

nia Confederacy, led by a more or less democratically elected Big Chief who seems a cross between Pat Brown, Jerry Brown, Ronald Reagan, Timothy Leary, and Chevy Chase (the scenes with Chief Warwhoop of California are themselves worth more than the price of the book). There's the Imperium, centered on Chicago. And the Lone Star Republic, which includes Vicksburg.

Now I grew up in Memphis; and Vicksburg's low town was notorious in my day. In *Friday*, "Vicksburg low town is a lusty, evil place, as swarmingly alive as a dunghill. In daylight city police travel in pairs; at night they leave the place alone. It is a city of drifters, whores, smugglers, pushers, drug wholesalers, spivs, pimps, hire hatchets, military mercenaries, recruiters, fences, fagins, beggars, clandestine surgeons, blackbirders, glim-jacks, outstanders, short con, long con, sting riggers, girlboys, you name it, they sell it in Vicksburg low town. It's a wonderful place and be sure to get a blood test afterward." Apparently nothing changes...

There are also the corporate nations, multinationals that have no home base—and that, in the time of *Friday*, are at least as sovereign as, say, Sri Lanka or Prince Edward Island or the Seychelles.

The global picture is painted with all the detail we expect of Heinlein. Example: when Friday travels to New Zealand, she says, "Christchurch is the loveliest city on the globe.

"Make that 'anywhere,' as there is not yet a lovely city off Earth. Luna City is underground, Ell-Five looks like a junkyard from outside and has only one arc that looks good from inside. Martian cities are mere hives and most Earthside cities suffer from a misguided attempt to look like Los Angeles."

Yet within Christchurch, Friday's home and sanctuary, there lurk serpents; and throughout the society in which she lives there are—anomalies.

There is no hint that monogamy might be thought a virtue, and certainly Friday treats it as a vice. Whether this is a flaw in the book, or in the social order described by the book, I soon grew weary of the mindless affairs and one-night stands. Whenever Friday spends more than a few minutes in company with *anyone*, male, female, or uncertain, you can be certain that recreational sex will take place—and that it will leave no scars. Both herpes simplex and deep emotional attachments have been "cured" by the time of this book.

One need not approve of Heinlein's

societies to appreciate them, and I guarantee that the world of Friday is as real as the world of *Moon Is a Harsh Mistress* and studded with even more fascinating detail. Who knows: perhaps that's where we're headed, to a world of friendly sex, where marriage is more of a business arrangement than a religious or emotional contract. Perhaps, even, that's where we *should* be going.

Even so, I did grow weary of the casual sex. There are perhaps half a dozen dull paragraphs in this magnificent book, and all of them have to do with these rather sleazy affairs.

The other flaw is more serious. Miss Marjorie Friday Baldwin is the end product of an important genetic experiment; she is also the only descendant of Joe and Gail Green, who may or may not have been *homo superior* but were certainly at the high end of the human potential curve. Yet, as the book ends, Friday is sterile. This is not irreversible, but she has taken no steps to reverse it, and time is running out. She has been happy enough as surrogate mother and does not intend to change matters.

This seems a cruel trick to play on Dr. Baldwin and the Greens, who certainly thought heredity was important. And I, for one, prefer to imagine a different ending.

My sane friend was puzzled. "How could the author of *Number of the Beast* write something as good as *Friday*?"

"Strange question," I said. "Why do you ask?"

"Did you like *Number of the Beast*?"

"Not the first time," I said. "You have to read it twice. The book leads you to think it's one thing when in fact it's quite another. Besides, the best part of *Number of the Beast* is the big party at the end—at least it is for those of us who were invited. Alas, you weren't, so I can see your distress. But all that's unimportant."

"Why?"

"Because *Number of the Beast* and *Friday* are totally different books. They have different purposes, and go in opposite directions. It's possible to like both, but it's almost impossible not to like *Friday*, whatever your opinion of the other book."

So said I then, and so say I now. If you ever liked Heinlein's science fiction, you'll like *Friday*.

Jerry Pournelle writes science fiction, having recently coauthored the bestseller Oath of Fealty.

Irresponsible Warnings

The Fate of the Earth.

By Jonathan Schell.

New York: Knopf. 1982.

244 pp. \$11.95.

Reviewed by Samuel Cohen

In *The Fate of the Earth*, Jonathan Schell does essentially three things. First, he analyzes the effects of nuclear war on the earth, concluding that the human species is in dire danger of extinction. Next, he embarks on a philosophical discourse on the meaning of human extinction, which he regards as morally unacceptable. Finally, he demands that mankind choose between extinction and survival by eliminating nuclear weapons from the earth and constructing a world without war. Since his philosophy and his recommended solution stem from his fundamental conclusion that nuclear weapons and the possibility of nuclear war are placing mankind in mortal jeopardy, and since my professional expertise lies in the area of nuclear weapons and nuclear war, I shall restrict my review to his nuclear war analysis—an analysis that is grossly in error.

Schell simply hasn't addressed himself to the real world of nuclear weapons and how nuclear war might be fought. He shows a profound ignorance of actual nuclear stockpiles and of strategies developed by the United States and the Soviet Union that are not leading toward the global holocaust he predicts. This is not to say that the two nuclear superpowers may not blunder into a nuclear war, which would be insane. Rather, it is to say that neither side has been insane enough to develop nuclear arsenals and strategies that seriously threaten to exterminate mankind. In fact, at least on the Soviet side, there are no indications that Soviet nuclear doctrine envisages the extermination of the American population, which Schell assumes the Soviets will do, dwelling upon this horror at great length.

"It is fundamental to the nuclear strategy of both the Soviet Union and the United States that each preserve the capacity to devastate the population of the other," he states. Responsible strategic analysts, in making such a far-reaching premise, would refer to appropriate source material, including Soviet military doctrinal literature, which currently exists in abundance. Schell has not done this, nor is it apparent that he has

even taken the trouble to find out what the Soviet declaratory strategy may be. Had he done so, he would have seen statements such as the following from *Military Thought*, the official journal of the Soviet General Staff: "The objective is not to turn the large economic and industrial regions into a heap of ruins... but to deliver strikes which will destroy strategic combat means, paralyze enemy military production, making it incapable of satisfying the priority needs of the front and rear areas and sharply reduce the enemy capability to conduct strikes."

But Schell seems oblivious to such statements and, in drawing up the basic assumptions for his analysis, states that among other targets, the Soviets will attack "the population centers of the United States." With this assumption "established," he goes through the horrors of wiping out American cities. And it shortly becomes evident that he is taking great pains not to spare these cities; for time and time again Schell describes the horrendous effects of 20-megaton bombs, in a degree of technical detail that would leave any respectable weapons effects scientist incredulous.

"...knowing that the thermal pulse of a 20-megaton bomb can give people at least second-degree burns in an area of *two thousand four hundred and sixty square miles...*" (emphasis added), Schell goes on to tell us the results of 100 of these monstrous weapons. My professional colleagues prefer to use numbers instead of words when describing weapon effects, so allow me to convert Schell's words into numbers: 2,460 square miles. To predict thermal radiation effects to this degree of accuracy, three significant figures, is absurd. We cannot predict these effects to even one significant figure.

Schell finally leaves his abstract world of weapon effects and bursts a 20-megaton bomb over a real-life city, New York, explaining that this weapon "is more likely to be used against New York" than a mere one-megaton bomb. He informs us, again with great accuracy, that 20-megaton bombs actually exist in the Soviet arsenal: "The Soviet Union is estimated to have at least a hundred and thirteen twenty-megaton bombs in its nuclear arsenal...."

One might wish to show some patience with Schell's technical ignorance. After all, he is not a technologist. But for him personally to decide what nuclear bombs they have completely erodes my tolerance. Many years ago (in 1971) Dr.

Carl Walsker, the senior advisor on nuclear weapons to the US Secretary of Defense, testified: "We have little certain knowledge of the Soviet warhead designs, of their vulnerability, or of Soviet testing or development philosophy...."

Today we know even less about the Soviet nuclear stockpile. However, what we do know, because we can reasonably monitor the yields of Soviet underground test explosions, is that for almost 20 years the Soviets have not tested at the 20-megaton level. Moreover, since 1974, when the so-called Threshold Test Ban Treaty was signed, the Soviets have pledged to keep their tests below 150 kilotons and within reason have done so. Unless they have a desire to use antiquated nuclear warheads, it is clear that the Soviets' strategic stockpile is taking on a far lower yield complexion than Schell ascribes to them. For that matter, so is the stockpile of the United States. There is no evidence that either side is retaining the monstrous bombs of the past that Schell describes to demonstrate the end of the world.

By badly distorting the issue and misinforming his readers, Schell has done a great disservice in kindling emotions on the already controversial subject of nuclear war. Man may have been mad enough to build up enormous nuclear arsenals; but he has not yet built up a serious threat to life on earth and does not seem to be heading in that direction.

Jonathan Schell is entitled to his views on the nuclear threat—and there is one. I only wish that he had displayed some objectivity and had responsibly addressed the threat before sounding his dire warnings of nuclear holocaust.

Physicist Samuel Cohen has spent his professional career on the design and analysis of nuclear weapons. His articles have appeared in Orbis, Strategic Review, the New York Times Magazine, and other publications.

The Wasteland of Public Education

Is Public Education Necessary?

*By Samuel L. Blumenfeld.
Greenwich, Conn.: Devin-Adair.
1981. 263 pp. \$12.95.*

Reviewed by Frank E. Fortkamp

This year of '82 is one of discontent for Albert Shanker and other statisticians who feed at the trough of the government school system. Ronald Reagan is

seriously advocating tuition tax credits for parents with children in private schools, and the measure has at least half a chance of passing. The government school monopoly rightly sees tuition tax credits (and some voucher systems and other efforts to limit the pervasive influence of the "public" schools) as a threat to their comfortable, protected status.

As this new debate heats up through 1982, and the government unionists and bureaucrats are denouncing private-school advocates, there is no book better than Sam Blumenfeld's *Is Public Education Necessary?* to afford a needed historical perspective on the issues at hand. Most US citizens unthinkingly believe that government-operated and -controlled schools—public schools—are as American as apple pie, wide streets, mom, and the US Constitution. The statisticians among us calculatingly exploit this belief when they threaten all manner of dire results if the present government system is weakened in any way.

As Blumenfeld makes very clear, the present government system is founded not on Jeffersonian ideals of liberty, individual freedom, and justice but rather on muddled 19th-century misconceptions of socialism. He documents this assertion with ample and fresh material mined from a mother lode of basically untouched sources on early American government education found in the libraries of Boston where Blumenfeld himself teaches in a private school.

Some reviewers have wrongly criticized Blumenfeld for giving a contemporary title to a work that is basically a history of the ideological origins of government education. Such criticism is misplaced if one subscribes to the axiom that the one thing we learn from history is that nobody learns from history.

Blumenfeld's treatise is a bold underscoring of a simple truism: in a long-range project, an apparently simple but initial error, left uncorrected, frustrates even noble objectives. A rocket launched toward the moon, but off just a few degrees at Cape Canaveral, will miss the lunar orb by many thousands of miles. So in the worlds of social change and ideological frameworks for such change: a century and a half ago when government intervention in the schooling of citizens looked like an idea whose time had come, the "small" error of rooting the program in philosophical and theological ideas tinged with European socialism (as opposed to American notions of individual liberty) has resulted