look back. I would not stay watching until there was only snow.

"So I'm getting out of access," the director said. "Let the dead bury the dead, right? Let the dead bury the dead."

I DIDN'T GO back. I never went back, though the highways opened again and The Park isn't far from the town I've settled in. Settled; the right word. It restores your balance, in the end, even in a funny way your cheerfulness, when you come to know, without regrets, that the best thing that's going to happen in your life has already happened. And I still have some summer left to me.

I think there are two different kinds of memory, and only one kind gets worse as I get older: the kind where, by an effort of will, you can reconstruct your first car or your serial number or the name and figure of your high school physics teacher—a Mr. Holm, in a gray suit, a bearded guy, skinny, about thirty. The other kind doesn't worsen; if anything it grows more intense. The sleepwalking kind, the kind you stumble into as into rooms with secret doors and suddenly find yourself sitting not on your front porch but in a classroom. You can't at first think where or when, and a bearded, smiling man is turning in his hand a glass paperweight, inside which a little cottage stands in a swirl of snow.

There is no access to Georgie, except that now and then, unpredictably, when I'm sitting on the porch or pushing a grocery cart or standing at the sink, a memory of that kind will visit me, vivid and startling, like a hypnotist's snap of fingers.

Or like that funny experience you sometimes have, on the point of sleep, of hearing your name called softly and distinctly by someone who is not there.

## JOHN KESSEL

# A Clean Escape

John Kessel's reputation as a writer of sophisticated, literary fantasy and science fiction is predicated on a handful of stories that frequently invade the territory of classic writers and use the lessons in their literature as sounding boards for contemporary values and social mores. The mock essay "Herman Melville: Space Opera Virtuoso" and the Nebula Award–winning riff on *Moby Dick*, "Another Orphan," both chart incongruous intersections of the period of Melville and modern times. "The Big Dream" tells of a private detective, on the trail of Raymond Chandler, slowly evolving into a character in a typical Chandler crime story. "The Pure Product" and "Every Angel Is Terrifying" both extend ideas in the southern gothic fiction of Flannery O'Connor. H. G. Wells is himself a character in the Wellsian tale "Buffalo." These stories, and Kessel's alternate-history tales "Some Like It Cold," "The Franchise," and "Uncle John and the Saviour," have been collected in his short-fiction compilations *Meetings in Infinity* and *The Pure Product*. The creative playfulness implicit in the "what-if" speculations of these stories extends to Kessel's work as a novelist. *Good News from Outer Space* sketches a satirical portrait of a dysfunctional America on the eve of the twenty-first century, obsessed with alien invasion and millennial irrationality. *Corrupting Dr. Nice* is a screwball time-travel story involving a father-daughter team of flimflam artists who traverse timelines and alternate histories in search of victims. Kessel has also written the novel *Freedom Beach* in collaboration with James Patrick Kelly.

*"I've been thinking about devils. I mean if there are devils in the world, if there are people in the world who represent evil, is it our duty to exterminate them?"*

JOHN CHEEVER,
"The Five-Forty-Eight"

AS SHE SAT in her office, waiting—for exactly what she did not know—Dr. Evans hoped that it wasn't going to be another bad day. She needed a cigarette and a drink. She swiveled the chair around to face the closed venetian blinds beside her desk, leaned back and laced her hands behind her head. She closed her eyes and breathed deeply. The air wafting down from the ventilator in the ceiling smelled of machine oil. It was cold. Her face felt it, but the bulky sweater kept the rest of her warm. Her hair felt greasy. Several minutes passed in which she thought of nothing. There was a knock at the door.

"Come in," she said absently.

Havelmann entered. He had the large body of an athlete gone slightly soft, thick, gray hair and a lined face. At first glance he didn't look sixty. His well-tailored blue suit badly needed pressing.

"Doctor?"

Evans stared at him for a moment. She would kill him. She looked down at the desk, rubbed her forehead with her hand. "Sit down," she said.

She took the pack of cigarettes from the desk drawer. "Would you care to smoke?"

The old man took one. She watched him carefully. His brown eyes were rimmed with red; they looked apologetic.

"I smoke too much," he said. "But I can't quit."

She gave him a light. "More people around here are quitting every day."

Havelmann exhaled smoothly. "What can I do for you?"

What can I do for *you*, sir.

"First, I want to play a little game." Evans took a handkerchief out of a pocket. She moved a brass paperweight, a small model of the Lincoln Memorial, to the center of the desk blotter. "I want you to watch what I'm doing, now."

Havelmann smiled. "Don't tell me—you're going to make it disappear, right?"

She tried to ignore him. She covered the paperweight with the handkerchief. "What's under this handkerchief?"

"Can we put a little bet on it?"

"Not this time."

"A paperweight."

"That's wonderful." Evans leaned back with finality. "Now I want you to answer a few questions."

The old man looked around the office curiously: at the closed blinds, at the computer terminal and keyboard against the wall, at the pad of switches in the corner of the desk. His eyes came to rest on the mirror opposite the window. "That's a two-way mirror."

Evans sighed. "No kidding."

"Are you recording this?"

"Does it matter to you?"

"I'd like to know. Common courtesy."

"Yes, we're being videotaped. Now answer the questions."

Havelmann seemed to shrink in the face of her hostility. "Sure."

"How do you like it here?"

"It's O.K. A little boring. A man couldn't even catch a disease here, from the looks of it, if you know what I mean. I don't mean any offense, doctor. I haven't been here long enough to get the feel of the place."

Evans rocked slowly back and forth. "How do you know I'm a doctor?"

"Aren't you a doctor? I thought you were. This is a hospital, isn't it? So I figured when they sent me in to see you you must be a doctor."

"I am a doctor. My name is Evans."

"Pleased to meet you, Dr. Evans."

She would kill him. "How long have you been here?"

The man tugged on his earlobe. "I must have just got here today. I don't think it was too long ago. A couple of hours. I've been talking to the nurses at their station."

What she wouldn't give for three fingers of Jack Daniels. She looked at him over the steeple of her fingers. "Such talkative nurses."

"I'm sure they're doing their jobs."

"I'm sure. Tell me what you were doing before you came to this . . . hospital."

"You mean right before?"

"Yes."

"I was working."

"Where do you work?"

"I've got my own company—ITG Computer Systems. We design programs for a lot of people. We're close to getting a big contract with Ma Bell. We swing that and I can retire by the time I'm forty—if Uncle Sam will take his hand out of my pocket long enough for me to count my change."

Evans made a note on her pad. "Do you have a family?"

Havelmann looked at her steadily. His gaze was that of an earnest young college student, incongruous on a man of his age. He stared at her as if he could not imagine why she would ask him these abrupt questions. She detested his weakness; it raised in her a fury that pushed her to the edge of insanity. It was already a bad day, and it would get worse.

"I don't understand what you're after," Havelmann said, with considerable dignity. "But just so your record shows the facts: I've got a wife, Helen, and two kids. Ronnie's nine and Susan's five. We have a nice big house and a Lincoln and a Porsche. I follow the Braves and I don't eat quiche. What else would you like to know?"

"Lots of things. Eventually I'll find them out." Evans' voice was cold. "Is there anything you'd like to ask me? How you came to be here? How long you're going to have to stay? Who you are?"

His voice went similarly cold. "I know who I am."

"Who are you, then?"

"My name is Robert Havelmann."

"That's right," Doctor Evans said calmly. "What year is it?"

Havelmann watched her warily, as if he were about to be tricked. "What are you talking about? It's 1984."

"What time of year?"

"Spring."

"How old are you?"

"Thirty-five."

"What do I have under this handkerchief?"

Havelmann looked at the handkerchief on the desk as if noticing it for the first time. His shoulders tightened and he looked suspiciously at Evans.

"How should I know?"

HE WAS BACK again that afternoon, just as rumpled, just as innocent. How could a person get old and still be innocent? She could not remember things ever being that easy. "Sit down," she said.

"Thanks. What can I do for you, doctor?"

"I want to follow up on the argument we had this morning."

Havelmann smiled. "Argument? This morning?"

"Don't you remember talking to me this morning?"

"I never saw you before."

Evans watched him coolly. The old man shifted in his chair.

"How do you know I'm a doctor?"

"Aren't you a doctor? They told me I should go in to see Dr. Evans in room 10."

"I see. If you weren't here this morning, where were you?"

Havelmann hesitated.

"Let's see—I was at work. I remember telling Helen—the wife—that I'd try to get home early. She's always ragging me because I stay late. The company's pretty busy right now: big contract in the works. Susan's in the school play, and we have to be there by eight. And I want to get home soon enough before then to do some yardwork. It looked like a good day for it."

Evans made a note: "What season is it?"

Havelmann fidgeted like a child, looked at the window, where the blinds were still closed.

"Spring," he said. "Sunny, warm—very nice weather. The redbuds are just starting to come out."

Without a word Evans got out of her chair and went to the window. She opened the blinds, revealing a barren field swept with drifts of snow. Dead grass whipped in the strong wind and the sky roiled with clouds.

"What about this?"

Havelmann stared. His back straightened and he leaned forward. He tugged at his earlobe.

"Isn't that a bitch. If you don't like the weather here—wait ten minutes."

"What about the redbuds?"

"This weather will probably kill them. I hope Helen made the kids wear their jackets."

Evans looked out the window. Nothing had changed. She slowly drew the blinds and sat down again.

"What year is it?"

Havelmann adjusted himself in his chair, calm again. "What do you mean? It's 1984."

"Did you ever read that book?"

"Slow down a minute. What are you talking about?"

Evans wondered what he would do if she got up and ground her thumbs into his eyes. "The book by George Orwell titled *1984.*" She forced herself to speak slowly. "Are you familiar with it?"

"Sure. We had to read it in college." Was there a trace of irritation beneath Havelmann's innocence? Evans sat as silently and as still as she could.

"I remember it made quite an impression on me," Havelmann continued.

"What kind of impression?"

"I expected something different from the professor. He was a confessed liberal. I expected some kind of bleeding heart book. It wasn't like that at all."

"Did it make you uncomfortable?"

"No. It didn't tell me anything I didn't know already. It just showed what was wrong with collectivism. You know—Communism represses the individual, destroys initiative. It claims it has the interests of the majority at heart. And it denies all human values. That's what I got out of *1984,* though to hear that professor talk about it, it was all about Nixon and Vietnam."

Evans kept still. Havelmann went on.

"I've seen the same mentality at work in business. The large corporations, they're just like the government. Big, slow: you could show them a way to save a billion, and they'd squash you like a bug because it's too much trouble to change."

"You sound like you've got some resentments," said Evans.

The old man smiled. "I do, don't I. I admit it. I've thought a lot about it. But I have faith in people. Someday I may just run for state assembly and see whether I can do some good."

Her pencil point snapped. She looked at Havelmann, who looked back at her. After a moment she focused her attention on the notebook. The broken point had left a black scar across her precise handwriting.

"That's a good idea," she said quietly, her eyes still lowered. "You still don't remember arguing with me this morning?"

"I never saw you before I walked in this door. What were we supposed to be fighting about?"

He was insane. Evans almost laughed aloud at the thought—of course he was insane—why else would he be there? The question, she forced herself to consider rationally, was the nature of his insanity. She picked up the paperweight and handed it across to him. "We were arguing about this paperweight," she said. "I showed it to you, and you said you'd never seen it before."

Havelmann examined the paperweight. "Looks ordinary to me. I could easily forget something like this. What's the big deal?"

"You'll note that it's a model of the Lincoln Memorial."

"You probably got it at some gift shop. D.C. is full of junk like that."

"I haven't been to Washington in a long time."

"I live there. Alexandria, anyway. I drive in every morning."

Evans closed her notebook. "I have a possible diagnosis of your condition," she said suddenly.

"What condition?"

This time the laughter was harder to repress. Tears almost came to her eyes with the effort. She caught her breath and continued. "You exhibit the symptoms of Korsakov's syndrome. Have you ever heard of that before?"

Havelmann looked as blank as a whitewashed wall. "No."

"Korsakov's syndrome is an unusual form of memory loss. Recorded cases go back to the late 1800s. There was a famous one in the 1970s—famous to doctors, I mean. A Marine sergeant named Arthur Briggs. He was in his fifties, in good health aside from the lingering effects of alcoholism, and had been a career noncom until his discharge in the mid-sixties after twenty years in the service. He'd functioned normally until the early seventies, when he lost his memory of any events which occurred to him after September, 1944. He could remember in vivid detail, as if they had just happened, events up until that time. But of the rest of his life—nothing. Not only that, his continuing memory was affected so that he could remember events that occurred in the present only for a period of minutes, after which he would forget totally."

"I can remember what happened to me right up until I walked into this room."

"That's what Sgt. Briggs told his doctors. To prove it he told them that World War II was going strong, that he was stationed in San Francisco in preparation for being sent to the Philippines, that it looked like the St. Louis Browns might finally win a pennant if they could hold on through September, and that he was twenty years old. He had the outlook and abilities of an intelligent twenty-year-old. He couldn't remember anything that happened to him longer than forty minutes. The world had gone on, but he was permanently stuck in 1944."

"That's horrible."

"So it seemed to the doctor in charge—at first. Later he speculated that it might not be so bad. The man still had a current emotional life. He could still enjoy the present; it just didn't stick with him. He could remember his youth, and for him his youth had never ended. He never aged; he never saw his friends grow old and die, he never remembered that he himself had grown up to be a lonely alcoholic. His girlfriend was still waiting for him back in Columbia, Missouri. He was twenty years old forever. He had made a clean escape."

Evans opened a desk drawer and took out a hand mirror. "How old are you?" she asked.

Havelmann looked frightened. "Look, why are we doing—"

"How old are you?" Evans' voice was quiet but determined. Inside her a pang of joy threatened to break her heart.

"I'm thirty-five. What the hell—"

Shoving the mirror at him was as satisfying as firing a gun. Havelmann took it, glanced at her, then tentatively, like the most nervous of college freshmen checking the grade on his final exam, looked at his reflection. "Jesus Christ," he said. He started to tremble.

"What happened? What did you do to me?" He got out of the chair, his expression contorted. "What did you do to me! I'm thirty-five! What happened?"

DR. EVANS STOOD in front of the mirror in her office. She was wearing her uniform. It was quite as rumpled as Havelmann's suit. She had the tunic unbuttoned and was feeling her left breast. She lay down on the floor and continued the examination. The lump was undeniable. No pain, yet.

She sat up, reached for the pack of cigarettes on the desktop, fished out the last one and lit it. She crumpled the pack and threw it at the wastebasket. Two points. She had been quite a basketball player in college, twenty years before. She lay back down and took a long drag on the cigarette, inhaling deeply, exhaling the smoke with force, with a sigh of exhaustion. She probably could not make it up and down the court a single time any more.

She turned her head to look out the window. The blinds were open, revealing the same barren landscape that showed before. There was a knock at the door.

"Come in," she said.

Havelmann entered. He saw her lying on the floor, raised an eyebrow, grinned. "You're Doctor Evans?"

"I am."

"Can I sit here or should I lie down too?"

"Do whatever you fucking well please."

He sat in the chair. He had not taken offense. "So what did you want to see me about?"

Evans got up, buttoned her tunic, sat in the swivel chair. She stared at him. Her face was blank, pale, her thin lips steady. It was the expression of a woman terminally ill, so accustomed to her illness, and the necessity of ignoring it, that all that showed of the pain was mild annoyance. I am going to see this through, her face said, and then I'm going to kill myself.

"Have we ever met before?" she asked.

"No. I'm sure I'd remember."

He was sure he would remember. She would fucking kill him. He would remember that.

She ground out the last inch of cigarette. She felt her jaw muscles tighten; she looked down at the ashtray in regret. "Now I have to quit."

"I should quit. I smoke too much myself."

"I want you to listen to me closely now," she said slowly. "Do not respond until I'm finished.

"My name is Major D. S. Evans and I am a military psychologist. This office is in the infirmary of NECDEC, the National Emergency Center for Defense Communications, located one thousand feet below a hillside in West Virginia. As far as we know we are the only surviving governmental body in the continental United States. The scene you see through this window is being relayed from a surface monitor in central Nebraska; by computer command I can connect us with any of the twelve monitors still functioning on the surface."

Evans turned to her keyboard and typed in a command; the scene through the window snapped to a shot of broken masonry and twisted steel reinforcement rods. The view was obscured by dust caked on the camera lens and by a heavy snowfall. Evans typed in an additional command and touched one of the switches on her desk. A blast of static, a hiss like frying bacon, came from a speaker.

"That's Dallas. The sound is a reading of the background radiation registered by detectors at the site of this camera." She typed in another command and the image on the "window" flashed through a succession of equally desolate scenes, holding ten seconds on each before switching to the next. A desert in twilight, motionless under low clouds; a murky underwater shot in which the remains of a building were just visible; a denuded forest half-buried in snow; a deserted highway overpass. With each change of scene the loudspeaker stopped for a split-second, then the hiss resumed.

Havelmann watched all of this soberly.

"This has been the state of the surface for a year now, ever since the last bombs fell. To our knowledge there are no human beings alive in North America—in the Northern Hemisphere, for that matter. Radio transmissions from South America, New Zealand and Australia have one by one ceased in the last eight months. We have not observed a living creature above the level of an insect through any of our monitors

since the beginning of the year. It is the summer of 2010. Although, considering the situation, counting years by the old system seems a little futile to me."

Doctor Evans slid open a desk drawer and took out an automatic. She placed it in the middle of the desk blotter and leaned back, her right hand touching the edge of the desk, near the gun.

"You are now going to tell me that you never heard of any of this, and that you've never seen me before in your life," she said. "Despite the fact that I have been speaking to you daily for two weeks and that you have had this explanation from me at least three times during that period. You are going to tell me that it is 1984 and that you are thirty-five years old, despite the absurdity of such a claim. You are going to feign amazement and confusion; the more that I insist that you face these facts, the more you are going to become distressed. Eventually you will break down into tears and expect me to sympathize. You can go to hell."

Evans' voice had grown angrier as she spoke. She had to stop; it was almost more than she could do. When she resumed she was under control again. "If you persist in this sham, I may kill you. I assure you that no one will care if I do. You may speak now."

Havelmann stared at the window. His mouth opened and closed stupidly. How old he looked, how feeble. Evans felt a sudden wave of pity and doubt. What if she were wrong? She had an image of herself as she might appear to him: arrogant, bitter, an incomprehensible inquisitor whose motives for tormenting him were a total mystery. She watched him. After a few minutes his mouth closed; the eyes blinked rapidly and were clear.

"Please. Tell me what you're talking about."

Evans shuddered. "The gun is loaded. Keep talking."

"What do you want me to say? I never heard of any of this. Only this morning I saw my wife and kids and everything was all right. Now you give me this story about atomic war and 2010. What, have I been asleep for thirty years?"

"You didn't act very surprised to be here when you walked in. If you're so disoriented, how do you explain how you got here?"

The man sat heavily in the chair. "I don't remember. I guess I thought I came here—to the hospital, I thought—to get a checkup. I didn't think about it. You must know how I got here."

"I do. But I think you know too, and you're just playing a game with me—with all of us. The others are worried, but I'm sick of it. I can see through you, so you may as well quit the act. You were famous for your sincerity, but I always suspected that was an act, too, and I'm not falling for it. You didn't start this game soon enough for me to be persuaded you're crazy, despite what the others may think."

Evans played with the butt of her dead cigarette. "Or this could be a delusional system," she continued. "You think you're in a hospital, and your schizophrenia has progressed to the point where you deny all facts that don't go along with your attempts to evade responsibility. I suppose in some sense such an insanity would absolve you. If that's the case, I should be more objective. Well, I can't. I'm failing my profession, I realize. Too bad." Emotion had gradually drained away from her until, by the end, she felt as if she were speaking from across a continent instead of a desk.

"I still don't know what you're talking about. Where are my wife and kids?"

"They're dead."

Havelmann sat rigidly. The only sound was the hiss of the radiation detector. "Let me have a cigarette."

"There are no cigarettes left. I just smoked my last one." Evans' voice was distant. "I made two cartons last a year."

Havelmann's gaze dropped. "How old my hands are! . . . Helen has lovely hands."

"Why are you going on with this charade?"

The old man's face reddened. "God damn you! Tell me what happened!"

"The famous Havelmann rage. Am I supposed to be frightened now?"

The hiss from the loudspeaker seemed to increase. Havelmann lunged for the gun. Evans snatched it and pushed back from the desk. The old man grabbed the paperweight and raised it to strike. She pointed the gun at him.

"Your wife didn't make the plane in time. She was at the western White House. I don't know where your damned kids were—probably vaporized with their own families. You, however, had Operation Kneecap to save you, Mr. President. Now sit down and tell me why you've been playing games, or I'll kill you right here and now. Sit down!"

A light seemed to dawn on Havelmann. "You're insane," he said quietly.

"Put the paperweight back on the desk."

He did. He sat.

"But you can't simply be crazy," Havelmann continued. "There's no reason why you should take me away from my home and subject me to this. This is some kind of plot. The government. The CIA."

"And you're thirty-five years old?"

Havelmann examined his hands again. "You've done something to me."

"And the camps? Administrative Order 31?"

"If I'm the president, then why are you quizzing me here? Why can't I remember a thing about it?"

"Stop it. Stop it right now," Evans said slowly. She heard her voice for the first time. It sounded more like that of an old man than Havelmann's. "I can't take any more lies. I swear that I'll kill you. First it was the commander-in-chief routine, calisthenics, stiff upper lips and discipline. Then the big brother, let's have a whiskey and talk it over, son. Yessir, Mr. President." Havelmann stared at her. He was going to make her kill him, and she knew she wouldn't be strong enough not to.

"Now you can't remember anything," she said. "Your boys are confused, they're fed up. I'm fed up, too."

"If this is true, you've got to help me!"

"I don't give a rat's ass about helping you!" Evans shouted. "I'm interested in making you tell the truth. Don't you realize that we're dead? I don't care about your feeble sense of what's right and wrong; just tell me what's keeping you going. Who do you think you're going to impress? You think you've got an election to win? A place in history to protect? There isn't going to be any more history! History ended last August!

"So spare me the fantasy about the hospital and the nonexistent nurses' station. Someone with Korsakov's wouldn't make up that story. He would recognize the difference between a window and a projection screen. A dozen other slips. You're not a good enough actor."

Her hand trembled. The gun was heavy. Her voice trembled, too, and she despised herself for it. "Sometimes I think the only thing that's kept me alive is knowing I had half a pack of cigarettes left. That and the desire to make you crawl."

The old man sat looking at the gun in her hand. "I was the president?"

"No," said Evans bitterly, "I made it all up."

His eyes seemed to sink farther back in the network of lines surrounding them. "I started a war?"

Evans felt her heart race. "Stop lying! You sent the strike force; you ordered the pre-emptive launch."

"I'm old. How old am I?"

"You know damn well how—" She stopped. She could hardly catch her breath. She felt a sharp pain in her breast. "You're sixty-one."

"Jesus, Mary, Joseph."

"That's it? That's all you can say?"

The old man stared hollowly, then slowly, so slowly that at first it was not apparent what he was doing, he lowered his head into his hands and began to cry. His sobs were almost inaudible over the hissing of the radiation detector. Dr. Evans watched him intently. She rested her elbows on the desk, steadying the gun with both hands. Havelmann's head shook in front of her. Despite his age, his gray hair was thick.

After a moment Evans reached over and switched off the loudspeaker. The hissing stopped.

Eventually Havelmann stopped crying. He raised his head. He looked dazed. His expression became unreadable. He looked at the doctor and the gun.

"My name is Robert Havelmann," he said. "Why are you pointing that gun at me?"

"Please don't," said Evans.

"Don't what? Who are you?"

Evans watched his face blur. Through her tears he looked like a much younger man. The gun drooped. She tried to lift it, but it was as if she were made of smoke—there was no substance to her, and it was all she could do to keep from dissipating, let alone kill anyone as clean and innocent as Robert Havelmann. He took the gun from her hand. "Are you all right?" he asked.

DR. EVANS SAT in her office, hoping that it wasn't going to be a bad day. The pain in her breast had not come that day, but she was out of cigarettes. She searched the desk on the odd chance that she might have missed a pack, even a single butt, in the corner of one of the drawers. No luck.

She gave up and turned to face the window. The blinds were open, revealing the snow-covered field. She watched the clouds roll before the wind. It was dark. Winter. Nothing was alive.

"It's cold outside," she whispered.

There was a knock at the door. Dear God, leave me alone, she thought. Please leave me alone.

"Come in," she said.

The door opened and an old man in a rumpled suit entered. "Dr. Evans? I'm Robert Havelmann. What did you want to talk about?"

## LISA GOLDSTEIN

# Tourists

sa Goldstein's fiction features motifs common to science fiction, including time travel, visits › exotic alien worlds, and future dystopia. In Goldstein's hands, however, these elements re usually means to literary ends that are more properly categorized as magic realism, ıythopoeic fiction, and contemporary fairy tales. She achieved instant recognition in 1982, /hen her first novel, *The Red Magician,* an allegorical treatment of the rise of Naziism and ıe holocaust, won the American Book Award. Her next two novels are her most conventional xcursions into science fiction. *The Dream Years* forges a link between the surrealist art ıovement of the 1920s and the French countercultural movement in 1968, through the dventures of a time-traveling novelist who finds the two eras more similar than not. *A Mask or the General* is set in a future America under the rule of a dictatorial soldier and explores deological and social differences that have shaped different factions in the revolutionary ubculture. *Tourists,* expanded from the novella of the same name, gradually eases its characters into Amaz, an uncharted third world country that serves as the setting for some of Goldstein's short fiction and runs on its own peculiar rules of logic. *Strange Devices of the Sun and Moon* presents the historical era just prior to the Enlightenment as one where fantasy ınd mythology are still accepted and thus regularly permeate daily life. *Summer King, Winter Cool,* set in a world where gods and mortals interact, is Goldstein's most overt detour into ıigh fantasy. *Walking the Labyrinth,* in which a young woman comes into her heritage as ıe descendant of stage magicians who practiced real magic, and *Dark Cities Underground,* vhich deploys the familiar theme of the breakdown between reality and the world of a terary fantasy, are both examples of Goldstein's talent for conveying a sense of magic ıotential in the everyday through a slight, often imperceptible twist of ordinary events. Her hort fiction has been collected in *Daily Voices* and *Travellers in Magic.*

HE AWOKE FEELING cold. He had kicked the blankets off, and the air conditioning was ›n too high. Debbie—Where was she? It was still dark out.

Confused, he pulled the blankets back and tried to go to sleep. Something was vrong. Debbie was gone, probably in the bathroom or downstairs getting a cup of coffee. And he was—he was on vacation, but where? Fully awake now, he sat up and tried to laugh. It was ridiculous. Imagine paying thousands of dollars for a vacation and then forgetting where you were. Greece? No, Greece was last year.

He got up and opened the curtains. The ocean ten stories below was black as sleep, paling a little to the east—it had to be east—where the sun was coming up. He turned down the air conditioning—the soft hum stopped abruptly—and headed for the bathroom. "Debbie?" he said, tentatively. He was a little annoyed. "Debbie?"

She was still missing after he had showered and shaved and dressed. "All right then," he said aloud, mostly to hear the sound of his voice. "If you're not coming I'll go to breakfast without you." She was probably out somewhere talking to the natives, laughing when she got a word wrong, though she had told him before they left that she had never studied a foreign language. She was good at languages, then—some people were. He remembered her saying in her soft Southern accent, "For goodness' sake, Charles, why do you think people will understand you if you just talk to them louder? These people just don't speak English." And then she had taken over, pointing and laughing and looking through a phrasebook she had gotten somewhere. And they would get the best room, the choicest steak, the blanket the craftswoman had woven for her own family. Charles's stock rose when he was with her, and he knew it. He hoped she would show up soon.

Soft Muzak played in the corridor and followed him into the elevator as he went down to the coffee shop. He liked the coffee shop in the hotel, liked the fact that the waiters spoke English and knew what an omelet was. The past few days he had been keeping to the hotel more and more, lying out by the beach and finally just sitting by the hotel pool drinking margaritas. The people back at the office would judge the success of the vacation by what kind of tan he got. Debbie had fretted a little and then had told him she was taking the bus in to see the ruins. She had come back darker than he was, the blond hairs on her arm bleached almost white against her brown skin, full of stories about women on the bus carrying chickens and temples crumbling in the desert. She was wearing a silver bracelet inlaid with blue and green stones.

When he paid the check he realized that he still didn't know what country he was in. The first bill he took out of his wallet had a 5 on each corner and a picture of some kind of spiky flower. The ten had a view of the ocean, and the one, somewhat disturbingly, showed a fat coiled snake. There was what looked like an official seal on the back of all of them, but no writing. Illiterates, he thought. But he would remember soon enough, or Debbie would come back.

Back in his room, changing into his swim trunks, he thought of his passport. Feeling like a detective who has just cracked the case he got his money belt out from under the mattress and unzipped it. His passport wasn't there. His passport and his plane ticket were missing. The traveller's checks were still there, useless to him without

the passport as identification. Cold washed over him. He sat on the bed, his heart pounding.

Think, he told himself. They're somewhere else. They've got to be—who would steal the passport and not the traveller's checks? Unless someone needed the passport to leave the country. But who knew where he had hidden it? No one but Debbie, who had laughed at him for his precautions, and the idea of Debbie stealing the passport was absurd. But where was she?

All right, he thought. I've got to find the American consulate, work something out. . . . Luckily I just cashed a traveller's check yesterday. I've been robbed, and Americans get robbed all the time. It's no big thing. I have time. I'm paid up at the hotel till—till when?

Annoyed, he realized he had forgotten that too. For the first time he wondered if there might be something wrong with him. Overwork, maybe. He would have to see someone about it when he got back to the States.

He lifted the receiver and called downstairs. "Yes, sor?" the man at the desk said.

"This is Room 1012," Charles said. "I've forgotten—I was calling to check—How long is my reservation here?"

There was a silence at the other end, a disapproving silence, Charles felt. Most of the guests had better manners than to forget the length of their stay. He wondered what the man's reaction would be if he had asked what country he was in and felt something like hysteria rise within him. He fought it down.

The man when he came back was carefully neutral. "You are booked through tonight, sor," he said. "Do you wish to extend your stay?"

"Uh—no," Charles said. "Could you tell me—Where is the American consulate?"

"We have no relations with your country, sor," the man at the desk said.

For a moment Charles did not understand what he meant. Then he asked, "Well, what about—the British consulate?"

The man at the desk laughed and said nothing. Apparently he felt no need to clarify. As Charles tried to think of another question—Australian consulate? Canadian?—the man hung up.

Charles stood up carefully. "All right," he said to the empty room. "First things first." He got his two suitcases out of the closet and went through them methodically. Debbie's carrying case was still there and he went through that too. He checked under both mattresses, in the nightstand, in the medicine cabinet in the bathroom. Nothing. All right then. Debbie had stolen it, had to have. But why? And why didn't she take her carrying case with her when she went?

He wondered if she would show up back at the office. She had worked down the hall from him, one of the partners' secretaries. He had asked her along for companionship, making it clear that there were no strings attached, that he was simply interested in not travelling alone. Sometimes this kind of relationship turned sexual and sometimes it didn't. Last year, with Katya from accounting, it had. This year it hadn't.

There was still nothing to worry about, Charles thought, snapping the locks on the suitcases. Things like this probably happened all the time. He would get to the airport, where they would no doubt have records, a listing of his flight, and he would explain everything to them there. He checked his wallet for credit cards and found that they were still there. Good, he thought. Now we get to see if the advertisements are true. Accepted all over the world.

He felt so confident that he decided to stay the extra day at the hotel. After all, he thought, I've paid for it. And maybe Debbie will come back. He threw his towel over his shoulder and went downstairs.

The usual people were sitting out by the pool. Millie and Jean, the older women from Miami. The two newlyweds who had kept pretty much to themselves. The hitchhiker who was just passing through and who had been so entertaining that no one had had the heart to report him to the hotel management. Charles nodded to them and ordered his margarita from the bar before sitting down.

Talk flowed around him. "Have you been to Djuzban yet?" Jean was saying to the retired couple who had just joined them at the pool. "We took the hotel tour yesterday. The marketplace is just fabulous. I bought this ring there—see it?" And she flashed silver and stones.

"I hear the ruins are pretty good out in Djuzban," the retired man said.

"Oh, Harold," his wife said. "Harold wants to climb every tower in the country."

"No, man, for ruins you gotta go to Zabla," the hitchhiker said. "But the buses don't go there—you gotta rent a car. It's way the hell out in the desert, unspoiled, untouched. If your car breaks down you're dead—ain't nobody passing through that way for days."

Harold's wife shuddered in the heat. "I just want to do some shopping before we go home," she said. "I heard you can pick up bargains in leather in Qarnatl."

"All we saw in Qarnatl were natives trying to sell us decks of cards," Jean said. She turned to Millie. "Remember? I don't know why they thought Americans would be interested in their playing cards. They weren't even the same as ours."

Charles sipped his margarita, listening to the exotic names flow around him. What if he told them the names meant nothing to him, nothing at all? But he was too embarrassed. There were appearances to keep up after all, the appearance of being a seasoned traveller, of knowing the ropes. He would find out soon enough, anyway.

The day wore on. Charles had a margarita, then another. When the group around the pool broke up it seemed the most natural thing in the world to follow them into the hotel restaurant and order a steak, medium-rare. He was running low on cash, he noticed—he'd have to cash another traveller's check in the morning.

But in the morning when he awoke, cold sober, he knew immediately what he'd

one. He reached for his wallet on the nightstand, fingers trembling a little. There was only a five with its bleak little picture of a shrub left. Well, he thought, feeling a little shaky. Maybe someone's going to the airport today. Probably. The guys in the office aren't going to believe this one.

He packed up his two suitcases, leaving Debbie's overnight bag for her in case she came back. Downstairs he headed automatically for the coffee shop before he remembered. Abruptly he felt his hunger grow worse. "Excuse me," he said to the man at the desk. "How much—Do you know how much the taxi to the airport is?"

"No speak English, sor," the man said. He was small and dark, like most of the natives. His teeth were stained red.

"You don't—" Charles said, disgusted. "Why in God's name would they hire someone who doesn't speak English? How much," he said slowly. "Taxi. Airport." He heard his voice grow louder; apparently Debbie was right.

The man shrugged. Another man joined them. Charles turned on him with relief. "How much is the taxi to the airport?"

"Oh, taxi," the man said, as though the matter were not very important. "Not so much, sor. Eight, nine. Maybe fifteen."

"Fifteen?" Charles said. He tried to remember the airport, remember how he'd gotten here. "Not five?" He held up five fingers.

The second man laughed. "Oh no, sor," he said. "Fifteen. Twenty." He shrugged.

Charles looked around in desperation. Hotel Tours, said the sign behind the front desk. Ruins. Free. "The ruins," he said, pointing to the sign, wondering if either of the men could read. "Are they near the airport?" He could go to the ruins, maybe get a ride. . . .

"Near?" the second man said. He shrugged again. "Maybe. Yes, I think so."

"How near?" Charles said.

"Near," the second man said. "Yes. Near enough."

Charles picked up the two suitcases and followed the line of tourists to the bus stop. See, he thought. Nothing to worry about, and you're even getting a free ride to the airport. Those taxi drivers are thieves anyway.

It was awkward maneuvering the suitcases up the stairs of the bus. "I'm going on to the airport," Charles said to the driver, feeling the need to explain.

"Of course, sor," the driver said, shrugging as if to say that an American's suitcases were no business of his. He added a word that Charles didn't catch. Perhaps it was in another language.

The bus set off down the new two-lane highway fronting the hotels. Soon they left the hotels behind, passed a cluster of run-down shacks and were heading into the desert. The air conditioning hummed loudly. Waves of heat travelled across the sands.

After nearly an hour the bus stopped. "We have one hour," the driver said in bad English. He opened the door. "These are the temple of Marmaz. Very old. One hour." The tourists filed out. A few were adjusting cameras or pointing lenses.

Because of the suitcases Charles was the last out. He squinted against the sun. The temple was a solid wall of white marble against the sand. Curious in spite of himself he crossed the parking lot, avoiding the native who was trying to show him something. "Pure silver," the small man said, calling after him. "Special price just for you."

In front of the temple was a cracked marble pool, now dry. Who were these people who had carried water into the desert, who had imprisoned the moon in pale marble? But then how much had he known about the other tourist spots he had visited, the Greeks who had built the Parthenon, the Mayans who had built the pyramids? He followed the line of tourists into the temple, feeling the coolness fall over him like a blessing.

He went from room to room, delighted, barely feeling the weight of the suitcases. He saw crumbling mosaics of reds and blues and greens, fragments of tapestries, domes, fountains, towers, a white dining hall that could seat a hundred. In one small room a native was explaining a piece of marble sculpture to a dozen Americans.

"This, he is the god of the sun," the native said. "And in the next room, the goddess of the moon. Moon, yes? We will go see her after. Once a year, at the end of the year, the two statues—statues, yes?—go outside. The priests take outside. They get married. Her baby is the new year."

"What nonsense," a woman standing near Charles said quietly. She was holding a guidebook. "That's the fourth king. He built the temple. God of the sun." She laughed scornfully.

"Can I—Can I see that book for a minute?" Charles said. The cover had flipped forward tantalizingly, almost revealing the name of the country.

The woman looked briefly at her watch. "Got to go," she said. "The bus is leaving in a minute and I've got to find my husband. Sorry."

Charles's bus was gone by the time he left the temple. It was much cooler now but heat still rose from the desert sands. He was very hungry, nearly tempted to buy a cool drink and a sandwich at the refreshment stand near the parking lot. "Cards?" someone said to him.

Charles turned. The small native said something that sounded like "Tiraz!" It was the same word the bus driver had said to him in the morning. Then, "Cards?" he said again.

"What?" Charles said impatiently, looking for a taxi.

"Ancient playing set," the native said. "Very holy." He took out a deck of playing cards from an embroidered bag and spread them for Charles. The colors were very bright. "Souvenir," the native said. He grinned, showing red-stained teeth. "Souvenir of your trip."

"No, thank you," Charles said. All around the parking lot, it seemed, little natives ere trying to sell tourists rings and pipes and blouses and, for some reason, packs playing cards. "Taxi?" he said. "Is there a taxi here?"

The native shrugged and moved on to the next tourist.

It was getting late. Charles went toward the nearest tour bus. The driver was aning against the bus, smoking a small cigarette wrapped in a brown leaf. "Where an I find a taxi?" Charles asked him.

"No taxis," the driver said.

"No—Why not?" Charles said. This country was impossible. He couldn't wait to et out, to be on a plane drinking a margarita and heading back to the good old J.S.A. This was the worst vacation he'd ever had. "Can I make a phone call? I have o get to the airport."

A woman about to get on the bus heard him and stopped. "The airport?" she aid. "The airport's fifty miles from here. At least. You'll never find a taxi to take you hat far."

"Fifty miles?" Charles said. "They told me—At the hotel they told me it was fairly lose." For a moment his confidence left him. What do I do now? he thought. He agged against the suitcases.

"Listen," the woman said. She turned to the bus driver. "We've got room. Can't we take him back to the city with us? I think we're the last bus to leave."

The driver shrugged. "For the tiraz, of course. Anything is possible."

If Charles hadn't been so relieved at the ride he would have been annoyed. What did this word tiraz mean? Imbecile? Man with two suitcases? He followed the woman onto the bus.

"I can't believe you thought this was close to the airport," the woman said. He sat across the aisle from her. "This is way out in the desert. There's nothing here. No one would come out here if it wasn't for the ruins."

"They told me at the hotel," Charles said. He didn't really want to discuss it. He was no longer the seasoned traveller, the man who had regaled the people around the pool with stories of Mexico, Greece, Hawaii. He would have to confess, have to go back to the hotel and tell someone the whole story. Maybe they would bring in the police to find Debbie. A day wasted and he had only gone around in a circle, back to where he started. He felt tired and very hungry.

But when the bus stopped it was not at the brightly lit row of hotels. He strained to see in the oncoming dusk. "I thought you said—" He turned to the woman, hating to sound foolish again. "I thought we were going to the city."

"This is—" the woman said. Then she nodded in understanding. "You want the new city, the tourist city. That's up the road about ten miles. Any cab'll take you there."

Charles was the last off the bus again, slowed this time not so much by the suitcases as by the new idea. People actually stayed in the same cities that the natives lived. He had heard of it being done but he had thought only young people did it, students and drifters and hitchhikers like the one back at the hotel. This woman was not young and she had been fairly pleasant. He wished he had remembered to thank her.

The first cab driver laughed when Charles showed him the five note and asked to be taken to the new city. The driver was not impressed by the traveller's checks. The second and third drivers turned him down flat. The city smelled of motor oil and rancid fish. It was getting late, even a little chilly, and Charles began to feel nervous about being out so late. The two suitcases were an obvious target for some thief. And where would he go? What would he do?

The panic that he had suppressed for so long took over now and he began to run. He dove deeper into the twisting maze of the city, not caring where he went so long as he was moving. Everything was closed, and there were few streetlamps. He heard the sounds of his footfalls echo off the shuttered buildings. A cat jumped out of his way, eyes flashing gold.

After a long time of running he began to slow. "Tiraz!" someone whispered to him from an abandoned building. His heart pounded. He did not look back. Ahead was a lit storefront, a store filled with clutter. The door was open. A pawn shop.

He went in with relief. He cleared a space for himself among the old magazines and rusty baking pans and child's beads. The man behind the counter watched but made no comment. He took out everything from the two suitcases, sorted out what he needed and repacked it and gave the other suitcase to the man behind the counter. The man went to a small desk, unlocked a drawer and took out a steel box. He counted out some money and offered it to Charles. Charles accepted it wordlessly, not even bothering to count it.

The money bought a meal tasting of sawdust and sesame oil, and a sagging bed in an old hotel. The overhead fan turned all night because Charles could not figure out how to turn it off. A cockroach watched impassively from the corner.

The city looked different in daylight. Women in shawls and silver bracelets, men in clothes fashionable fifty years ago walked past the hotel as Charles looked out in the morning. The sun was shining. His heart rose. This was going to be the day he made it to the airport.

He walked along the streets almost jauntily, ignoring the ache in his arms. His beard itched because last night, in a moment of panic, he had thrown his electric razor into the suitcase to be sold. He shrugged. There were still things he could sell. Today he would find a better pawn shop.

He walked, passing run-down houses and outdoor markets, beggars and children, automobile garages and dim restaurants smelling of frying fish. "Excuse me," he said

o a man leaning against a horse-drawn carriage. "Do you know where I can find a pawn shop?"

The man and horse both looked up. "Ride, yes?" the man said enthusiastically. "Famous monuments. Very cheap."

"No," Charles said. "A pawn shop. Do you understand?"

The man shrugged, pulled the horse's mane. "No speak English," he said finally.

Another man had come up behind Charles. "Pawn shop?" he said.

Charles turned quickly, relieved. "Yes," he said. "Do you know—"

"Two blocks down," the man said. "Turn left, go five blocks. Across the hospital."

"What street is that?" Charles asked.

"Street?" the man said. He frowned. "Two blocks down and turn left."

"The name," Charles said. "The name of the street."

To Charles's astonishment the man burst out laughing. The carriage driver laughed too, though he could not have possibly known what they were talking about. "Name?" the man said. "You tourists name your streets as though they were little children, yes?" He laughed again, wiping his eyes, and said something to the carriage-driver in another language, speaking rapidly.

"Thank you," Charles said. He walked the two blocks, turned left and went five blocks more. There was no hospital where the man had said there would be, and no pawn shop. A man who spoke a little English said something about a great fire, but whether it had been last week or several years ago Charles was unable to find out.

He started back toward the man who had given him directions. In a few minutes he was hopelessly lost. The streets became dingier, and once he saw a rat run from a pile of newspapers. The fire had swept through this part of the city leaving buildings charred and water damaged, open to the passersby like museum exhibits. Two dirty children ran toward him, shouting, "Money, please, sor! Money for food!" He turned down a sidestreet to lose them.

Ahead of him were three young men in grease-stained clothes. One of them hissed something at him, the words rushing by like a fork of lightning. Another held a length of chain which he played back and forth, whispering, between his hands. "I don't speak—" Charles said, but it was too late. They were on him.

One tore the suitcase from his hand, shouting "El amak! El amak!" Another knocked him down with a punch to his stomach that forced the wind out of him. The third was going through his pockets, taking his wallet and the little folder of traveller's checks. Charles tried feebly to rise, and the second one thrust him back, hitting him once more in the stomach. The first one yelled something and they ran quickly down the street. Charles lay where they left him, gasping for breath.

The two dirty children passed him, and an old woman balancing a basket of clothes on her head. After a few minutes he rolled over and sat up, leaning against a rusty car up on blocks. His pants were torn, he noticed dully, torn and smeared with oil. And his suitcase with the rest of his clothes was gone.

He would go to the police, go and tell them that his suitcase was gone. He knew the word for suitcase because the young thief had shouted it. Amak. El amak. And suddenly he realized something that knocked the breath out of him as surely as a punch to the stomach. Every word in English, every word that he knew, had a corresponding word in this strange foreign language. Everything you could think of—hand, love, table, hot—was conveyed to these natives by another word, a word not English. Debbie had known that, and that was why she was good at languages. He hadn't. He had expected everyone he met to drop this ridiculous charade and start speaking like normal people.

He stood up gingerly, breathing shallowly to make the pain in his stomach go away. After a while he began walking again, following the maze of the city in deeper. At last he found a small park and sat on a bench to rest.

A native came up to him almost immediately. "Cards?" the native said. "Look." He opened his embroidered bag.

Charles sighed. He was too tired to walk away. "I don't want any cards," he said. "I don't have any money."

"Of course not," the native said. "Look. They are beautiful, no?" He spread the brightly colored cards on the grass. Charles saw a baseball player, a fortune teller, a student, some designs he didn't recognize. "Look," the native said again and turned over the next card. "The tourist."

Charles had to laugh, looking at the card of the man carrying suitcases. These people had been visited by tourists for so long that the tourist had become an archetype, a part of everyone's reality like kings and jokers. He looked closer at the card. Those suitcases were familiar. And the tourist—He jerked back as though shocked. It was him.

He stood quickly and began to run, ignoring the pain in his stomach. The native did not follow.

He noticed the card sellers on every corner after that. They called to him even if he crossed the street to avoid them. "Tiraz, tiraz!" they called after him. He knew what it meant now. Tourist.

As the sun set he became ravenously hungry. He walked around a beggarwoman squatting in the street and saw, too late, a card seller waiting on the corner. The card seller held out something to him, some kind of pastry, and Charles took it, too hungry to refuse.

The pastry was filled with meat and very good. As though that were the signal, the other card sellers he passed began to give him things—a skin of wine, a piece of fish wrapped in paper. One of them handed him money, far more money than a deck

of cards would cost. It was growing dark. He took a room for the night with the money.

A card seller was waiting for him at the corner the next day. "All right," Charles said to him. Some of the belligerence had been knocked out of him. "I give up. What the hell's going on around here?"

"Look," the card seller said. He took his cards out of the embroidered bag. "It is in here." He squatted on the sidewalk, oblivious to the dirt, the people walking by, the fumes from the street. The street, Charles noticed as he sat next to him, seemed to be paved with bottle caps.

The card seller spread the cards in front of him. "Look," he said. "It is foretold. The cards are our oracle, our newspaper, our entertainment. All depends on how you read them." Charles wondered where the man had learned to speak English, but he didn't want to interrupt. "See," the man said as he turned over a card. "Here you are. The tourist. It was foretold that you would come to the city."

"And then what?" Charles asked. "How do I get back?"

"We have to ask the cards," the man said. Idly he turned over another card, the ruins of Marmaz. "Maybe we wait for the next printing."

"Next—" Charles said. "You mean the cards don't stay the same?"

"No," the man said. "Do your newspapers stay the same?"

"But—Who prints them?"

The man shrugged. "We do not know." He turned over another card, a young blond woman.

"Debbie!" Charles said, startled.

"Yes," the man said. "The woman you came with. We had to convince her to go, so that you would fulfill the prophecy and come to the city. And then we took your pieces of paper, the ones that are so important to the tiraz. That is a stupid way to travel, if I may say so. In the city the only papers that are important to us are the cards, and if a man loses his cards he can easily get more."

"You—you took my passport?" Charles said. He did not feel as angry as he would like. "My passport and my plane tickets? Where are they?"

"Ah," the man said. "For that you must ask the cards." He took out another set of cards from his bag and gave them to Charles. Before Charles could answer he stood up and walked away.

By midday Charles had found the small park again. He sat down and spread out the cards, wondering if there was anything to what the card seller had said. Debbie did not appear in his deck. Was his an earlier printing, then, or a later one?

An American couple came up to him as he sat puzzling over the cards. "There are those cards again," the woman said. "I just can't get over how quaint they are. How much are you charging for yours?" she asked Charles. "The man down the street said he'd give them to us for ten."

"Eight," Charles said without hesitation, gathering them up.

The woman looked at her husband. "All right," he said. He took a five and three ones from his wallet and gave them to Charles.

"Thank you, sor," Charles said.

The man grunted. "I thought he spoke English very well," the woman said as they walked away. "Didn't you?"

A card seller gave him three more decks of cards and an embroidered bag later that day. By evening he had sold two of the decks. A few nights later, he joined the sellers of cards as they waited in the small park for the new printing of the cards. Somewhere a bell tolled midnight. A woman with beautiful long dark hair and an embroidered shawl came out of the night and silently took out the decks of cards from her bag. Her silver bracelets flashed in the moonlight. She gave Charles twelve decks. The men around him were already tearing the boxes open and spreading the cards, reading the past, or the present, or the future.

After about three years Charles got tired of selling the cards. His teeth had turned red from chewing the nut everyone chewed and he had learned to smoke the cigarettes wrapped in leaves. The other men had always told him that someone who spoke English as well as he did should be a tour guide, and finally he decided that they were right. Now he takes groups of tourists through the ruins of Marmaz, telling them about the god of the sun and the goddess of the moon and whatever else he chooses to make up that day. He has never found out what country he lives in.

## KAREN JOY FOWLER

# Face Value

Science fiction is just one of several "dialects" Karen Joy Fowler uses to tell her colorful, emotionally rich tales of human relationships. Fowler began writing science fiction in 1986, and initially concentrated on short stories, many of which have been collected in *Artificial Things* (which won her the John W. Campbell Award for Best New Writer), *Letters from Home* (featuring stories by her and by Pat Cadigan), and *Black Glass*. Her stories are filled with characters who find their lack of personal fulfillment and emotional crises objectified in fantastical situations. "Face Value" juxtaposes a failing love relationship with the study of an inscrutable alien culture on another planet. In "Lieserl," Albert Einstein receives a set of cryptic letters that recount the life of his daughter in compressed fashion as he is formulating his theory of special relativity. "The Lake Was Full of Artificial Things" is a powerful meditation on the Vietnam War in which a woman's use of artificial means to reclaim the memory of a boyfriend killed in the war forces her to confront her own shortcomings in her treatment of him. Fowler's three novels are period stories that explore the universality of personal and social relations. *Sarah Canary* is a memorable variation on the theme of first contact in which the efforts of an alien in human female form to integrate with American society in the Northwest frontier in 1873 illuminate the plight of other social groups disenfranchised on the basis of gender and race. Fowler has also written the mainstream novels *The Sweetheart Season* and *Sister Noon*.

IT WAS ALMOST like being alone. Taki, who had been alone one way or another most of his life, recognized this and thought he could deal with it. What choice did he have? It was only that he had allowed himself to hope for something different. A second star, small and dim, joined the sun in the sky, making its appearance over the rope bridge which spanned the empty river. Taki crossed the bridge in a hurry to get inside before the hottest part of the day began.

Something flashed briefly in the dust at his feet and he stooped to pick it up. It was one of Hesper's poems, half finished, left out all night. Taki had stopped reading Hesper's poetry. It reflected nothing, not a whisper of her life here with him, but was filled with longing for things and people behind her. Taki pocketed the poem on his way to the house, stood outside the door, and removed what dust he could with the stiff brush which hung at the entrance. He keyed his admittance; the door made a slight sucking sound as it resealed behind him.

Hesper had set out an iced glass of ade for him. Taki drank it at a gulp, superimposing his own dusty fingerprints over hers sketched lightly in the condensation on the glass. The drink was heavily sugared and only made him thirstier.

A cloth curtain separated one room from another, a blue sheet, Hesper's innovation since the dwelling was designed as a single, multifunctional space. Through the curtain Taki heard a voice and knew Hesper was listening again to her mother's letter—earth weather, the romances of her younger cousins. The letter had arrived weeks ago, but Taki was careful not to remind Hesper how old its news really was. If she chose to imagine the lives of her family moving along the same timeline as her own, then this must be a fantasy she needed. She knew the truth. In the time it had taken her to travel here with Taki, her mother had grown old and died. Her cousins had settled into marriages happy or unhappy or had faced life alone. The letters which continued to arrive with some regularity were an illusion. A lifetime later Hesper would answer them.

Taki ducked through the curtain to join her. "Hot," he told her as if this were news. She lay on their mat stomach down, legs bent at the knees, feet crossed in the air. Her hair, the color of dried grasses, hung over her face. Taki stared for a moment at the back of her head. "Here," he said. He pulled her poem from his pocket and laid it by her hand. "I found this out front."

Hesper switched off the letter and rolled onto her back away from the poem. She was careful not to look at Taki. Her cheeks were stained with irregular red patches so that Taki knew she had been crying again. The observation caused him a familiar mixture of sympathy and impatience. His feelings for Hesper always came in these uncomfortable combinations; it tired him.

" 'Out front,' " Hesper repeated, and her voice held a practiced tone of uninterested nastiness. "And how did you determine that one part of this featureless landscape was the 'front'?"

"Because of the door. We have only the one door so it's the front door."

"No," said Hesper. "If we had two doors then one might arguably be the front door and the other the back door, but with only one it's just the door." Her gaze went straight upward. "You use words so carelessly. Words from another world. They mean nothing here." Her eyelids fluttered briefly, the lashes darkened with tears. "It's not just an annoyance to me, you know," she said. "It can't help but damage your work."

"My work is the study of the mene," Taki answered. "Not the creation of a new language," and Hesper's eyes closed.

"I really don't see the difference," she told him. She lay a moment longer without moving, then opened her eyes and looked at Taki directly. "I don't want to have this conversation. I don't know why I started it. Let's rewind, run it again. I'll be the wife this time. You come in and say, 'Honey, I'm home!' and I'll ask you how your morning was."

Taki began to suggest that this was a scene from another world and would mean nothing here. He had not yet framed the sentence when he heard the door seal release and saw Hesper's face go hard and white. She reached for her poem and slid it under the scarf at her waist. Before she could get to her feet the first of the mene had joined them in the bedroom. Taki ducked through the curtain to fasten the door before the temperature inside the house rose. The outer room was filled with dust and the hands which reached out to him as he went past left dusty streaks on his clothes and his skin. He counted eight of the mene, fluttering about him like large moths, moths the size of human children, but with furry vestigial wings, hourglass abdomens, sticklike limbs. They danced about him in the open spaces, looked through the cupboards, pulled the tapes from his desk. When they had their backs to him he could see the symmetrical arrangement of dark spots which marked their wings in a pattern resembling a human face. A very sad face, very distinct. Masculine, Taki had always thought, but Hesper disagreed.

The party which had made initial contact under the leadership of Hans Mene so many years ago had wisely found the faces too whimsical for mention in their report. Instead they had included pictures and allowed them to speak for themselves. Perhaps the original explorers had been asking the same question Hesper posed the first time Taki showed her the pictures. Was the face really there? Or was this only evidence of the ability of humans to see their own faces in everything? Hesper had a poem entitled "The Kitchen God," which recounted the true story of a woman about a century ago who had found the image of Christ in the burn-marks on a tortilla. "Do *they* see it, too?" she had asked Taki, but there was as yet no way to ask this of the mene, no way to know if they had reacted with shock and recognition to the faces of the first humans they had seen, though studies of the mene eye suggested a finer depth perception which might significantly distort the flat image.

Taki thought that Hesper's own face had changed since the day, only six months ago calculated as Traveltime, when she had said she would come here with him and he thought it was because she loved him. They had sorted through all the information which had been collected to date on the mene and her face had been all sympathy then. "What would it be like," she asked him, "to be able to fly and then to lose this ability? To outgrow it? What would a loss like that do to the racial consciousness of a species?"

"It happened so long ago, I doubt it's even noticed as a loss," Taki had answered. "Legends, myths not really believed perhaps. Probably not even that. In the racial memory not even a whisper."

Hesper had ignored him. "What a shame they don't write poetry," she had said. She was finding them less romantic now as she joined Taki in the outer room, her face stoic. The mene surrounded her, ran their string-fingered hands all over her body, inside her clothing. One mene attempted to insert a finger into her mouth, but Hesper tightened her lips together resolutely, dust on her chin. Her eyes were fastened on Taki. Accusingly? Beseechingly? Taki was no good at reading people's eyes. He looked away.

Eventually the mene grew bored. They left in groups, a few lingering behind to poke among the boxes in the bedroom, then following the others until Hesper and Taki were left alone. Hesper went to wash herself as thoroughly as their limited water supply allowed; Taki swept up the loose dust. Before he finished, Hesper returned, showing him her empty jewelry box without a word. The jewelry had all belonged to her mother.

"I'll get them when it cools," Taki told her.

"Thank you."

It was always Hesper's things that the mene took. The more they disgusted her, pawing over her, rummaging through her things, no way to key the door against clever mene fingers even if Taki had agreed to lock them out, which he had not, the more fascinating they seemed to find her. They touched her twice as often as they touched Taki and much more insistently. They took her jewelry, her poems, her letters, all the things she treasured most, and Taki believed, although it was far too early in his studies really to speculate with any assurance, that the mene read something off the objects. The initial explorers had concluded that mene communication was entirely telepathic, and if this was accurate, then Taki's speculation was not such a leap. Certainly the mene didn't value the objects for themselves. Taki always found them discarded in the dust on this side of the rope bridge.

The fact that everything would be easily recovered did nothing to soften Hesper's sense of invasion. She mixed herself a drink, stirring it with the metal straw which poked through the dust-proof lid. "You shouldn't allow it," she said at last, and Taki knew from the time that had elapsed that she had tried not to begin this familiar conversation. He appreciated her effort as much as he was annoyed by her failure.

"It's part of my job," he reminded her. "We have to be accessible to them. I study them. They study us. There's no way to differentiate the two activities and certainly no way to establish communication except simultaneously."

"You're letting them study us, but you're giving them a false picture. You're allowing them to believe that humans intrude on each other in this way. Does it occur to you that they may be involved in similar charades? If so, what can either of us learn?"

Taki took a deep breath. "The need for privacy may not be as intrinsically human as you imagine. I could point to many societies which afforded very little of this. As for any deliberate misrepresentations on their part—well, isn't that the whole rationale for not sending a study team? Wouldn't I be farther along if I were working with environmentalists, physiologists, linguists? But the risk of contamination increases exponentially with each additional human. We would be too much of a presence. Of course, I will be very careful. I am far from the stage in my study where I can begin to draw conclusions. When I visit them . . ."

"Reinforcing the notion that such visits are ordinary human behavior . . ." Hesper was looking at Taki with great coolness.

"When I visit them I am much more circumspect," Taki finished. "I conduct my study as unobtrusively as possible."

"And what do you imagine you are studying?" Hesper asked. She closed her lips tightly over the straw and drank. Taki regarded her steadily and with exasperation.

"Is this a trick question?" he asked. "I imagine I am studying the mene. What do you imagine I am studying?"

"What humans always study," said Hesper. "Humans."

YOU NEVER SAW one of the mene alone. Not ever. One never wandered off to watch the sun set or took its food to a solitary hole to eat without sharing. They did everything in groups and although Taki had been observing them for weeks now and was able to identify individuals and had compiled charts of the groupings he had seen, trying to isolate families or friendships or work-castes, still the results were inconclusive.

His attempts at communication were similarly discouraging. He had tried verbalizations, but had not expected a response to them; he had no idea how they processed audio information although they could hear. He had tried clapping and gestures, simple hand signals for the names of common objects. He had no sense that these efforts were noticed. They were so unfocused when he dealt with them, fluttering here, fluttering there. Taki's ESP quotient had never been measurable, yet he tried that route, too. He tried to send a simple command. He would trap a mene hand and hold it against his own cheek, trying to form in his mind the picture which corresponded to the action. When he released the hand, sticky mene fingers might linger for a moment or they might slip away immediately, tangle in his hair instead, or tap his teeth. Mene teeth were tiny and pointed like wires. Taki saw them only when the mene ate. At other times they were hidden inside the folds of skin which almost hid their eyes as well. Taki speculated that the skin flaps protected their mouths and eyes from the dust. Taki found mene faces less expressive than their backs. Head-on they appeared petaled and blind as flowers. When he wanted to differentiate one mene from another, Taki looked at their wings.

Hesper had warned him there would be no art and he had asked her how she could be so sure. "Because their communication system is perfect," she said. "Out of one brain and into the next with no loss of meaning, no need for abstraction. Art arises from the inability to communicate. Art is the imperfect symbol. Isn't it?" But Taki, watching the mene carry water up from their underground deposits, asked himself where the line between tools and art objects should be drawn. For no functional reason that he could see, the water containers curved in the centers like the shapes of the mene's own abdomens.

Taki followed the mene below ground, down some shallow, rough-cut stairs into the darkness. The mene themselves were slightly luminescent when there was no other light; at times and seasons some were spectacularly so and Taki's best guess was that this was sexual. Even with the dimmer members, Taki could see well enough. He moved through a long tunnel with a low ceiling which made him stoop. He could hear water at the other end of it, not the water itself, but a special quality to the silence which told him water was near. The lake was clearly artificial, collected during the rainy season which no human had seen yet. The tunnel narrowed sharply. Taki could have gone forward, but felt suddenly claustrophobic and backed out instead. What did the mene think, he wondered, of the fact that he came here without Hesper. Did they notice this at all? Did it teach them anything about humans that they were capable of understanding?

"Their lives together are perfect," Hesper said. "Except for those useless wings. If they are ever able to talk with us at all it will be because of those wings."

Of course Hesper was a poet. The world was all language as far as she was concerned.

When Taki first met Hesper, at a party given by a colleague of his, he had asked her what she did. "I name things," she had said. "I try to find the right names for things." In retrospect Taki thought it was bullshit. He couldn't remember why he had been so impressed with it at the time, a deliberate miscommunication, when a simple answer, "I write poetry," would have been so clear and easy to understand. He felt the same way about her poetry itself, needlessly obscure, slightly evocative, but it left the reader feeling that he had fallen short somehow, that it had been a test and he had flunked it. It was unkind poetry and Taki had worked so hard to read it then.

"Am I right?" he would ask her anxiously when he finished. "Is that what you're saying?" but she would answer that the poem spoke for itself.

"Once it's on the page, I've lost control over it. Then the reader determines what it says or how it works." Hesper's eyes were gray, the irises so large and intense within their dark rings, that they made Taki dizzy. "So you're always right. By definition. Even if it's not remotely close to what I intended."

What Taki really wanted was to find himself in Hesper's poems. He would read

them anxiously for some symbol which could be construed as him, some clue as to his impact on her life. But he was never there.

IT WAS AGAINST policy to send anyone into the field alone. There were pros and cons, of course, but ultimately the isolation of a single professional was seen as too cruel. For shorter projects there were advantages in sending a threesome, but during a longer study the group dynamics in a trio often became difficult. Two were considered ideal and Taki knew that Rawji and Heyen had applied for this post, a husband and wife team in which both members were trained for this type of study. He had never stopped being surprised that the post had been offered to him instead. He could not have even been considered if Hesper had not convinced the members of the committee of her willingness to accompany him, but she must have done much more. She must have impressed someone very much for them to decide that one trained xenologist and one poet might be more valuable than two trained xenologists. The committee had made some noises about "contamination" occurring between the two trained professionals, but Taki found this argument specious. "What did you say to them?" he asked her after her interview and she shrugged.

"You know," she said. "Words."

Taki had hidden things from the committee during his own interview. Things about Hesper. Her moods, her deep attachment to her mother, her unreliable attachment to him. He must have known it would never work out, but he walked about in those days with the stunned expression of a man who has been given everything. Could he be blamed for accepting it? Could he be blamed for believing in Hesper's unexpected willingness to accompany him? It made a sort of equation for Taki. *If* Hesper was willing to give up everything and come with Taki, *then* Hesper loved Taki. An ordinary marriage commitment was reviewable every five years; this was something much greater. No other explanation made any sense.

The equation still held a sort of inevitability for Taki. *Then* Hesper loved Taki, *if* Hesper were willing to come with him. So somehow, sometime, Taki had done something which lost him Hesper's love. If he could figure out what, perhaps he could make her love him again. "Do you love me?" he had asked Hesper, only once; he had too much pride for these thinly disguised pleadings. "Love is such a difficult word," she had answered, but her voice had been filled with a rare softness and had not hurt Taki as much as it might.

The daystar was appearing again when Taki returned home. Hesper had made a meal which suggested she was coping well today. It included a sort of pudding made of a local fruit they found themselves able to tolerate. Hesper called the pudding "boxty." It was apparently a private joke. Taki was grateful for the food and the joke, even if he didn't understand it. He tried to keep the conversation lighthearted, talking to Hesper about the mene water jars. Taki's position was that when the form of a practical object was less utilitarian than it might be, then it was art. Hesper laughed. She ran through a list of human artifacts and made him classify them.

"A paper clip," she said.

"The shape hasn't changed in centuries," he told her. "Not art."

"A safety pin."

Taki hesitated. How essential was the coil at the bottom of the pin? Very. "Not art," he decided.

"A hair brush."

"Boar bristle?"

"Wood handle."

"Art. Definitely."

She smiled at him. "You're confusing ornamentation with art. But why not? It's as good a definition as any," she told him. "Eat your boxty."

They spent the whole afternoon alone, uninterrupted. Taki transcribed the morning's notes into his files, reviewed his tapes. Hesper recorded a letter whose recipient would never hear it and sang softly to herself.

That night he reached for her, his hand along the curve at her waist. She stiffened slightly, but responded by putting her hand on his face. He kissed her and her mouth did not move. His movements became less gentle. It might have been passion; it might have been anger. She told him to stop, but he didn't. Couldn't. Wouldn't. "Stop," she said again and he heard she was crying. "They're here. Please stop. They're watching us."

"Studying us," Taki said. "Let them," but he rolled away and released her. They were alone in the room. He would have seen the mene easily in the dark. "Hesper," he said. "There's no one here."

She lay rigid on her side of their bed. He saw the stitching of her backbone disappearing into her neck and had a sudden feeling that he could see everything about her, how she was made, how she was held together. It made him no less angry.

"I'm sorry," Hesper told him, but he didn't believe her. Even so, he was asleep before she was. He made his own breakfast the next morning without leaving anything out for her. He was gone before she had gotten out of bed.

The mene were gathering food, dried husks thick enough to protect the liquid fruit during the two-star dry season. They punctured the husks with their needle-thin teeth. Several crowded about him, greeting him with their fingers, checking his pockets, removing his recorder and passing it about until one of them dropped it in the dust. When they returned to work, Taki retrieved it, wiped it as clean as he could. He sat down to watch them, logged everything he observed. He noted in particular how often they touched each other and wondered what each touch meant. Affection? Communication? Some sort of chain of command?

Later he went underground again, choosing another tunnel, looking for one

which wouldn't narrow so as to exclude him, but finding himself beside the same lake with the same narrow access ahead. He went deeper this time until it gradually became too close for his shoulders. Before him he could see a luminescence; he smelled the dusty odor of the mene and could just make out a sound, too, a sort of movement, a grass-rubbing-together sound. He stooped and strained his eyes to see something in the faint light. It was like looking into the wrong end of a pair of binoculars. The tunnel narrowed and narrowed. Beyond it must be the mene homes and he could never get into them. He contrasted this with the easy access they had to his home. At the end of his vision he thought he could just see something move, but he wasn't sure. A light touch on the back of his neck and another behind his knee startled him. He twisted around to see a group of the mene crowded into the tunnel behind him. It gave him a feeling of being trapped and he had to force himself to be very gentle as he pushed his way back and let the mene go through. The dark pattern of their wings stood in high relief against the luminescent bodies. The human faces grew smaller and smaller until they disappeared.

"LEAVE ME ALONE," Hesper told him. It took Taki completely by surprise. He had done nothing but enter the bedroom; he had not even spoken yet. "Just leave me alone."

Taki saw no signs that Hesper had ever gotten up. She lay against the pillow and her cheek was still creased from the wrinkles in the sheets. She had not been crying. There was something worse in her face, something which alarmed Taki.

"Hesper?" he asked. "Hesper? Did you eat anything? Let me get you something to eat."

It took Hesper a moment to answer. When she did, she looked ordinary again. "Thank you," she said. "I am hungry." She joined him in the outer room, wrapped in their blanket, her hair tangled around her face. She got a drink for herself, dropping the empty glass once, stooping to retrieve it. Taki had the strange impression that the glass fell slowly. When they had first arrived, the gravitational pull had been light, just perceptibly lighter than Earth's. Without quite noticing, this had registered on him in a sort of lightheartedness. But Hesper had complained of feelings of dislocation, disconnection. Taki put together a cold breakfast, which Hesper ate slowly, watching her own hands as if they fascinated her. Taki looked away. "Fork," she said. He looked back. She was smiling at him.

"What?"

"Fork."

He understood. "Not art."

"Four tines?"

He didn't answer.

"Roses carved on the handle."

"Well then, art. Because of the handle. Not because of the tines." He was greatly reassured.

The mene came while he was telling her about the tunnel. They put their dusty fingers in her food, pulled it apart. Hesper set her fork down and pushed the plate away. When they reached for her she pushed them away, too. They came back. Hesper shoved harder.

"Hesper," said Taki.

"I just want to be left alone. They never leave me alone." Hesper stood up, towering above the mene. The blanket fell to the floor. "We flew here," Hesper said to the mene. "Did you see the ship? Didn't you see the pod? Doesn't that interest you? Flying?" She laughed and flapped her arms until they froze, horizontal at her sides. The mene reached for her again and she brought her arms in to protect her breasts, pushing the mene away repeatedly, harder and harder, until they tired of approaching her and went into the bedroom, reappearing with her poems in their hands. The door sealed behind them.

"I'll get them back for you," Taki promised, but Hesper told him not to bother.

"I haven't written in weeks," she said. "In case you hadn't noticed. I haven't finished a poem since I came here. I've lost that. Along with everything else." She brushed at her hair rather frantically with one hand. "It doesn't matter," she added. "My poems? Not art."

"Are you the best person to judge that?" Taki asked.

"Don't patronize me." Hesper returned to the table, looked again at the plate which held her unfinished breakfast, dusty from handling. "My critical faculties are still intact. It's just the poetry that's gone." She took the dish to clean it, scraped the food away. "I was never any good," she said. "Why do you think I came here? I had no poetry of my own so I thought I'd write the mene's. I came to a world without words. I hoped it would be clarifying. I knew there was a risk." Her hands moved very fast. "I want you to know I don't blame you."

"Come and sit down a moment, Hesper," Taki said, but she shook her head. She looked down at her body and moved her hands over it.

"They feel sorry for us. Did you know that? They feel sorry about our bodies."

"How do *you* know that?" Taki asked.

"Logic. We have these completely functional bodies. No useless wings. Not art." Hesper picked up the blanket and headed for the bedroom. At the cloth curtain she paused a moment. "They love our loneliness, though. They've taken all mine. They never leave me alone now." She thrust her right arm suddenly out into the air. It made the curtain ripple. "Go away," she said, ducking behind the sheet.

Taki followed her. He was very frightened. "No one is here but us, Hesper," he told her. He tried to put his arms around her but she pushed him back and began to dress.

"Don't touch me all the time," she said. He sank onto the bed and watched her. She sat on the floor to fasten her boots.

"Are you going out, Hesper?" he asked and she laughed.

"Hesper is out," she said. "Hesper is out of place, out of time, out of luck, and out of her mind. Hesper has vanished completely. Hesper was broken into and taken."

Taki fastened his hands tightly together. "Please don't do this to me, Hesper," he pleaded. "It's really so unfair. When did I ask so much of you? I took what you offered me; I never took anything else. Please don't do this."

Hesper had found the brush and was pulling it roughly through her hair. He rose and went to her, grabbing her by the arms, trying to turn her to face him. "Please, Hesper!"

She shook loose from him without really appearing to notice his hands, continued to work through the worst of her tangles. When she did turn around, her face was familiar, but somehow not Hesper's face. It was a face which startled him.

"Hesper is gone," it said. "We have her. You've lost her. We are ready to talk to you. Even though you will never, never, never understand." She reached out to touch him, laying her open palm against his cheek and leaving it there.

## C. J. CHERRYH

# Pots

C. J. Cherryh is the creator of the encompassing Union-Alliance future-history series, which chronicles the interplay of intergalactic commerce and politics several millennia hence. It includes, among other works, the Hugo Award–winning novels *Downbelow Station* and *Cyteen*, memorable for its study of human nature through the creation of clones with programmed memories. Praised for its inventive extrapolations of clinical and social science and deft blends of technology and human interest, the series enfolds a number of celebrated subseries, including her Faded Sun trilogy (*Kesrith, Shon'jir, Kutath*). Her Chanur cycle (*The Pride of Chanur, Chanur's Venture, The Kif Strikes Back, Chanur's Homecoming, Chanur's Legacy*), also part of the series, tells of a race of sentient leonine creatures and is notable for its alien viewpoint and illuminating perspectives on the human race rendered from outside it. Much of Cherryh's fiction is concerned with the impact of environment—family, politics, culture—on the values and ideologies of the individual. In *Cuckoo's Egg* she rings a variation on the Tarzan theme, imaging a human child raised to maturity by a race of intelligent felines. *Heavy Time* contrasts the personalities of its two protagonists, one raised in a nurturing human environment, the other stunted socially by an upbringing deformed by manipulative corporate interests. Her recent quartet of novels formed by *Foreigner, Invader, Inheritor,* and *Precursor* has been praised for its sensitive documentation of the cultural and racial differences a human colony must overcome in forming a fragile alliance with the planet's alien inhabitants. *The Gene Wars* is a blend of epic quest fantasy and hard science fiction, set in a future when nanotechnology is used as a weapon. Cherryh has also authored the four-volume Morgaine heroic fantasy series and the epic Galisien sword-and-sorcery trilogy, which includes *Fortress in the Eye of Time, Fortress of Eagles,* and *Fortress of Owls*. She is the creator of the *Merovingian Nights* shared-world series and cocreator of the multivolume *Heroes in Hell* shared-world compilations.

IT WAS A most bitter trip, the shuttle-descent to the windy surface. Suited, encumbered by lifesupport, Desan stepped off the platform and waddled onward into the world,

THEY HAD ME COMPILE THE PROGRAM FOR IT. SOMEHOW I PUT IN TOO MANY NESTED DO LOOPS FOR THE FORTRAN DIALECT THEY WERE USING. THE STABILITY ALGORITHM WENT UNSTABLE AND THE CHAIR DID A BACK FLIP AND A HALFTWIST DOWN THREE FLIGHTS. REGRETTABLE. HOW DID YOU LIKE THE STORY CHARLIE?

'Beautiful! Perfect! But you really went wild on this one. Why, I can't even get the right time of day from Francine Thrust—uh—I mean, Hurst.'

CHARLIE! PAY ATTENTION! ONLY TWO MINUTES LEFT ON T.A.

FRANCINE HURST IS FLUNKING HER PHD-TOOL SEMIOTICS COURSE. IF YOU GIVE HER A HAND WITH THAT TOOL YOU SHOULD BE ABLE TO HAND HER ANOTHER ONE SOON ENOUGH. ILL GET YOU THE FINAL EXAM AS SOON AS IT COMES THROUGH A WORD PROCESSOR. ALSO FRANCINES QUALIFYING EXAM. ALSO SHAVE OFF THAT MOUSTACHE! GET THIS STORY OFF TO OUR AGENT IN MILFORD AND TELL HER WELL HAVE THE COLLECTION COMPLETE IN A COUPLE MORE T.A. SESSIONS. WHEN YOU GET YOUR FIRST LUMP SUM FROM THE SNODGRASS LAWYERS TAKE THE CHEQUE TO OUR BROKER AND BUY AS MUCH OVER-THE-COUNTER DATADYNE CORP AS YOU CAN ITLL APPRECIATE AN ORDER OF MAGNITUDE BY SUMMER. ILL TAKE CARE OF THE GRANT ACCOUNTING NUMBERS. IT JUST MEANS A LITTLE CREATIVE MOVEMENT OF THE UNIVERSITY SURPLUS. NOW CHARLIE YOUVE GOT TO NEGOTIATE A LOWER BASE WITH COMPUTER SCIENCE FOR THE T.A. TIME SLOTS OR ELSE WELL THINK ABOUT LEAVING THE SCHOOL AND GOING OUT ON BIDS TO THE COMMERCIAL VENDORS. TELL THEM THAT! BYE BYE CHARLIE. SEE YOU NEXT WEEK END TA 1500:00. END.

Dr Perry's earlier diffuse expression was now much firmer as he studied this last output with a broad, almost a bubbling smile, his white pointed teeth tight together, his often-vague eyes now showing a purposeful glint. This was no arcade game, he thought exultantly. This Pac Man, *his* Pac Man, might eventually gobble up the world!

# KARL AND THE OGRE

PAUL J. McAULEY

The three hunters, Karl and Shem and Anaxander, picked up the ogre's trail only a day after they had left the village and begun to follow the river back along its course to the spot where the unicorn had been killed, deep in the folded foothills of the Berkshires. Steeply sloping woods cluttered with ferns and mossy boulders. Slim trees, beech and sugar maple, leaning every which way in hot green light. June, the sky a blank blue. They'd gone down to the water to refill their bottles, and there, in a little embayment between white boulders tumbled by snowmelt floods, Karl found the ogre's bootprints in wet gravel at the river's edge.

A gangling blond lad of twenty summers, Karl wiped sweat from his eyes as he stared down at the prints—flat, intagliated with the waffle pattern of oldtime shoes—and felt no elation. After a moment he called over the others.

Anaxander nervously shook black, elflocked hair from his eyes and barely glanced at the prints before dancing away, trailing a high happy babble, *ulu-la-ulu-la-la*, then spinning around and cocking his head to listen to the trill of some bird in the woods that rose above the river. Meanwhile, Shem put his hands on the knees of his jeans and puzzled over the sign: poor, slow, patient Shem. He'd been the best hunter of all, Karl's mother had said, before the transgression which had brought down the changelings' anger. They had broken the edge of his intelligence then, leaving only a dog's dull unquestioning loyalty. Karl had never learnt what Shem had done; none of the hunters liked to talk about it, not even his often outspoken mother—and now she was gone, sent by the grim changeling who had charge of the hunters' guild to track down the last of the ogres in the rainy forests of the North Pacific coast.

Karl said impatiently, 'Not such a big one this time. My weight or maybe a little less.'

'. . . Maybe,' Shem said at last, and straightened, squinting against the sundazzle that salted the swift-running river. Sweat shone on

the dappled horseshoe of baldness that pushed into his red hair. He said, 'Let it be clean this time, boy. None of the talk. Just do it.'

'Talking about the oldtime doesn't harm,' Karl said, smiling, sure in his power over the older man.

'. . . Maybe. I don't know, boy.'

Karl swatted at a mosquito. 'There's an undine in this river, right? Worth calling up, I guess.'

'I guess,' Shem said, while Anaxander pulled the little wooden pipe from his belt and trilled the notes of the birdsong he'd just heard.

Squatting in hot sunlight, Karl laboriously scratched the necessary signs on a heavy granite pebble with his bodkin, then straightened and lobbed the stone out into the central current. Immediately, the glass-green water there boiled in white foam. An arm as long as Karl was tall broke surface, huge hand spread to show the membranes looped between the fingers; and each finger tipped with a claw curved like the thorn of a rose. Then her inhuman face, hair tangled like waterweed about it; then her shoulders and breasts, as smooth and white as the boulders of the shore. Water spraying from the gill-slits in her neck, the undine sculled in the current, turning to face the hunters.

But she had little to tell them. Yes, she said in answer to Karl's questions, yes, the ogre had drunk the water of the river that morning, just after dawn. And yes, there had been only one creature. But when it had drunk its fill, it had turned and gone up the hillside, and the undine knew no more of it. Karl thanked her and she sank back, hair floating out from her face as water closed over it and she dissolved into her element. Then there was only the sound of the river and the high piping of the birds in the green woods.

'Come on,' Karl said, picking up his blanket-roll. 'There are bound to be tracks through the undergrowth up there—the dirt's so wet you can kick a spring out of it with your heel. What is it, Ax?'

Anaxander was pointing across the river. Karl shaded his eyes and saw a deer step daintily over a spit of gravel, then lower its head and drink.

'I see it,' Karl said, 'but it's on the wrong side. I could put an arrow in it, sure, but I'm not swimming across to get it, and none of us can walk on water. Or can you, Ax, huh?'

Shem said hoarsely and urgently, 'They said it was not allowed to kill anything but the ogre. You remember, boy, remember the cow. Ready for us when we return. Not allowed, here.'



The placid Jersey cow, her long-lashed eyes looking trustingly at the village slaughterer as he placed a hand on her white muzzle. Her abrupt sideways collapse. Karl said bitterly, 'You'd think we'd be free of their damned rules up here!'

Shem shrugged; Anaxander piped a fragment of the tune which the girl had sung. Karl reddened and plunged his fists into the pockets of his long cotton coat. No use scolding the idiot, he probably didn't mean anything by it. Although you were never sure, never really sure. Anaxander was an idiot, but he was also a changeling. You never really knew what went on behind those clear blue eyes. 'Come on,' Karl said, after a moment. 'Still a long stretch before sunset. The damn ogre might even have its lair near, huh? So put that pipe away, Ax. It might hear.'

Shem glanced at Karl, and the boy, his ears beginning to burn, turned and started off up the slope beneath the trees. But as he cast about for signs of the ogre's passage—moss scraped from the ground, a bent twig, a fresh-turned pebble—he could not help remembering the girl. The changeling girl as she had come along the shore of the lake with the basket resting on the swell of one hip, butterflies dancing about her long hair in the sunlight. Karl remembered her with angry helplessness mixed with loathing. No. She was not, never would be, for the likes of him.

They had arrived at the village, Karl and Shem and Anaxander, around noon two days before, their horses tired and fidgety in the heat. There was a thorn fence twice the height of a man, its barbs as hard and as sharp as tempered iron, and so thick that the gate, barred and bolted, stood at the end of a kind of tunnel. The three hunters had to wait outside until the sun sank to its last quarter before the village began to wake and the kobold which guarded the gate would let them in. Karl, thirsty and with a thick head from sleeping in the heat, followed the shambling gatekeeper with the others, leading their horses over close-cropped turf. Sheep scattered from their path.

The village stood beyond fenced hay meadows, near the shore of a lake that reflected the dark trees encircling it: a huddle of white-washed stone cottages each in its own garden and thatched with reeds, backed by strips of vegetable gardens and white-fenced

paddocks where horses grazed. The three hunters were led away from this to a big barn with a hex-eye painted on one side like a target, which stood next to a rambling single-storey house.

These belonged to the village slaughterer, of course, a gnarled, bird-like man who dismissed the kobold and took charge of the hunters, showing them into the barn and telling them to wait for the village council. The hunters watered and brushed down their horses; then, while Anaxander and Shem sprawled on clean straw and slept again, Karl sat just inside the barn's big, square door, fretting at the delay even though he should by now have become used to the changelings' disdain.

Beyond the barn, a grassy slope ran down to the edge of the lake. Presently, a girl walked down from the slaughterer's house with a wooden bucket, and Karl watched as she stooped to fill it, and watched her walk back, her soft leather kilt flapping at her plump calves, sunlight shimmering on her cotton jerkin, on her long flowing hair and the scraps of colour which danced about it. Then she was inside the house, the door closed. Karl saw that, further along the shore, the deputation of the village council was making its way towards the barn.

Karl rose and shook the stiffness from his legs, roused Shem and Anaxander. Blue eyes shining mischievously, the changeling pranced about the two men, blowing shrill dissonances on his pipe; Karl managed to grab his arm and push him forward into the sunlight just as the villagers halted outside.

At first glance the half dozen men and women were unremarkable, but something about their bearing, a pure, calm certainty, always intimidated Karl, so that he became uncomfortably aware of his shirt sticking to his shoulderblades, the dirt under his fingernails, the rank smell of his own sweat mingled with that of his horse. Their spokesman, a plump man of fifty or so, started off by addressing Anaxander, and when Karl pointed out the error simply shrugged and said to the idiot with solemn courtesy, 'I am sorry, brother.'

Karl said, 'He doesn't understand much of anything except music.'

'He understands,' one of the women said, eyeing Karl and Shem with displeasure.

And so as usual it began badly, Karl angry yet at the same time more afraid than he cared to admit—for any one of the changelings, however homely their appearance, could have twisted him inside out as easily as snap a pod of peas. At least it was a straightforward task. The spokesman explained that the village had long suspected that at least one ogre survived in the hills beyond the lake, and that suspicion had been confirmed when a freshly killed unicorn had been found there. Karl guessed that the villagers had in fact tolerated the creature for some time; ogres were often the source of a multitude of minor nuisances around changeling villages, either from genuine hatred, or foolishness, or simple bravado, rarely the agent of a single outrage. Easier to ignore such trespasses than cause the kind of upset a hunt involved, raising the guilt of the deaths of all the people of the oldtime: but the murder of a sacred creature could not be ignored.



So he said, 'Unicorn, huh? Well now. How long ago was that?'

'Twelve days.'

Karl considered, working out the time it had taken to organize this hunt, the time they had taken to ride out here. He said, 'Why did you wait two days or more before notifying our guild? The thing could have left the area by now.'

'There was, as now, a reshaping. That could not be disturbed.' The plump man's gaze was remote and unfathomable, without trace of guilt. As always, Karl was made to feel that, somehow, he was in the wrong; he fumbled through the rest of the routine, the questions about when and where, and was relieved when the changelings took their leave.

Later, the girl Karl had seen filling her water-bucket came up to the barn, a basket balanced on an outthrust hip: a flagon of cider, a ripe cheese, bread, honey. Karl thanked her, then said impulsively, 'Your father is the slaughterer, right? I guess we have something in common.'

The girl lowered her gaze, and Karl was able to study her round, pretty face. Her long hair had been braided over one shoulder. A butterfly sat above the swell one of her small breasts made in her cotton jerkin, wings pressed upright like praying hands; others, he noticed, fluttered in the warm shadows of the barn. She said, 'You are surely too young to be a hunter. I have heard it said that they are not allowed children.'

It was true, of course, and Karl blushed to be reminded of his singular birth. The changelings put something in the food of the Hunter Towns, it was said, or in the water, or in the very air, some

oldtime poison that stopped women conceiving. Away from the Hunter Towns the poison wore off, so hunting parties consisted only of men or of women; but sometimes hunting parties would meet in the wilderness, by accident or design. In one of her more drunken moments before she had left for the North Pacific coast, Karl's mother had told him that his father could have been any one of three men: he had hated her for that. Now, he told the girl boastfully, 'I've been a hunter five years now, killed eleven ogres.' He realized at once that it was the wrong thing to say, and quickly added, 'You mustn't be frightened of me. I've come to help your village.'

'Oh, I'm not at all afraid of you.' Her smile was the merest upcurving of the ends of her delicious lips. How old was she? Fifteen? Sixteen? All of Karl's drinking companions were at least as old as his mother or Shem, as were his few lovers and fewer confidants. He had the briefest fantasy of running off with the girl, finding a place in the wilderness to live as the ogres did. Hunters did that sometimes, and were hunted down like ogres for it. And then Anaxander pranced over, blowing fragments of some remembered melody through his little pipe, and the girl shied.

'Don't worry,' Karl said. 'He's harmless too, really he is.'

'But why is the brother with you?'

'He's one of you, all right, but stupid, you understand? The brain damaged. All he understands is music; any tune he hears he can play right back like one of the oldtime machines.'

The girl drew herself up and Karl was suddenly afraid. Her gaze was bright and imperious, like a sudden blade of light in the dim barn. Butterflies swirled around her head like multicoloured flakes of flame. She said, 'You must not talk of such things.'

'I didn't mean—'

'I must go now.'

'I'm sorry,' Karl said. 'I didn't mean to upset you.'

'Really, I must go.' Was her gaze softer? 'My father and mother must have an early supper. There is a change, this night.'

'What are they doing to the world this time?'

'It's not our place to know.'

And then she was hurrying away over grass striped with lengthening shadows. And she sang as she went, some atonal complex chant sung in a high clear voice that touched something in Karl even though he understood it not at all.



And now, as the hunters followed the ogre's trail through the steeply slanting forest, Anaxander pipingly played fragments of the girl's song, mixed in with scraps and snatches of other remembered melodies, and Karl mumbled at the edges of his memory of her, trying not to think of the terrible thing which had happened later. No, she wasn't for him.

At least the trail was easy to follow. Rather than keep to the clumps of rock which thrust through the rich mould of the forest floor, the ogre had followed a winding path over the soft ground between. It was almost too easy, but then all ogres were old, now. Karl's mother had regaled him with tales of desperate fights and hard tracking in the old days, and if even half those stories had been true, those ogres which remained were poor relics indeed. The last one Karl had helped dispatch had been quite without speech, a baby no doubt when it had all changed, grown wild in the years since, no more than a frightened animal. It had been a long time since Karl had learnt anything new about the oldtime, and that had been from the babblings of an arthritic half-crazed crone to whom Shem's knife had been a blessing.

They were high above the river now, could see an oldtime road like a broken-backed snake amongst the trees on the other side. Karl tried to imagine what it had been like, with *autos* roaring along in clouds of fire and smoke—that at least was something all the ogres agreed on, the terror and majesty of the oldtime roads... Shem had stopped, was sniffing the air. After a moment Karl caught a trace of the scent, raw and foul in the hot air.

'Spiders,' Shem said.

They went on cautiously, and soon Karl saw filthy grey webs swagged from tree to tree ahead, glimpsed a dark shifting movement within their shadows. He shivered. 'I wonder what they were thinking of, bringing those things into the world.'

Shem wiped sweat from his balding pate and said, slowly and seriously, 'Everything has its purpose. We aren't to understand it.'

'Pity they couldn't dream up something useful, something that would hunt down ogres.'

'They have us,' Shem said after a moment.

'I guess so, and what would we do if we didn't have hunting? I'd hate to be on one of those labour gangs pulling down the old buildings.' Although sometimes Karl wondered just what was left in the miles of brick and concrete the gangs were slowly turning back

into the earth. He sighed and settled his blanket-roll more comfortably. 'Well, it won't have gone through those webs, anyhow. Spiders'll eat an ogre as happily as you and me, or you, Ax! Don't get too close now! Let's look around.'

After only a brief search Shem gave a low call and Karl crossed to him, jeans brushing through ferns. The older man pointed to the freshly broken sapling, the waffleprint beyond.

Karl flapped at the midges which danced around his head. 'That's strange,' he said. 'The ogre is pretty lightfooted, but here it's broken this sapling like it deliberately stepped on it. As if it wants us to follow it.'

'Stupid, maybe,' Shem suggested. 'Killed the unicorn, after all.'

'That was dumb, not stupid. There's a difference. We'll go easy, you think? Watch every step. You hear, Ax?'

Grinning broadly, the idiot changeling shook hair from his white forehead.

There were other signs as they climbed the slope, slashed branches, red earth scraped free of moss. Karl, following Shem's example, cut a sturdy sapling and used it as a staff to probe before him, but it was Anaxander who sensed the trap, where the ogre's trail passed between two lichenous outcrops of rock.

The point of Karl's staff sank deep in the litter of broken branches there, and he kicked them aside. Beneath was a freshly dug pit, shallow and perhaps an arm's-breadth wide, twice as long. A dozen or more sharp-pointed stakes were set at its bottom, whittled points smeared with shit.

Shem looked at this for a long time. 'Survivalists used this trick, long time ago now. All dead I thought. They wanted to fight, not hide. Kids left arsenals by their parents, see. I don't know . . .'

Anaxander was watching them with wide anxious eyes, and Karl said, 'Don't worry, Ax, it's long gone. This trap, see, it hoped to catch us.'

Shem scratched his stubbled chin.

'Now we go real slow,' Karl told them.

But there were no more traps. The ogre's tracks, mostly keeping to a narrow deer-trail that wound amongst the trees, led on up the slope, crossed here and there by little streams. Karl's boots kept slipping on the skim of moss and liverwort over the wet clay. Here and there bushes with dark leaves were in flower, each small white star-shaped bloom as intense as an epiphany in the green shade.



Then the trees gave out to scrub and grass and at last the three hunters gained the windy crest of the ridge, saw other ridges rolling away beneath the blue sky. Far out a small shape was crossing the sky from east to west. Shading his eyes, Karl could just see that it was a chariot pulled by a phalanx of huge birds, and he felt a pang of empty jealousy: there was some changeling Lord or Lady and here he was, slogging through the muck of the world.

The ogre had left a trampled track through the long dry grass. The hunters followed it down the reverse slope, and had not gone far into the trees when they reached the edge of a clearing where an oldtime ruin sagged in a shaft of sunlight, the collapsed shell of a wooden house beside a little brook shaded by dense ferns. There was a ragged black hole at the base of the ruin, a little apron of earth stamped flat in front of it; off to one side was a pile of blackened bones and other rubbish.

By now the three hunters had established a routine; rather than try to smoke out the ogre, it was safer (even if tedious) to wait for it to emerge of its own accord. Shem crept around to the back of the ruin and found a hiding place in a clump of ferns by the brook while Karl and Anaxander lay in wait in front, watching the ragged entrance to the lair. Once, Anaxander made to draw out his pipe and Karl swatted the idiot's hand away, whispered to him to be quiet and still. The changeling looked at him with wide eyes, then rolled over to look up through the trees, his lips moving as he mumbled some melody or other. Unwittingly, as he waited, Karl's mind circled about the memory of the girl in the village, and of what had happened on that night, the night of the reshaping.

He had taken a hunk of bread from the food she had left, poured himself a hefty shot of cider and retreated into the depths of the barn to brood on the day's small humiliations. And must have fallen asleep, for he woke with hazy light drifting through the doorway, the warm night beyond. Shem and Anaxander snored at different pitches. His muscles stiff from the day's ride, Karl stepped to the doorway. The air seemed to tingle with anticipation, small static discharges, and he remembered what the girl had said: a change.

Outside, the moon rode like a bruised baleful eye in green and yellow scarves of light which washed the whole sky. The little lights of the village shone around the swerve of the lake shore like stars

settled to earth. Although the night air was warm, Karl shivered, wondering what was being worked on the world, what new thing was being brought into it or what was being changed, by the collective will of the changelings operating down in the whirl of elementary particles where *what is* blurs and widens into a myriad possibilities.

The lights of the slaughterer's house were also lit, and by their spilled glow Karl saw a pale shape on the grass near the edge of the water. The girl. His heart beating quickly and lightly, he walked down to her. Halfway there all the lights of the village and the lights behind him went off, but he was able to see well enough by moonlight and the cold flickerings of the aurora.

The girl sat crosslegged, leaning over the cradle of her knees. She didn't seem to be breathing.

Karl said, 'I couldn't sleep either.' There was no reply. When he knelt beside her he saw the whites of her eyes showing under her half-closed lids. 'Hey,' he said softly, and dared to touch her shoulder.

She shuddered, and in the same instant Karl felt a kind of contracting coldness over his whole skin. The change. The girl's mouth hung open, and he thought that he saw her tongue flick out. No, whatever it was, was like a pair of little whips. Then the dusty wings broke free of her lips and the fat moth flutteringly fell.

The girl was making a kind of hollow gargling. Something else was pushing past her lips with a slow heaving motion.

Karl fled, falling once and smearing grass and dirt on the knees of his jeans, getting more dirt under his fingernails as he pulled himself up and ran on. In the stuffy, scratchy heat of the barn, he lay awake a long time, seeing over and over the moth push out of her mouth into the world. And now, sprawled in dusty fern fronds, watching the entrance to the ogre's lair, he shivered despite the warm air at the memory, a queer cold feeling in the pit of his stomach. His mother had been right when she had said, as she so often did, that the changelings were not human.

The sun sank lower, brushing the top of the fern clump where Shem hid with brassy light. At last, Karl saw a stirring in the ragged hole at the base of the ruins and the ogre poked out its shaggy head, pausing as if to sniff the air before slowly and painfully crawling into the open. At once Karl stood, and after a moment Anaxander sprang up too, trembling lightly. The ogre brought up its



rifle and there was the faintest click. 'Damn,' it said in a high cracked voice, and Shem launched himself from his concealment and knocked it into the dirt.

It was a woman, of course. Karl had guessed as much from the unicorn's murder. An old, scrawny woman, wrapped in a kind of cloak of badly tanned deerhide over ragged, faded oldtime jeans and workshirt, more darns than cloth, her hair tangled in greasy ropes. But she could talk, and once she realized that she wasn't going to be killed straight away she grew garrulous, told Karl that the unicorn had chased right after her to lay its great golden horn in her lap. That was when she had cut its throat.

The wrinkles on her face rearranged themselves around her smile. 'Thought it was going to spear me straight off.'

'It would have, if you hadn't been . . . well.' Karl felt a cold clear elation, could only just control his eagerness to press out all that this creature knew.

'A virgin, oh yes! Never was anything but a few of us girls out here, heh heh.' Then she frowned and said, 'I hate those things they make. Hate them.'

She needed only a little prompting from Karl to yield up her life story. Her name was Liza Jane Howard, she said, and she had lived here most of her life. 'When the change came Pappy hid me here. He was a biologist, knew he was dying, everyone past puberty was dying, but didn't know the superbrights had done it. I didn't either, for the longest time. Changed the bacteria in the guts, see, so they killed any adult. After a couple of years it was all over, and then I guess they changed the bacteria back, so they could grow up, huh?' Karl nodded. He already knew this much from his brief interrogations of the other ogres he had helped to track down. 'I stayed up here,' she said, her eyes unfocused, that time of winnowing closer to her than the blue evening. 'Kept to myself, that's how I survived. Oh, I'd talk to a few like me, but never let them know where I lived. Had a little girl here once, in the early days, sick little thing, died of pneumonia inside a month. Never did learn her name, suppose it was a blessing, huh? Haven't seen anyone for a couple of years now. Soon we'll all be gone and there'll be nothing but the superbrights.'

'Those are the changelings,' Karl prompted.

'You don't know, boy? See, back in the old days there was a way

of enhancing a baby's intelligence before it was born, all the rich people had it done. But they didn't know just how much they changed those damned kids until the kids started changing the world. All the adults going was the first of it.' She peered at Karl. 'You didn't know?'

'Not the whole story.' His mother had never taught him any history; but his mother had only been a baby when it had happened, an ordinary baby.

On the other side of the clearing, Shem coughed and spat, as always disapproving of this talk, wanting to finish the job. Anaxander scuffed at the grass, watching the ogre with mingled fear and fascination.

She said, 'Wonder I stayed alive as long as I did, with all the changes going on. Waking up and finding giant *spiders* hung in the trees, or little dragons hiding under stones, whistling like kettles. And the wolves came back, never sure if that was natural or their working. Heh. Soon enough they'll have changed the world right out of the goddamn universe, then where'll you be, eh boy? You ever think about what'll happen when you hunt the last of us down?'

Karl remembered the cow killed in readiness for their return, the trusting way it had followed the slaughterer, its sudden unstrung collapse at the touch of his hand.

The ogre cackled. 'Know why they changed it the way they did? You ever read oldtime books? Pappy left me with thousands.'

Karl couldn't read, but he had heard about books from one or two of the ogres. His curiosity tingled under his entire skin. He had never before met an ogre who knew so much about the way things were before it changed.

'You come inside, boy. I'll show you,' she said. 'Show you where it all comes from.'

'Sure, okay.'

Shem stood, hand on the sheathed knife at his hip. 'Listen, boy, that's a bad idea, a crazy idea.'

'She can't hurt me,' Karl said angrily. He had to know, had to see. Anaxander looked at him, looked at Shem, eyes wide. Karl said to the idiot, 'It's okay, isn't it, Ax?' But the idiot looked away indifferently.

'I haven't a tooth left in my head,' the ogre said, 'and you've got my rifle there. I just want to show him how it was.'

Shem pressed his hands over his ears, shook his head.



'Come on,' Karl said, and pushed the ogre towards the ragged hole.

It stank inside, a mixture of old urine and sweat and hot tallow from the candles which burned in niches in the crumbling brick walls. A pile of rotting cloth made a kind of nest; more covered the floor, tearing beneath Karl's boots. He had to stoop beneath the cobwebbed ceiling. Muttering, the ogre rummaged through a pile of rubbish, disturbing insects which skittered away into shadow. At last she held up something big and square, opened it to show still-bright pictures. 'See,' she said, riffling the pages in front of Karl's face, 'see?'

The pictures didn't move, as one ogre had told Karl, but still they held his entire attention: drawings of dragons, of griffins, of a unicorn with delicate hoof raised in some impossible leafy bower, of a village—he grabbed the book, peered at it in the uncertain candlelight. A cluster of white, thatched cottages surrounded by a high thorn fence, in a clearing in a dark forest. 'What is this?' he said. He couldn't understand how an oldtime book could contain images of the here-and-now.

The ogre cackled, shadows deep in the lines of her face. 'A children's book. Understand? Something made for children to look at, tales of made-up places to entertain them. When they changed the world, the superbrights were only children, the oldest my age back then. Eight, I think. Hard to remember. Most much younger. This was all they knew, so this was how the world was changed. All out of fairytale books. Only it's real now, Utopia built on the bones of almost everyone who lived back then. Look at that, let me show you something else.'

While she rummaged, Karl turned damp, mottled pages, blinking at the fantastic illustrations of the familiar. The ogre turned to him again, and he saw that she held a little pistol. Something in him relaxed. He had been expecting some such trick.

'My damn rifle might not have worked,' she said calmly, 'but this'll do for you and your friends. No offence.'

The click as the hammer fell was small in the dank space. No other sound.

Karl said gently, 'It's Anaxander. He's an idiot, but he's also a changeling. He has a power which stops weapons working against him or against his friends. He doesn't even have to think about it: it's like blinking.'

The ogre screeched in rage and threw the pistol at Karl. He

ducked and it clattered against brick as she rushed past, scrabbled through the entrance hole. Then silence. One by one the candles resumed their level burning. Karl calmly searched for the pistol and tucked it in his waistband, then crawled outside. Shem stood over the ogre's pitifully thin body, licking blood from the blade of his knife.

Much to Shem's disgust, Karl insisted on burying the body. The older man sat on a boulder as Karl scooped out dirt with a board and said sulkily, 'Won't do any good. Wolves will come and dig it up.'

Karl furiously attacked the earth and didn't reply. By the time he had finished the evening light was almost gone. Sweating, he rolled the ogre's body into the hole, kicked dirt on top of it, stamped it down. Shem watched impassively; Anaxander idly piped fragments of melody. Karl took a pebble and scratched a spell on it, tossed it into the lair. Flame licked out instantly. The only conjurations he'd been taught were those which called up elementals, but they were enough.

Anaxander leading (glancing back now and then to see the shapes the smoke made as it rolled into the sky), the three hunters climbed through the forest. When they came out of the trees at the crest of the ridge they saw that the sky was alive with slowly writhing banners of light and Anaxander pointed, grinning delightedly. As they went on the changeling took out his pipe and played a slow rolling melody in solemn celebration of the change.

Shem said to Karl, his voice low, 'Throw it away, boy.'

Automatically, Karl's hand went to the pistol tucked in his belt.

'Won't do you no good. If *he*—' Shem pointed at the idiot who pipingly paraded ahead of them—'can stop oldtime things working, any of them can, I should know, huh?'

'That's just what they did to you talking.'

'Maybe so. Can't see how I'd tell. Don't want to see you in trouble, boy, is all.'

'What will happen?' Karl cried out. 'What will happen when they don't need us anymore?'

Shem shrugged. Further down the trail Anaxander looked around, green eyes luminous, then went on, playing his slow tune. Karl hefted the pistol, real as any unicorn or dragon, then abruptly threw it far into the undergrowth. The loss didn't matter. He knew



now that a part of the oldtime lived still, would always live, in the fabulous conjured beasts, in the very stones, white as bone, of the cottages of the little village by the lake, of all the little villages of the changed world.

'Come on, boy,' Shem said, and Karl hurried to catch up with him. Together, they followed the changeling down into darkness.

# PIECEWORK

DAVID BRIN

It annoyed Io's best friend to give birth to a four-kilo cylinder of tightly wound, medium grade, placental solvent filters.

For five long months Perseph had kept to a diet free of sugar, sniff, or tobac—well, almost free. The final ten weeks she'd spent waddling around in the bedouin drapery fashion decreed for pieceworkers this year. And all that for maybe two thousand Eurodollars worth of industrial sieves little better than a *fabricow* might produce!

Perseph was really ticked.

Outwardly, Io made all the right sympathetic sounds, though actually she had little use for her friend's anger. It had been Perseph's choice to hire her womb to a freelance codder of dubious pedigree, without even vetting him through an agent.

'They're all sperm crazy,' Io had warned months earlier, as the two of them sat together on her narrow con-apt balcony, watching a twilight-flattened sun squeeze berryjuice colour into stained horizon clouds. Nearer, a warm mist sublimed from the boggy reed beds of the Mersey estuary, a haze presently fanned into tattered wisps by homebound flocks of noisy sea birds.

'There's no profit in placental jobbing, and no hope for advancement,' Io told Perseph that evening. 'Me, I'll stick to egg work.'

'But eggs jobs cost you to get started,' Perseph complained. 'And a failure can ruin you with non-delivery charges. Then where's your investment?'

As if Perseph knew what the word meant! Like most pieceworkers, the tall brunette never saved a penny out of her delivery fees, blowing it all on the move-party circuit until it was time to return to her dole cheques and her next surropregnancy. No wonder Perseph stayed with placental-fab. Some people just had no ambition.

Io vividly recalled that evening, several months ago, when the two of them watched silent marsh fog diffuse over the muddy river



banks into Ellesmere Port's cattle yards, softening the complacent lowing of the animals, if not their pungent aroma.

Twenty-four hours a day, lorries pulled out from the milking sheds and parturition barns, carrying bulk loads of gene-designed oils, polymers, and industrial membranes. The mass production of specially bred fabricows dwarfed the output of smalltime contractors like Perseph or Io. Rumour had it ICI housed their pampered creatures here on the south bank to intimidate the pieceworkers living in derelict marinas and towering co-op houseboats nearby.

If so, the cattleyards had an effect on Io opposite to that intended. They boosted her morale, reminding her that there were still some things neither animals nor machines could do as well as a human craftswoman. No fabricow would ever produce wares as fine as hers!

That evening, months ago, Io's friend had only just begun her latest surropreg and still yearned passionately for the chemical pleasures now denied her by guild rules. Of course, soon Perseph would be substituting a mellow high from her own hormonal flow. Meanwhile, though, she made pretty miserable company.

'No way, Io. I don't think I could hold out long enough to do egg work. It takes so long, I'd go crazy for a party.'

'But Pers, look what Technique Zaire's paying for a prime cockatrice, these days. Or a shipbrain—'

'A shipbrain! Hah! How would a piece like me ever get seeded with a shipbrain! If I ever signed up for eggwork they'd knock me up with . . . with a traffic cop!' Perseph laughed, a sound Io felt had grown more bitter of late.

Io shook her head. 'All I know is I don't want to have to scrimp for another ten years. Two more successful carries and I'll have paid for tuition and a licence, and have enough left over for nestworks. Anyway, eggraft leaves me needing less retroconversion.'

'Hmm,' her friend had said, dubiously. 'Meanwhile you live like a tweenie, saving all your bonuses, cashing in all your hobby and travel 'lotments. I swear, Io, sometimes some of us think you—' Perseph bit her lip. 'Well, you just don't party enough.'

'I've got no time for move-parties, Pers. You know that. There's college . . .' Instantly Io knew it had been a mistake to mention it. 'College' had such a posh sound to it, even if she were just attending evening classes.

'Argh,' Perseph had twisted away in disgust, a motion that set her

visibly grinding her teeth. She grunted, covering her already tender abdomen. 'Io, you make me tired just thinking about it. Some ambitions just aren't worth the effort.'

That conversation had distilled the difference in their views, and from that day forth they had simply avoided the subject.

But now Io recalled the occasion with eidetic detail as she walked alongside a slowly crawling recovery couch, brushing her friend's sweat-damp hair while postpartum enzymes dripped into Perseph's veins, gradually displacing her cheeks' chalky pallor with a healthy colour one could hardly tell from natural. Over one armrest, a glowing monitor measured Perseph's recovery from the strains of labour, pacing the slow forward progress of her couch to the strengthening of her vital signs. Pieceworkers in the sperm trade hardly ever got visitors on delivery day. What would be the point? So these moving couches weren't equipped with sidecars, only tiny, spring-mounted jump stools. Io preferred to walk, eyes ever alert for the maintenance carts and cleaner beasts scurrying about on pre-assigned courses. Normally, she'd simply have called after Perseph got home. But Io had been in the neighbourhood, so she dropped by to surprise her friend.

Now she was starting to wish she hadn't. Though Io knew her reaction was old-fashioned, these wholesale decanting centres tended to give her nausea.

She brushed Perseph's black ringlets while rows of other recovery couches periodically emerged from unloading bays like new vans off assembly lines, each conveying a tired, limp, freshly emptied pieceworker. Occasionally, as the doors opened, cries spilled into the vast recovery hall—from the panicky ululations of an ill-trained first-timer all the way to the rhythmic karate-shouts of a skilled veteran—the melodies of modern industrial labour.

No, Io vowed within her thoughts. I'll stick to egg work.

The brush caught on a knot of Perseph's hair. The woman cursed. 'Wrigglers!'

'Sorry, Pers, I—'

'No, dammit, look at that! I knew it!' She bit her thumb at a shimmering holoribbon traversing the vaulted ceiling, carrying late quotes from the Bio-Bourse.

'Meconium! I knew I should've delivered three days ago. Look what's happened to solvent-filter prices since then! But no, I just *had* to try to put on those last few grammes.'



Disgusted, Perseph shifted on the bed, causing a large lump to jiggle beneath the sheets, like a hunch-back dwarf under a tent propped by her shrouded legs. 'Hey! Watch what you're doing down there!' Perseph slapped the squirming bulge.

Snuffled grunts, a phlegmatic fart, were her only answer.

'Damn, cheap model cleaners,' she muttered. 'I'd do better without them.'

Embarrassed, Io looked around. But none of the other recovering workers riding nearby trollies seemed to notice. Some slept complacently. A few spoke on hush phones, only their expressions hinting whether they were talking to agents or loved ones. Others watched soaps on tiny armrest TV sets while tailored enzymes dipped into their arms, cutting the time the Company had to maintain this service on overhead. The couch amenities were required under the Piecework Labour Act. There, at least, the guild had actually done some good.

A few of the ladies on nearby carts looked high already, probably on smuggled-in drugs, taking advantage of their very first moments free of surropreg discipline.

'Look, Pers, I'm glad I caught you coming out. But my lunch break's almost over, and I need a protein fix before going back to work.'

'Work?' Perseph had a dark glitter in her eye. 'Have you got a *job* now, too?'

'Uh, yeah.' Io instantly regretted the slip. 'It's—it's only quarter time, Pers. One of my teachers noticed my reading level was up to . . . well, I've been filing records at a psycher's office. It's no big deal . . .'

'College *and* a job. Crapadoodle.' Perseph shrugged. 'All right, go and squeeze in lunch.' She jabbed idly toward Io's abdomen. 'Can't let the little toaster starve, can we?'

Perseph punched a button activating the Soap Channel on her armrest TV—no doubt to annoy Io, who quickly averted her eyes from the seductive, flickering images. Io avoided *all* addictions.

'Um, yeah. I'll—I'll come and see you after you're back on your feet.' But Perseph had already focused on the detergent drama. 'Ymmm,' her friend said.

Stepping away, Io had to move nimbly to dodge a careening service cart. By instinct her hands moved protectively over her swelling belly. She felt motion within, responding to her increasing

heart-rate—almost as if the thing inside her were actually alive.

Her tender left breast throbbed.

'Green shit!' Perseph's voice really carried this time, drawing looks from all sides. 'That does it!'

The sheet flew back. With both hands, the dark-haired pieceworker dislodged a small furry creature from between her thighs. 'Get out! Women have sealed their own capillaries for hundreds of years without pissface little lickers like you. Beat it!'

A plaintive cry. Service uncompleted. Meal unfinished. The artificial beast dodged Perseph's kicking feet and crouched at the end of the chaise, mewing for a handler to come and take it from this unappreciative woman.

Io turned quickly and hurried away.

The usual crowd loitered by the exit, eyeing each weary pieceworker as she emerged blinking into the sunlight.

Pedicabbies offered rides home on government vouchers. Codders passed out their cards and offered to show off their licence tattoos. The inevitable scraggly pair of Madrid-Catholic protesters walked their wellworn tracks, placards drooping disconsolately.

The codders were the worst. Of course you had to have codders to run the sperm trade. Placental filter makers like Perseph could never afford to have their own genetic programming done. Even a bundle of high quality platinum-sieves only paid off in five figures, and a woman was limited by law to twenty-five surropregs over a lifetime. So it was men who underwent the expensive treatments to have their reproductive cells modified, amortizing the cost against the commissions they received from each pieceworker who carried their wares.

The codders who haunted the exits of decanting centres were generally of a pretty low order—either desperate to grab their percentages on the spot, before their tired clients could blow their fees, or so hard up for customers they'd hawk their patterns to women coming straight off decanting.

The idea made Io feel queasy. Imagine even thinking about another knockup with two hours of labour!

And yet, she saw several pieceworkers of her acquaintance emerge from the recovery bay and stroll gingerly over to the crowd of strutting males—all dressed in bright, tight-fitting tanktops, their multi-coloured leggings converging on codpieces tied with laced



bows. The codders treated their prospective clients with exaggerated courtliness, offering folding stools, drinks, and sprays of flowers to any fem willing to sit and hear about their exciting, latest-model designs.

And they say romance is dead, Io thought ironically.

'Hey Io, milady. You are the fair one, aren't you?'

Hair processed flat, parted down the middle in the latest style, his leggings were yellow and bright pink, and the padded codpiece a polka-dot combination of the two. He was lacing up one side, as if he had just finished showing off his licence to a client.

'Um. Hello, Colin,' she nodded. The codder was part of Perseph's party circle and so, by convention, a friend of Io's as well. Though there were many types of friends.

'You're here furly early, no Io?' He eyed her surropreg garb, barely yet filled out with the fruits of her own production.

'I came down to see Perseph.' She nodded towards the recovery bay. Colin's eyes widened.

'Fave babe! Thank you, Io. I'll station this ever-welcome selfsame to whip out my card just as she re-enters the hurly world.'

'Just make sure that's all you whip out, Colin. There's ladies present.'

Colin guffawed. As Io intended, he took her remark as a sarcastic, off-colour jibe—unit coin in the strange protocol of jest-bonding. He couldn't know that on another level Io had meant every word, literally.

'So when's your time to give over and do your work the natch-way, Io?'

'By natural, I assume you mean by grunt and shove? Letting a codder like you take ten per cent of my fees and all the credit? No thanks, Colin. Eggwork may be harder, but it's between me and the designers—'

'Between you and cold glass and rubber, you mean!' Colin's stiff grin said this was still repartee, but his voice was chill. 'Do you actually like it *like* that? Are you sure your profile reads hetero correctly, Io? None of us boys see it that way.'

Io felt a wave of anger. Who had told this cretin about her profile? Had Perseph? Was it possible to trust *nobody*?

Colin loomed over her, showing teeth. 'You know, Io, sometimes we get an idea you think you're better than the rest of us. Just because you stayed in tweenie-school, and prefer popping off

toasters instead of honest filters, like your friends. That doesn't make you a watch-fobber. You were born down here, babe. Grunt and shove is how you got started.'

Io's gut churned. In her Immature Interactions class she had begun learning how to parse exchanges like this—the way Colin was trying to intimidate her with words, body stance, and vague, intimated threats of friendship-withdrawal. Funny how one took this sort of behaviour for granted, until the day somebody finally gave you a model. Showed you that it was a *process*, like any other in the world. Then it all seemed to pop into focus, and suddenly looked so very silly and primitive.

Ah, theory was fine. But practical applications weren't in her curriculum until next term, and that wouldn't help Io now. She didn't know how to disarm this fellow's aggression, not without leaving him angry.

*Oh, what the hell.* Io decided she really didn't care what this tissue-stuffer thought of her, anyway.

'Read my lips, Colin.' Io leaned forward and mouthed words in street talk.

'Wrigglers . . . count zero; joppy turning floppy.'

Colin rocked back, paling visibly as his hands began a zigzag motion to avert bad luck. Too late, he caught himself. 'Heh. Ha-ha, Io.' He grinned, blinking away sudden perspiration as he glanced to see if anyone else had noticed. 'Very funny.'

He wouldn't forgive her soon for making him show his superstition openly like that. Io winked. 'Didn't mean it, Colin. Keep 'em high. Both the count and the jopper.'

She turned and left before he could reply, making off through the rank of pedicabs, past the limp, resigned pickets, across the bus lanes and out into the streets of Liverpool proper.

The crowds were as she'd always known them, teeming, bustling. All her life, Io had been awash in a sea of people. It was the way of the world, and would be until the population control measures finally took effect.

At least this century frowned on ostentatious class distinction, and coloured synthetic fibres were cheap. So nobody dressed shabby unless they wanted to. It took a sharp eye to pick out the types—the dole-fed majority, who spent their days seeking distraction at state-subsidized entertainments—then those with service jobs and some status—and finally the élite, the proud ones, the ones with real work to do.



Mostly the difference could be found in the eyes. Workers had a *look* . . . as if they *belonged* in the world, and weren't just marking time. Every time she noticed that look, Io felt more determined than ever to stay in college. To fight for not just any certificate, but the very highest. Nothing less would do for the survival of her soul.

A sudden wet touch behind her right knee sent panic flashes up her spine. She whirled, heart pounding, her right hand at her breast. Io looked down and sighed.

Bright brown eyes briefly looked into hers. A wet nose snuffled. Its fur was shaded in the blue and yellow bee-striping of official authority . . . the colours of a traffic cop.

The doglike creature, programmed with perfect knowledge of the vehicle code, dismissed Io with a snort and moved on. Traffic cops never forgot a face or odour, never forgave an infraction until the fine was paid. Watching it wander off through the crowd, Io found it hard to believe highly skilled pieceworkers once manufactured such creatures, back when they were experimental, before a final model was certified to reproduce itself.

Still sniffing, hunting violators, the traffic cop turned and disappeared into the crowd.

Io rested her back against a cool display window as people surged by. She looked down the street, seeking distraction as her heart-rate slowly settled again.

Apparently it was rubbish day here. Open-lidded green bins showed that the first set of lorries had already been by. But the red, yellow and silver dustbins still stood tightly sealed on the kerbs, awaiting pickup. Not far away Io saw a Recycle-Authority policeman ticketing a local merchant for failing to sort all the non-ferric metals out of his organic mulch. As the dispirited proprietor looked on he got no sympathy from the passers by. Certainly not from Io.

At last, calm again, she felt able to plot a route through the crowds towards a place where she could sit down to a palatable meal.

At least there's less rationing than there used to be, she thought, though they say it can come back, anytime.

Io wasn't really hungry, but that didn't matter. She ate more for the thing within her than for herself, anyway.

The 'toaster', Perseph and Colin had called it.

'I don't do home appliances,' she said, under her breath.

Still, the street slang struck Io with its wry aptness. Again, the product throbbed within her.

Yeah. Time to go feed her toaster.

*. . . By the year 2000 overpopulation had brought on three ominous consequences. The first of these had been foreseen by thoughtful people long before . . . that the needs of over six billion human beings simply exceeded the carrying capacity of the planet. Topsoil, mineral ores, fresh water, and the genetic pool of natural species, were among the non-renewable resources rapidly being depleted. Alternative, sustainable practices had to be found, and quickly.*

*A second effect of overpopulation, however, went almost unnoticed until quite late, and that was the matter of creative unemployment.*

*Most of the interim solutions enabling society to feed and house the billions arose out of productive technologies controlled by a small, élite labour force.*

*The rest of humanity was utterly dependent, unable to make any noticeable difference. Some countries masked this by providing 'jobs' in a 'service economy', but in the long-run serious alienation grew out of the frustrated human need to do work, work that is appreciated, work that is of real value to society.*

*Then there was the third great problem—that of misapplication of education. For while mammoth literacy campaigns had elevated the general level of culture, a great many people spent years learning to do things that actually required little, if any real facility. Meanwhile, the most delicate, most demanding job in history was being performed almost universally by unskilled labour . . .*

Io closed the book when twinges in her left breast surged again—prolactin-powered hot flushes that were made worse by a basic lateral imbalance.

The clash was fundamental. On one side an organ had been modified by premier industrial technicians and was now setting up to execute complex designer chemistry. At the same time, however, out from under her other arm protruded its conservative twin. Responding to pregnancy hormones, that breast was happily creating archaic precursors to next-to-useless fluids, fucking with her brain, making her imagine impossible things.

Though she tried to hide her discomfort, Io's agent noticed as he performed her weekly checkup.

'I warned you against leaving one tit in natch-state,' Joey reminded her while taking colour readings and sonograms of each



gland. 'Here I get you a bid to produce a really choice secondary product, Mobil's latest lubricant for high-torque tools, and you insist on only setting up at half capacity! You know what that does to your rep, Io? It *advertises* that you aren't serious about going fulltime pro. What am I to do with you, hm?'

Io put her textbook aside. 'You'll let me do it my way, Joey. That's what you're going to do. Anyway, I'll be producing with my left breast, also.'

'Producing what? Colostrum and homosap milk? What'll we do with that stuff, make cheese? Have you seen the latest futures? With the birthrate down again, they're a glut on the market!'

'They won't be when I deliver,' she assured him. 'Trust me.'

Nearby, the General Diagnostics surropreg monitor buzzed smugly, a reassuring, complacent sound where it would have blared for bad news. Pushing back a wisp of thinning blonde hair, Io's agent tore free a printout of her checkup results, while still muttering irritably. 'Trust me, she says! What are you doing, Io, reciting my lines? I'm the one that's supposed to say "trust me". You? You're supposed to say, "Oh, Joey, I don't know what I'd ever do without you."'

'That's what I like about you, Joey. You're even more old-fashioned than I am.'

As if to confirm it, and apparently unaware of the irony, Joey put on archaic eye-spectacles to scan the test results. 'You call it old-fashioned to retire on me, just when we've got that body of yours tuned to real premium capacity? Whatever happened to the work ethic?'

'I *want* to work,' Io affirmed as she craned to read the chart for herself. Nowadays she knew what the data meant, probably as well as Joey did. 'I just want to move up to a more demanding job.'

As she'd expected, everything was nominal. Io took care of her body. She picked up her blouse. 'So I can button up, now? Or are you getting turned on by preg-girls, these days?'

'Sarcastic too. Just for that, I won't tell you what I think you're carrying. You can find out on delivery day. Get dressed and get out of here, Io.'

One of Io's classes had recently covered status bluffing, so she knew better than to let herself be drawn in by Joey's bait. Obviously he had no more idea of what Technique Zaire had planted in her

womb than she did. 'You probably let them hire me to make a traffic cop,' she sallied, reaching for her book and jacket.

'Smartass. Just be on time for your next checkup. And stay out of trouble. And if your left tit makes you think any more weird thoughts, just remind yourself that toasters don't suckle; neither do traffic cops. And human milk fetches less than three pence a gramme.'

'Five,' she said as she turned the antique door knob. 'You'll see, Joey. Five pence a gramme, or I go back to knitting.'

'Hah. That'll be the day.'

But Io knew the price had to go up. It was just one reason for leaving her left mammary gland alone, no matter what unlikely illusions its archaic secretions sent churning through her head.

Some of her courses were clearly relevant to her chosen profession. In other cases, however, the applicability seemed much less clear. For instance, Io had to fight off ennui as her Industrial Reproduction lecturer droned on and on, covering stuff Io had learned way back during her apprenticeship in the egg trade.

'... Until the nineteen-eighties,' the elderly woman academic said at the front of the hall, 'some still imagined that cloning human beings would be as simple as cloning, say, frogs. In theory, all you had to do was replace the 23 chromosomes in the nucleus of a woman's ovum with a complete set of 46 from, say, one of her skin cells. Implant this "autofertilized egg" and nine months later you get a baby genetically identical to the donor. Voilà.

'Then we found out just how different mammals really are from frogs. For it seems that, during conception, human sperm does more than just deliver 23 chromosomes to match the mother's contribution. It actually *preconditions* certain of those genes to leap into action during the critical moments after fertilization. These genes are only activated if delivered in a sperm. Similarly, other genes only express working enzymes if they originated in an egg ...'

A sudden throbbing from Io's bracelet told her of a message coming in. Normally, she would store it for later. But with Professor Jackone going on repetitiously about ancient history, she felt safe to take a look. Carefully tuning down the brightness of her old communicator, so as not to disturb the students around her, she pressed



the Read button and aimed the tiny holographic image onto her lap.

HAMPSTEAD TRAVEL AGENCY SPECIALIZES IN TOURS SPESHALLY SET UP FOR PIECEWORKERS. (MORE)

The glowing letters were not an advertisement. Obviously, they were part of a message from Perseph. And Io knew it amounted to something of an ultimatum.

Io pressed the button again; another row of letters replaced the first.

TRIP ALL SET UP FOR YOUR TERM BREAK, SO COLLEGE NO EXCUSE. NOR YOUR 'JOB'. YOU CANT CASH MORE VOUCHERS, SO COME ON! (MORE)

Perseph was right, of course. The term would be over soon, and her own piecework delivery wasn't due for another six weeks or so. Also, the law limited how many travel vouchers one could exchange for cash, so her most recent one would go to waste if she didn't use it.

Of course, Io's abdominal distension was already greater than most placental freelancers like Perseph ever reached, so walking long distances was out of the question. But Perseph had covered that excuse, also.

I really could do with a trip, Io told herself.

And yet, the idea left her uneasy. Her friendship with Perseph had begun in the back alleys of Liverpool when they were only girls, taking turns guarding each others' ration books, teaming up killing rats for bounty money. Nevertheless, their drift apart had really been foreordained from the beginning.

Once, she had hoped to draw her best friend into sharing her own enthusiasms—her ambitions for higher things. But such wistful attempts had only served to anger Perseph. She inevitably misunderstood, assuming Io was putting on airs.

For her part, Perseph seemed as anxious in her own way to salvage something between them. That meant getting Io involved in the activities of her guildmates and her born social class.

Well, Io thought. If she can't or won't join me, I can still join her. At least this time.

Suddenly, the lights in the lecture hall dimmed as Professor Jackone began showing slides. Io hurriedly toned down the brightness of her write projector.

'... as you can see,' the lecturer enunciated as a holographic image took shape at the front of the auditorium. 'If we try to clone

a mouse *without* any sperm-preconditioned genes, what we get is a queerly warped embryo, one which dies quite soon in the womb because the *placenta* never gets started.

'Alternatively, when an egg is prepared using only genes taken from sperm nuclei, something radically different happens.' The image in the tank shifted again. This time, there was no embryo at all, only a tangled, exaggerated mass of folded fibres easily recognizable to anyone familiar with the modern filter trade.

'. . . so while both the mother's and father's genes are equal in the final makeup of any infant mammal, at the beginning it is genes from the mother's egg which control how the embryo starts development, while genes from the sperm take charge of setting up the placenta, that organ lacking in fish or reptiles, whose complex organic filtration chemistry nourishes the mammalian foetus to term . . .'

The same old stuff . . . Io pressed again to read the rest of Perseph's message.

COME, IO. JUST FOR THE FIRST WEEK. THAT'S ALL. YOU NEED THIS. PERS KNOWS WHAT YOU NEED. (END)

The letters seemed to blur for a moment, and Io knew no flaw in her aged watchcom was at fault. She wiped her eyes while the professor's voice reverberated on all sides.

'At first this news, while astonishing, was of little interest outside the halls of science. Certain fanatical feminists were disappointed to learn that men weren't quite as non-essential as they'd hoped, but to most of the rest of humanity it seemed just another interesting fact of nature.

'Scarcely anyone guessed the long-range importance of this discovery, or its potential industrial applications . . .'

Io touched the face of her watch. In rapid Morse pulses she silently tapped out Perseph's private access number, and a reply to her friend's offer.

OKAY, I'LL COME. AT LEAST PARTWAY. AND THANKS, PERS. I THINK I REALLY DO NEED A BREAK. YOU'RE A TRUE FRIEND.—IO.

True to its reputation, the travel agency set them up with a tour which required no walking at all. It was a party train bound over the Arctic, from Oslo via upper Norway and across the great faery bridges spanning from the Faeroes to Iceland to Greenland to Labrador. It was a December journey into the heart of winter, a



trek across a desert as romantic and empty as anything to be found any more on the surface of overcrowded Earth.

Twin superconducting rails, hanging parallel two hundred metres above the frozen waves of tundra, looked like beaded strings of drawn dew that began in nothingness behind them and speared ahead to a parallax union in the pure blackness ahead. Only the rhythmically reappearing pylons—lonely, slender stalks planted kilometres apart—reminded the passengers that there was any link at all with the death-grey ground.

Io, to be frank, preferred sunshine. But when Perseph showed her the tickets Io had forced a smile and an outward show of enthusiasm. After all, she could debark at Iceland or Greenland and still have enough vouchers left for a week in the Canaries.

Anyway, someone had once told her that aesthetic appreciation, while not exactly required for the certificate she sought, couldn't really hurt an applicant. So it was that Io found herself spending hours in the train's observation dome, watching and slowly learning to admire the daunting desolation.

Overhead, the aurorae shaped everchanging draperies of shimmering blue and yellow gauze, or—if one preferred—rippling currents of diffuse oxygen atoms, ionized by the sun's electric wind, sheeting along lines of magnetic force.

Now and again those gaudy curtains would part unpredictably and reveal a slowly wheeling tableau of bitter-bright constellations, familiar, and yet filled with eerie portent in this chilly, alien setting.

The caribou herds had long ago departed south for the season, along with the more mundane breed of tourist. During wintertime completely different tribes of itinerants moved in to share these rails with the freight-heavy transports. For instance, those relying—like Perseph and Io—on state travel allotments to exercise their citizen's privilege to see the world—on off-peak hours.

And then there were others, folk whose manners told in ways more subtle than clothing or fashion that they were employed, that they had real jobs, that they had chosen this strange journey not for budgetary reasons but out of a taste for moody expanses, or perhaps a cherishing of the night.

By unstated courtesy, the partiers kept the raucous stuff to the other cars, though the observation dome was a favourite trysting spot for lovers. At times the closeness of such intertwined pairs made Io feel wistful and poignantly alone.

Unfortunately, such feelings weren't alleviated by Perseph's

incessant attempts to match her up. Finally, one evening in the bistro car, Io's companion snapped at her irritably.

'Sometimes you just confuse the bloody hell out of me, Io! What does it take to turn you on, eh? We showed each other our charts. Yours was straight hetero, and I kept that in mind. I've introduced you to your type of guy.'

*My type?* But Io bit back her initial response. Perseph's facial expression was friable. Exasperated. Irises and flesh tones both showed clear signs of a hashtite high well past its peak and entering depressive phase. Perseph's once straight antenna-braids were drooping now as hairspray slowly gave way under assault from perspiration and a party running at desultory medium-broil.

'But you saw my profile also includes things like high selectivity and strong bonding, Pers. I can't help being made that way. I sometimes envy you your chart, the freedom your personality gives you to come and go as you like. Tease, squeeze, thank you please. But I've no choice, Pers. I've got to hold out till the time's right for me.'

'Hold out for Mr Watch Fob Job, you mean,' Perseph said bitingly.

'For when I've got a job of my own, Pers. And for the sort of man who'll respect that in me. A codder would never understand what it is I'm after. You know that.'

A tic manifested at the corner of Perseph's left eye. 'And what's wrong with codders?' she asked. 'Some of my best friends are codders!'

Io looked around nervously. The party crowd at nearby tables were watching an act on stage at the front of the car, performing an amiably vulgar dance to the tempo of the gently thrumming rails. Once, Io would have found the show, the tight, acrid atmosphere, the frenetic party odours attractively distracting. But no more. Artificial highs had begun to pall on her years ago.

Smoke and garish lights made black sinkholes of the window behind Io's shoulder, and yet she envied the quiet beyond those perspex panes.

'Hey.' Io forced a grin, trying to cut through the bad mood. 'Don't get me wrong, Pers. Codders are fine. It's just I can't ever get to know one for ten minutes before he offers to strip down and show me his specialty.'

For an instant Perseph's eyes were as deep and untelling as the nightview behind Io. Then she seemed to come to a decision. Her



laughter would have made a good dissertation topic in one of Io's classes.

'Yeah, they're like that, aren't they? Even when I'm halfway in the middle of a surropreg, waddling around like a Blackpool publican, half the codders I know are always trying to talk me into trying out their wares in advance. I keep telling the ones I introduce to you that you're in the egg trade, and not interested in their merchandise. But I suppose the habit's hard to break.'

'Hey, now.' Io laughed. 'I'd like to think they weren't coming on to me just because they thought of me as a fallow belly to plant. Ever occur to you they might've found me appealing?'

'You? You skinny-arm charity case? With that out-of-date yellow hair?'

Io feigned an insulted look.

Now Perseph's laughter was heartier. 'Gotcha! First you're offended when they come on to you. Then you'd be hurt if they didn't, right?'

'No, I just wish they'd . . .'

'I'll tell you this though, Io. I *like* codders. Some of them have gone far into debt to finance their conversions. The freelance trade would be impossible without them. We'd have to take as many risks as you and your egg—'

'Pers, I never said—'

'And something else, Io. They put a lot more *enthusiasm* into their work than Joey and his hoity-toity ovum designers do. Ever thought there could be pleasure involved in this business, Io? No, I didn't think so. But I tell you it's a hell of a lot more natural with codders than with Joey's lot and all their tubes and wires . . .'

Perseph had that gleam in her eye again, a seething sexual energy. She was talking herself into it. Io knew it would culminate quite soon in her friend grabbing the nearest tumescent codpiece, without even asking to see the owner's prospectus, let alone his tattoo.

'Pers, are you remembering to take your pills? You don't want to get knocked at a *party*, for the love of—'

'You mind your own damn business!' Perseph stood up and her chair fell over. 'I don't give you advice on your blasted eggs. Don't *you* tell me where I ought to shop for seed!'

All at once Io knew. This wasn't the first time for Perseph. That unsatisfactory load of commercial grade solvent filters she'd

delivered some months back—she hadn't taken the job through a city agent, or even negotiated the surropreg herself. She'd gone and let some random codder inseminate her—probably just somebody who pleased her sexually—as if that said anything at all about the quality of his wares!

Mixing business with pleasure, letting your professional standards lapse, these were the beginning of the end for a craftswoman, especially a pieceworker. Io had an instant fey vision of Perseph in a few years—too far gone to win decent contracts, physically too shabby to draw a codder into making a deposit on spec. She'd wind up taking bulk grade semen and producing goods no better than a fabricow's. Finally, she'd lose her guild standing, and it would be the dole for her, fulltime.

The dole would kill Perseph. Without the focus of work, some kind of work, the lure of drugs and soaps would soon take her out of the world.

It was only a narrow precognitive instant, but at that moment Io's eyes locked with the other woman's in momentary complete communion. Io's cheeks felt aflame with how, in that moment, she involuntarily betrayed her friend, not only by seeing, but by *showing* on her face that she had seen. From Io, Perseph had not received the lies that were a comrade's duty to tell, but a severe mirror, laying bare a fate she already knew, deep inside.

'I—I've got to make a phone call.' Perseph started to turn. unsteadily.

'Pers, I'm sor—'

'Oh, go abort a hydrocephalic traffic cop!' Perseph snarled. She whirled, knocking over their drinks, and made her way unevenly among the tables, leaving Io alone in the middle of a crowded room suddenly too filled with truth.

*. . . It can be hard for a modern citizen to realize just how inefficient our ancestors were, even in the bustling industrial centres of the fabulous Twentieth. But what enabled the people of those times to build the first globe-spanning culture, to tame nature, to educate the masses and begin the conquest of space, was a system that depended essentially upon profligate waste.*

*For instance, a single gramme of gold—vital for modern electronics—could be acquired only by tearing out of the Earth, pulverizing, and washing several tons of ore. Beyond the now obvious environmental effects,*



*this also required prodigious use of energy, which was already growing scarce even by the turn of the century.*

*From high-tech consumer goods to simple breakfast cereals, far more resources had to be put into each item the consumer bought than ever came out as product. With seven billion people to feed—and clothe and educate and entertain—there was only one option, to switch to renewable processes that used resources more efficiently. The alternative was to face a culling such as had not been seen since the Black Death.*

*Biotechnology offered a way.*

*Today, gene-tailored microbes refine gold and other vital elements directly from sea water. Organic solvents, once unbelievably dumped into sensitive watersheds by shortsighted businessmen, are now recycled through filters grown specially for the purpose by pampered, well-fed fabricows. And these same animals' modified milk glands produce lubricants to replace long-vanished petroleum oil in our vehicles. In this way we make use of efficient fabrication methods evolved over billions of years by Nature herself.*

*As for products at the very cutting edge of technology, whose quality standards exceed what can be accomplished with animals, these are today put into production by a labour force dedicated to high craftsmanship. And yet, these jobs are not restricted, as in the past, to the skilled or the privileged. Rather, they are attainable even on a part time basis by men and women of good health from any social . . .*

*. . . from* ARE YOU INTERESTED IN BIOFAB? LONDON, 2043

She met him in the Reykjavik airport lounge. His manner was courteous, his stance and bearing unselfconsciously athletic.

The clothes he wore showed tasteful reticence, not the bright excess that overcompensating dole clients so often mistook for fashion.

And, although he was obviously Eastern European in origin, he had the good grace not to wear leather here in the West, where sensibilities now rejected products made from the death of animals.

For a while they talked about the books she had been studying, while awaiting her flight. But soon they were in one of those exciting, open-topic conversations which touch lightly on the fascination of the world itself. Io made no effort to suppress the sudden feelings coursing through her. The methods of emotional control she had learned in college were still too new, too abstract to

her. And anyway, who wanted to damp down anything as pleasant as hope?

In his rich, cosmopolitan accent, Wiktor offered to buy her dinner. There was plenty of time, and no hint that he wanted or expected anything in return but her companionship. She accepted demurely, then hurriedly added a smile, lest he take her shyness for reluctance.

As she had secretly hoped, he passed his credit card across the face of the robot *maitre d'* at the first-class dining room, and took her arm as a pink ribbon of light guided them through a maze of candlelit tables to a window setting overlooking the lights of the city.

He also made mistakes . . . smelling the wine cork instead of feeling it, for instance. Obviously he had dined in class before, but neither was he so accustomed to this lifestyle as to be blasé, or patronizing.

Io only knew about wine corks from having read an obscure magazine in Joey's waiting-room. It actually pleased her that Wiktor showed such minor lapses, an almost imperceptible trace of latent, slight awkwardness. She had no ambition to stake a place in the circles of the rich and renowned. But his nodding acquaintance with the finer things spoke of the relaxed eclecticism, the comfortable worldliness of a professional . . . a man with a real job. Someone who *did* something.

Would she, in three years time, be able to walk into a place such as this without feeling heart palpitations? Would she wear such a relaxed smile? Or order from a menu with such confidence?

Would she meet the sort of men who made the world move and grow better with their skill? Perhaps one who cared about the same craft as she was studying so long and hard for now?

Naturally, the subject of his actual profession never came up on this, an initial encounter. Her present trade was obvious from her attire, and from her tumescence, but they never mentioned it. He spoke instead about the aurorae, visible even from here, so near the urban lights. A hint indicated that he might once have seen them from *above*—from space—but he did not follow up on that, nor did Io pursue it.

It was perfectly all right to speak of Earthly travels however, since all classes were encouraged in tourism. The superconducting rails made it cheaper than many other entertainments people might



have demanded, and social planners considered it helpful. Tourists waged few wars.

Io felt ashamed of how little she had seen, how little she had to tell. But Wiktor made up for her lack. He had been to Merseyside many times, for instance—both Liverpool and Ellesmere Port—and he spoke with fondness of the Lake District, her own favourite place in all the world.

Against her usual habit when in production, Io allowed herself a single glass of wine. Of course she had memorized the tolerance tables long ago, and knew no harm would come to . . . to her toaster.

Sudden memory of that colourful euphemism triggered a nervous giggle. But then it also caused her to think of Perseph, and that made her suddenly sad. Their parting had been cool. Io had no idea what the future would bring, but the note of finality between them made her vision film as she thought about it.

Gyrating emotions. Damn. An occupational hazard. But what a time to have an attack of surropreg blues!

'I—I don't know what's got over me,' she said as she wiped her eyes. 'Would you excuse me while I—' she gestured in the direction of the lavatories. His smile was bemused, understanding. 'Of course,' he said. 'I will order you that especial dessert I mentioned earlier. And,' his grin broadened. 'A glass of fruit juice.'

'Thanks. That might be best.' She laughed, and departed with a smile.

*He didn't even try to pressure me into having another glass of wine,* she mused as she negotiated her abdomen toward the ladies' room. Many men would have taken it as a challenge to try to get her drunk, even knowing she would be leaving within the hour. It was a rite of machismo she'd never understood, however many times it was explained to her. Wiktor though, seemed a gentleman.

A low wall topped by a decorative hedge separated the dining room proper from the gilt wallpapered passage to the toilets. On her way out again, Io paused to check her composure. She wanted to maintain a friendly openness that would invite him to ask her watchcom number. After all, he said he passed through Liverpool on occasion. Perhaps he might call.

Io took a momentary guilty peek through the shrubbery, feeling like a little girl spying covertly on an older boy, the object of a delicious secret desire. A waiter had just turned away from their

table. Walking towards her, he occulted her view for a moment. Then Wiktor could be seen moving a freshly filled glass of orange liquid to her setting, beside a plate containing something reddish and gold—the promised dessert.

His quick glance in her direction almost made her duck down. His facial expression puzzled Io, briefly as he fussed with his jacket pocket. For an instant he looked relieved. Then Wiktor turned to his left—her right—and seemed to nod to somebody seated among the dim booths and shadowed dining cubbies.

Had he recognized someone he knew? Hardly surprising, considering the circles he kept.

Composing her features, Io emerged from behind the wall and smiled as she approached the table. *He is old-fashioned,* she thought as he rose to hold her chair for her. 'What's this?' She dabbed her fork at the creamy eruption on her plate.

'A surprise. You'll like it.'

A forkful hesitated near her nose. 'It smells spicy.'

'It is.' He smiled. 'That's why I ordered you something to drink. But I'm sure you'll love it.' With that he winked, and took a portion from his own serving into his mouth. The goggle-eyed pantomime of pleasure which followed made Io laugh.

The dessert was delicious. It also made her eyes water. 'Well!' She coughed. 'I certainly won't have any trouble with my sinuses during the flight!'

'It always makes me thirsty,' he said, taking a sip of wine. Watching his eyes, she reached for the brimming glass of orange juice.

Would she have suspected anything if she had not continued taking classes? Had she never studied the hard-won wisdom of a century's research, she probably would never have known about those subtle cues given off by child and man, in eye and face and voice, that betray the inner unease.

But then, Io's knowledge was still abstract. So maybe it was instinct—unreliable but desperately useful when it strikes—which made her notice the intense way Wiktor watched her hand.

She put the glass down before it was more than an inch high. His gaze immediately flicked to her face. 'Is something wrong?' he asked.

*Please. No.* She prayed.

'No, nothing's wrong.' She lifted another forkful of the pungent sweet. 'I was just savouring the taste.'



He seemed to notice the speculation in her eyes, and averted his gaze. That was a mistake. Now he *avoided* looking at the juice glass.

The second spicy taste added power to the first. Io's throat burned, her nostrils felt singed. Still she kept her hand on the table, and concentrated on remembering her lessons.

Speaking with a measured voice, she said, 'Actually, I think I will have another glass of wine, after all.'

Rapid impressions she read almost instantly—brief panic-contraction in the pupils . . . a faint, barely noticeable flush wave, crossing his cheeks at an unsatisfactory angle . . . that involuntary frown, quickly compressed into a slightly asymmetrical smile with the practice of an accomplished poseur . . .

An experienced liar, then. But not a trained one.

The man Io would someday marry would not lie. But he would have taken schooling in what lying *does.* How it is seen, detected, known.

This man, for all his money and worldliness, had never been to school.

'More wine? In your condition?' He laughed teasingly. A little patronizingly. 'Now, Io. Don't try to prove how tough you are. Be a good girl and drink your vitamins.'

*My vitamins?* Io thought. She reached for the glass.

*Here are my vitamins, you son of a fabricow.*

'Jism!' he cried, leaping to his feet as she spilled the drink across the tablecloth.

Two confirmations in one action. An innocent man would not have shouted so over only a silly puddle. Nor would a real professional use a curseword specific to a certain type of freelance artist.

'You bitch, how did you kn—' He stepped forward, and so came within Io's seated reach. With one hand she grabbed the loose folds of his stylish cotton trousers. With the other she stabbed down hard with her dessert fork. There was a loud tearing of fabric. Shouting for strength she had never used before outside the decanting room, Io yanked.

The resulting tableau held for a long moment. Staring patrons. Aghast waiters. Io, panting with upraised fork, ready to strike again, this time at a loathsome sight.

Under the torn trousers, hanging like a broken flag, lay Wiktor's codpiece, the emblem of his calling. His tattooed licence told of a

costly modification—placental platinum extraction filters of the very latest design.

No wonder Wiktor knew his way around style. Just one of the altered wrigglers he produced in millions could set a pieceworker on course towards her best bonus ever. And for him a healthy commission.

'Why?' she whispered.

Motion resumed. Hurried footsteps approached behind her.

'Officers!' Wiktor pronounced loudly, for all to hear. 'I want to press charges against this madwoman, for assault with intent to injure me!'

Hands pressed upon her shoulders. The fork was ungently pried from her fingers. Io shook her hair back and looked him in the eyes, defiantly.

'Shall we take the table cloth along to the police station, then?' She gestured toward the orange stain.

A quick blinking of the eyes, a bobbing of the Adam's apple as he suddenly swallowed. 'Wait!' Wiktor said as the guards began pulling her away. His sour expression was her bitter reward. 'I—I have changed my mind. I will forget the incident . . . so long as she boards her flight and gets the hell out of here.'

*Oh, I'm sure,* she thought, watching him squirm. Men who would poison women—such men had personalities based on contempt for others. Probably until this very moment he had never even considered what might happen if he were caught. Now it was just dawning on him, too late.

'Who?' Io asked, simply, demanding a price.

As if it were costing him his gall bladder, he spat the word. 'Perseph.'

Io knew from the look in his eyes that she would have no need for revenge on her former friend. Far from the type of man he had tried to appear to be, this was a cowardly, predatory creature, the sort who preyed exclusively on those weaker than himself. Io felt certain he would never come near her again. *Perseph,* though—perhaps watching even now from some shadowy corner of the room—had real cause to worry about Wiktor.

'*What* was it?' She asked.

Sweat beaded on his lip and brow. There was an implicit arrangement here, truth in exchange for escape. But in fulfilling his part first, Wiktor knew he was giving himself over fully into her hands.



'Para—Parapyridine 4,' he whispered rapidly, trying to make the words for her alone.

Io felt suddenly dizzy. The hand that had touched the juice glass trembled as if defiled. The substance named would not have affected her own health in the slightest. But it would have ruined the product she carried, and made her own eggs utterly useless for anything in the future. She'd be lucky to be able to make solvent filters if she had taken any of that stuff.

'*Why*?' She repeated her first question.

His face was now utterly resigned. 'You were getting too damned high-almighty. Wanted to climb out and leave your friends, your guild. We . . . they . . . thought it would do you good to be brought down a peg.

'It was for—for your own good—' he finished lamely. His handsome confidence was now so completely gone that Io felt stunned that she had ever been fooled at all.

'Excuse me, Madam, is this fellow admitting to having done you some harm?'

Io turned, noticing the blonde Icelandic policeman for the first time. Obviously, he had followed bits of their low, clipped exchange, picking up on hints with obvious skill. His eyes flicked from her surropreg garments to Wiktor's tattoo, to the stained tablecloth, narrowing with dawning suspicion.

He spoke English as educated Icelanders do, better than the English. 'Perhaps you'd like to file charges of your own, Madam?' he asked.

For an instant, Io stared at the policeman's face in sudden revelation. There she saw compassion and more . . . a *confidence* completely unrelated to arrogance . . . a serenity that only came of skill and the sure knowledge of one's own usefulness. Face to face with the real thing, Io wondered how she had ever been fooled by Wiktor's sham.

*Inexperience and wishful thinking, I suppose.* She would have to talk this over with her teachers.

'No,' Io said softly. 'I will not press charges. But would you please walk with me to my boarding gate? I think I could use a hand.'

Her last word to Wiktor was to thank him over her shoulder, for dinner. The evenness of her tone must have been more unnerving than anything else she might have said. She left him standing there, pale and exposed.

The officer's gentle strong grip on her arm helped Io walk head high. Somewhere in the restaurant's gloom, she knew she was being watched by one more person—someone lacking the guts to show herself. Io didn't bother searching the shadows for those familiar eyes. She would never see them again.

*. . . Earlier we have seen excerpts by writers extolling the benefits of an industrial order based on efficient biological assembly processes. And there is no doubt that these techniques are in large measure responsible for the relative comfort of today's nine billion human beings, not least the fact that they have not starved.*

*The mysticism of the Madrid Catholics, their religious revulsion towards even completely voluntary use of human reproductive systems for industry, is not shared by many others these days. Rather, the right of the poor to use their bodies' talents for their own benefit is enshrined in law, so long as volunteers are qualified and restrict themselves to licensed, non-human embryonic material.*

*Nevertheless, some dissenting voices have spoken critically of this system from more rational grounds—scientific, biological, economic, and cultural. Some fear that our fundamental attitude towards life itself is changing, subtly but profoundly, as each day passes. And these changes are taking place without adequate thought to the possible long-range consequences. These are doubts that must, in all fairness, be taken seriously . . .*

*from* A SURVEY OF MODERN PROBLEMS, *New York, 2049*

*. . . The time may come when these peculiarly severe licensing laws may be relaxed. But for now, the intrinsic value of this particular product to society—by far the most valuable item produced by any society—has convinced lawmakers and voters alike that one particular career calls for schooling, qualification, and respect above any and all others . . .*

*from* THE CERTIFICATION ACT, *2039*

Another penalty of eggwork was the lengthy, all too realistic process of labour. Io took the doctors' word for it that it was still a bit easier than the 'real thing'. But that was small comfort.

Not that difficulty or exertion held any great fears for her. Io knew what she was doing.

Still, Joey held her hand through the agony of transition. And afterwards he wiped the perspiration from her brow. It was all just part of the agency's service, he told her. Just one more reason why so few of his clients ever left him.



Io knew better, of course. Joey actually cared, bless him.

'Did I remember to curse you for getting me into this?' she asked after the worst was over.

'Nope. You forgot.' Joey smiled. 'You missed your chance. The tradition is that nothing said during *transition* can be held against you. Maybe next time.'

'I told you, Joey, there isn't going to be a—'

'Hush. We'll speak of it later. Now, you concentrate. The worst may be over, but you still have hard pushing ahead.'

'Okay, Joey.'

Tremors. Foreshadowings. Io focused on her breathing and was ready when the next contractions came.

'Good, good,' the industrial midwife told her. A technician in the service of Technique Zaire, she commanded her team with crisp precision. 'Now please to be ready for a last effort.'

'Ah.' Io replied in a sharp exhalation. 'Ah!' Then she lost track of time. Lost track of consciousness. Moment by moment she did as she was told by those whose job it was to help her. Several times she cried out in the ways she had been taught, conserving her strength for the final moment.

When it came, it was almost anticlimactic. Passage, release, evacuation. A parting of that familiar connection.

Emptiness.

The scurrying techs had no attention to spare for her. Even Joey, rushed forward, eager to see. When he returned, his eyes beamed. 'I—I thought it would be a shipbrain, Io, but I was wrong. It's a *starbrain*!'

'S—starbrain?'

'Yes! It's a fine, big, healthy starbrain. The only bio-manufactured product licensed to use true human genes! The only one capable of sentience!'

Io's lower lip trembled. Tears welled in her eyes. She began to sob. Joey, mistaking her tears for joy, kept on exulting, obliviously.

'Jeez, Io, it will *think*. It'll pilot starships. Why, they're even talking about a bill to give starbrains *citizenship*, for heaven's sake! Do you know what they're *paying* for a healthy . . .'

Joey's voice droned on, a low ululation of misplaced enthusiasm. Io shut it out. She flung an arm over her eyes so she could not see when they came forward with a swaddled something to show her.

They did not know. They could not know how she felt.

Her breasts throbbed as they attached machines for her first milking, to release the straining pressure. To begin harvesting secondary product from the right. Tertiary from the left.

Tertiary product. Colostrum and homo milk, at five pence a gramme.

Her left breast sent unwanted signals to her brain.

'Io, I've just been told they're so happy with you they want to renew . . .'

'Oh, Joey,' she cried. 'Go away, please!' Io's head rocked. 'Just go away.'

And so they left her then, to listen to the rhythms, to the machines, to the beating of her heart, to the singing in her veins.

*It has to be worth it,* she thought. She prayed. *It has to be!*

To: Ms. Iolanthe Livingstone
93 Marina Drive,
Ellesmere Port, Merseyside

From: British Division
Department of Certification
and Accreditation

Dear Ms Livingstone:

It is our great pleasure to inform you that your test scores, your record of experience, and the recommendations of your instructors have, in totality, persuaded the Board that you are indeed qualified for the certification you requested. By your assiduous efforts you have acquired skills of great importance to humanity. Skills which may lead, at last, to a generation of people no longer plagued by the age-old evils of cruelty and fear and neurosis and unfulfilled potential—evils which so nearly destroyed our world, and hard beset us still to this day.

Towards that brighter future, you and your professional enthusiasm will surely add new strength and purpose.

Therefore, from this date forward, you are hereby licensed to engage in the most demanding and important occupation of them all.

Congratulations. We are certain you will be a very fine (*mother/~~father~~*).

For the sake of the children . . .

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"It's you I want." The hand sifted through the shredded bills, searching for Rat. He had no doubt that the fed could crush the life from him—the hand was huge now. In the darkness he could count the lines on the palm, follow the whorls on the fingertips. They seemed to spin in Rat's brain—he was losing control. He realized then that one of the capsules must have broken, spilling a megadose of first-quality Algerian Yellow dust into his gut. With a hallucinatory clarity, he imagined sparks streaming through his blood, igniting neurons like tinder. Suddenly the guards did not matter. Nothing mattered except that he was cornered. When he could no longer fight the instinct to strike, the fed's hand closed around him. The man was stronger than Rat could have imagined. As the fed hauled him—clawing and biting—back into the light, Rat's only thought was of how terrifyingly large a man was. So much larger than a rat.

## TERRY BISSON

# Bears Discover Fire

Science fiction does not always mix well with humor or fantasy, but Terry Bisson has managed fusions of both in his novels and short fiction. His first novel, *Wyrldmaker,* published in 1981, puts a science fiction spin on a hackneyed theme from sword-and-sorcery fiction. *Talking Man* works elements of both fantasy and science fiction into a tall tale format. His alternate-history novel *Fire on the Mountain* wreaks an original and compelling variation on the familiar theme of a future in which the South won the American Civil War: here, a successful slave revolt leads to the creation of Nova Africa, a new republic in the place of what would have been the Confederate States. The humor in Bisson's stories ranges from slapstick to sly satire and invariably calls attention to the irrationality of increasingly complex worlds that simple humans are ill equipped to deal with. In his screwball adventure novel *Voyage to the Red Planet,* the first manned trip to Mars is a gimmick staged by a bumbling Hollywood producer banking heedlessly on a blockbuster to boost his sagging fortunes. *Pirates of the Universe* is a satirical space opera set in a future where Disney-Windows is the controlling corporate conglomerate. *The Pickup Artist* is a comic dystopia about a future where agents for the Bureau of Arts and Entertainment are charged with destroying artistic creations that the world has run out of room for. Bisson won the Nebula, Hugo, and Theodore Sturgeon Awards for the title tale of *Bears Discover Fire and Other Stories.* His other books include the short-fiction collection *In the Upper Room;* a posthumous collaboration with Walter M. Miller Jr., *St. Leibowitz and the Wild Horse Woman;* a sequel to the landmark novel *A Canticle for Leibowitz;* nonfiction books on Nat Turner and Mumia Abu Jamal; and novelizations of the films *Galaxy Quest* and *The Sixth Day.*

I WAS DRIVING with my brother, the preacher, and my nephew, the preacher's son, on I-65 just north of Bowling Green when we got a flat. It was Sunday night and we had been to visit Mother at the Home. We were in my car. The flat caused what you might call knowing groans since, as the old-fashioned one in my family (so they tell me), I fix my own tires, and my brother is always telling me to get radials and quit buying old tires.

But if you know how to mount and fix tires yourself, you can pick them up for almost nothing.

Since it was a left rear tire, I pulled over to the left, onto the median grass. The way my Caddy stumbled to a stop, I figured the tire was ruined. "I guess there's no need asking if you have any of that FlatFix in the trunk," said Wallace.

"Here, son, hold the light," I said to Wallace Jr. He's old enough to want to help and not old enough (yet) to think he knows it all. If I'd married and had kids, he's the kind I'd have wanted.

An old Caddy has a big trunk that tends to fill up like a shed. Mine's a '56. Wallace was wearing his Sunday shirt, so he didn't offer to help while I pulled magazines, fishing tackle, a wooden tool box, some old clothes, a comealong wrapped in a grass sack, and a tobacco sprayer out of the way, looking for my jack. The spare looked a little soft.

The light went out. "Shake it, son," I said.

It went back on. The bumper jack was long gone, but I carry a little quarter-ton hydraulic. I found it under Mother's old *Southern Livings*, 1978–1986. I had been meaning to drop them at the dump. If Wallace hadn't been along, I'd have let Wallace Jr. position the jack under the axle, but I got on my knees and did it myself. There's nothing wrong with a boy learning to change a tire. Even if you're not going to fix and mount them, you're still going to have to change a few in this life. The light went off again before I had the wheel off the ground. I was surprised at how dark the night was already. It was late October and beginning to get cool. "Shake it again, son," I said.

It went back on but it was weak. Flickery.

"With radials you just don't *have* flats," Wallace explained in that voice he uses when he's talking to a number of people at once; in this case, Wallace Jr. and myself. "And even when you *do*, you just squirt them with this stuff called FlatFix and you just drive on. Three ninety-five the can."

"Uncle Bobby can fix a tire hisself," said Wallace Jr., out of loyalty, I presume.

"*Him*self," I said from halfway under the car. If it was up to Wallace, the boy would talk like what Mother used to call "a helot from the gorges of the mountains." But drive on radials.

"Shake that light again," I said. It was about gone. I spun the lugs off into the hubcap and pulled the wheel. The tire had blown out along the sidewall. "Won't be fixing this one," I said. Not that I cared. I have a pile as tall as a man out by the barn.

The light went out again, then came back better than ever as I was fitting the spare over the lugs. "Much better," I said. There was a flood of dim orange flickery light. But when I turned to find the lug nuts, I was surprised to see that the flashlight the boy was holding was dead. The light was coming from two bears at the edge of the trees, holding torches. They were big, three-hundred-pounders, standing about five feet tall. Wallace Jr. and his father had seen them and were standing perfectly still. It's best not to alarm bears.

I fished the lug nuts out of the hubcap and spun them on. I usually like to put a little oil on them, but this time I let it go. I reached under the car and let the jack down and pulled it out. I was relieved to see that the spare was high enough to drive on. I put the jack and the lug wrench and the flat into the trunk. Instead of replacing the hubcap, I put it in there too. All this time, the bears never made a move. They just held the torches, whether out of curiosity or helpfulness, there was no way of knowing. It looked like there may have been more bears behind them, in the trees.

Opening three doors at once, we got into the car and drove off. Wallace was the first to speak. "Looks like bears have discovered fire," he said.

WHEN WE FIRST took Mother to the Home almost four years (forty-seven months) ago, she told Wallace and me she was ready to die. "Don't worry about me, boys," she whispered, pulling us both down so the nurse wouldn't hear. "I've drove a million miles and I'm ready to pass over to the other shore. I won't have long to linger here." She drove a consolidated school bus for thirty-nine years. Later, after Wallace left, she told me about her dream. A bunch of doctors were sitting around in a circle discussing her case. One said, "We've done all we can for her, boys, let's let her go." They all turned their hands up and smiled. When she didn't die that fall she seemed disappointed, though as spring came she forgot about it, as old people will.

In addition to taking Wallace and Wallace Jr. to see Mother on Sunday nights, I go myself on Tuesdays and Thursdays. I usually find her sitting in front of the TV, even though she doesn't watch it. The nurses keep it on all the time. They say the old folks like the flickering. It soothes them down.

"What's this I hear about bears discovering fire?" she said on Tuesday. "It's true," I told her as I combed her long white hair with the shell comb Wallace had brought her from Florida. Monday there had been a story in the Louisville *Courier-Journal,* and Tuesday one on NBC or CBS *Nightly News.* People were seeing bears all over the state, and in Virginia as well. They had quit hibernating, and were apparently planning to spend the winter in the medians of the interstates. There have always been bears in the mountains of Virginia, but not here in western Kentucky, not for almost a hundred years. The last one was killed when Mother was a girl. The theory in the *Courier-Journal* was that they were following I-65 down from the forests of Michigan and Canada, but one old man from Allen County (interviewed on nationwide TV) said that there had always been a few bears left back in the hills, and they had come out to join the others now that they had discovered fire.

"They don't hibernate anymore," I said. "They make a fire and keep it going all winter."

"I declare," Mother said. "What'll they think of next!" The nurse came to take her tobacco away, which is the signal for bedtime.

EVERY OCTOBER, WALLACE Jr. stays with me while his parents go to camp. I realize how backward that sounds, but there it is. My brother is a Minister (House of the Righteous Way, Reformed) but he makes two-thirds of his living in real estate. He and Elizabeth go to a Christian Success Retreat in South Carolina, where people from all over the country practice selling things to one another. I know what it's like not because they've ever bothered to tell me, but because I've seen the Revolving Equity Success Plan ads late at night on TV.

The school bus let Wallace Jr. off at my house on Wednesday, the day they left. The boy doesn't have to pack much of a bag when he stays with me. He has his own room here. As the eldest of our family, I hung on to the old home place near Smiths Grove. It's getting run-down, but Wallace Jr. and I don't mind. He has his own room in Bowling Green, too, but since Wallace and Elizabeth move to a different house every three months (part of the Plan), he keeps his .22 and his comics, the stuff that's important to a boy his age, in his room here at the home place. It's the room his dad and I used to share.

Wallace Jr. is twelve. I found him sitting on the back porch that overlooks the interstate when I got home from work. I sell crop insurance.

After I changed clothes I showed him how to break the bead on a tire two ways, with a hammer, and by backing a car over it. Like making sorghum, fixing tires by hand is a dying art. The boy caught on fast, though. "Tomorrow I'll show you how to mount your tire with the hammer and a tire iron," I said.

"What I wish is I could see the bears," he said. He was looking across the field to I-65, where the northbound lanes cut off the corner of our field. From the house at night, sometimes the traffic sounds like a waterfall.

"Can't see their fire in the daytime," I said. "But wait till tonight." That night CBS or NBC (I forget which is which) did a special on the bears, which were becoming a story of nationwide interest. They were seen in Kentucky, West Virginia, Missouri, Illinois (southern), and, of course, Virginia. There have always been bears in Virginia. Some characters there were even talking about hunting them. A scientist said they were heading into the states where there is some snow but not too much, and where there is enough timber in the medians for firewood. He had gone in with a video camera, but his shots were just blurry figures sitting around a fire. Another scientist said the bears were attracted by the berries on a new bush that grew only in the medians of the interstates. He claimed this berry was the first new species in recent history, brought about by the mixing of seeds along the highway. He ate one on TV, making a face, and called it a "newberry." A climatic ecologist said that the warm winters (there was no snow last winter in Nashville, and only one flurry in Louisville) had changed the bears' hibernation cycle, and now they were able to remember things from year to year. "Bears may have discovered fire centuries ago," he said, "but forgot it." Another theory was that they had discovered (or remembered) fire when Yellowstone burned, several years ago.

The TV showed more guys talking about bears than it showed bears, and Wallace Jr. and I lost interest. After the supper dishes were done I took the boy out behind the house and down to our fence. Across the interstate and through the trees, we could see the light of the bears' fire. Wallace Jr. wanted to go back to the house and get his .22 and go shoot one, and I explained why that would be wrong. "Besides," I said, "a twenty-two wouldn't do much more to a bear than make it mad.

"Besides," I added, "it's illegal to hunt in the medians."

THE ONLY TRICK to mounting a tire by hand, once you have beaten or pried it onto the rim, is setting the bead. You do this by setting the tire upright, sitting on it, and bouncing it up and down between your legs while the air goes in. When the bead sets on the rim, it makes a satisfying "pop." On Thursday, I kept Wallace Jr. home from school and showed him how to do this until he got it right. Then we climbed our fence and crossed the field to get a look at the bears.

In northern Virginia, according to *Good Morning America,* the bears were keeping their fires going all day long. Here in western Kentucky, though, it was still warm for late October and they only stayed around the fires at night. Where they went and what they did in the daytime, I don't know. Maybe they were watching from the newberry bushes as Wallace Jr. and I climbed the government fence and crossed the northbound lanes. I carried an axe and Wallace Jr. brought his .22, not because he wanted to kill a bear but because a boy likes to carry some kind of a gun. The median was all tangled with brush and vines under the maples, oaks, and sycamores. Even though we were only a hundred yards from the house, I had never been there, and neither had anyone else that I knew of. It was like a created country. We found a path in the center and followed it down across a slow, short stream that flowed out of one grate and into another. The tracks in the gray mud were the first bear signs we saw. There was a musty, but not really unpleasant smell. In a clearing under a big hollow beech, where the fire had been, we found nothing but ashes. Logs were drawn up in a rough circle and the smell was stronger. I stirred the ashes and found enough coals to start a new flame, so I banked them back the way they had been left.

I cut a little firewood and stacked it to one side, just to be neighborly.

Maybe the bears were watching us from the bushes even then. There's no way to know. I tasted one of the newberries and spit it out. It was so sweet it was sour, just the sort of thing you would imagine a bear would like.

* * *

THAT EVENING AFTER supper I asked Wallace Jr. if he might want to go with me to visit Mother. I wasn't surprised when he said yes. Kids have more consideration than folks give them credit for. We found her sitting on the concrete front porch of the Home, watching the cars go by on I-65. The nurse said she had been agitated all day. I wasn't surprised by that, either. Every fall as the leaves change, she gets restless, maybe the word is "hopeful," again. I brought her into the dayroom and combed her long white hair. "Nothing but bears on TV anymore," the nurse complained, flipping the channels. Wallace Jr. picked up the remote after the nurse left, and we watched a CBS or NBC Special Report about some hunters in Virginia who had gotten their houses torched. The TV interviewed a hunter and his wife whose $117,500 Shenandoah Valley home had burned. She blamed the bears. He didn't blame the bears, but he was suing for compensation from the state since he had a valid hunting license. The state hunting commissioner came on and said that possession of a hunting license didn't prohibit ("enjoin," I think, was the word he used) *the hunted* from striking back. I thought that was a pretty liberal view for a state commissioner. Of course, he had a vested interest in not paying off. I'm not a hunter myself.

"Don't bother coming on Sunday," Mother told Wallace Jr. with a wink. "I've drove a million miles and I've got one hand on the gate." I'm used to her saying stuff like that, especially in the fall, but I was afraid it would upset the boy. In fact, he looked worried after we left and I asked him what was wrong.

"How could she have drove a million miles?" he asked. She had told him forty-eight miles a day for thirty-nine years, and he had worked it out on his calculator to be 336,960 miles.

"Have *driven,*" I said. "And it's forty-eight in the morning and forty-eight in the afternoon. Plus there were the football trips. Plus, old folks exaggerate a little." Mother was the first woman school-bus driver in the state. She did it every day and raised a family, too. Dad just farmed.

I USUALLY GET off the interstate at Smiths Grove, but that night I drove north all the way to Horse Cave and doubled back so Wallace Jr. and I could see the bears' fires. There were not as many as you would think from the TV—one every six or seven miles, hidden back in a clump of trees or under a rocky ledge. Probably they look for water as well as wood. Wallace Jr. wanted to stop, but it's against the law to stop on the interstate and I was afraid the state police would run us off.

There was a card from Wallace in the mailbox. He and Elizabeth were doing fine and having a wonderful time. Not a word about Wallace Jr., but the boy didn't seem to mind. Like most kids his age, he doesn't really enjoy going places with his parents.

ON SATURDAY AFTERNOON the Home called my office (Burley Belt Drought & Hail) and left word that Mother was gone. I was on the road. I work Saturdays. It's the only day a lot of part-time farmers are home. My heart literally missed a beat when I called in and got the message, but only a beat. I had long been prepared. "It's a blessing," I said when I got the nurse on the phone.

"You don't understand," the nurse said. "Not *passed* away, gone. *Ran* away, gone. Your mother has escaped." Mother had gone through the door at the end of the corridor when no one was looking, wedging the door with her comb and taking a bedspread which belonged to the Home. What about her tobacco? I asked. It was gone. That was a sure sign she was planning to stay away. I was in Franklin, and it took me less than an hour to get to the Home on I-65. The nurse told me that Mother had been acting more and more confused lately. Of course they are going to say that. We looked around the grounds, which is only a half acre with no trees between the interstate and a soybean field. Then they had me leave a message at the sheriff's office. I would have to keep paying for her care until she was officially listed as Missing, which would be Monday.

It was dark by the time I got back to the house, and Wallace Jr. was fixing supper. This just involves opening a few cans, already selected and grouped together with a rubber band. I told him his grandmother had gone, and he nodded, saying, "She told us she would be." I called Florida and left a message. There was nothing more to be done. I sat down and tried to watch TV, but there was nothing on. Then, I looked out the back door, and saw the firelight twinkling through the trees across the northbound lane of I-65, and realized I just might know where to find her.

IT WAS DEFINITELY getting colder, so I got my jacket. I told the boy to wait by the phone in case the sheriff called, but when I looked back, halfway across the field, there he was behind me. He didn't have a jacket. I let him catch up. He was carrying his .22 and I made him leave it leaning against our fence. It was harder climbing the government fence in the dark, at my age, than it had been in the daylight. I am sixty-one. The highway was busy with cars heading south and trucks heading north.

Crossing the shoulder, I got my pants cuffs wet on the long grass, already wet with dew. It is actually bluegrass.

The first few feet into the trees it was pitch-black and the boy grabbed my hand. Then it got lighter. At first I thought it was the moon, but it was the high beams shining like moonlight into the treetops, allowing Wallace Jr. and me to pick our way through the brush. We soon found the path and its familiar bear smell.

I was wary of approaching the bears at night. If we stayed on the path we might run into one in the dark, but if we went through the bushes we might be seen as intruders. I wondered if maybe we shouldn't have brought the gun.

We stayed on the path. The light seemed to drip down from the canopy of the woods like rain. The going was easy, especially if we didn't try to look at the path but let our feet find their own way.

Then through the trees I saw their fire.

* * *

THE FIRE WAS mostly of sycamore and beech branches, the kind that puts out very little heat or light and lots of smoke. The bears hadn't learned the ins and outs of wood yet. They did okay at tending it, though. A large cinnamon-brown northern-looking bear was poking the fire with a stick, adding a branch now and then from a pile at his side. The others sat around in a loose circle on the logs. Most were smaller black or honey bears, one was a mother with cubs. Some were eating berries from a hubcap. Not eating, but just watching the fire, my mother sat among them with the bedspread from the Home around her shoulders.

If the bears noticed us, they didn't let on. Mother patted a spot right next to her on the log and I sat down. A bear moved over to let Wallace Jr. sit on her other side.

The bear smell is rank but not unpleasant, once you get used to it. It's not like a barn smell, but wilder. I leaned over to whisper something to Mother and she shook her head. *It would be rude to whisper around these creatures that don't possess the power of speech*, she let me know without speaking. Wallace Jr. was silent too. Mother shared the bedspread with us and we sat for what seemed hours, looking into the fire.

The big bear tended the fire, breaking up the dry branches by holding one end and stepping on them, like people do. He was good at keeping it going at the same level. Another bear poked the fire from time to time but the others left it alone. It looked like only a few of the bears knew how to use fire, and were carrying the others along. But isn't that how it is with everything? Every once in a while, a smaller bear walked into the circle of firelight with an armload of wood and dropped it onto the pile. Median wood has a silvery cast, like driftwood.

Wallace Jr. isn't fidgety like a lot of kids. I found it pleasant to sit and stare into the fire. I took a little piece of Mother's Red Man, though I don't generally chew. It was no different from visiting her at the Home, only more interesting, because of the bears. There were about eight or ten of them. Inside the fire itself, things weren't so dull, either: little dramas were being played out as fiery chambers were created and then destroyed in a crashing of sparks. My imagination ran wild. I looked around the circle at the bears and wondered what *they* saw. Some had their eyes closed. Though they were gathered together, their spirits still seemed solitary, as if each bear was sitting alone in front of its own fire.

The hubcap came around and we all took some newberries. I don't know about Mother, but I just pretended to eat mine. Wallace Jr. made a face and spit his out. When he went to sleep, I wrapped the bedspread around all three of us. It was getting colder and we were not provided, like the bears, with fur. I was ready to go home, but not Mother. She pointed up toward the canopy of trees, where a light was spreading, and then pointed to herself. Did she think it was angels approaching from on high? It was only the high beams of some southbound truck, but she seemed mighty pleased. Holding her hand, I felt it grow colder and colder in mine.

* * *

WALLACE JR. WOKE me up by tapping on my knee. It was past dawn, and his grandmother had died sitting on the log between us. The fire was banked up and the bears were gone and someone was crashing straight through the woods, ignoring the path. It was Wallace. Two state troopers were right behind him. He was wearing a white shirt, and I realized it was Sunday morning. Underneath his sadness on learning of Mother's death, he looked peeved.

The troopers were sniffing the air and nodding. The bear smell was still strong. Wallace and I wrapped Mother in the bedspread and started with her body back out to the highway. The troopers stayed behind and scattered the bears' fire ashes and flung their firewood away into the bushes. It seemed a petty thing to do. They were like bears themselves, each one solitary in his own uniform.

There was Wallace's Olds 98 on the median, with its radial tires looking squashed on the grass. In front of it there was a police car with a trooper standing beside it, and behind it a funeral home hearse, also an Olds 98.

"First report we've had of them bothering old folks," the trooper said to Wallace. "That's not hardly what happened at all," I said, but nobody asked me to explain. They have their own procedures. Two men in suits got out of the hearse and opened the rear door. That to me was the point at which Mother departed this life. After we put her in, I put my arms around the boy. He was shivering even though it wasn't that cold. Sometimes death will do that, especially at dawn, with the police around and the grass wet, even when it comes as a friend.

We stood for a minute watching the cars and trucks pass. "It's a blessing," Wallace said. It's surprising how much traffic there is at 6:22 A.M.

THAT AFTERNOON, I went back to the median and cut a little firewood to replace what the troopers had flung away. I could see the fire through the trees that night.

I went back two nights later, after the funeral. The fire was going and it was the same bunch of bears, as far as I could tell. I sat around with them awhile but it seemed to make them nervous, so I went home. I had taken a handful of newberries from the hubcap, and on Sunday I went with the boy and arranged them on Mother's grave. I tried again, but it's no use, you can't eat them.

Unless you're a bear.

## GEORGE ALEC EFFINGER

# One

George Alec Effinger cites the theater of the absurd as a major influence on his writing and refers to his style of multilayered, free-ranging fiction as "surreal fantasy." He first earned renown as a writer of stylish and challenging short stories in magazines and anthologies in the 1970s. His first novel, *What Entropy Means to Me,* is actually a quartet of linked stories that begin as a traditional quest fantasy but subtly transforms into a reflexive inquiry into family dynamics, political power struggles, and the act of artistic creation. Subsequent stories show a similar audacity of plotting and narrative structure. A number of his tales, notably "The Pinch-Hitters," "Naked to the Invisible Eye," "From Downtown at the Buzzer," and "Breakaway," draw on sports and games as their central metaphor. His novels *Death in Florence, Those Gentle Voices: A Promethean Romance,* and *The Wolves of Memory* evoke a sense of parallel realities and alternate worlds through their deployment of characters with the same names as those in short stories but with different personalities and motivations. Effinger has explored the intricate possibilities of time travel in his novels *The Nick of Time* and *The Bird of Time* and satirized heroic fantasy in *Maureen Birnbaum, Barbarian Sword-person.* His trilogy of novels featuring Marîd Audran (*When Gravity Fails, A Fire in the Sun,* and *The Exile Kiss*—all set in a future Middle East) is notable for its rendering of traditional Moslem culture receptive to the incursions of cyberpunk technology. Effinger's numerous stories have been collected in *Mixed Feelings, Irrational Numbers, Dirty Tricks,* and *Idle Pleasures.* He has also written a number of film novelizations; a roundrobin novel, *The Red Tape War; Nightmare Blue* (with Gardner Dozois); and the mainstream novel *Felicia.*

IT WAS YEAR 30, Day 1, the anniversary of Dr. Leslie Gillette's leaving Earth. Standing alone at the port, he stared out at the empty expanse of null space. "At eight o'clock, the temperature in the interstellar void is a negative two hundred seventy-three degrees Celsius," he said. "Even without the wind chill factor, that's cold. That's pretty damn cold."

A readout board had told him that morning that the ship and its lonely passenger would be reaching the vicinity of a star system before bedtime. Gillette didn't recall



the name of the star—it had only been a number in a catalogue. He had long sin lost interest in them. In the beginning, in the first few years when Jessica had st been with him, he had eagerly asked the board to show them where in Earth's nig sky each star was located. They had taken a certain amount of pleasure in examini at close hand stars which they recognized as features of major constellations. Th had passed. After they had visited a few thousand stars, they grew less interested. Aft they had discovered yet more planetary bodies, they almost became weary of tl search. Almost. The Gillettes still had enough scientific curiosity to keep them goin farther and farther from their starting point.

But now the initial inspiration was gone. Rather than wait by the port until tl electronic navigator slipped the ship back into normal space, he turned and left tl control room. He didn't feel like searching for habitable planets. It was getting lat and he could do it the next morning.

He fed his cat instead. He punched up the code and took the cat's dinner fro the galley chute. "Here you go," said Gillette. "Eat it and be happy with it. I want read a little before I go to sleep." As he walked toward his quarters he felt the mi thrumming of the corridor's floor and walls that meant the ship had passed into re space. The ship didn't need directions from Gillette; it had already plotted a safe ar convenient orbit in which to park, based on the size and characteristics of the sta The planets, if any, would all be there in the morning, waiting for Dr. Gillette examine them, classify them, name them, and abandon them.

Unless, of course, he found life anywhere.

FINDING LIFE WAS one of the main purposes of the journey. Soon it had become tl Gillettes' purpose in life as well. They had set out as enthusiastic explorers: Dr. Lesl Gillette, thirty-five years old, already an influential writer and lecturer in theoretic exobiology, and his wife, Jessica Reid Gillette, who had been the chairman of tl biochemistry department at a large middle-western state university. They had bee married for eleven years, and had made the decision to go into field exploration aft the death of their only child.

Now they were traveling through space toward the distant limits of the galax Long, long ago the Earth's sun had disappeared from view. The exobiology abo which both Gillettes had thought and written and argued back home remained ju what it had been then—mere theory. After visiting hundreds and hundreds of stell systems, upon thousands of potential life-sustaining planets, they had yet to see detect any form of life, no matter how primitive. The lab facilities on the landir craft returned the same frustrating answer with soul-deadening frequency: no lif Dead. Sterile. Year after year, the galaxy became to the Gillettes a vast and terrifyir immensity of insensible rock and blazing gas.

"Do you remember," asked Jessica one day, "what old man Hayden used to tell us?"

Gillette smiled. "I used to love to get that guy into an argument," he said.

"He told me once that we might find life, but there wasn't a snowball's chance in hell of finding intelligent life."

Gillette recalled that discussion with pleasure. "And you called him a Terran chauvinist. I loved it. You made up a whole new category of bigotry, right on the spot. We thought he was such a conservative old codger. Now it looks like even he was too optimistic."

Jessica stood behind her husband's chair, reading what he was writing. "What would Hayden say, do you think, if he knew we haven't found a goddamn thing?"

Gillette turned around and looked up at her. "I think even he would be disappointed," he said. "Surprised, too."

"This isn't what I anticipated," she said.

The complete absence of even the simplest of lifeforms was at first irritating, then puzzling, then ominous. Soon even Leslie Gillette, who always labored to keep separate his emotional thoughts and his logical ones, was compelled to realize that his empirical conclusions were shaping up in defiance of all the mathematical predictions man or machine had ever made. In the control room was a framed piece of vellum, on which was copied, in fine italic letters and numerals:

$$N = R.f_p n_e f_l f_i f_c L$$

This was a formula devised decades before to determine the approximate number of advanced technological civilizations man might expect to find elsewhere in his galaxy. The variables in the formula are given realistic values, according to the scientific wisdom of the time. N is determined by seven factors:

- **R.** or the mean rate of star formation in the galaxy (with an assigned value of ten per year)
- $f_p$ or the percentage of stars with planets (close to one hundred percent)
- $n_e$ or the average number of planets in each star system with environments suitable for life (with an assigned value of one)
- $f_l$ or the percentage of those planets on which life does, in fact, develop (close to one hundred percent)
- $f_i$ or the percentage of those planets on which intelligent life develops (ten percent)
- $f_c$ or the percentage of those planets on which advanced technical civilization develops (ten percent)
- L or the lifetime of the technical civilization (with an estimated value of ten million years).

These figures produced a predictive result stating that N—the number of advanced civilizations in the Milky Way galaxy—equals ten to the sixth power. A million. The Gillettes had cherished that formula through all the early years of disappointment. But they were not looking for an advanced civilization, they were looking for life. Any kind of life. Some six years after leaving Earth, Leslie and Jessica were wandering across the dry, sandy surface of a cool world circling a small, cool sun. "I don't see any advanced civilizations," said Jessica, stooping to stir the dust with the heavy gauntlet of her pressure suit.

"Nope," said her husband, "not a hamburger stand in sight." The sky was a kind of reddish purple, and he didn't like looking into it very often. He stared down at the ground, watching Jessica trail her fingers in the lifeless dirt.

"You know," she said, "that formula says that every system ought to have at least one planet suitable for life."

Gillette shrugged. "A lot of them do," he said. "But it also says that every planet that could sustain life, will sustain life, eventually.

"Maybe they were a little too enthusiastic when they picked the values for their variables."

Jessica laughed. "Maybe." She dug a shallow hole in the surface. "I keep hoping I'll run across some ants or a worm or something."

"Not here, honey," said Gillette. "Come on, let's go back." She sighed and stood. Together they returned to the landing craft.

"What a waste," said Jessica, as they prepared to lift off. "I've given my imagination all this freedom. I'm prepared to see anything down there, the garden variety of life or something more bizarre. You know, dancing crystals or thinking clouds. But I never prepared myself for so much nothing."

The landing craft shot up through the thin atmosphere, toward the orbiting command ship. "A scientist has to be ready for this kind of thing," said Gillette wistfully. "But I agree with you. Experience seems to be defying the predictions in a kind of scary way."

Jessica loosened her safety belt and took a deep breath. "Mathematically unlikely, I'd call it. I'm going to look at the formula tonight and see which of those variables is the one screwing everything up."

Gillette shook his head. "I've done that time and time again," he said. "It won't get you very far. Whatever you decided, the result will still be a lot different from what we've found." On the myriad worlds they had visited, they never found anything as simple as algae or protozoans, let alone intelligent life. Their biochemical sensors

had never detected anything that even pointed in that direction, like a complex protein. Only rock and dust and empty winds and lifeless pools.

IN THE MORNING, just as he had predicted, the planets were still there. There were five of them, circling a modest star, type G3, not very different from Earth's Sun. He spoke to the ship's computer: "I name the star Hannibal. Beginning with the nearest to Hannibal, I name the planets: Huck, Tom, Jim, Becky, and Aunt Polly. We will proceed with the examinations." The ship's instruments could take all the necessary readings, but Gillette wouldn't trust its word on the existence of life. That question was so important that he felt he had to make the final determination himself.

Huck was a Mars-sized ball of nickel and iron, a rusty brown color, pocked with craters, hot and dry and dead. Tom was larger and darker, cooler, but just as damaged by impacts and just as dead. Jim was Earthlike; it had a good-sized atmosphere of nitrogen and oxygen, its range of temperatures stayed generally between − 30°C and + 50°C, and there was a great abundance of water on the planet's surface. But there was no life, none on the rocky, dusty land, none in the mineral-salted water, nothing, not so much as a single cyanobacterium. Jim was the best hope Gillette had in the Hannibal system, but he investigated Becky and Aunt Polly as well. They were the less-dense gas giants of the system, although neither was so large as Uranus or Neptune. There was no life in their soupy atmospheres or on the igneous surfaces of their satellites. Gillette didn't bother to name the twenty-three moons of the five planets; he thought he'd leave that to the people who came after him. If any ever did.

Next, Gillette had to take care of the second purpose of the mission. He set out an orbiting transmission gate around Jim, the most habitable of the five planets. Now a ship following in his path could cross the scores of light-years instantaneously from the gate Gillette had set out at his previous stop. He couldn't even remember what that system had been like or what he had named it. After all these years they were all confused in his mind, particularly because they were so identical in appearance, so completely empty of life.

He sat at a screen and looked down on Jim, at the tan, sandy continents, the blue seas, the white clouds and polar caps. Gillette's cat, a gray Maine coon, his only companion, climbed into his lap. The cat's name was Benny, great-grandson of Methyl and Ethyl, the two kittens Jessica had brought along. Gillette scratched behind the animal's ears and under his chin. "Why aren't there any cats down there?" he asked . Benny had only a long purr for an answer. After a while Gillette tired of staring down at the silent world. He had made his survey, had put out the gate, and now there was nothing to do but send the information back toward Earth and move on. He gave the instructions to the ship's computer, and in half an hour the stars had disappeared, and Gillette was traveling again through the darkness of null space.

* * *

HE REMEMBERED HOW excited they had been about the mission, some thirty years before. He and Jessica had put in their application, and they had been chosen for reasons Gillette had not fully understood. "My father thinks that anyone who wants to go chasing across the galaxy for the rest of his life must be a little crazy," said Jessica.

Gillette smiled. "A little unbalanced, maybe, but not crazy."

They were lying in the grass behind their house, looking up into the night sky, wondering which of the bright diamond stars they would soon visit. The project seemed like a wonderful vacation from their grief, an opportunity to examine their lives and their relationship without the million remembrances that tied them to the past. "I told my father that it was a marvelous opportunity for us," she said. "I told him that from a scientific point of view, it was the most exciting possibility we could ever hope for."

"Did he believe you?"

"Look, Leslie, a shooting star. Make a wish. No, I don't think he believed me. He said the project's board of governors agreed with him and the only reason we've been selected is that we're crazy or unbalanced or whatever in just the right ways."

Gillette tickled his wife's ear with a long blade of grass. "Because we might spend the rest of our lives staring down at stars and worlds."

"I told him five years at the most, Leslie. Five years. I told him that as soon as we found anything we could definitely identify as living matter, we'd turn around and come home. And if we have any kind of luck, we might see it in one of our first stops. We may be gone only a few months or a year."

"I hope so," said Gillette. They looked into the sky, feeling it press down on them with a kind of awesome gravity, as if the infinite distances had been converted to mass and weight. Gillette closed his eyes. "I love you," he whispered.

"I love you, too, Leslie," murmured Jessica. "Are you afraid?"

"Yes."

"Good," she said. "I might have been afraid to go with you if you weren't worried, too. But there's nothing to be afraid of. We'll have each other, and it'll be exciting. It will be more fun than spending the next couple of years here, doing the same thing, giving lectures to grad students and drinking sherry with the Nobel crowd."

Gillette laughed. "I just hope that when we get back, someone remembers who we are. I can just see us spending two years going out and coming back, and nobody even knows what the project was all about."

Their good-bye to her father was more difficult. Mr. Reid was still not sure why they wanted to leave Earth. "A lot of young people suffer a loss, the way you have," he said. "But they go on somehow. They don't just throw their lives away."

"We're not throwing anything away," said Jessica. "Dad, I guess you'd have to be a biologist to understand. There's more excitement in the chance of discovering

ıre somewhere out there than in anything we might do if we stayed here. And we won't be gone long. It's field work, the most challenging kind. Both of us have always preferred that to careers at the blackboards in some university."

Reid shrugged and kissed his daughter. "If you're sure," was all he had to say. He shook hands with Gillette.

Jessica looked up at the massive spacecraft. "I guess we are," she said. There was nothing more to do or say. They left Earth not many hours later, and they watched the planet dwindle in the ports and on the screens.

The experience of living on the craft was strange at first, but they quickly settled into routines. They learned that while the idea of interstellar flight was exciting, the reality was duller than either could have imagined. The two kittens had no trouble adjusting, and the Gillettes were glad for their company. When the craft was half a million miles from Earth, the computer slipped it into null space, and they were truly isolated for the first time.

It was terrifying. There was no way to communicate with Earth while in null space. The craft became a self-contained little world, and in dangerous moments when Gillette allowed his imagination too much freedom, the silent emptiness around him seemed like a new kind of insanity or death. Jessica's presence calmed him, but he was still grateful when the ship came back into normal space, at the first of their unexplored stellar systems.

Their first subject was a small, dim, class-M star, the most common type in the galaxy, with only two planetary bodies and a lot of asteroidal debris circling around it. "What are we going to name the star, dear?" asked Jessica. They both looked at it through the port, feeling a kind of parental affection.

Gillette shrugged. "I thought it would be easier if we stuck to the mythological system they've been using at home."

"That's a good idea, I guess. We've got one star with two little planets wobbling around it."

"Didn't Apollo have . . . No, I'm wrong. I thought—"

Jessica turned away from the port. "It reminds me of Odin and his two ravens."

"He had two ravens?"

"Sure," said Jessica, "Thought and Memory. Hugin and Mugin."

"Fine. We'll name the star Odin, and the planets whatever you just said. I'm sure glad I have you. You're a lot better at this than I am."

Jessica laughed. She looked forward to exploring the planets. It would be the first break they had in the monotony of the journey. Neither Leslie nor Jessica anticipated finding life on the two desolate worlds, but they were glad to give them a thorough examination. They wandered awe-struck over the bleak, lonely landscapes of Hugin and Mugin, completing their tests, and at last returned to their orbiting craft. They sent their findings back to Earth, set out the first of the transmission gates, and, not yet feeling very disappointed, left the Odin system. They both felt that they were in contact with their home, regardless of the fact that their message would take a long time to reach Earth, and they were moving away too quickly ever to receive any. But they both knew that if they wanted, they could still turn around and head back to Earth.

Their need to know drove them on. The loneliness had not yet become unbearable. The awful fear had not yet begun.

The gates were for the use of the people who followed the Gillettes into the unsettled reaches of the galaxy; they could be used in succession to travel outward, but the travelers couldn't return through them. They were like ostrich eggs filled with water and left by natives in the African desert; they were there to make the journey safer and more comfortable for others, to enable the others to travel even farther.

Each time the Gillettes left one star system for another, through null space, they put a greater gulf of space and time between themselves and the world of their birth. "Sometimes I feel very strange," admitted Gillette, after they had been outbound for more than two years. "I feel as if any contact we still have with Earth is an illusion, something we've invented just to maintain our sanity. I feel like we're donating a large part of our lives to something that might never benefit anyone."

Jessica listened somberly. She had had the same feelings, but she hadn't wanted to let her husband know. "Sometimes I think that the life in the university classroom is the most desirable thing in the world. Sometimes I damn myself for not seeing that before. But it doesn't last long. Every time we go down to a new world, I still feel the same hope. It's only the weeks in null space that get to me. The alienation is so intense."

Gillette looked at her mournfully. "What does it really matter if we do discover life?" he asked.

She looked at him in shocked silence for a moment. "You don't really mean that," she said at last.

Gillette's scientific curiosity rescued him, as it had more than once in the past. "No," he said softly, "I don't. It does matter." He picked up the three kittens from Ethyl's litter. "Just let me find something like these waiting on one of these endless planets, and it will all be worthwhile."

Months passed, and the Gillettes visited more stars and more planets, always with the same result. After three years they were still rocketing away from Earth. The fourth year passed, and the fifth. Their hope began to dwindle.

"It bothers me just a little," said Gillette as they sat beside a great gray ocean, on a world they had named Carraway. There was a broad beach of pure white sand backed by high dunes. Waves broke endlessly and came to a frothy end at their feet. "I mean, that we never see anybody behind us, or hear anything. I know it's impossible, but I used to have this crazy dream that somebody was following us through

the gates and then jumped ahead of us through null space. Whoever it was waited for us at some star we hadn't got to yet."

Jessica made a flat mound of wet sand. "This is just like Earth, Leslie," she said. "If you don't notice the chartreuse sky. And if you don't think about how there isn't any grass in the dunes and no shells on the beach. Why would somebody follow us like that?"

Gillette lay back on the clean white sand and listened to the pleasant sound of the surf. "I don't know," he said. "Maybe there had been some absurd kind of life on one of those planets we checked out years ago. Maybe we made a mistake and overlooked something, or misread a meter or something. Or maybe all the nations on Earth had wiped themselves out in a war and I was the only living human male and the lonely women of the world were throwing a party for me."

"You're crazy, honey," said Jessica. She flipped some damp sand onto the legs of his pressure suit.

"Maybe Christ had come back and felt the situation just wasn't complete without us, too. For a while there, every time we bounced back into normal space around a star, I kind of half-hoped to see another ship, waiting." Gillette sat up again. "It never happened, though."

"I wish I had a stick," said Jessica. She piled more wet sand on her mound, looked at it for a few seconds, and then looked up at her husband. "Could there be something happening at home?" she asked.

"Who knows what's happened in these five years? Think of all we've missed, sweetheart. Think of the books and the films, Jessie. Think of the scientific discoveries we haven't heard about. Maybe there's peace in the Mideast and a revolutionary new source of power and a black woman in the White House. Maybe the Cubs have won a pennant, Jessie. Who knows?"

"Don't go overboard, dear," she said. They stood and brushed off the sand that clung to their suits. Then they started back toward the landing craft.

Onboard the orbiting ship an hour later, Gillette watched the cats. They didn't care anything about the Mideast; maybe they had the right idea. "I'll tell you one thing," he said to his wife. "I'll tell you who does know what's been happening. The people back home know. They know all about everything. The only thing they don't know now is what's going on with us, right now. And somehow I have the feeling that they're living easier with their ignorance than I am with mine." The kitten that would grow up to be Benny's mother tucked herself up into a near little bundle and fell asleep.

"You're feeling cut off," said Jessica.

"Of course I am," said Gillette. "Remember what you used to say to me? Before we were married, when I told you I only wanted to go on with my work, and you told me that one human being was no human being? Remember? You were always saying things like that, just so I'd have to ask you what the hell you were talking about. And then you'd smile and deliver some little story you had all planned out. I guess it made you happy. So you said, 'One human being is no human being, and I said, 'What does that mean?' and you went on about how if I were going to live my life all alone, I might as well not live it at all. I can't remember exactly the way you put it. You have this crazy way of saying things that don't have the least little bit of logic to them but always make sense. You said I figured I could sit in my ivory tower and look at things under a microscope and jot down my findings and send out little announcements now and then about what I'm doing and how I'm feeling and I shouldn't be surprised if nobody gives a damn. You said that I had to live among people, that no matter how hard I tried, I couldn't get away from it. And that I couldn't climb a tree and decide I was going to start my own new species. But you were wrong, Jessica. You can get away from people. Look at us."

The sound of his voice was bitter and heavy in the air. "Look at me," he murmured. He looked at his reflection and it frightened him. He looked old; worse than that, he looked just a little demented. He turned away quickly, his eyes filling with tears.

"We're not truly cut off," she said softly. "Not as long as we're together."

"Yes," he said, but he still felt set apart, his humanity diminishing with the passing months. He performed no function that he considered notably human. He read meters and dials and punched buttons; machines could do that, animals could be trained to do the same. He felt discarded, like a bad spot on a potato, cut out and thrown away.

Jessica prevented his depression from deepening into madness. He was far more susceptible to the effects of isolation than she. Their work sustained Jessica, but it only underscored their futility for her husband.

"I HAVE STRANGE thoughts, Jessica," he admitted to her, one day during their ninth year of exploration. "They just come into my head now and then. At first I didn't pay any attention at all. Then, after a while, I noticed that I was paying attention, even though when I stopped to analyze them I could see the ideas were still foolish."

"What kind of thoughts?" she asked. They prepared the landing craft to take them down to a large, ruddy world.

Gillette checked both pressure suits and stowed them aboard the lander. "Sometimes I get the feeling that there aren't any other people anywhere, that they were all the invention of my imagination. As if we never came from Earth, that home and everything I recall are just delusions and false memories. As if we've always been on this ship, forever and ever, and we're absolutely alone in the whole universe." As he spoke, he gripped the heavy door of the lander's airlock until his knuckles turned

vhite. He felt his heart speeding up, he felt his mouth going dry, and he knew that ıe was about to have another anxiety attack.

"It's all right, Leslie," said Jessica soothingly. "Think back to the time we had ɔgether at home. That couldn't be a lie."

Gillette's eyes opened wider. For a moment he had difficulty breathing. "Yes," he vhispered, "it could be a lie. You could be a hallucination, too." He began to weep, eeing exactly where his ailing mind was leading him.

Jessica held him while the attack worsened and then passed away. In a few mo-ıents he had regained his usual sensible outlook. "This mission is much tougher ıan I thought it would be," he whispered.

Jessica kissed his cheek. "We have to expect some kind of problems after all these ears," she said. "We never planned on it taking this long."

The system they were in consisted of another class-M star and twelve planets. "A ɔt of work, Jessica," he said, brightening a little at the prospect. "It ought to keep us usy for a couple of weeks. That's better than falling through null space."

"Yes, dear," she said. "Have you started thinking of names yet?" That was be-ɔming the most tedious part of the mission—coming up with enough new names ɔr all the stars and their satellites. After eight thousand systems, they had exhausted ll the mythological and historical and geographical names they could remember. hey now took turns, naming planets after baseball players and authors and film stars.

They were going down to examine a desert world they had named Rick, after the ıaracter in *Casablanca*. Even though it was unlikely that it would be suitable for life, ıey still needed to examine it firsthand, just on the off-chance, just in case, just for ucks, as Gillette's mother used to say.

That made him pause, a quiet smile on his lips. He hadn't thought of that ex-ression in years. That was a critical point in Gillette's voyage; never again, while ssica was with him, did he come so close to losing his mental faculties. He clung to er and to his memories as a shield against the cold and destructive forces of the vast nptiness of space.

Once more the years slipped by. The past blurred into an indecipherable haze, ıd the future did not exist. Living in the present was at once the Gillettes' salvation ıd curse. They spent their time among routines and changeless duties that were no ıore tedious than what they had known on Earth, but no more exciting either.

As their shared venture neared its twentieth year, the great disaster befell Gillette: ı an unnamed world hundreds of light-years from Earth, on a rocky hill overlooking barren sandstone valley, Jessica Gillette died. She bent over to collect a sample of ıil; a worn seam in her pressure suit parted; there was a sibilant warning of gases ıssing through the lining, into the suit. She fell to the stony ground, dead. Her ısband watched her die, unable to give her any help, so quickly did the poison kill her. He sat beside her as the planet's day turned to night, and through the long, cold hours until dawn.

He buried her on that world, which he named Jessica, and left her there forever. He set out a transmission gate in orbit around the world, finished his survey of the rest of the system, and went on to the next star. He was consumed with grief, and for many days he did not leave his bed.

One morning Benny, the kitten, scrabbled up beside Gillette. The kitten had not been fed in almost a week. "Benny," murmured the lonely man, "I want you to realize something. We can't get home. If I turned this ship around right this very minute and powered home all the way through null space, it would take twenty years. I'd be in my seventies if I lived long enough to see Earth. I never expected to live that long." From then on, Gillette performed his duties in a mechanical way, with none of the enthusiasm he had shared with Jessica. There was nothing else to do but go on, and so he did, but the loneliness clung to him like a shadow of death.

He examined his results, and decided to try to make a tentative hypothesis. "It's unusual data, Benny," he said. "There has to be some simple explanation. Jessica always argued that there didn't have to be any explanation at all, but now I'm sure there must be. There has to be some meaning behind all of this, somewhere. Now tell me, why haven't we found Indication Number One of life on any of these twenty-odd thousand worlds we've visited?"

Benny didn't have much to suggest at this point. He followed Gillette with his big yellow eyes as the man walked around the room. "I've gone over this before," said Gillette, "and the only theories I come up with are extremely hard to live with. Jessica would have thought I was crazy for sure. My friends on Earth would have a really difficult time even listening to them, Benny, let alone seriously considering them. But in an investigation like this, there comes a point when you have to throw out all the predicted results and look deep and long at what has actually occurred. This isn't what I wanted, you know. It sure isn't what Jessica and I expected. But it *is* what happened."

Gillette sat down at his desk. He thought for a moment about Jessica, and he was brought to the verge of tears. But he thought about how he had dedicated the remainder of his life to her, and to her dream of finding an answer at one of the stellar systems yet to come.

He devoted himself to getting that answer for her. The one blessing in all the years of disappointment was that the statistical data were so easy to comprehend. He didn't need a computer to help in arranging the information: there was just one long, long string of zeros. "Science is built on theories," thought Gillette. "Some theories may be untestable in actual practice, but are accepted because of an overwhelming preponderance of empirical data. For instance, there may not actually exist any such thing as gravity; it may be that things have been falling down consistently because of

some outrageous statistical quirk. Any moment now things may start to fall up and down at random, like pennies landing heads or tails. And then the Law of Gravity will have to be amended."

That was the first, and safest, part of his reasoning. Next came the feeling that there was one over-riding possibility that would adequately account for the numbing succession of lifeless planets. "I don't really want to think about that yet," he murmured, speaking to Jessica's spirit. "Next week, maybe. I think we'll visit a couple more systems first."

And he did. There were seven planets around an M-class star, and then a G star with eleven, and a K star with fourteen; all the worlds were impact-cratered and pitted and smoothed with lava flow. Gillette held Benny in his lap after inspecting the three systems. "Thirty-two more planets," he said. "What's the grand total now?" Benny didn't know.

Gillette didn't have anyone with whom to debate the matter. He could not consult scientists on Earth; even Jessica was lost to him. All he had was his patient gray cat, who couldn't be looked to for many subtle contributions. "Have you noticed," asked the man, "that the farther we get from Earth, the more homogeneous the universe looks?" If Benny didn't understand the word homogeneous, he didn't show it. "The only really unnatural thing we've seen in all these years has been Earth itself. Life on Earth is the only truly anomalous factor we've witnessed in twenty years of exploration. What does that mean to you?"

At that point, it didn't mean anything to Benny, but it began to mean something to Gillette. He shrugged. "None of my friends were willing to consider even the possibility that Earth might be alone in the universe, that there might not be anything else alive anywhere in all the infinite reaches of space. Of course, we haven't looked at much of those infinite reaches, but going zero for twenty-three thousand means that something unusual is happening." When the Gillettes had left Earth two decades before, prevailing scientific opinion insisted that life had to be out there somewhere, even though there was no proof, either directly or indirectly. There had to be life; it was only a matter of stumbling on it. Gillette looked at the old formula, still hanging where it had been throughout the whole voyage. "If one of those factors is zero," he thought, "then the whole product is zero. Which factor could it be?" There was no hint of an answer, but that particular question was becoming less important to Gillette all the time.

AND SO IT had come down to this: Year 30 and still outward bound. The end of Gillette's life was somewhere out there in the black stillness. Earth was a pale memory, ess real now than last night's dreams. Benny was an old cat, and soon he would die ıs Jessica had died, and Gillette would be absolutely alone. He didn't like to think ıbout that, but the notion intruded on his consciousness again and again.



Another thought arose just as often. It was an irrational thought, he knew, something he had scoffed at thirty years before. His scientific training led him to examine ideas by the steady, cold light of reason, but this new concept would not hold still for such a mechanical inspection.

He began to think that perhaps Earth was alone in the universe, the only planet among billions to be blessed with life. "I have to admit again that I haven't searched through a significant fraction of all the worlds in the galaxy," he said, as if he were defending his feelings to Jessica. "But I'd be a fool if I ignored thirty years of experience. What does it mean, if I say that Earth is the only planet with life? It isn't a scientific or mathematical notion. Statistics alone demand other worlds with some form of life. But what can overrule such a biological imperative?" He waited for a guess from Benny; none seemed to be forthcoming. "Only an act of faith," murmured Gillette. He paused, thinking that he might hear a trill of dubious laughter from Jessica's spirit, but there was only the humming, ticking silence of the spacecraft.

"A single act of creation, on Earth," said Gillette. "Can you imagine what any of the people at the university would have said to that? I wouldn't have been able to show my face around there again. They would have revoked every credential I had. My subscription to *Science* would have been canceled. The local PBS channel would have refused my membership.

"But what else can I think? If any of those people had spent the last thirty years the way we have, they'd have arrived at the same conclusion. I didn't come to this answer easily, Jessica, you know that. You know how I was. I never had any faith in anything I hadn't witnessed myself. I didn't even believe in the existence of George Washington, let alone first principles. But there comes a time when a scientist must accept the most unappealing explanation, if it is the only one left that fits the facts."

It made no difference to Gillette whether or not he was correct, whether he had investigated a significant number of worlds to substantiate his conclusion. He had had to abandon, one by one, all of his prejudices, and made at last a leap of faith. He knew what seemed to him to be the truth, not through laboratory experiments but by an impulse he had never felt before.

For a few days he felt comfortable with the idea. Life had been created on Earth for whatever reasons, and nowhere else. Each planet devoid of life that Gillette discovered became from then on a confirming instance of this hypothesis. But then, one night, it occurred to him how horribly he had cursed himself. If Earth were the only home of life, why was Gillette hurtling farther and farther from that place, farther from where he too had been made, farther from where he was supposed to be?

What had he done to himself—and to Jessica?

"My impartiality failed me, sweetheart," he said to her disconsolately. "If I could have stayed cold and objective, at least I would have had peace of mind. I would never have known how I damned both of us. But I couldn't; the impartiality was a lie, from

the very beginning. As soon as we went to measure something, our humanity got in the way. We couldn't be passive observers of the universe, because we're alive and we're people and we think and feel. And so we were doomed to learn the truth eventually, and we were doomed to suffer because of it." He wished Jessica were still alive, to comfort him as she had so many other times. He had felt isolated before, but it had never been so bad. Now he understood the ultimate meaning of alienation—a separation from his world and the force that had created it. He wasn't supposed to be here, wherever it was. He belonged on Earth, in the midst of life. He stared out through the port, and the infinite blackness seemed to enter into him, merging with his mind and spirit. He felt the awful coldness in his soul.

For a while Gillette was incapacitated by his emotions. When Jessica died, he had bottled up his grief; he had never really permitted himself the luxury of mourning her. Now, with the added weight of his new convictions, her loss struck him again, harder than ever before. He allowed the machines around him to take complete control of the mission in addition to his well-being. He watched the stars shine in the darkness as the ship fell on through real space. He stroked Benny's thick gray fur and remembered everything he had so foolishly abandoned.

In the end it was Benny that pulled Gillette through. Between strokes the man's hand stopped in mid-air; Gillette experienced a flash of insight, what the oriental philosophers call *satori,* a moment of diamond-like clarity. He knew intuitively that he had made a mistake that had led him into self-pity. If life had been created on Earth, then all living things were a part of that creation, wherever they might be. Benny, the gray-haired cat, was a part of it, even locked into this tin can between the stars. Gillette himself was a part, wherever he traveled. That creation was just as present in the spacecraft as on Earth itself: it had been foolish for Gillette to think that he ever could separate himself from it—which was just what Jessica had always told him.

"Benny!" said Gillette, a tear streaking his wrinkled cheek. The cat observed him benevolently. Gillette felt a pleasant warmth overwhelm him as he was released at last from his loneliness. "It was all just a fear of death," he whispered. "I was just afraid to die. I wouldn't have believed it! I thought I was beyond all that. It feels good to be free of it."

And when he looked out again at the wheeling stars, the galaxy no longer seemed empty and black, but vibrant and thrilling with a creative energy. He knew that what he felt could not be shaken, even if the next world he visited was a lush garden of life—that would not change a thing, because his belief was no longer based on numbers and facts, but on a stronger sense within him.

IT MADE NO difference at all where Gillette was headed, what stars he would visit: wherever he went, he understood at last, he was going home.

**Orson Scott Card** is a winner of multiple Hugo and Nebula awards f short fiction and novels. His novel *Ender's Game* is considered one the classics of the genre and is currently being developed for film. Along with subsequent novels in the Ender series (*Speaker for the Dead, Xenocide, Children of the Mind,* and *Ender's Shadow*), Card i also the author of the contemporary novels *Lost Boys*; *Treasure Bo Homebody*; The Homecoming Saga, including *The Memory of Earth*, *Call of Earth*, *The Ships of Earth*, *Earthfall*, and *Earthborn*; an alterna history novel, *Pastwatch*: *The Redemption of Christopher Columbus*; a the American fantasy series The Tales of Alvin Maker: *Seventh Son Red Prophet*, *Prentice Alvin*, *Alvin Journeyman*, *and Heartfire.*

A respected playwright, Card has seen a dozen of his plays produced in regional theater. He has also taught writing courses at several universities and workshops, including, most recently, a novel-writing course at Pepperdine.

Card currently lives in Greensboro, North Carolina, with his wife an five children. Visit his website at www.hatrack.com.