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third of the way through its expected life span.

Like a baby boomer, the sun is going to get fatter, but it's also going to get brighter. The long-term outlook for the sun's earthbound clients is not good. Astrophysicist I.-Juliana Sackmann of the California Institute of Technology and two colleagues recently tried to chart the sun's fate, reports *Science News* writer Cowen. During the next 1.1 billion years or so, its brightness will increase 10 percent. According to a model proposed six years ago by James F. Kasting of Pennsylvania State University, that is likely to trigger a runaway greenhouse effect on Earth, with highly unpleasant consequences: "The planet's oceans will boil away, destroying life as we know it."

Some 6.5 billion years from now, the sun will have more than doubled its present brightness, according to Sackmann, Arnold I. Boothroyd of the University of Toronto, and Kathleen E. Kraemer of Boston University. Having consumed all the hydrogen nuclei at its core, it will start on the hydrogen nuclei in a shell of gas around the core. The energy released will make the core hotter and denser, while the sun's outer envelope will expand and cool, growing redder in color. Over a period of 1.3 billion years, the sun will increase enormously in size, transforming itself into a "red giant," as stars of this type are called, and swallowing Mercury and perhaps Venus.

Eventually the sun will enter a quiescent stage, burning the helium nuclei in its core. After about 100 million years, the helium in a shell of gas just outside the core will ignite. "At about 12.3 billion years of age," Cowen writes, "the sun [will] become a star with two burning shells," one of helium, the other of hydrogen. With its nuclear fuel depleted, the core will contract, drawing in the two gas shells around it. Another series of explosions will trigger "the final phase of expansion and brightening, which will last about 20 million years."

A few million years later, the end will come. "Ejecting its puffy outer layers, the elderly star will lay bare its smoldering, collapsed core, thus becoming a relic known as a white dwarf." Around it, in all likelihood, a lifeless planet Earth will go on revolving forever.

## *Information Age Auto da Fé*

"Discards" by Nicholson Baker, in *The New Yorker* (Apr. 4, 1994), 20 W. 43rd St., New York, N.Y. 10036.

Cheerfully, even gleefully, library administrators all over the United States are bidding adieu to their dusty old card catalogues and plugging in brand new "on-line" catalogues. They only joke about building bonfires out of the old cards, but what they are actually doing with them is every bit as dismaying, writes Baker, a novelist: They are throwing them out.

"On-line catalogues are wonderful things in principle," he concedes. They are also inevitable. Thanks to the boom in academic publishing since the 1960s, some collections are growing by 500 items per day, which makes computerization a necessity. But destroying the old card catalogues seems almost criminal. One reason for preserving them is purely practical. At Harvard University, for example, an outside contractor is transferring the information on five million pre-1980 cards at about 100 different Harvard libraries to the university's on-line catalogue, HOLLIS. Even with the very low official error rate of less than one percent, there will be as many as 50,000 errors. Some of these, Baker points out, will make it difficult, perhaps impossible, for scholars to locate certain books or other items. (Harvard, as it happens, has microfilmed its cards, but most libraries cannot afford such a luxury. Yet they, too, are getting rid of their cards.)

Errors are only the beginning of what Baker thinks is wrong with the conversions. The new data bases "are much harder to browse efficiently, are less rich in cross-references and subject headings, lack local character, do not group related titles and authors together particularly well, and are in many cases stripped of whole classes of specific historical information (e.g., the original price of the book, its acquisition date, its original cataloguing date, its accession number, the original cataloguer's own initials, the record of any copies that have been withdrawn, and whether it was a gift or a purchase)." The hyperefficiency of the on-line systems can also be a curious handicap. Searching one of the best data bases for the works of Peter Illich Tchaikovsky, for example, would not yield

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the works of Petr Il'ich Chaikovskii—or those listed under 18 other versions of the great composer's name. But a subject search under a heading such as *labor* will yield too many references to be useful; the computer does not make the kind of distinctions (e.g., between labor unions and labor during childbirth) that a card catalogue does.

Why are the putative guardians of the written word so eagerly disposing of their treasures? At work, Baker suspects, is the desire of library admin-

istrators (most of them men) to distance themselves from the old image of the (usually female) librarian. They "believe that if they are disburdened of all that soiled cardboard, they will be able to define themselves as Brokers of Information and Off-Site Hypertextual Retrievalists instead of as shy, bookish people with due-date stamps and wooden drawers to hold the nickel-and-dime overdue fines." A small justification indeed for an act that historian Helen Rand Parish likens to "the burning of the library at Alexandria."

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## ARTS & LETTERS

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### *Shakespeare Lite*

"When Blood Is Their Argument': Class, Character, and Historymaking in Shakespeare's and Branagh's *Henry V*" by Robert Lane, in *ELH* (Spring 1994), Dept. of English, Johns Hopkins Univ., Baltimore, Md. 21218.

When Kenneth Branagh's much-praised film *Henry V* appeared in 1989, many critics compared it with Laurence Olivier's 1944 movie version of the play. They said that Branagh presents "a much darker world" and a more complex King Henry than the earlier film did. That may be so. But when Branagh's version is compared with Shakespeare's, argues Lane, an English professor at North Carolina State University, the verdict is not so favorable.

Branagh himself described the play as "a journey toward maturity" by the end of which King Henry "has learned about true leadership" and acquires "moral *gravitas*." But Shakespeare, Lane contends, portrays the king and his war against France, culminating in the great English victory at Agincourt in 1415, in a much less approving light. The Bard, he says, stresses "the cynicism and doubtful legality that infected [the war's] initiation," the common soldiers' deflation of the king's noble rhetoric, and questions about Henry's character.

Branagh, Lane complains, prunes the roles of figures other than the king, "especially those who, like the commoners, might impinge on or question the narrative of the king's maturation." By use of cinematic techniques, Branagh

continually puts the focus on the king, "not as part of an ensemble (as he would be on stage), not even as a party to a conversation. What others say in the film is decidedly secondary, their diminished function as approving audience underscored by the persistent pattern of reaction shots to Henry's speeches—shots of [uniformly approving] nobles, common soldiers, and especially of the French herald Montjoy . . . cuing the audience to what its reaction should be."

Branagh's shots of battle, Lane notes, "climax with a series of slow motion close-ups of various individual soldiers, focusing on their faces in the midst of mortal combat. None show any trace of fear." Instead of carrying forward Shakespeare's probing examination of male comradeship in war, Lane says, Branagh "reinforces the cinematic spectacle's rehearsal of the timeworn notion that warfare provides the optimal occasion for men to achieve their highest fulfillment. He thus allows Henry and us—the audience—to evade the full force of [the Duke of] Burgundy's warning that when men 'nothing do but meditate on blood,' they 'grow like savages.'"

Branagh also obscures the king's responsibility for causing the violence. In the film, Henry marches across the battlefield, bearing the body of the slain character called Boy, "accompanied by the swelling chorus of a hymn." But the stirring scene is Branagh's invention; Shakespeare's Henry gives no indication that