Various aspects of teaching English in a nuclear age is the focus of the 13 articles in this journal. Titles of the articles are as follows: (1) "The Future? Educating about the Nuclear Arms Race"; (2) "Nuclear Arms in a University English Class"; (3) "Prospectus for a Course on War, Peace, and Apocalypse in Western Thought and Literature"; (4) "Teaching the Unthinkable"; (5) "Hope for a Hopeless Situation"; (6) "Teaching Chaucer in a Nuclear Age"; (7) "Some Observations on Teaching English in a Nuclear Age"; (8) "Resurrecting Relevance in the Composition Classroom"; (9) "Nuclear Weapons in the Composition Classroom"; (10) "Nukespeak"; (11) "The American Media and the Nuclear Threat"; (12) "An Annotated Bibliography of Nuclear Fiction"; and (13) "Poetry of the Nuclear Age: A Checklist." (DF)
Introduction: Teaching English in a Nuclear Age

The Future? Educating About the Nuclear Arms Race
   Sam Totten

Nuclear Arms in a University English Class
   Barbara Eckstein

Prospectus for a Course on War, Peace, and Apocalypse in Western Thought and Literature
   Dick Ringler

Teaching the Unthinkable
   Alice Budge

Hope for a Hopeless Situation
   Beverly E. Trail

Teaching Chaucer in a Nuclear Age
   Michael Foley

Some Observations on Teaching English in a Nuclear Age
   Sandi Albertson

Resurrecting Relevance in the Composition Classroom
   Peggy Stamon

Nuclear Weapons in the Composition Classroom
   Michael E. Gorman and George P.E. Meese

Nukespeak
   Daniel L. Zina

The American Media and the Nuclear Threat
   Robert D. Woodward

An Annotated Bibliography of Nuclear Fiction
   Sam Totten

Poetry of the Nuclear Age: A Checklist
   Carol Rainey
INTRODUCTION:
TEACHING ENGLISH IN A NUCLEAR AGE

In his book The Hundredth Monkey (St. Mary, Ky.: Vision Books, 1982), Kentuckian Ken Keyes, Jr., recounts a fascinating story. In 1952, on the Japanese island of Koshima, scientists began giving macaca fuscata monkeys sweet potatoes. The potatoes, however, were sandy and thus somewhat unpleasant to eat. Then one young female found a way to solve this problem, by washing her potatoes in a stream. She taught the procedure to her mother and to her playmates, who in turn taught their mothers. During the next six years, the innovation spread slowly throughout the monkeys of the island.

Then, Keyes reports,

Something startling took place. In the autumn of 1958, a certain number of Koshima monkeys were washing sweet potatoes—the exact number is not known. Let us suppose that when the sun rose one morning there were 99 monkeys on Koshima Island who had learned to wash their sweet potatoes. Let's further suppose that later that morning, the hundredth monkey learned to wash potatoes. THEN IT HAPPENED!

By that evening almost everyone in the tribe was washing sweet potatoes before eating them. The added energy of this hundredth monkey somehow created an ideological breakthrough!

But notice. The most surprising thing observed by these scientists was that the habit of washing sweet potatoes then spontaneously jumped over the sea—Colonies of monkeys on other islands and the
mainland troop of monkeys at Takasakiyama began washing their sweet potatoes! (14-16)

So it is, says Keyes, with any social innovation. When a certain critical mass of people reach a new awareness, suddenly that awareness seems to be shared by almost everyone.

The classroom teachers who appear in this issue of the Kentucky English Bulletin are working to help their students achieve new awareness of the problem of nuclear war. In this work, they stand in a long tradition of teaching about such problems as environmental destruction, racism, and sexism. Teaching about such issues, of course, has never been easy and has never gone unchallenged. But it has worked: slavery, for example, long regarded as a natural and inevitable fact of life, was abolished in this country—indeed throughout most of the world—partly through the efforts of concerned, courageous teachers.

Today, English teachers, like others, are beginning to realize that unless the problem of nuclear war is solved, the solution of all other problems may be futile. Consider: as you read this very paragraph, missiles may be already in the air, carrying weapons that can bring about the total extinction of the human race and its creations, in all their loveliness and majesty—from the plays of Shakespeare to that first groping sentence of a first-grader. And that's why English teachers—and everyone else—must be concerned.

The articles in this issue offer ways for English teachers to put that concern to work. Perhaps you, or one of your students, can be the hundredth monkey.

--Ken Davis
THE FUTURE?
EDUCATING ABOUT THE NUCLEAR ARMS RACE
Sam Totten, Columbia University

What does it mean to design a new treatment for heart attack victims if all the people are going to be killed in the next twenty years in a nuclear war?

The speaker, Dr. James Muller, an assistant professor of cardiology at Harvard Medical School, and one of the four co-founders of the International Physicians for the Prevention of Nuclear War (IPPNW), is not a fatalist, but a realist. Well aware of the horrific medical consequences of a nuclear war, he is devoting an extraordinary amount of time working toward a world free of nuclear weapons.

Perhaps it will be easier to understand Dr. Muller's concern after reading this brief passage from John Hersey's Hiroshima:

When he had penetrated the bushes, he saw there were about 20 men, and they were all in exactly the same nightmarish state: their faces were wholly burned, their eyes had run down their cheeks.... Their mouths were mere swollen pus-covered wounds, which they could not bear to stretch enough to admit the spout of the teapot. So Father Kleinsorge got a large piece of grass and drew out the stem so as to make a straw and he them all water to drink that way.
Horrible as that scene is, it does not properly depict the deeper medical consequences of a city full of such wounds, possibly millions of them. If a small (by today's standards) bomb, a one-megaton bomb, which is 50 times more powerful than the one dropped on Hiroshima, were dropped on an American city, the destruction would be far more devastating than that experienced by Hiroshima. Howard Hiatt, M.D., dean of the Harvard School of Public Health, professor of medicine at Harvard Medical School, and also a member of Physicians for Social Responsibility, a group whose explicit purpose is to educate about the dangers of nuclear weapons and nuclear war, succinctly outlines the medical consequences of such a situation:

With a decimated professional community, physical facilities largely in ruins, and a complete disruption of communications, the task of treating the wounded will be hopeless.

If you have any doubts, you will understand my use of the term hopeless after I describe a 20-year-old man who was recently a patient in the burn unit of one of Boston's teaching hospitals. He had been in an automobile accident in which the gasoline tank exploded, and had incurred very extensive third-degree burns. During his hospitalization, he received 281 units of fresh-frozen plasma, 147 units of fresh-frozen blood cells, 37 units of platelets, and 36 units of albumin. He underwent six operative procedures, during which wounds involving 85 percent of his body surface were closed with homograft, cadaver allograft, and artificial skin.

Despite these heroic measures, which stretched the resources of one of the country's most comprehensive medical institutions, the man died on his 33rd hospital day. His injuries were likened by the person who supervised his care to those described for many of the victims of the Hiroshima bomb.

Keeping that one patient alive for 33 days required the extraordinary resources of one of the world's major medical centers. No amount of preparation could provide the human and physical resources required for the care of even a few such patients hospitalized simultaneously in any city of the nation. Yet one must assume that hundreds of thousands of patients would be in that condition in a post-attack New York.²

The two aforementioned physicians' groups (IPPNW and PSR) are two of the foremost organizations that are educating about
the effects of the nuclear arms race and the consequences of nuclear war. While numerous teachers are carrying out similar efforts, most are ostensibly simply ignoring these crucial issues. It seems, though, as if it would behoove educators at all levels and in every subject area to follow the excellent example set by these physicians. Likewise, it seems that it would be wise for educators to ruminate long and hard over a question similar to the one Muller raised, but that is related to education: "What does it mean to teach and prepare students for their future (adulthood) if all of them might be killed at any time over the next twenty years in a nuclear war?" The question is not put forth fatally nor does it imply that teachers should not pursue their current endeavors; that would be ludicrous. Rather it is a challenge to teachers to educate themselves and their students about the nuclear arms race as well the possibility and consequences of nuclear war.

The question is ghastly, but—and this is the horror of the situation—some claim that the nuclear arms race is, almost inevitably, pushing us headlong toward a nuclear war. Even if there is a certain amount of hyperbole in that statement (though who is really to say?) it does seem that the very prospect of nuclear war, no matter how infinitesimal the prospect, should be, a fortiori, of the utmost concern to all educators.

Albert Einstein pointed out, long ago, that "the splitting of the atom has changed everything save our mode of thinking and thus we drift toward unparalleled catastrophe." Unfortunately, most peoples' mode of thinking has not changed. Is it not time that humanity do so? And to help accomplish that change is it not a task that teachers ought to at least wrestle with and mull over, if not actually confront and tackle? Granted, teachers are not social activists or social change agents, but their work is inextricably tied to the future—their students' futures.

I have been told by many teachers, "We can't teach about the arms race or nuclear war; it's too political." My reply, simple and bereft of any intended hyperbole, is: "Might it not be a matter of survival?" And in every single discussion I have had along this line, I repeat what Rear Admiral Gene LaRocque (retired), a career military officer who spent seven years at the Pentagon where he was awarded a Legion of Merit for his performance as a strategic planner, told me during an interview:

Many people believe nuclear weapons will never be used. But as someone who has been directly involved in U.S. nuclear planning, I can state that my country has plans and forces for actually fighting nuclear war. Our military field manuals detail the use of nuclear
Our troops, airmen, and navy men train and practice for nuclear war. Nuclear war is an integral part of American planning, and the U.S. is prepared to use nuclear weapons anywhere, right now and in many contingencies.

Then there are those teachers who argue, and with justification, "But many of our students, especially those in high school, have enough problems with just growing up. Why burden them with this?" The point is well made, but the problem is, the student who does not worry, at least subconsciously, about nuclear war is probably in the minority. As Dr. Robert Jay Lifton, professor of psychiatry at Yale University School of Medicine and author of *Death in Life: The Survivors of Hiroshima*, told me:

> I think everybody is haunted by threat of something like extermination.... In a psychological sense, nothing is secure today: One isn't sure of the permanency of anything. I think there is a lot of confusion in our society, in our everyday life, in ourselves, about what is significant and what will last.

Teachers are also apt to say, "What is the point of even teaching about nuclear weapons or nuclear war when we, the educators and, of course, our students, cannot possibly prevent the manufacture, deployment, or use of the weapons?" That is a rather fatalistic approach, but one that is understandable and probably shared by millions, if not tens of millions, of people across the U.S. and around the globe. However, those teachers who think that are bereft of their own country's history, and the efficacy of a concerned and vocal citizenry. At one time in our history, slavery was a condoned if not universally respected institution. Up until the second decade of this century women were not allowed to vote. The separate but equal doctrine was still strong and alive until the 1950s. In another vain, the notion that something was impossible has been rebuffed over and over again. For instance, the splitting of the atom was considered, by scientists early in this century, to be an impossibility. Human flight of any kind was also, again early in this century, deemed impossible. Likewise, few ever thought that a human could really walk on the moon. As Victor Hugo said: "Nothing is as powerful as an idea whose time has come."

If, however, all of the above just seems like so many words, then maybe we should really consider the full significance of the aforementioned question: "What does it mean to teach and prepare students for their future (adulthood) if all of them
might be killed at any time over the next twenty years in a nuclear war?"

However, to leave it at that point begs the question of why we should even teach about the nuclear arms race or nuclear war. Of the dozens of reasons why those subjects should be taught, here are seven that I consider the most important: (1) to avail students of the knowledge why the two superpowers are engaging in a nuclear arms race; (2) to inform them about the nuclear power/nuclear weapons connection and the significance of this vis-a-vis nuclear weapons proliferation (e.g., a recent U.S. intelligence report asserts that by the year 2000 over 31 countries will have the capability to build nuclear weapons); (3) to encourage the students, who are citizens and will be voters in this republic, to research, discuss, and debate the ramifications of the nuclear arms race and what it means to live in a world threatened with nuclear holocaust; (4) to inform students about the stated and underlying reasons for dropping the nuclear bombs on Nagasaki and Hiroshima, along with the concomitant tragedies of the bombings, and the significance that each of those situations hold for us today; (5) to provide the students with the opportunity to hear and engage in discussion and debate with outside speakers on the pros and cons of the nuclear arms race; (6) to avail students of the chance to ascertain whether there are efficacious and feasible alternatives to the nuclear arms race, and what has/has not been done to bring about such alternatives and why; (7) to open up to students the various responsible actions (voting, signing and circulating petitions, participating in nonviolent demonstrations, committing nonviolent acts of civil disobedience, etc.) that citizens, like themselves, can take to voice their opinions vis-a-vis the myriad issues (deterrence, civil defense, the nuclear power/weapons connection, space based weapons, etc.) inherent in the singular topic of the nuclear arms race.

Many teachers I have spoken with have protested, "But some of your suggestions are too radical in nature, especially that business about nonviolent civil disobedience." Granted, but I am not suggesting that teachers should be proponents or advocates of such actions, rather that students should be availed of the knowledge of such constructive possibilities. After all, most students in the United States are encouraged to admire Henry David Thoreau's integrity for refusing to pay "war taxes." Granted there's a difference between teaching about such acts in an almost panagyeric way, and informing students that such venues are also open to them. But, in a democracy is there anything inherently wrong in the latter situation?

As Robert Jay Lifton often points out in his speeches, it almost seems as if discussing and/or teaching about nuclear
weapons or nuclear war in our nation’s secondary schools, not to mention colleges and universities, is taboo. This is not an uncommon situation, for over the years there have been other taboo subjects: sex, racism, death, and the Holocaust, to mention but a few. Today, though, all those subjects are discussed, at least to a certain extent, in schools all over this nation. Today, it seems, it is imperative that we strive to break the ostensible taboo that prevents us from discussing and teaching about the nuclear arms race and nuclear war in our schools.

One must realize that the subjects of the nuclear arms race and nuclear war are neither sacrosanct nor taboo. Furthermore, such subjects can be taught in any course, including English. Furthermore, there is a plentitude of issues that can be covered in each subject area.

In regard to English courses, students could study the prose and poetry of such writers as Kurt Vonnegut, Grace Paley, Robert Lowell, Denise Levertov, Ray Bradbury, as well as many others, that are concerned with nuclear threats. In regard to particular issues, they could, for instance, study the fiction about the atomic bombings of Hiroshima. (For annotated lists of such prose and poetry, see the annotated bibliographies in this issue of the Kentucky English Bulletin.) Then again, they could study the euphemisms and acronyms used by politicians and the military-industrial complex, many of which disguise the true nature of nuclear weapons and nuclear war: firebreak, flexible response, surgical strike, Peacekeeper, etc. (See the author’s article, "Orwellian Language in the Nuclear Age," in Curriculum Review, April 1984, pp. 43-46 for an annotated list of such terms.) Of course, students could also engage in short story writing, debates, panel discussions, the writing of term papers, etc.

All of this, though, broaches another problem. Even those teachers who are interested in teaching their students about these nuclear issues voice their concern about lacking an expertise in the matters. Furthermore, it is a fact that most textbooks on the secondary level are bereft of any substantial, if any at all, discussion of nuclear weapons or nuclear war. Fortunately, both of these situations are easily ameliorated by the fact that there are numerous organizations (of doctors, scientists, religious groups, grassroot activists, and educators) outside the school system that have developed and have materials (including curricula, bibliographies, and audio visuals) available on numerous aspects of the issue. (For excellent resources, contact: Educators for Social Responsibility, 23 Garden Street, Cambridge, MA 02138.)
If teachers do decide to teach (and/or learn along with) their students about the nuclear arms race and nuclear war, they must be extremely sensitive and careful to avoid leaving them in a state of what Lifton calls "numbness." Numbness is that state of "acute psychic closing off" which is a denial or repression or defense reaction in order not to be overwhelmed by deeply depressing or horrifying thoughts. It is imperative to realize and believe that the point of teaching about these issues is not to frighten or horrify people, but to help them become informed, concerned, and possibly, active citizens. Thus teachers must be sensitive to the painful nature of the issues and the real horrors they pose for all of us, both consciously and subconsciously. That is, the students should not be left with a feeling of unabated horror or hopelessness or impotence, but they should be helped to understand the various avenues that are open to them in which to voice their concerns and how to act upon them. It is incumbent upon teachers to provide this knowledge. As Lifton told me:

There's simply no way that one can say, "This is the way for you 'Mr. Average Person' to deal with nuclear weapons." What seems to be of the greatest importance is that everyone move toward a degree of tension about nuclear weapons, bordering on anxiety, which helps break out of numbing on the one hand, but that is short of immobilizing on the other. That's, of course, easier said than done, but it means dialogues and actions that help break out of the numbing and help people move toward activity. It's terribly important to have something constructive to do. The doctors' movements, Physicians for Social Responsibility and International Physicians for the Prevention of Nuclear War, are useful models. What doctors can do in one sense so can teachers, lawyers, workers, students, humanists, any group in society.

Santayana's injunction—"Those who do not remember the past are condemned to repeat it"—seems particularly apropos at this juncture in history. The tragedies of Nagasaki and Hiroshima are warnings to humanity of the horrors that nuclear weapons have wrought. Teachers are capable of helping their students remember the past. There has never been a nuclear "exchange" and humanity should be extremely grateful for that. However, in order to prevent such a tragedy, it seems that our thinking certainly must change.
By teaching about the nuclear arms race, all those involved will meet philosopher Hannah Arendt's criterion for education: "Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token save it from ruin, which, except for renewal, except for the coming of the new and young, would be inevitable."

Notes

NUCLEAR ARMS
IN A UNIVERSITY ENGLISH CLASS
Barbara Eckstein, University of New Orleans

In the last four years concern about the nuclear arms race has become more visible. Nuclear weapons and the threat that attends them have been the subject of numerous books, several Time and Newsweek cover stories, major essays in The New Yorker, Atlantic, and The New York Review of Books,—to name a few—and even several T.V. movies, most notably The Day After, which were widely publicized. With all this attention already being given to nuclear weapons, why bring them into the classroom, especially the university literature classroom?

The most immediate answer is that the university is an institution which should make it possible for students to shape, at least, informed opinions and, at best, innovative ideas about crucial dilemmas of their age. And though the visibility of the nuclear arms race increases the possibility that students have opinions or feelings about nuclear weapons, this visibility does not insure that those opinions are educated ones. In fact, because news articles on nuclear weapons can be intimidating in their language as well as their content, it is not likely that many students study the issue on their own. So, many educators, believing the nuclear arms race is a very crucial dilemma of this age, have held symposia and offered courses on the present and possible effects of nuclear weapons, courses which, finally, look for ways to live with the devastating but irreversible knowledge that mass can be changed into limitless energy. (For justification of nuclear education in the classroom see Teachers College Record (Fall 1982), 84.) At least forty universities in the country grant degrees in peace studies, and many more offer interdisciplinary courses on the nuclear issue.

-13-

15
One of these interdisciplinary courses was created by Dick Ringler, professor of Scandinavian Studies at the University of Wisconsin, Madison. In *Academe* (November-December 1983) he describes his ambitious and successful course in useful detail. For his course, "Perspectives on Nuclear War," Ringler brought in numerous experts: historians, political scientists, nuclear physicists, politicians, psychiatrists, physicians, geneticists, journalists, and a professor of comparative literature. All of these lecturers recommended articles that the students should read, and these were collected and sold as a course reader.

Though such a course, designed for a large class of students at all levels, is an effective means to inform and motivate many students in one semester, the intimacy of a single literature class can be an equally effective, though different, means to inform and, with some luck, even inspire students. I do not mean to suggest that any one instructor could possibly have the knowledge of a corps of experts; I am in awe of what is and is not known about the transformation of mass into energy, radioactivity into disease and the fear that accompanies both. But any one instructor of literature, if she can break down her own wall of defense which excludes knowledge of destruction from her knowledge of beauty, can learn and teach enough about the science, history and politics of nuclear weapons to discover what effect they have on that art she has always taught. And in the process she has demonstrated to herself and her students that issues of life and death need not and should not be left only to experts in science and politics. Jefferson knew from the beginning that if democracy was to succeed even the non-experts, most especially the non-experts, had to be educated in problems that confront the nation.

But even the individual instructor who has decided for herself that she can and will learn about the arms race may still feel that it is inappropriate to bring a political issue into the classroom, especially a literature classroom. Some teachers of English assert that literature is and should be apolitical, and some insist that literature is purely aesthetic and, therefore, amoral. Others say that a work of literature is a linguistic construct, an artifact neither a representation nor an imitation of life. Since I do not have the space to give these opinions adequate response, I will take the opportunity to be reductionist (and hope I can get away with it): all literature is a use of language; all uses of language are in some way rhetorical; and all rhetoric is in some way political. An instructor can try to teach Chaucer or Shakespeare or Milton or Pope, Hawthorne or Melville or Wharton or Pound isolated from their place in history, but this approach will surely produce myopic readings. Whether of the politics of kings or wars, economies or gender, literature is political. It is
(among other things) about power and conflict over power. Even
the most linguistically experimental novel is about the relative
power of different uses of language. So even if an instructor
chooses to ignore history, as most surely do not, literature
remains a political being.

If, however, by "politics" a teacher means only whether to
vote for a Democrat or a Republican, this is easily avoided in a
study of the arms race and its effect because, first of all,
U.S. nuclear policy has proceeded on much the same course since
1945 regardless of which party was in power. And though any
informed voter should know the positions of candidates on all
important issues, it is not within the purview of the course to
teach who believes what but rather to teach what the possible
positions are, the history of those positions and their
ramifications. An instructor can alleviate her anxiety about
being too political or too biased by carefully presenting the
history of the arms race, specifically the evolution of
deterrence policy, and alternative ideas such as world government,
the freeze, and nuclear war-fighting capability. It is easy
enough fairly to present both sides (or rather all sides: There
are more than two) when no one can be certain which is the best
way for nations to maintain balance and resolve differences now
that nuclear weapons have made war unwinnable and, therefore,
unfightable. The only side which remains unteachable is an
advocation of nuclear war.

Once an instructor has decided that the science, history,
and effects of nuclear arms can be understood by nonexperts, and
that politics, as a study of power and rule, has always been a
concern of literature, and that the various positions on nuclear
policy can be fairly presented for critical analysis, there
remains, I think, one more obstacle: a kind of humanists'
inferiority complex. Within academia we can assert that language
is power or that life has no value without art or that lifetimes
of experience are contained in single poems or single novels.
But when confronted with powers that truly rule nations, such
as premiers, pentagons, corporations, and even, indirectly,
science and all its inventions, we have to do some psychological
gymnastics to maintain any sense of power. We can opt for aloof
ethical superiority or ironic distance or acquiescence to a very
humble position in the scheme of things. And from any one of
these positions we can continue to teach literature as a product
and a source of imagination and hope. But in our heart of
hearts is the nagging fear that what we are told is true: in
the real world of Qaddafi and Khomeini humanism is naive.
Though I am not volunteering to stand on the border between Iraq
and Iran armed with Shakespeare's sonnets, I am certain that
Khomeini is no more a representative of human nature than Mother
Teresa (or Shakespeare, for that matter), that terrorism is no
more real than generosity, that war is no more real than peace. If I accept Qaddafi or Khomeini as a synecdoche for all reality, I am as misguided as I would be if I defined reality solely by the conversation in Austen's drawing rooms. Once anyone comes to believe that threat is more real than gentility and compromise, she has lost her ability to assess rationally the various alternatives of nuclear policy. Thus, for example, though teams of independent scientists have stated that the idea of anti-satellite weapons in space rendering nuclear weapons obsolete (the so-called "star wars" idea) is not only unaffordable but unworkable, the general consensus among the population has not been to label this idea naive. The idea is entertained because it demonstrates strength, as it is conventionally defined, and it relies on current and future technology. On the other hand, when it is suggested, for example, that the U.S. act first in reducing the number or kinds or tests of certain nuclear weapons, this is perceived as "giving the Russians what they themselves could not win at the bargaining table." This is called naive—even though just such action worked for Kennedy in 1963 when he announced that the U.S. would no longer test nuclear weapons in the atmosphere. Within six weeks the Soviets followed suit. The humanists' inclination toward analytical thinking and peaceful problem solving is no less viable a point of view than any other. Discounting history or technology, a passion for beauty or a passion for power is likely to distort anyone's vision.

So much uncertainty emanates from nuclear weapons that it is very difficult to achieve clear vision. Because they cannot be used, even scientists must make educated predictions as to what exactly would occur if a given megatonnage of nuclear weapon was exploded on or above the Earth's surface on or near a populated area. The only historic evidence comes from Hiroshima and Nagasaki, and though those cities were thoroughly destroyed, the bombs dropped on them were very small in comparison to today's warheads. So physicians, psychiatrists, physicists, geologists, astronomers, all have to try to determine the effects of twenty times total annihilation. The result is that onerous uncertainty weighs as heavily on the present as on the future. The psychiatrist, Robert Jay Lifton, suggests that nuclear weapons have already harmed us with their threat and their uncertainty. Contemporary humankind lives with not only the fear of personal uncertainty and personal death that dogs every life but also the anxiety of global uncertainty and the possible death of our species and many others. It is most especially because of this present uncertainty and the consequent need for visions other than of threat or annihilation that the questions raised by nuclear arms belong in the literature classroom. A course which asks students to confront this uncertainty by learning scientific, political, historical and psychological information about nuclear...
arms and which, through contemporary international literature, shows students the responses of various cultures to the uncertainties of living in the twentieth century may provide students the opportunity to discover new ways of peaceful survival.

If an instructor is convinced that nuclear arms belong in an English class, the books and materials necessary to counterpoint fact and fiction are not difficult to find. There are many nonfictional books and articles in various degrees of complexity which provide information about nuclear arms. Whatever the background and sophistication of the probable students for the course, the instructor can select appropriate books or articles for texts and a wider assortment to go on reserve in the library. The nonfictional texts selected should be sufficient to present the probable physical and psychological effects of nuclear explosions, the present probable effects of threat, the basic history of the arms race, alternative past and present positions on the best way to deal with nuclear arms in international relations, and alternative views on the best ways to resolve international conflict. But the nonfictional texts should only define the current situation of uncertainty and raise the necessary questions; they should not outweigh the international poetic and fictional responses to this situation. Below is an incomplete list of some nonfictional texts an instructor might choose among. They are divided into six categories: Hiroshima/Nagasaki; the science of nuclear weapons; probable effects of nuclear war; nuclear weapons strategy (past, present, and future); the U.S., the U.S.S.R., and their relations; theories of war/theories of peace.

I. Hiroshima/Nagasaki

Shusako Endo—Hiroshima Notes
John Hersey—Hiroshima
Robert Jay Lifton—Death in Life: The Survivors of Hiroshima
Nagasaki victims—Living Beneath the Atomic Cloud
Unforgettable Fire

II. The Science of Nuclear Weapons

Helen Caldicott—Nuclear Madness
Thomas B. Cochran, William H. Arkin, Milton M. Hoenig—Nuclear Weapons Databook
III. The Effects of Nuclear War

Ruth Adams and Susan Cullen, eds.-*The Final Epidemic: Physicians and Scientists on Nuclear War*
Helen Caldicott-*Nuclear Madness*
Herman Kahn-*On Thermonuclear War*
Robert Jay Lifton-*Indefensibly Weapons*
Jonathan Schell-*The Fate of the Earth*
Tom Stonier-*Nuclear Disaster*

IV. Nuclear Weapons Strategy

Louis Rene Beres-*Mimicking Sisyphus: America's Countervailing Nuclear Strategy*
Bernard Brodie, ed.-*The Absolute Weapon*
Lawrence Freedman-*The Evolution of Nuclear Strategy*
Harvard Study Group-*Living with Nuclear Weapons*
Jonathan Schell-*The Fate of the Earth*
Solly Zuckerman-*Nuclear Illusion and Reality*

V. The U.S., the U.S.S.R., and Their Relations

Richard J. Barnet-*Real Security: Restoring American Power in a Dangerous Decade*
James Cracraft-*The Soviet Union Today*
Ground Zero-*What about the Russians?*
David Holloway-*The Soviet Union and the Arms Race*
George Kennan-*The Nuclear Delusion: Soviet-American Relations in the Atomic Age*
Richard Pipes-*U.S. Soviet Relations in the Era of Detente: A Tragedy of Errors*
Gary Wills-*Inventing America: Jefferson's Declaration of Independence*

VI. Theories of War/Theories of Peace

Albert Camus-*Neither Victims nor Executioners*
Grenville Clark and Louis Sohn, eds.-*Introduction to World Peace through World Law*
As texts for sophomores I would use Zuckerman's Nuclear Illusion and Reality because it is an intelligent and succinct (160 pp.) overview of the past and present arms race. Also, even though students may have read it in high school, I would use Hersey's Hiroshima because it is a brief, well-written report of first-hand accounts, which are necessary to heighten the understanding of those of us who have never lived in a war zone, let alone a city subjected to an atomic bomb. Despite its obvious bias, I would use Caldicott's Nuclear Madness because it clearly explains radiation, fission, and fusion in layman's terms. It would be very helpful to put The Nuclear Weapons Databook on reserve, but it is unwieldy and unnecessary as a text. Finally, I would use Camus's Neither Victims nor Executioners because it philosophically questions the prevailing definition of strength. For more sophisticated students, I would order Schell's The Fate of the Earth and his forthcoming Abolition, which appeared in The New Yorker (1/2/84 & 1/9/84). In any case I would put these on reserve along with Iffton's books, the Draper and Weinberger debate, Brodie's The Absolute Weapon, Freedman's The Evolution of Nuclear Strategy, Kennan's The Nuclear Delusion, Wille's Inventing America, Endo's Hiroshima Notes, Unforgettable Fire, and Sagan's description of nuclear winter in Foreign Affairs.

There are even more possible poetic and fictional texts for the course than nonfictional. The breadth of an instructor's choice depends upon not only the sophistication of her students but also how she defines contemporary and, more importantly, how she defines response to apocalyptic uncertainty. I have not necessarily looked for fiction or poetry whose images, plots, or themes explicitly make use of nuclear catastrophe. It is the emotional quality of living with apocalyptic threat and prevailing uncertainty that interests me. There do exist contemporary novels and poems which are most pointedly about nuclear disaster: Strieber and Kunetka's Warday, Miller's A Canticle for Leibowitz, Ibuse's Black Rain, Ishiguro's A Pale View of Hills and Nuke/Rebuke, the collection of poetry and fiction in The Spirit that Moves Us (volume 7, no. 1). Though I might well ask students to read one of these, probably Black Rain or A Pale View of Hills, I would extend my field of selection to:
Walter Abish—In the Future Perfect
Chinua Achebe—Girls at War
Samuel Beckett—End Game and Waiting for Godot
Luis Borges—Labyrinths
Tadeusz Borowski—This Way for the Gas, Ladies and Gentlemen
Italo Calvino—Invisible Cities; The Watcher and Other Stories
Athol Fugard—The Road to Mecca
Nadine Gordimer—Burger's Daughter; Selected Stories; Soldier's Embrace
John Hawkes—Travesty
Danilo Kis—The Tomb of Boris Davidovitch
Arthur Kopit—End of the World
Milan Kundera—The Book of Laughter and Forgetting
Doris Lessing—Memoirs of a Survivor; The Four-Gated City
Hengameh Wolly Serote—To Every Birth Its Blood
Alice Walker—You Can't Keep a Good Woman Down; Stories

The instructor could see a connection between class struggle or race struggle or gender roles and the assumptions which underlie the arms race. Thus this list could expand considerably to take in those concerns. My own research into the possibilities is not complete (and always in need of suggestions). It does represent a cross-section of styles and a number of nations, but I do not necessarily perceive these works to be of equal quality. Artistic merit is however, an obvious criterion for selection. And, too, quality of translation is a consideration. For a sophomore course my choices from this list would be Beckett's End Game and Waiting for Godot, Calvino's Invisible Cities, some of Gordimer's Selected Stories, Kis's The Tomb of Boris Davidovitch, Kundera's The Book of Laughter and Forgetting and, perhaps Lessing's Memoirs of a Survivor or, for a different turn, an American work to show the relationship between gender role and political attitude; something by Alice Walker or Gilbert Sorrentino would work.

In order to have the freedom to teach a larger number of poets I would mimeograph an international poetry anthology for the class. Again the list of possible candidates is longer than I can suggest here.

Yehudi Amichai (Israel)
Anna Akhmatova (U.S.S.R.)
John Ashbery (U.S.)
Dennis Brutus (South Africa)
Birago Diop (Senegal)
David Diop (Senegal)
Alan Dugan (U.S.)

Allen Ginsberg (U.S.)
Thom Gunn (England, U.S.)
Hans Kolnene (South Africa)
Osip Mandelstam (U.S.S.R.)
Pablo Neruda (Chile)
Vasko Popa (Romanian)
Shusako Endo (Japanese)
Aldo do Espirito Santo (San Tome)
Carolyn Forche (U.S.)

Leopold Sedar Senghor (Senegal)
Mongane Wally Serote (South Africa)
William Stafford (U.S.)

(Like the fiction, this list is also always in need of further suggestions.) I find The Penguin Book of Modern African Poetry, edited by Beier and Moore, particularly interesting and also recommend looking at the collection Another Republic, edited by Strand and Simic. For further ideas of world literature appropriate for the course, the instructor might look at Lucy Dougall's bibliography, War and Peace in Literature (1982).

It is important for me to mention one other thing about the fiction and poetry selection. Reading literature from many nations, a number of them third-world nations, has demonstrated to me that I could not teach a course on international literary response to the arms race without noting that some part of the third world has been in a "third world war" since the end of the second world war. For developed nations the arms race has meant a burden of impending doom and an apparent and uneasy peace, but for underdeveloped nations the arms race has meant ongoing battles which cannot conclude and only, in one place or another, stop for a while. The images of the poets and fiction writers of the third world are a necessary part of any world vision the class might discover.

Besides texts and books on reserve, there are other possible resources for the class. There are available experts with a range of opinions on various aspects of the arms race and there are numerous films with various foci and points of view. Some of these may be owned by local peace groups, libraries or churches and so might be borrowed for little or no fee. But, perhaps, more important than the voices of experts on or off film are the voices of the students. They may or may not harbor images of holocaust; one cannot assume that they do. Just the same, it is necessary that they come to express what they have heard, what they believe and what they feel about the arms race. Because it is a popular issue, many opinions, coming from all directions, are tying up the air waves; a number of them are insupportable or based on an abuse of statistics, scientific information, or history. To gently unravel this confusion of half-truths and dogmatic opinions must be one of the first tasks of the course. After students have expressed what they have heard or believe, they can learn from the nonfictional texts and reserve materials what can and cannot be known about the arms race. They can learn where the debate really lies.

Following some class discussion which integrates the images and attitudes in the fictional literature with the questions raised
by the factual literature, the students should be able to give oral reports bringing together their reading from books on reserve with some literary work read by the class. Ultimately, they could be asked to write a paper selecting factual and fictional works which support their vision of the best course of action for peaceful survival. If they have been left to debate the possibilities of factual and fictional interpretations in class discussion, especially following oral reports, it is not likely that their visions will be over-influenced by their instructor's. But, as is true of all literature classes, a primary goal of this course is that students' opinions be supportable. Exams which test care and accuracy of reading ought to promote this result.

What visions students discover will be, I hope, beyond my predictions. But there are common questions students should confront and a certain common awareness students should reach. One key question is the difference between personal and public moral law. What has been the distinction between the moral laws governing a person's behavior and those governing a nation's behavior? What should the difference be? What is the desirable definition of personal strength? of national strength? Is there a difference? Should there be? To consider intelligently these questions in this particular age with its particular problems, a certain awareness is necessary: uncertainty is a fact of life, specifically, global uncertainty caused by the existence of nuclear weapons, which cannot go away. The knowledge of how to build them cannot be expunged from the record of science. Nor can terrorism or aggression be eradicated. But uncertainty is not impotence. And, in fact, there are some things we do know. We know that because the use of nuclear weapons would be a planetary catastrophe, they cannot be used to solve political conflicts among nations. If no one can win, no one gains advantage. Therefore other means of resolving inevitable international conflict must be devised. This requires a new way of thinking. It requires serious attempts to understand not only the international dilemma but the national culture so cherished by each nation on the planet. To preserve all of those nations and those cultures we need values of international scope. This is what we must try to teach.

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PROSPECTUS FOR A COURSE ON WAR, PEACE, AND APOCOLYPSE IN WESTERN THOUGHT AND LITERATURE
Dick Ringler, University of Wisconsin

Introduction

I will describe here a course which I am currently developing and which I hope to introduce in the English Department at the University of Wisconsin—Madison in the near future. This preliminary description is given in the hope that it will stimulate other teachers of literature to develop courses along similar or related lines, or will at least provide them with food for thought.

In essence, the course consists of three synchronized presentations: (1) a basic introduction to contemporary analytic thought in a variety of disciplines about the causes of war as a social institution and possible ways to eliminate it; (2) an extended introduction to the literature of war and peace in the Western tradition; and (3) a skimpier (but adequate) introduction to the eschatological tradition in the West. The rationale for synchronizing and interweaving these three themes is given in the second section, below.

The course itself, as briefly outlined in the third and final section, might equally well be taught (or cross-listed) in a Comparative Literature Department. With appropriate modifications it could be cross-listed in History and/or Philosophy. On the other hand it can be given a much narrower "English-Department focus" by beginning with Beowulf and limiting the readings strictly to Anglo-Celtic—early Nordic materials.
Such a course can be taught by a single person, by a single person assisted by occasional guest lecturers (this is the format I will use myself), or by a team; and student participation can range from passive (lecture audience) to active (discussion sections, class presentations and projects, etc.).

The following basic resources will prove useful to anyone designing a course on this general model:

--For multidisciplinary readings (by many authors) on war as an institution: *The War System: An Interdisciplinary Approach*, ed. Richard A. Falk and Samuel S. Kim (Boulder, Westview Press, 1980). This excellent textbook includes inquiries along all of the following lines: moral and philosophical, ethological and psychological, cultural and anthropological, sociopsychological, sociological, socioeconomic, decisionmaking, international systemic, and normative.

--For literature: *War and Peace in Literature*, compiled by Lucy Dougall (Chicago, World Without War Publications, 1982). This is an attractive and easy-to-use annotated list of poetry, prose and drama. It includes anthologies and reference works and a chart of literature on specific wars. It does not include science fiction.


--For music: Nothing comparable (to Dougall or to Bruckner & Co.) exists at the moment, so far as I know, but I would be glad to learn that I am wrong. I am collecting materials myself and would be happy to share them with others.

--For modern eschatological writing: W. Warren Wager, *Terminal Visions: The Literature of Last Things* (Bloomington, Indiana University Press, 1982). This study is based on examination of over 300 novels, stories, plays, and poems written since 1800.
General Description and Rationale

The primary theme of the course is the development of Western ideas about war and peace, as these reflect the institutions of different societies and the experiences and attitudes of different individuals in ancient and modern times. Adequate attention is given to writers on theory, both ancient (e.g., Vegetius, Augustine), modern (e.g., Machiavelli, von Clausewitz), and strictly contemporary (i.e., the various expert contributors to The War System: An Interdisciplinary Approach). But the main emphasis is on imaginative works that treat the subject of war and peace in all its manifold aspects. Through the readings and conversations in this course, students gain a deeper understanding of the roots of violence in individuals and nations and an appreciation of what really happens when violence is loosed in society.

The secondary theme of the course is the development of Western ideas about the end of the world. The students will examine eschatological writings both Christian and pagan (e.g., the Book of Revelation and the Old Norse Voluspa) and their progeny in secular art (e.g., Durer's "Four Horsemen of the Apocalypse" and Prospero's valedictory in Shakespeare's Tempest). They will attempt to determine the "reality value" of this kind of material and will try to understand the psychological reasons for its existence. (What, for instance, can B. Tustin possibly mean when he says that works of this kind embody "racial memories of the end of the world"?)

These two themes are developed as the course proceeds and their possible relationships are explored. They converge when we reach the contemporary period, since recent scientific research has shown that the military use of nuclear power, on even a quite moderate scale, might well lead to the extinction of the human race along with many other plant and animal species (see Ambio, XI, 2-3 (1982), passim, and Science, 222, 4630 (December 1983), 1283-1300). The last two weeks of the course explore the implications of this recent development—i.e., the perfection of military technologies that are at last able to realize traditional eschatological fantasies—and will bring home to students the extreme literalness of the following warning by the god Poseidon (which concludes Jean-Paul Sartre's 1965 adaptation of Euripides' Trojan Women):
You stupid, bestial mortals,
Making war, burning cities,
Violating tombs and temples,
Torturing your enemies,
Bringing suffering on yourselves.
Can't you see
War
Will kill you?
All of you?

General Organization and Readings

The bare week-by-week outline which follows is intended to suggest the overall orientation and content of the course. Assignments in The War System are not indicated (they will be made on an ongoing basis, two chapters per week, during the fifteen weeks of the semester).

PART ONE. THE ANCIENT WORLD.

Week 1. THE SPRINGS OF VIOLENCE. Selected readings from the Old Testament (including the accounts of the Creation, the Fall, Cain and Abel, the Book of Judith, etc.).

Week 2. THE SIEGE AND FALL OF TROY. Homer, The Iliad (prior to the 6th century B.C.); Simone Weil, "The Iliad, Poem of Might" (1940-41 A.D.).

Week 3. THE SELF-DESTRUCTION OF ATHENIAN DEMOCRACY. Excerpts from Thucydides, The Peloponnesian War (c400 B.C.); Euripides, The Trojan Women (415 B.C.).

Week 4. THE POWER AND THE GLORY. Selected readings from Vergil, The Aeneid (19 A.D.), and Vegetius, The Military Institutions of the Romana (De re militari, c390).

Week 5. THE SPRINGS OF PEACE. Selected readings from the New Testament (including the Sermon on the Mount and the Book of Revelation), St. Augustine, and other Fathers of the Early Church.

(There will also be an ancillary lecture on the presentation of war and peace in Greek and Roman art.)
PART TWO. THE DARK AGES AND THE RENAISSANCE.

Week 6. FIRST AND LAST THINGS. St. Columba, "Altus Prosator" (late 6th century); Anonymous, "The Sybil's Prophecy" (Voluspa, Old Norse, c1000); Thomas of Celano, "Dies irae" (c1255).

Week 7. WARS AND RUMORS OF WARS. Anonymous, "The Lay of Hlod" ("Hlodakvida," Old Norse, prior to the 9th century); Aneirin, The Gododdin (Middle Welsh, 7th century); Anonymous, Beowulf (Old English, 8th century); Anonymous, "The Battle of Maldon" (Old English, c991).

Week 8. VENGEANCE AND RECONCILIATION. Anonymous, Njal's Saga (Old Icelandic, late 13th century).


Week 10. "CONTUMELIOUS, BEASTLY, MAD-BRAIN'D WAR." Shakespeare, Troilus and Cressida (1601-2) and Coriolanus (1607-8).

(There will also be an ancillary lecture on the presentation of war and peace in Medieval and Renaissance art (e.g., the Bayeux Embroidery, manuscript illumination, Durer, Bruegel, Rubens, Callot) and music.)

PART THREE. THE MODERN WORLD.

Week 11. THE NINETEENTH CENTURY. Excerpts from von Clausewitz, On War (Vom Kriege, 1832) and from Tolstoy, War and Peace (1869); Stephen Crane, The Red Badge of Courage (1895); Tolstoy, "Esarhaddon, King of Assyria" (1903); Mark Twain, "The War Prayer" (1904-5).

(Ancillary lecture on Goya (The Disasters of War) and Beethoven (Symphonies 3, 5, 9; Egmont; Fidelio).)

Week 12. THE FIRST WORLD WAR. Erich Maria Remarque, All Quiet on the Western Front (1929); excerpts from Paul Fussell, The Great War and Modern Memory (1975), various poems.

(Ancillary lecture on art and music emerging from World War I, e.g., works by Kathe Kollwitz and Gustav Holst.)
Week 13. THE SECOND WORLD WAR. Albert Camus, "Neither Victims nor Executioners" (1946); Kurt Vonnegut, Slaughterhouse-Five, or the Children's Crusade (1969); various poems.

(Ancillary lecture on art and music emerging from World War II, e.g., works by Picasso, Britten, Stockhausen.)

Week 14. THE NUCLEAR ERA - I. John Hersey, Hiroshima (1946); William Golding, Lord of the Flies (1954); poems by Edwin Muir and others.


(Ancillary lecture on art and music in the nuclear age, e.g., works by Robert Morris, Penderecki, etc.).
TEACHING THE UNTHINKABLE
Alice Budge, Youngstown State University

"We seem to be slouching toward Armageddon..."¹

"We know who speaks for the nations. But who speaks for the human species?" Carl Sagan²

Herman Kahn used the phrase "thinking about the unthinkable" to describe a necessary mental confrontation with the potential for nuclear catastrophes. Currently there is a heightened consciousness of the threat of nuclear war in the media, signaled by articles in Newsweek, Time and Parade,³ as well as T.V.'s "The Day After" and the film War Games. Beyond the media, the most obvious and inevitable place to confront this issue seems to be the university, particularly in the values questioning prompted by humanities courses.

The humanities lead us to look at the past and to pose questions about the future. "The humanities encourage...the long view" writes J.W. Miller in Ohio Humanities.⁴ He continues:

...while grappling with the issues and problems confronting us does require technical...and scientific skills, the skills of technicians and scientists are not sufficient. They are all skills of means.... There are skills that have to do...with ends.
These are the skills the humanist employs to clarify values, to pose moral and ethical questions.
The ideals of the humanities are tied to knowledge of our public life and public issues. In an article in Women's Studies Quarterly (Spring 1981), Carolyn Lougee sees three ideals underpinning the humanities: "First, the ideal of the humanities has been tied to civic life and leadership in the public arena"; "second, the humanistic ideal has been tied from the outset to an unabashed willingness to make value judgments..."; "third, the humanities have been tied to an ideal of human commonality...

There is no problem facing us that more clearly deals with the question of responsible citizenship, value judgments, and human commonality than the issue of nuclear war. Impelled by my own sense of urgency with regard to this issue and determined to move beyond what Helen Caldicott calls "manic denial" and "psychic numbing," I have introduced the theme of nuclear holocaust into a film/drama course I teach. The "long view" of the humanities is encouraged in the class by seeing the possibility of nuclear conflict in the larger context of peace and war.

I begin by acquainting the students with some fairly standard works about war. The "Odessa Steps" sequence from Potemkin provides a vehicle for examining a portrayal of civilians enmeshed in war and for an exploration of how film technique shapes our vision and response. (Students suggest the techniques that Eisenstein uses to enlist sympathy for the civilians as opposed to the military, for example.) We read Macbeth to examine war as a background in Shakespeare and we see Polanski's Macbeth for all of its explosions and extrapolations of violence.

We read Antigone, also looking at war as a backdrop, but extending value questions to choices that an individual makes in terms of conscience and moral law. To move this consideration to a contemporary milieu I share an excerpt from an article by Bernard Hollister, "I Was Only Following Orders." This article presents the examples of Lt. Calley in Vietnam, the instance of Watergate, the classic case of Nazi concentration camps, and the problem of the internment of the Japanese Americans in this country during W.W. II. These cases conclude with a review of Stanley Milgrim's experiments at Yale described in his book Obedience to Authority. Finally, this segment of the course is completed by viewing Alan Resnais' Night and Fog, with all of its graphic revelations about the Nazi concentration camps. The disturbing meditation that is the closing statement of the film becomes a focus for discussion:

...there are those of us who sincerely look upon the ruins today, as if the old concentration camp monster

-30-
were dead and buried beneath them. Those who pretend to take hope again as the image fades, as though there were a cure for the plague of these camps. Those of us who pretend to believe that all this happened only once, at a certain time and a certain place, and those who refuse to see, who do not hear the cry to the end of time.11

The large question posed by the conclusion is: are we involved in the statement of the film or aren't we? The movie becomes part of the students' emotional baggage and ties in with a discussion of the potential for nuclear holocaust examined at the end of the course. (Beyond Night and Fog the issue of obedience to authority can be examined in a short film "Death of a Peasant," or in Bridge on the River Kwai, or Night of the Shooting Stars, among others.)

In an attempt to briefly modify the somber notes the course has sounded thus far, we look at films that survey war comically: the Marx Brothers' Duck Soup (a zany "manipulation of nations into inextricable antagonism"12) and Buster Keaton's The General. Keaton's treatment of the Civil War is sympathetic to the South and Keaton as Johnny Gray is a comic, infinitely resurrectable, would-be soldier. For a different, more serious perspective about the Civil War, we view Robert Enrico's "On Owl Creek."13 Peyton Farquhar, the protagonist, is an individual trapped by the inexorable forces of war. Seeing the death of an individual man at the hands of the military contrasts sharply with a consideration of the possibility of nuclear war—moving beyond the tragedy of individual loss to generalized annihilation.

This theme of annihilation, of the end of civilization as we know it, of suffering too large to comprehend, is presented through multiple testimony in Race to Oblivion. The film is a presentation of the medical consequences of nuclear war with a look backward at the account of a Hiroshima survivor. A short film, Hiroshima/Nagasaki 1945, shot about five days after the bombs were dropped on Japan, has been released in this country after 25 years and it might also be shown at this point. Alternatively, If You Love This Planet, featuring Helen Caldicott's testimony about the need for nuclear disarmament, interwoven with archival film footage of the bombings, could be presented. (Other possibilities include The Last Epidemic and War Without Winners.14)

Finally, students see Dr. Strangelove: or How I Learned to Stop Worrying and Love the Bomb. This movie is, of course, the classic exploration of the potential for nuclear war depicted in
grotesque humor. Madness predominates in the film through General Jack D. Ripper, who initiates W.W. III, through Dr. Strangelove, whose body schizophrenically revolts against itself but is miraculously restored as the world ends, and through General Buck Turgidson, whose military suggestions are inappropriately embodied in W.W. II rhetoric. Dr. Strangelove provides an entertaining and thought-provoking end to the class. Students discuss whether the film immobilizes us with a feeling of futility or energizes us, prompting action.

This humanities class allows students to focus on the most critical issue facing us: to see the new embedded in the old, and to confront the end of the world as a filmic reality. We "think about the unthinkable" and discover that, although no one has an absolute answer about how to avoid nuclear war, we must keep the issue in front of us for our future and our survival is at stake.

Notes


2. "Who Speaks for Earth?" Writing and Reading 506.


5. Miller, Ohio 8.


7. Helen Caldicott uses these terms during her speech in the film Race to Oblivion.
8. The course is part of the standard English Department curriculum, designed for non-majors who are sophomores, juniors and seniors. The theme chosen for each section of the course is left to individual instructors, although some books are chosen in common.

9. Macbeth is used because of the need for common texts in a multi-section course.


13. The film is based on Ambrose Bierce's short story, "Occurrence at Owl Creek Bridge." Both story and film script are found in David Hay and James Howell's Contact with Drama (SRA, 1974).

14. Most of the films mentioned in this paragraph are available for very low rentals from The American Friends Service Committee, Dayton Regional Office, 915 Salem Avenue, Dayton, Ohio 45406. They have a brochure listing their offerings. Most films rent for between $10 and $25. Another good source for rentals is Michigan Media (U of Michigan Media Resources Center) 416 Fourth Street, Ann Arbor, Michigan 48109. (They have a selected list of media available on "Nuclear War & the Arms Race" that can be sent upon request.)
HOPE FOR A HOPELESS SITUATION:
POSITIVE ASPECTS
OF Z FOR ZACHARIA AND ALAS, BABYLON

Beverly E. Trail
Highview Baptist Christian School, Louisville, KY

How many adolescents fear nuclear destruction? In considering the possibility of a nuclear war many things are uncertain. One of these uncertainties is whether a nuclear war is inevitable. Some history may help us contemplate the inevitability of nuclear war. In the 1950s many people were so preoccupied with the possibility of a nuclear war with Russia that they were building bomb shelters and stockpiling them, and speculation was rampant. Some people thought the war would occur during that decade. Since there was no nuclear war in the 1950s, the 1960s brought its own preoccupation. There was a back-to-nature trend, which possibly was a way of coping with the threat of nuclear war. Each new era has its own consideration, but what are the feelings of adolescents in the 1980s?

Nuclear weapons have already been developed. Can we annul what has already been done? Is disarmament feasible? Since atomic knowledge is existent, it is unlikely that any country will disarm itself and leave itself defenseless. Therefore, we are at the mercy of the temperaments of our representatives and they, their opponents. The point has been made that the eruption of Mt. St. Helens released more explosive force than all weapons used during World War I, World War II, and Viet Nam combined. Yet Earth exists. Since the world has survived nuclear attacks on Hiroshima and Nagasaki, plus repeated testing underground and in the atmosphere, one approach to the issue of nuclear destruction is to try to alleviate fears of our adolescents. A vicarious experience through the study of positive aspects for survival may be reassuring to adolescents. Guiding the study in a positive way so that adolescents will not lose hope for the future is the primary consideration.
Two science fiction novels which offer hope when nuclear destruction has occurred are *Alas, Babylon* by Pat Frank (Bantam, 1959) and *Z for Zachariah* by Robert C. O'Brien (Dell, 1974). *Alas, Babylon* was published in 1959 and is consistent with the speculation of the 1950s. Fifteen years later *Z for Zachariah* was published. One major difference between the two books is the time at which the novels begin: *Z for Zachariah* begins one year after a war, while *Alas, Babylon* begins before the war has begun, so it covers the war and the time of adjustment immediately following the war.

One of the positive aspects of both of these books is the way suffering is handled. Many war novels deal, even graphically, with the physical suffering of characters, to which a reader would relate. Both of these novels deal with survivors, which is a positive approach. The actual suffering of characters is induced by human characteristics which are not a result of nuclear war. For example, in *Alas, Babylon* the radiation poisoning of Pete and Rita Hernandez, Bill Cullen, and Porky Logan is caused by their own greed for riches they think the jewelry (which Porky finds abandoned in a contaminated area) will bring them later. Ann's mental torture is a result of Mr. Loomis' insane methods of trying to enslave her—a situation possible at any time people try to make others their slaves.

A second positive aspect is the way in which people pull together in time of crisis. Personal characteristics come to the surface which had not been present before in both Ann Burden and Randy Bragg. In *Alas, Babylon* Randy had not been a leader before the war. Ann's strength to maintain her values throughout *Z for Zachariah* is admirable.

By cooperating, they make better use of resources. In both novels wild plants and fishing are used as a supplemental source of food. In *Alas, Babylon* Alice Cooksey finds a book in the library which tells what palms, grasses, and herbs are edible. Peyton becomes a heroine when she learns from Preacher Henry how to catch fish during the hot weather when they are not biting. Pooling information becomes more effective than hoarding it.

Even though the titles of both books have religious meanings which symbolize destruction, religion is dealt with in a positive way in both books—as encouragement. In *Z for Zachariah* Ann goes to church to pray and read her Bible and she decorates the church with flowers. In *Alas, Babylon* Easter services are held in Marines Park. Randy considers this an encouraging sign, because if man retains faith in God, he may also retain faith in man.

In considering a study of these books, introductory activities to invoke reader response will set the mood for the
study and emphasise a consideration while reading. A good prersading activity is to have students write the impressions they have of nuclear war. Then during the study a good activity to use would be "The Fallout-Shelter Problem" from Values Clarification by Sidney E. Simon, Leland W. Rowe, and Howard Dirksenbaum (1978). In this activity the teacher explains the situation to the class, in which ten people wish to be admitted to a fallout shelter during a nuclear war; however, there is only enough food for six. Each group of students is a committee which has to quickly decide who the six will be so the committee may be on their way to their own fallout shelter. A list of the ten people is given to the groups, each person on the list representing a contribution which indicates a student's values when he chooses that person. An activity of this nature would not only introduce problems of nuclear war but it would also emphasize that values are necessary for decision making.

I guided these activities with a class of low average freshmen in a study of Z for Zechariah. When the study was completed I assigned a composition, allowing a choice of the following topics: compare/contrast your values to Ann's in situations from the novel or compare/contrast your impressions of nuclear war before and after the study of the novel. To summarise responses from the compositions about values, many students said they realized how important it was for Ann to know what she believed in order to make decisions in times of crisis—which indicated to me that the fallout-shelter activity accomplished its purpose. For the compositions about impressions about nuclear destruction, no one responded that her impressions became more severe. While only one student actually said that she has more hope now because of a previous impression that there would be a total wipeout of population, the majority of students said their impressions were simply reinforced—the novel said the same things they already believed.

In conclusion, students will ideally come to think of nuclear destruction as another crisis facing mankind which may or may not end the world. It would be hoped that a study of this nature would help them feel more at ease with the situation and not stir up fears. Therefore, teaching prerequisites are knowing exactly what objectives are desired and an abundance of planning. If that is acknowledged, this may be a study which would invite interest from each student.
TEACHING CHAUCER IN A NUCLEAR AGE
Michael Foley, University of Prince Edward Island

How can English teachers bring the issue of nuclear war into the Chaucer classroom? At first glance it would seem that our age of increasing nuclear megatonnage and accelerating Star Wars technology is a far cry from the early decades of the Hundred Years' War, when the most startling military development was the increasing ascendency of the archer and his longbow over the heavily armoured knight on horseback. It is not to the medieval battlefield, however, that we must look for the sudden and widespread loss of life even remotely foreshadowing that likely in a nuclear conflagration. For such a cataclysmic happening we must turn to the fourteenth century epidemic of bubonic plague commonly referred to as the Black Death, and called by at least one recent commentator "perhaps the greatest single catastrophe ever visited on the human race." Having pointed out that the Black Death is the one event in the last thousand years of European history that could resemble nuclear war as a demographic catastrophe, we can bring the issue of nuclear war into the Middle English classroom by demonstrating evidence of the far-reaching effects of the Black Death in Chaucer's writings.

The mortality rate for the Black Death was shockingly high, though not as high as that estimated for a nuclear war. Precision is impossible, of course, since in one case we are dealing with unverifiable projections into the future, and in the other with notoriously unreliable figures offered by medieval chroniclers. Having said this, nevertheless, we can at least look to the experts for general guidance. In the case of nuclear war some authorities believe that an exchange between the USSR and the USA would kill almost 60 percent of the urban dwellers of the Northern Hemisphere, seriously injure more than 60 percent of the remainder, and leave many with severe psychiatric disorders.
In addition, it would poison rainwater, contaminate freshwater reservoirs, and ruin agriculture, as well as destroy energy, communication, food distribution, sanitation, and health systems. In the case of the Black Death, on the other hand, conservative estimates put the death toll in England from the epidemic of 1348-49 at approximately a third of all the inhabitants. After further outbreaks—in 1361, 1368-69, 1371, 1375, 1390, and 1405—England, like the rest of Europe, is said to have been left with “a population reduced by about 40 percent in 1380 and by nearly 50 percent at the end of the century.” The years that followed the initial onslaught of the Black Death, consequently, were stamped by “a neurotic and all-pervading gloom.” What we see in the second half of the fourteenth century, in other words, is a situation analogous to but less abrupt and inestimably less severe than what our century might experience in the aftermath of a nuclear war.

In making such comparisons, of course, we must not disguise the fact that the trauma of the Black Death was for Chaucer and his contemporaries fundamentally different from our experience to date with nuclear weapons. We North Americans have witnessed the consequences of the two atomic bombs dropped on Hiroshima and Nagasaki in 1945, but these bombs did not drop on us; our actual experience, therefore, consists only of an awareness of the growing danger and a by and large rational fear for the future. People of the fourteenth century, however, had experienced the full impact of the plague, the initial terror and bewilderment and the later numbness resulting from the death on a mass scale of friends and loved ones: “And no bells tolled,” as a chronicler of Siena wrote, “and nobody wept no matter what his loss because almost everyone expected death…” And people said and believed, ‘This is the end of the world.’ The Black Death seared itself into the memories of the survivors as an almost living being the very thought of which inspired a chill of terror.

The plague was also “a catalytic element of the first order, profoundly modifying the economic and social forces on which it operated.” It helped blur distinctions between classes, for instance, creating a situation in which many of the poor rose into the richer class while many of the rich were moving in the opposite direction. Greed was most conspicuous, manners declined, and the old nobility felt less and less secure. It was a time of fundamental change: “The pattern of several centuries was breaking up; not only the pattern of society but the set of men’s minds as well.”

Central to medieval minds was the Church, an institution profoundly affected by the Black Death. It is believed that nearly half the clergy died, that the victims included a
disproportionately large number of the bravest and most diligent, and that the new recruits who replaced them were both spiritually and educationally inferior to their predecessors. Ecclesiastical discipline was weakened, priests lost popularity, and moral standards were widely flouted. The society was enduring what Ziegler calls "a crisis of faith" in which old assumptions came into question and "the very framework of men's reasoning seemed to be breaking up"; and "though the Black Death was far from being the only cause, the anguish and disruption which it had inflicted made the greatest single contribution to the disintegration of an age."11

Having drawn an analogy between the likely aftermath of a nuclear war and the aftermath of the Black Death, in late fourteenth century society, we can draw our students' attention to Chaucer's response, especially in the Canterbury Tales. This is not the easiest task, since the Canterbury Tales is a dramatic work, and he carefully distances himself through his pilgrim narrator.12 Like Mark Twain, Chaucer is a profoundly serious master of irony rarely solemn or judgmental, and this is nowhere more evident than in his General Prologue.

Opening with a traditional spring lyric, or reverdie, the General Prologue is an eager celebration of life that nevertheless mirrors the tensions in post-plague society. Despite the reference to sickness as early as line 18, the Prologue is not about sickness and suffering and death but about their effects on the survivors. The pilgrims pass before us more or less in their order of social precedence—Knight and company, Prioress, Monk, Friar, and so on—and in the total we can discern three idealized characters: the Knight representing those who fight; the Parson, those who pray; and the Plowman, those who work.13 Set against these vestiges of traditional social order and decorum, however, is the spectacle of a group of characters largely motivated by selfish and aggressive strivings for all that the world can offer, especially money.14 What emerges is a microcosm of a society undergoing radical change as the old ideals of social and personal order are seemingly rejected by everyone from the Physician, whose "studis is but litel on the Bible" and who "kepte that hewan in pestilence," to the Monk, who "leed olde thynges pace, /And heeld after the newe world the space."15

For Chaucer, as for Langland, the demoralization of the Church merits the closest scrutiny. Prioress, Monk, Friar, Summoner, Pardoner—to see them parade before us, especially in company with the Christlike Parson, is to get an eloquent portrait of an institution reeling in the aftermath of catastrophe. Chaucer's rapier-like thrusts at specific individuals, like Langland's blunt slashes at whole groups, add up to a conservative
sativist's indictment of an ecclesiastical apparatus whose standards have lost their force "a ye pestilence tyme."16 It is as if the evils associated with the Age of Antichrist—presented by Langland in Piers Plowman, I, XX, 52-182, and by the mystery cycles in the pageant just before the Last Judgment—have now arrived upon earth. And Chaucer's religious figures are far from being a mere detail in a larger tableau; they receive considerably more lines on the average than his lay figures; the Friar is his longest portrait; and the Pardoner is placed at the end and so attracts the most attention.17

When we move from the Prologue into the tales proper we find at least one aspect of their ordering relevant to the topic at hand. Though some may still dispute the positioning of several of the tales, all will agree that the Knight, defender of secular order, speaks first, and that the Parson, defender of moral and religious order, speaks last. By thus bracketing his tales Chaucer manages to juxtapose these two basic affirmations of traditional ideals in opposition to discordant patterns of thought and behaviour represented by figures like the Pardoner, the Wife of Bath, and others. The Parson's Tale, that last counsel by a true priest on the way to the heavenly city, is about the seven deadly sins and can be read as an orthodox moral and religious commentary on all that has preceded it. The Knight's Tale requires more comment.

The Knight's Tale, like Sir Gawain and the Green Knight, is the ritualistic voice of the aristocratic establishment. Through non-functional descriptive passages, leisurely pace, stylized speech and behaviour, and all the other elements of "the conventional style," Chaucer serves up "a sort of poetical pageant" whose "design expresses the nature of the noble life."18 The ideals are succinctly expressed by the stricken Arcite:

That is to seyen, trouthe, honour, knyghthede, Wysdow, humblesse, estaat, and heigh kynrede, Fredom, and al that longeth to that art.
(I A 2789-91)

This is reminiscent of the Knight-narrator himself, who also "loved chivalrie, Trouthe and honour, fredom and curteisie" (I A 45-6).19 These virtues constitute the very core of the knightly code, seen as society's bulwark against enemies both internal and external and as such also featured prominently in Sir Gawain and the Green Knight—especially trouthe, or loyalty to one's solemnly pledged word, and curteisie, that cluster of personal characteristics making one worthy and skillful to perform the highly civilized court rituals.20 Order and
civilization, therefore, guaranteed by trouthe and the rest of
the knightly code, are reflected in the speeches and actions of
Duke Theseus and in the elaborate ceremony and ritual that
pervades the Knight's Tale.

Running through this rich golden tapestry, however, are
strands of red and black, for we are not allowed to forget the
disquieting, dark side of life conjured up in the anguished
speeches of the lovers, Palamon and Arcite, and in the sinister
maneuvers of gods like Mars and Saturn. The divinely
orchestrated death of Arcite in his hour of triumph raises
questions about the orthodox view of reality that are answered
by the central authority figure and conqueror--"of chivalrie the
flour" (I /A/ 982)--Duke Theseus, especially in his final speech,
in which he feels it necessary to include a normative censure
of dissenters: "And whoso grucheth ought, he doth folye,/And
rebel is to nym that all may gye" (I /A/ 3045-6). Yet the dark
elements and the subversive doubts they engender are still
potent enough to challenge the official view so strongly that
they have been seen to destroy the work's balance.21 What we
are left with in the Knight's Tale is the statement of a con-
servative ruling class facing severe internal doubts; 'having
its own "crisis of faith."' The emphasis on order is so very
intense because of the felt need for it in a society beset by
the intellectually and socially disruptive consequences of the
Black Death.

Finally, for those of us interested in drawing an analogy
between the possible aftermath of a nuclear war and that of the
Black Death as seen by Chaucer, at least one more selection
from the Canterbury Tales deserves comment, namely the Pardoner's
Tale, wherein the plague is directly referred to (VI /C/ 679),
and Death itself is consistently personified (VI /C/ 675, 699,
710, 727, 752, 761, 772). To emphasize this aspect is to see
the Pardoner's Tale in a whole new light, as critics are only
now beginning to do.22 In it Beidler notes, among other things,
the fear and the paradoxical decline in moral standards
following the plague. He also sees the much discussed Old Man
simply as the lone survivor of a plague-ravaged village,
suggesting that Chaucer and his audience would associate the Old
Man with Noah, well known in the mystery cycles and elsewhere
as the almost lone survivor of the Flood.23 It is a piece of
typical Chaucerian irony that this bleak landscape ravaged by
plague comes to us as part of a hypocritical denunciation of
immorality by one himself very much like his three roisterers,
drinking and swearing and generally illustrating the collapse
of moral standards in the wake of the Black Death.

-41-
To sum up. One way to bring the issue of nuclear war into the Chaucer class is to suggest the analogy between the projected effects of a nuclear war and those of the Black Death as documented by historians and observable in the Canterbury Tales: namely, a society in upheaval and a Church demoralized. We must not forget, however, that we are suggesting an analogy rather than an equation, for the effects of the Black Death are but modest hints of what our own society would probably suffer in the event of a nuclear war.

Notes


6. Tuchman, p. 95.


14. Cf. Langland's "fair field-ful of folk...Werchynge and wandrynge as be world sakep." George Kane and E. Talbot Donaldson, eds., Piers Plowman: The B Version (London: The Athlone Press, 1975), Prologue, 17 and 19. All further references to Langland's works are to this edition. For Langland's contrasting portraits of Lady Holychurch and Lady Mead, who represents the power of money, see Piers Plowman, II, III, and IV.


19. For a recent, hostile view of Chaucer's Knight see Terry Jones, Chaucer's Knight: The Portrait of a Medieval Mercenary (Baton Rouge: Louisiana State Univ. Press, 1980).


SOME OBSERVATIONS ON TEACHING ENGLISH IN A NUCLEAR AGE

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On the day after "The Day After" (CBS's television drama last fall on the effects of a nuclear holocaust) I asked my community college English Composition students to write about their responses to the program. Some said they'd been bored and claimed that films such as "The Deer Hunter" and "The Towering Inferno" were more shocking and interesting to watch. Several called the movie unrealistic and were disappointed that details such as the melting of eyeballs had not been graphically depicted.

Those who'd been troubled by the film shared some of the following comments:

I thought I knew what to expect from the movie, but actually seeing it was another story. Nuclear war is something I always tried to tuck neatly into the back of my mind, next to thoughts of my own death.

I felt not so much scared for my own life, but bummed out by knowing how men can destroy the beauty of nature and life.

During the launching of the missiles, the reaction that the film showed to us of disbelief and panic among the people is how the people of the world deal with this problem everyday. It is almost as if we ignore the problem, it will go away. This is untrue and we cannot hide from ourselves anymore. We must speak out and not let our destiny be decided by a few men.
It scares me to think that the world could end by the push of a button. Sometimes I wonder why I should worry about my future when there may not be one.

The bulk of written responses and oral discussion could be summarized by the following student's statement:

As long as I am alive today, I cannot worry about tomorrow. Sure, I want to live my life to the fullest, and there is no way I will enjoy the time I have if I am constantly worrying about what might happen. There are no guarantees that there will be a nuclear disaster in my time, so why should I even think about it. Besides, there isn't nothing I can do to prevent a nuclear war, is there?

The pervasive distancing, displacement, of the issue and the sense of powerlessness on the part of most of the students were as disturbing to me as the issues raised by the film itself. There was clearly more at stake in the classroom than the correction of grammatical double negatives.

In a follow-up assignment, the students were asked to draft a letter stating their own opinions regarding national security (through a strong nuclear defense system, through nuclear disarmament, etc.) to be sent to a statesman or political leader of their choice. The assignment startled much of the class. A large proportion of these eighteen to twenty-two-year-olds had no idea who their congressional representatives were (or even that there were any such persons that could be considered "theirs") and even less belief that their own ideas had any value or would make any difference to the world around them.

Why argue for a strong nuclear defense against communism or totalitarianism, I asked, if you fail to use the very rights and privileges that this democracy of ours makes possible? If you believe in, profess loyalty to, a system of representative government (pause for blank stares and a few "Do wha's?") , then use this language of yours, this power to communicate, to applaud, critique, amend, hold that government responsible to you.

The task at hand was critical thinking and clear, effective expression of opinion. Contrasting articles from "The National Review" and "The New Republic," as well as statements from the John Birch Society and the American Friends Service Committee,
were brought in and examined. Class discussion covered the whole spectrum of opinion on the topic of nuclear armament from unqualified support to condemnation. Written drafts were evaluated on the basis of clarity and concrete support of thesis. Letters went out to Reagan, Andropov, senators, representatives of seven congressional districts, the president of CBS. One student chose to write the president of a local company producing nuclear warheads for the Pershing and Cruise missiles, commending that company's work on national defense.

I was pleased to be asked by the students at the end of the week's project for my own opinion—pleased especially because it meant that the care which I had taken to be objective and non-judgmental, to be a facilitator of critical thinking, not a proselytizer, had been adequate. Only after all the letters had been sent did I share my own views on the arms race and do my own story-telling about beliefs held and actions taken.

The long-range effects of the inclusion of nuclear armament issues in that classroom are not clear, not calculable. Many students received replies to their letters; some were intrigued at having found a personal audience for their words, their ideas; others were disillusioned by form letter responses. We were all, perhaps, reminded of the strengths and weaknesses of the democratic process. Yet part of the task of a composition course is finding the voice inside one's self, the owning and using of one's language in order to communicate effectively, developing and putting to work those skills which can realize (make real) the power of the written word. One of the uses of this language of ours can then be the exercising of that voice, that freedom to speak those truths about our world as we perceive them, as we seek to understand the present (through various clumsy and admittedly imperfect "lenses") and envision (read: "hope for") the future.

The following spring I had the opportunity to offer a new elective course within the Humanities Department. Out of my own concern about the sense of despair, indifference, powerlessness, psychic numbing which I saw in the student body around me and in our "quick-fix" culture at large, I developed a course called "The Literature of Protest and Hope: From Despair to Empowerment." Over a sixteen-week semester, using a variety of literary and art forms (fiction, poetry, drama, diaries, letters, music, painting, photography, and film), we examined ways in which the arts have been used during crucial periods of human history to express despair, protest, and hope.

We began with the issue of undeserved suffering in the Book of Job and MacLeish's J.B., and went on to look at major writings, music, and art from the Holocaust; American Abolitionist, Civil
Rights and Labor movements; human rights struggles in the Soviet Union, South Africa, and Latin America; and war and anti-war movements from World War I to our present nuclear age. The course included works by Wiesel, Frankl, Fugard, Solzhenitsyn, Angelou, Owens. We worked at identifying propagandistic and polemical art forms, and studied metaphor, symbol, antonym, and irony. In the stunned silence following a February viewing of the Holocaust documentary "Night and Fog," we listened to Pachelbel's "Canon in D" while I passed out narcissus bulbs. We visited Boston's Fine Arts Museum (focusing on the works of Millet, Goya, Turner, and Picasso) and attended an Underground Railway Theatre satire on the arms race. We looked at what it meant historically for others to "bear witness."

Students kept journals, interviewed older generations, wrote papers, and did individual research projects. At the conclusion of the course each member of the class shared a personal creative expression of some aspect of his or her own despair, protest, or hope. Some composed poetry, designed bumper stickers, wrote letters (to congressional representatives, newspaper editors, the management of a local industry involved in hazardous waste). One student prepared a slide show on issues of aging; another created a stained-glass window based on Sarah's "coals of the heart" in J.B. On the last day of class I gave them all homemade buttons which read: "Question Authority--Qui Tacet Consentire."

In her article on "Despair-Work," Joanna Macy writes that there are five steps to the task of confronting and working through despair:

1. Validation (acknowledging that despair/anxiety/anguish are healthy responses to the perils threatening our world today)
2. Feeling (permitting ourselves to feel—in a culture that shuns, avoids uncomfortable feelings)
3. Imaging (using the creative power of images and symbols to share apprehensions and find meaning)
4. Waiting (not rushing for the "quick fix")
5. Community (knowing that one is not alone; sense of interconnectedness, empowerment)
The Humanities course made possible the acknowledgment of our own despair (those dark places in our lives—personal or global) and that of others throughout history, as well as a recognition of the power of language, art, and music to move one through and beyond the sense of powerlessness.

My own inclusion of nuclear issues in an English classroom on the community college level grew out of a specific concern about the anxiety and sense of powerlessness on the part of those students who live, as we all do, "under the nuclear shadow." While art has a validity of its own, I believe that the study of literature and language skills today also can and ought to provide a forum for critical thinking about the issues of contemporary society.

One needs to speak carefully of moral imperatives, yet surely a discipline which seeks to strengthen the skills of communication and deepen appreciation of the great works of human civilization, has as part of its task the nurturing of responsible, sensitive citizens of this vast, splendid, fragile world of ours—who will not only believe in the future, but be willing to act on its behalf.

Notes

1. Evolutionary Blues, Issue #1, Box 4448, Arcata, CA 95521.
RESURRECTING "RELEVANCE "
IN-THE COMPOSITION CLASSROOM

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"Whatever somebody's gonna drop a bomb on you or not—that's gotta be relevant!"

This response of a freshman writer to my invitation to discuss the nuclear issue's relevance to our composition class seems to encompass both the sixties' demand for social relevance and the seventies' demand for personal relevance. What, indeed, could be more relevant than whether or not somebody is going to drop a bomb on you? Even the most businesslike of our eighties students, staring fixedly down the career path, had to admit it.

This student belonged to one of two groups of sixty whom I taught in the Third College Composition Program at the University of California, San Diego (UCSD), in the two spring quarters of 1983 and 1984, using the nuclear issue as subject matter. The spring-quarter course, second in a two-quarter required sequence, was devoted, in 1983, to the discourse types of interpretation and evaluation, with a research paper of eight to ten pages taking up the last three weeks of the quarter. In 1984, the format of course requirements was changed, and we assigned essays in interpretation, proposal, evaluation, and causal analysis. Either or both of the latter two papers could be on a nuclear topic. In both courses the subject of nuclear power and armaments occupied the class for the final three weeks, providing readings and discussion material, as well as topics for journal entries and essays. In 1983, the required text was Helen Caldicott, Nuclear Madness; in 1984, we used the Norton anthology Nuclear Power: Both Sides, edited by Michio Kaku and Jennifer Trainer. The Caldicott book provided the class with ample opportunity to identify, analyze, and evaluate argumentative strategies. The Norton anthology furnished us with models of
argument of nearly every type. The students supplemented these required texts with sources they discovered for themselves and drew on them as support for their own arguments. In both quarters, the students' attitudes toward the nuclear issue, as evidenced by their remarks in class, as well as their submitted writings, changed in significant ways after they had researched the subject and written about it.

The composition program of UCSD's Third College, associated from its beginnings with third-world studies and third-world students, is a forward-looking, strongly process-oriented writing program. Pre-writing exercises, multiple drafts, peer critiques, self-evaluations, and, in the case of the research paper, notecards and summaries, are all required to be part of each writing assignment submitted by students. Journal entries deal with reading assignments, as well as with students' current concerns, and pre-writing includes certain heuristics, reader projections, and devices for discovering and exploring topics. For the Nuke papers, as they came to be called, students submitted three drafts, one revision done after participating in a small-group conference, the other after obtaining a written critique from a fellow class member.

The program provided word-processor accounts for those students who wanted them, and some students had access to computers through other courses. The teachers accepted computer print-outs as drafts and as "finished" essays.

Teachers in the program have a good deal of freedom to choose texts and devise assignments. Quite a bit of freedom is reserved, likewise, to the students, to initiate or choose subjects for their writing. Some of the teachers have chosen to offer a structured choice of topics. I chose to make the nuclear issue the subject of the research paper in 1983, while, in 1984, I recommended it as the subject of either the evaluation or the cause paper. All of us have felt that it is important for students to make a positive choice about a subject, so as to have some psychological investment in it. I have, in fact, allowed exceptions in every assignment, when I felt that students' preferred subjects would be just as useful in accomplishing the goal of the course, which is to enable students to gain a high degree of control over the writing process, to produce writing appropriate to the purpose whenever they need to do so, and to attain the confidence and personal autonomy that are the natural result of such control.

The choice of topics for the spring 1983 group was broad enough to accommodate most of the students. One who was interested in history wrote his paper on "J. Robert Oppenheimer and the Origins of the Cold War." Another, a pre-med major,
entitled her paper "Good Nukes for Medicine." An economics
major wrote on "The Economic Feasibility of Nuclear Power Plants."
Others submitted papers entitled "Disarmament vs. Arms Control,"
"The Race to Armageddon," "Nuclear Radiation: Genetic Roulette,"
and "Radwaste: Is Indecision the Best Decision?" Several wrote
on the accident at Three Mile Island. A few of these papers were
submitted as term papers in other classes, by consent of all
parties concerned.

Three of the sixty students requested and were granted
permission to write on other subjects. These subjects were:
automobile safety, genetic engineering, and toxic waste disposal—
all compelling and controversial issues. Everyone in the class
was reading Caldicott, writing commentary and speculations in
their journals, and sharing these with the class. I urged my
students to keep an open mind during their research into the
nuclear issue (or the other issues), learning as much as they
could about the subject and letting a solution or thesis or
hypothesis develop only after they had become informed.

The actual research began with a two-hour library seminar,
in which the students were taught by librarians a research
strategy adaptable to any subject. Class time was spent dis-
cussing and trying out research-writing techniques such as note-
taking, summarizing, and outlining. We also discussed the
proper use of sources and the conventional styles of documenta-
tion. Students had a handbook to consult (James D. Lester,
Writing Research Papers, Scott, Foresman, 1980).

Once the research was under way, students used various
heuristics for generating and organizing a draft. These
heuristics—lists of various types, free-writing, problem-
solving, role-playing, question-and-answer sets, and others—
were used with all essay assignments, and were submitted, along
with peer critiques and other materials, with the final draft,
so that the teacher could review the complete process and offer
the student guidance.

This assignment yielded a high percentage of informed,
rational, and readable essays on the nuclear issue. Students
felt their work had been worthwhile, as some of their journal
entries show: "Before when people talked about it, I didn't
know what they were talking about. Now I can talk too." "We
can't leave it up to the experts—we have to have a say."
"Whether our generation will have a future depends on what we
decide now." "I'm glad I took the time to find out."

For the spring, 1985, group, the nuclear issue was not
required, only suggested, as a subject for either or both of the
final two short papers (four to five pages). One was to be an
evaluation, an argument about worth; the other was to be the identification of a general trend and analysis of its causes. The proposal essays assigned for this quarter might also have dealt with a nuclear topic, but students did not have this option, as the assignment had been designed to deal with local problems. The research-paper requirement had been dropped, in response to a survey indicating that research papers were seldom demanded of UCSD upperclassmen. From this point on, composition students would be expected to carry out, on their own, "whatever research is appropriate" for their papers. As it turned out, few found it appropriate. The library seminar became optional, and few attended it.

Under these circumstances, it is perhaps surprising that fully a quarter of the class chose to write on nuclear topics, which demanded research. Evaluation papers were written on the future of nuclear power, fusion power, the Navy's development of nuclear power, the safety of reactors, and American policy toward disarmament. Trends were discovered in the antinuclear movement, the public's attitude toward the arms race, and the interest in alternative energy sources.

Nuclear Power: Both Sides was the required text for the entire class, and journal entries connected with this reading were required as preparation for class discussions. As teacher, I kept a scrupulous neutrality in these discussions, concentrating on rhetorical strategies, use of evidence, etc., rather than on content. When the discussion dealt with content, I used my leadership position to make sure that both sides of the question were represented, stressing the fact that every good argument demonstrates an awareness of possible counterarguments, and feeling, privately, that it was important for students to draw their own conclusions. The whole class participated actively in these discussions and developed a good awareness of the issues at stake. The attitudes of those who chose to commit themselves to the extent of researching extra sources and writing an essay, differed markedly, though, from the attitudes of those whose information was relatively superficial. Their remarks in discussions, journal entries, heuristics, essays, peer critiques, and self-evaluations showed fewer feelings of powerlessness, resignation, or anxiety, more feelings of confidence, involvement, and hope.

Those who eschewed the nuclear topics made comments such as the following: "Most people cannot be expected to understand scientific data." "The anti-Nuke movement is a waste of time, because so much money has been spent already." "Nuclear weapons could never be disposed of. There are too many political factors involved." "The U.S. and Russia will never be able to trust each other." "I feel a lot better when I read my Bible regularly."
Those who carried on investigations and wrote papers made more of the following kinds of comments: "We can't treat the word of the experts like God's word. What happens when they disagree?" "If we could keep other countries from developing a nuclear capability, we could reduce the chance of accidents." "Falk is right when he says power plants and weapons go together. We have to get rid of both." "There are lots of other sources of energy we can develop, especially solar." "There is a trend in this country away from nuclear power because of the high costs."

These students implied that they considered information a means toward gaining control: "The Nuclear Regulatory Commission did not keep track of what was happening. They could have prevented the accident at Three Mile Island." "We have to be able to work out agreements and make compromises in order to reduce arms." "The more people learn about it the better off we will be."

All of these papers on nuclear topics—both the 1983 research papers and the 1984 evaluations and trend analyses—were well researched and thoughtful. The students adapted the assignments easily to their own needs and interests, not only in terms of subject, but also of mode, which could be explanatory or argumentative. Emphasis was on the collecting, organizing, and presenting of information. No one was required to take a stand for or against nuclear power or armaments. Most did, however, and some wrote impassioned, persuasive arguments.

Both groups of students exhibited a fairly intense concern with the issue. Those who chose to write essays about it showed signs of having arrived at positive attitudes that included the acceptance of responsibility and the willingness to play an active part. These students tended to use their journals less to confide their fears and more to work out approaches to the subject, in some cases incorporating the journal material into their essays. No one had to be persuaded of relevance. They decided that whether or not somebody is going to drop a bomb is largely up to them. Even today's career-oriented students can recognize relevance in the crucial issues of our day, and can understand that their informed, rational participation is the only way to safeguard their own interests.

Notes

NUCLEAR WEAPONS
IN THE COMPOSITION CLASSROOM
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We teach at a university where 85 percent of the students will obtain engineering degrees. These students will need communication and writing skills in their jobs. But as composition teachers, we believe that learning to communicate and learning to think independently are inextricably intertwined. We want our freshmen to realize that they, as highly educated women and men, bear responsibilities to their fellow citizens to articulate well-reasoned positions on the important issues of their times. The topic of nuclear war, therefore, seemed an ideal focus for the research segment of our three-quarter composition sequence.

In the fall quarter, freshmen write papers that refine their individual styles by working expressive writing through several successive drafts; the topics vary widely and they are encouraged to refer to material from their high-school experiences or concurrent coursework in other disciplines. In spring, writing tasks are based on literary studies and the students' expositions follow traditional humanistic lines: textual, historical, psychological, social, moral, and comparative criticism.

College research techniques and the writing of a fully documented essay on a substantial theme receive emphasis in the middle, winter quarter. Our catalog description includes a reference to "study of communication forms as they affect interrelationships among human beings." This is where we have chosen to use nuclear weapons as our common class topic.

The serious objective of initiating freshmen into uses of language that refine thought and ultimately constitute
personality stands at the heart of our course in research papers. And it behooves us to select topics for research papers that are worthy of the intellectual and social transformations that we expect our students to achieve. Moreover, in a course that is advertised as at least partially about "the individual and society," it helps to use topics that confront both our fellow human beings and ourselves. In this light, nuclear weapons issues are as universal and as serious as the basics of existence (food, shelter, clothing, energy, and social structure). Nuclear weapons indeed challenge every conventional assumption about existence.

Writing is such a powerful tool for learning that we feel students should seldom write "just for writing's sake"; they should be learning college-level material and college-level processes of problem-solving, expression, and thinking as they write. As Donald M. Murray says, "Writing is a significant kind of thinking in which the symbols of language assume a purpose of their own and instruct the writer during the composing process" (1982, p. 18). Murray also says, "Write with information, not words" (1984, p. 17). We wanted our students to see how the process of assembling information and putting it into words could give them insights into a problem that threatens the future of our species.

We suspected that most freshmen would come to the course with commonplace notions about the topic, and we wanted them to experience the alterations and confirmations of their opinions that would result from well-executed research projects. We didn't want them to adopt our opinions, and we tried to avoid discussing our views in class. Research itself would force the students to discover positions on which they could stand with relative confidence. Sacred beliefs held prior to the course would have to pass tests of logic, evidence, and coherence, and these tests would apply equally to students who supported unilateral nuclear disarmament and to students who advocated massive stockpiling and deployment of new weapons. The criteria for success in the course would be each student's collection, organization, and presentation of evidence relevant to a narrowly defined aspect of nuclear war issues.

We have made some commitments to a theory of language. We see our students framing their perceptions of "reality" largely through their language acts. When their personal language becomes a variable in their lives, as it must in composition classes, students risk the security of their ideas about themselves and their world in important, fundamental ways. As teachers ask for alternative expressions in writing about a topic, we are also asking students to reinterpret their perceptions. In this analysis, asking for stylistic revisions is also asking
for changes in a student's metaphysics. Requiring students to
discover other people's views on a topic and to synthesize the
other's views with each other and with their own is another
re-vision process. Taken together, the ideas and stylistic tasks
we place before students in a "research paper class" require
nothing less than a reordering of individual ethos and a set of
new possibilities for their understanding of polis, knowledge,
and right action.

We saw clear advantages to having all students in a section
do research on aspects of a single topic:

First, a single topic leads to informed class discussion.
When most students are pursuing topics that are totally unre-
lated, they have difficulty finding common ground. They always
have to operate from positions of relative ignorance. Yet one
of the things students should gain from a composition course is
the ability to argue intelligently. If all the students are
writing papers on the same general topic, they can contribute
substantially to discussions of issues like the pros and cons
of the nuclear freeze movement. They can pose serious questions
to one another, and better realize what "adequate proof" means
in others' arguments. Students can exchange sources as well as
ideas, especially when they hold small-group discussions of
their papers in progress.

Second, a single topic helps the instructor steer students
toward subtopics that can be adequately researched in a quarter.
When students choose their own topics at random, the students
may embark on promising topics, and spend some weeks research-
ing them, only to find that there just isn't enough information.
Given our course focus, we could study our library's holdings
on topics related to nuclear weapons before the quarter began,
give our students advice on where to start their searches for
information, and also warn them when we thought they were
tackling a topic our library could not support.

Third, common topics tend to prevent plagiarism. One of
the problems with the 'open topic' approach is that the
occasional unscrupulous student hands in a paper done by another
student in another open-topic course a year or two earlier, or
copies from a source. A careful teacher will spot most of these
plagiarisms, but it is difficult when teaching seventy-five
writing students a quarter. Focusing on a single topic limits
the room for plagiarism; the instructor's familiarity with the
range of sources and with other students' research on the topic
means that students have to hand in work that reflects both the
most recent information and the criticisms of other students.
We encourage students to use each others' ideas and even to cite
each others' papers, where appropriate, but copying is never
tolerated—and easily spotted.
Recognizing these advantages, we were able to see how our imposition of the nuclear weapons topic, rather than being constricting, could actually give our students a chance to nurture one another while enabling us to be more helpful and informed. Within this broad area, we gave students freedom to pick research topics of their own choice. But we were also able to give them valuable guidance, based on our knowledge of sources in the area and based on the sources their fellow classmates were uncovering. In an open-topic class, students will often pick subject areas in which the instructor and other students have little or no expertise. By focusing our course on a set of issues in which we had both done a good deal of reading—even though we were certainly not 'experts'—we hoped to avoid the problem of freshmen working in areas in which we and their fellow students could give them no guidance.

The course, as we developed it, is actually divided into three parts. In the first part, which lasts about three weeks, students read John Hersey's *Hiroshima*, write a paper reacting to it, and begin to brainstorm topic ideas for their research paper. In the second part, which lasts about five weeks, students write a research paper on some topic of their choosing related to nuclear war and present it to their classmates in the ninth week. In the tenth week, students work together in groups to brainstorm solutions to the problem of nuclear war. Students also keep a journal of reactions to readings, material discussed in class, and research findings; they are required to make at least three entries a week.

The relative weights of the assignments, in terms of the final grade, are roughly as follows:

- Hiroshima Paper: 15%
- Research Paper: 45%
- Presentation of Research Paper: 10%
- Final Group Assignment: 10%
- Journal: 10%
- Class Participation: 10%

Hiroshima serves three purposes: it shows students an example of journalistic/research writing, makes them viscerally aware of the impact of nuclear weapons, and awakens their interest in the topic. Students were asked to respond to the book in one or more of the following ways:
1. Describe your reaction to Hiroshima. What particularly struck you about the way Hersey wrote the book? Is there anything unusual about his style, or does it strike you as typical of the kind of writing you've been exposed to?

2. Based on your reading of Hiroshima and material covered in class, do you think it was proper for the U.S. to drop a bomb on Hiroshima? What do you think Hersey's opinion is?

3. Construct a brief fictional narrative in which you describe what would happen if KI Sawyer AFB (in Marquette, 100 miles from campus) were hit by a 25 MT air-burst while you were at Michigan Tech (see The Day After Midnight, p. 59).

Students in all classes are asked to answer the first question. They are given a fair amount of leeway regarding responses two and three. For example, some students in Gorman's class were allowed to write a narrative as their primary assignment, on the theory that trying to write like Hersey would give them insights into the strengths and weaknesses of narrative writing as a way of communicating information.

The Hiroshima response paper allowed us to spot students with special writing problems and begin to work very seriously on improving students' reading and writing skills. We discussed how Hersey's book was organized: it follows a very non-traditional format in that it has no introduction, no thesis statement, no conclusion. It is a good example of "show, don't tell" writing that we used as a contract to more traditional ways of presenting research material. For example, Hersey could have described the destruction of Hiroshima using graphs, charts, and statistics instead of weaving a narrative out of the experiences of a few survivors. The statistics would have had less emotional impact, but would have given a clearer overall picture of the destructive effects.

We also used Hiroshima as a springboard for class discussion of the morality of dropping the bomb on Japan. We solicited students' initial opinions, which were primarily emotional, then showed them how research could inform their opinions. We talked a little about the historical reasons why the U.S. dropped the bomb—to avoid a bloody invasion of Japan—and why the Japanese resisted surrender—they were afraid the Emperor would be put on trial for war crimes (see Toland, 1975, for a fuller discussion). We even pushed them to see that there was evidence in Hiroshima on both sides of the morality question: certainly the effects of the bomb were unspeakably horrible, but a number
of the survivors said they regarded themselves as part of the Japanese war effort—"It was war and we had to expect it" (p. 114). The point was to make students see that research is relevant to moral issues, even though research alone cannot settle them. In other words, it is not sufficient to hold opinions based purely on emotion; students should seek information that might temper, strengthen, or alter their opinions.

The second—and major—part of the course is the research paper assignment, which counts 50 percent of each students' grade. The first time we taught this course, we asked students to read Jonathan Schell's The Fate of the Earth to help them get ideas for issues they could research. Students complained that they found Schell repetitious and not detailed enough. They needed a source that included more basic information, so the second time we taught the course we used The Day After Midnight, which includes an opening, fictional description of the effects of a nuclear war on Charlottesville and follows with detailed discussion of specific issues, e.g., the electromagnetic pulse, civil defense, and relative strengths of U.S. and Soviet arsenals. The book is a good contrast to Hiroshima because it presents information in graphs, charts and tables and it provides students with an example of technical writing. Students found this book a broader source of research ideas than Schell.

We also listed possible topics, including:

--The effect of a one-megaton bomb dropped on your home town.
--International efforts to secure a nuclear non-proliferation treaty.
--The call for a nuclear arms freeze: pros and cons.
--What each of us, as individuals, can do to prevent a nuclear war.
--Arguments, such as the Catholic Bishops' Pastoral Letter, grounded on theology or moral philosophy.
--The participation of scientists and engineers in weapons development.
--U.S. and Soviet weapons capabilities. (Students could also focus on a particular weapons system—say, nuclear submarines. Or work as a group, each member taking on a particular weapons system.)
--Outer space as battleground: killer satellites and space shuttles.
--An imaginary scenario: the probable effects of several levels of atomic weapons dropped on Detroit, or Houghton, or on the student's home town. This kind of topic could even be written-up in a story format, provided you have researched your scenario thoroughly.
Possible solutions to the problem of nuclear weapons, e.g., the nuclear non-proliferation treaty.

The point of the list was to stimulate students to discover their own topics. We didn't want them to feel they had to select one of the projects listed above; we just wanted to help them see the range of possibilities.

The rationale for the wide range of topics—and permissible writing styles—was threefold:

1. We wanted each student to be able to find a topic and a style of writing that would allow her or him to be able to speak with confidence and authority.

2. We wanted each student to profit from the diverse experiences of his or her classmates—so that students would be able to see the range of possible ways of conducting and presenting research.

3. We hoped many students would select topics that related to their major field or career studies, so that they would immerse themselves in issues and arguments that would continue to concern them after our course was over.

For a list of some of the topics students came up with, see Table 1. Note that not all of them involved library research. For example, one student developed a board-game, based on the popular game Risk, that simulated nuclear war strategies and consequences. Another student interviewed local proponents and opponents of a nuclear freeze and related their opinions to her research. One interviewed elementary school children about their knowledge of nuclear warfare and their emotions in the face of threats to their families and homes. Still another student analyzed the shelter in his home town to see if it met government standards. The diversity of topics and approaches encouraged our belief that focusing the course on nuclear weapons was not unduly restrictive.
Table 1

Selected Topics Students Chose for Their Major Research Paper in Sections of Freshman Composition Devoted to the Topic of Nuclear War

Specific Weapons Systems:

- The Manhattan Project
- Submarines (Trident)
- Land-Based Missiles
- Neutron Bomb
- Space Weapons
- The MX Missile
- Research on Directed Energy

Specific Long-Term Effects:

- Nuclear Winter
- Medical Therapy for Radiation Burns
- Genetic
- Radiation
- Electromagnetic Pulse
- The Effect of a Bomb Dropped on my Home Town

Disarmament:

- Nuclear Freeze
- SALT Treaties

Defense Against Attack:

- Civil Defense
- Early Warning Radar
- The Shelter in my Home Town: Is It Adequate?

Miscellaneous:

- How to Build an A-Bomb
- Nuclear Risk: A Board Game that Simulates Nuclear War
- Religious Leaders' Positions on Nuclear War
- School Children and the Threat of Nuclear Weapons
- The Cuban Missile Crisis
- Economics of Nuclear Cold War

-61-

63
Students were given a schedule for their papers, including a first, second, and final draft. Students were assigned to groups based on topics—for example, one group might be focused on long-term effects of a nuclear war, while another might be concerned with specific weapons systems. At each draft deadline, members of a group would critique each others' papers, suggesting additional sources, arguing about the conclusions, improving organization, and helping to smooth out the style. If a student decided to change his or her topic, we simply moved the student to another group. We also experimented with having students critique papers from the other composition class working on the nuclear weapons topic. The idea was to expose each student to a broad range of opinions and sources regarding his or her topic, and to subject each paper to both familiar and anonymous criticism.

We also held frequent individual conferences to help students with their research and their writing. We were able to steer most students away from topics that they couldn't do because of our library's limitations and the term's time constraints. We were also able to help them solve common research problems. For example, the issue of what to do about conflicting sources came up frequently in conference. We were able to help students look for additional information that might settle the conflict. In cases where it couldn't be resolved, we told them they could cite both points-of-view in detail and leave it to the reader to make up his or her mind—the strategy used by John Hersey.

Here is a student's own narrative describing his research process:

The Research Project Story

The following journal entry is a true story. It is a story of the trials and tribulations of a HU 102 research project.

Once upon a time in a far away land, twenty-six brave freshmen braved the elements to attend their scheduled HU 102 class. There they were assigned the task of researching a topic that dealt in the broad spectrum of Nuclear Arms. Seriously now, the initial step was to pick a topic that was interesting to me. This way, the research project could become an enjoyable learning experience instead of a loathesome chore.

Once a topic was chosen, (Civil Defense), the next step was to find resource material. This was accomplished in three ways: 1) The first channel of information was the library. A large
list of sources was drawn from the two, giant, red indexes under the Civil Defense heading. The indexes were located next to the card catalog (on the topic side).

In the card catalog, each source on the list was then checked to see if it was available at the library. This narrowed the list down to 12 books. Out of the 12 books, I was able to locate 11 of them by myself. After looking fruitlessly for three days for the twelfth book, I broke down and asked for help. I went to the main desk to see if somebody had checked the book out. Nobody had. The lady at the desk had me file a missing person, I mean, book report and assured me that they would put someone on the case right away. Meanwhile, I now had to pick out material that was relevant to my topic, take good notes, and put them aside. The rest of the resource material was discarded.

2) The second channel of information came by accident. A chance encounter in the phonebook provided me with additional Civil Defense material. This material briefly outlined the current plans and procedures for my home town area. It also gave the telephone number and address of the Marquette County Director of Emergency Services. I asked the director if he could send me any additional information. Ten days later, a large packet of Civil Defense material was found in my mailbox. Once again, the sifting of pertinent material began.

3) The third channel of information came from a personal observation I made of my home town's fallout shelter. This observation was delayed due to furnace problems at the school, but was later completed.

The final episode finds yours truly in the process of trying to piece all of this material together into an organized, cohesive report. With the editing and retyping procedures following shortly afterward.

This has been a fun experience for me. Before this project, I had no idea how to use the library. I now can find sources, understand the call number system, use a card catalog, and locate books all by myself. This was a very big accomplishment and a big thrill for me, especially in a library the size of the one here at Michigan Tech. I still don't know how my final research project paper will turn out because I am not that far yet, but in any case this research project assignment was all right.

P.S. The last news I heard of the missing book was that the F.B.I. had agreed to join the search. News at 11:00.
Students were required to present the results of their research to the whole class. The purpose of this assignment was twofold:

1. Students would be forced to sharpen their communication skills. Students first presented their material to their own groups, then we devoted a class to discussing techniques for a good presentation, then each student was given 5-7 minutes to present his or her work to the whole class. All students were required to attend the presentations and take notes, including their reactions to the speakers' performance. In this way, students were able to see different presentation styles as well as receive the instructor's comments on their own.

2. Students would also be teaching each other about a vitally important topic. Each student's paper was, of necessity, focused only on some aspect of nuclear war. From the presentations and the discussion that followed them, students could begin to develop an overall picture of the issues involved.

The third part of the course was an attempt to get the students to discuss possible solutions to the problem of nuclear weapons. Now they would have to take all the research and apply it to a problem to which there was no clear, simple solution. Each group was given approximately 20 minutes to present its ideas to the rest of the class. Discussion followed. We gave the groups class time to work together and we monitored their progress. Here are some of their proposed solutions:

Individual citizens should vote and write to their representatives, expressing their views on the nuclear weapons issue.

There should be better international communication and arms agreements, including United Nations inspectors to enforce arms control agreements.

The United States should try to design and implement an impenetrable defense, using laser satellites, etc. (This suggestion came a year before Reagan's 'Star Wars' proposal.)

The quality of group presentations varied widely—some groups worked together well; others didn't take the assignment very seriously because it counted only 10 percent of their grade and they had finals coming up in other classes. But at least students learned something about working with others. As one student wrote:
Our group just couldn't get it together. Diana was mad at the world and was stuck on the idea that there is no solution, so every suggestion anyone else made she machine-gunned down. But at least Ken and Paul were fighting back. Ken made some good points. I guess he isn't as shy as I thought.... Anyway, I thought everyone's presentation went really well.

In contrast, another group put together a successful skit in which they each played the role of an important power—the U.S., the U.S.S.R., Europe—in the weapons debate, and used the skit to illustrate the need for better communication among nations. Given that the students had only a week to prepare, they did a good job. We realized that, if this assignment was to be more successful, we had to give it more time and focus. The second time we taught the course, we did so. We gave each of the topic groups a set of specific questions to answer. What follows is an example of the assignment for one class:

**Effects Group:** Can a significant portion of the world's population survive an all-out nuclear war? Would each of you want to survive an all-out nuclear war? What should an individual do in order to insure his/her survival?

**Weapons Group:** What should the U.S. weapons policy be? What kinds of weapons should we build or cut? Are you willing to pay higher taxes to support a build-up?

**Soviet Group:** Are the Soviets the primary cause of the arms race, or is the U.S.? What kinds of arms control agreements should we pursue with the Soviets (if any)? Do you support a nuclear freeze?

**History and Development Group:** What can be done to prevent terrorists from getting hold of nuclear weapons? How much damage can a terrorist bomb do? Can the individual citizen do anything about this problem?

Each group was given 5-10 minutes to present their 'answers' to the class, and general discussion followed each set of answers. The questions and groups varied from class-to-class, depending on students' interests. For example, in another section, there was a Civil Defense group and a group concerned with arms control treaties. This assignment was more successful: students could...
apply their research to the specific questions asked of their group, then struggle with the larger implications in the ensuing discussion.

How the Course Affected Students' Attitudes

When we designed the course, we were curious about what effect it would have on students' attitudes. We hoped that students would see that attitudes do depend, in part, on information. We wanted them to leave the course with informed opinions about issues related to nuclear war and a desire to remain well-informed on these issues. We did not, however, want them to adopt their professor's particular point-of-view; we tried not to let our own opinions affect the students'.

To find out how the course affected student attitudes, we designed a brief survey which we handed out on the first and last days of class. There were three kinds of questions on the survey:

1. Opinions about effects of nuclear weapons.
2. Opinions concerning what should be done about nuclear weapons.
3. Opinions concerning the importance of nuclear weapons as an issue for every citizen's concern.

The first category focused on technical information about weapons effects. It included the following questions:

a. A single nuclear weapon, properly placed, can knock out all the electronic devices in the United States.

b. A total worldwide nuclear war would wipe out virtually all life on Earth.

c. A neutron bomb does not destroy buildings, it merely kills the people in them.

d. Almost all measurable effects (excluding the original damage) of a nuclear weapon are gone within 10 years.
e. A significant percentage of the population of the United States could survive an all-out nuclear war with the Soviet Union.

f. The nuclear arsenals of the United States and the Soviet Union are roughly equal in their destructive capacity, at the present time.

Students were asked to rate their attitudes toward these statements on a 1 to 4 scale, where 1 = strongly disagree, 2 = disagree, 3 = agree and 4 = strongly agree. Students' attitudes before and after the course were compared using a statistic called the Wilcoxon Signed-Rank Test, which indicated whether students' attitudes had changed significantly on a particular question. Judging from their responses to statements in this category, students in both classes became much more aware of the effects of the electromagnetic impulse and the neutron bomb (numbers c & d above). Opinion-change on the other items was smaller, in large part because material learned in class only reinforced students' initial opinions. For example, there were no opinion changes on d and e because students began the course already disagreeing with these statements.

The second category included statements that were more matters of opinion than fact. We wanted to see if material in the class slanted students toward a particular view of disarmament. The statements:

g. The President, in consultation with his cabinet and the Joint Chiefs of Staff, is the person most qualified to make decisions about nuclear weapons.

h. All nuclear weapons should be banned from outer space.

i. The United States should remove nuclear weapons from its arsenal within the next 20 years whether or not other countries follow suit.

j. Nuclear disarmament is the most important challenge facing the human race.

These statements related only indirectly to students' research, although some of these issues were raised in class, especially in the final group discussions. The survey showed little evidence of overall attitude-change in a particular direction, indicating that the course did little to effect
students' views about wholesale disarmament. We were pleased that our course did not seem to be causing a radical shift in attitudes regarding disarmament. Our goal was to teach students the value of having informed opinions, and how to go about keeping informed, which brings us to the statements in our third, citizenship category:

k. There is almost nothing an individual citizen can do to influence the probability of a global nuclear war.

l. I think citizens should make every effort to keep themselves informed about the effects of nuclear weapons and about the global politics concerning their use.

m. I am extremely interested in learning all I can about nuclear weapons and the politics concerning their use.

Statement l. showed the greatest change in this category: students in both classes initially agreed that citizens should keep informed about the nuclear weapons issue, but left the class agreeing even more strongly. We had hoped the course would teach students the value of research, of keeping informed, so we were pleased with this result.

On the other two statements, there was significant change towards disagreement on k and agreement on m in Gorman's class, but no shifts in Meese's. Gorman was especially concerned that his students not feel helpless in the face of the overwhelming problem of nuclear armaments: some of that concern was obviously communicated to his students. Gorman's students also tended to express increased interest in the topic. These responses, in balance with students' final course evaluations, help us recognize the differences between our approaches to the class.

Overall, as a result of the class, students were better informed on technical issues like the effect of the electromagnetic pulse and realized that every citizen should remain informed about the nuclear weapons issue. Students' opinions regarding disarmament and related issues did not change substantially.
Student Evaluations of the Course

Most students' reactions to the course were favorable. We asked them to comment on the course in their journals. One student wrote:

For my final journal entry, I would like to say that I honestly enjoyed the way this class was run. I have learned a lot about nuclear issues and along the way have had some practice writing. I think running the class this way, with a theme, is a closer simulation of a regular class which requires you to write a paper.

Another student, who relied too heavily on a single source for his final paper, wrote:

I think I learned something very important from this class. It had to do with what you might call the quantity of research sources needed. I learned that even though two different sources give nearly the same information, it is best to use them both to insure that you do not miss some specific bit of information that is in one and not in the other... you will (also) receive a different interpretation or view of the information...

Another student:

This course I feel I have greatly benefited from. Not only a research development class but also because it has broadened my knowledge of nuclear weapons. At the beginning of the class I thought that I would not enjoy the class. Nuclear weapons are a dangerous threat and I do not exactly like to think about things I can do nothing about, especially when it involves so much of my future.

This class made me think about what I would actually do if there ever was a nuclear war or even if there wasn't. I now have some knowledge on precautions a person can take to help them survive a nuclear war.
As far as the research goes, I thought the class definitely got me familiar with the library. It got me working with people. And working with myself to keep up with my work. My general overview of the class is that I was very pleased with the way things went.

Still another:

When I talk to some of my friends and say that the whole term dealt with research on nuclear weapons, they are quite turned-off.... I was just the opposite, I knew very little about the topic. This is what made the class so appealing to me.... The presentations that had to be given in the class will prove to be of great help in the future. During high school I hated the thought of getting up in front of the class for a presentation. Now I feel much more comfortable, and sometimes I actually enjoy it.

Although not every student had these strong positive reactions, most of the comments students made in their journals were positive. Journals, however, are read by the instructor and have the students' names on them. A more objective source of information are the final course evaluations, which are handed in to the department secretary and are not given to the instructor until all the grades are in. These evaluations asked students to write a brief commentary on the class, including what they had liked and disliked, and suggestions for change.

In general, these evaluations were quite positive. For example, in the three sections of the course taught last winter, 46 percent of the students specifically mentioned liking the nuclear topic. Only 3 percent disliked it. Some representative comments:

I thought it was a good idea to have all the papers in the class on the topic of nuclear weapons. You see many sides to a situation that may affect us all for the rest of our lives.

I learned a lot about nuclear weapons and in the process a lot about English. The first three weeks I was confused and frustrated about the topic of nuclear
war for moral reasons. But after research and discussion the class became very interesting and a challenge.

I learned how to use a library and also I've become a lot more informed on the issue of nuclear arms.

One possible discrepancy arose in our students' perceptions of the course's emphasis. Only 20 percent of Gorman's students specifically mentioned having learned a lot about research and writing in the class, while 50 percent of Meese's students noted gains in these areas. The difference may be attributable to our emphases in the last weeks of the course: Gorman focused on directions for further thinking about nuclear issues, while Meese pressed students to go back over their research materials, check their facts, and prepare to support their arguments in the oral presentations. Meese's students commented:

I learned how to analyze and think about the material I was gathering.

I learned how to put together a logical and "well-substantiated" paper.

Many good points on how opinions should be reached, the structure of a paper, and the importance of solid research.

We naturally had students who did not appreciate our efforts or who missed our point:

The knowledge obtained about nuclear weapons was a lot more important than the research part of the class.

But we are comforted that more than 90 percent finished the course closer to our goal:

I feel my opinions have changed as my knowledge has increased in this class... I did learn a lot about nuclear weapons and how to use the library.
One even said, "This course has broadened by thinking about any issue."

Instructors' Evaluation

We know the students left the course much better informed about nuclear weapons and better aware of their responsibilities of good citizenship on the issues. We also felt that the students learned a great deal about effective research and communication, both through their final papers and in discussions, critiques, sharing of materials, and interviewing while they did their research and drafts. Students' research papers and presentations were, for the most part, highly respectable.

The only cases where we ran into serious trouble were those students who picked topics that they either weren't interested in or couldn't find enough sources on. To handle the interest problem, we now emphasize that those students who absolutely cannot find any aspect of the nuclear war issue that interests them can develop an alternate topic with the instructor. As we learn the resources in our library better and acquire more sources ourselves, we become more proficient at steering students towards areas that are rich with sources. One testimony to the effectiveness of the paper assignment is the students' collective bibliography of over 200 sources. (We will be happy to send copies to interested teachers.)

The response papers and their final group solutions were of uneven quality, although they almost all enjoyed reading Hersey and enjoyed listening to each others' opinions. In the future, we will have students react to Hersey solely in their journals, using a set of focused entries on Hersey's writing style, the morality issue, etc. We will get students started on their research papers earlier and give them more time to do the final group assignment, which is a valuable exercise that helps them integrate everything they have learned in the course.

We will continue to use nuclear weapons as a focus for our second-quarter freshman composition course. We feel the topic works well with our technically oriented students: we can use it to teach them how to research, write and speak. But we also feel a moral obligation to raise important issues in freshman composition: Writing is a powerful tool for learning; as students learn to write a research paper, they should also be learning something of substantial relevance to their lives. That will do more than anything else to make them appreciate the value of well-informed, coherent human communication.
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(The authors dedicate this article to the memory of their good friend and colleague Bruce Petersen.)
NUKESPEAK

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In a statement recently prepared by the Commission on the English Curriculum, "Essentials of English: A Document for Reflection and Dialogue," the skillful use of language was viewed as perhaps the single most important means of realizing the cardinal goal of education: developing thinking, informed citizens. The Commission accentuated the importance of students learning to evaluate the intentions and messages of speakers and writers, especially the manipulation of language in order to deceive.

This same concern was also manifest more than a decade earlier at the 1971 NCTE Convention. Alarmed by the routine manipulation of language by the government and military during the Vietnam War, our profession passed a resolution which concluded: "Although teachers of English do not make national policy, we should do what we can to free public language from manipulation by the powerful," and resolved that NCTE "find means to study the relation of language to public policy, to keep track of, publicize, and combat semantic distortion by public officials, candidates for office, political commentators, and all those who transmit through the mass media." NCTE soon announced the formation of the Committee on Public Doublespeak, and its initial chairman, Hugh Rank, lamented in his introduction to Language and Public Policy that minor nineteenth-century American writers were receiving more attention than major twentieth-century language developments.

In the continuing debate spawned by the defilement of language during the Vietnam War and fueled by the torrent of doublespeak during the Watergate conspiracy, other English teachers joined Rank in calling for a reordering of their discipline's priorities, insisting that a critical analysis of the systematic manipulation of language to
deceive the American people must become a central concern of the responsible educator.

Walker Gibson, in an essay in Rank's anthology, asserted: "If we are to survive as a profession, if we are to serve our society in a useful way, it will not be because we've refined our teaching of Walter Scott or even William Faulkner. It will be because we've directed our attention, as experts in symbol systems, to the ways language works in the society."4 Nancy McCracken voiced a similar concern: "If our students miss the underlying malice of Shakespeare's villains because they do not know some of the literary conventions, they miss a pleasing intellectual experience; if they miss the underlying malice of their political and social leaders, the effect is far more damaging."5 Just how damaging, however, we seem unable to realize. For surely more is at stake than the survival of our profession. While Rank's generally excellent anthology did devote considerable attention to the Vietnam War, only one of its three dozen essays focused on what should have been—and remains—our paramount language and public policy concern: nukespeak, the language of nuclear war. Most of us have read—if not taught—William Strunk's and E.B. White's Elements of Style, which reminds us that "muddiness is not merely a disturber of prose, it is also a destroyer of life..."6 Yet how many of us have ever contemplated what a destroyer of life nukespeak is? In legitimizing and sustaining the nuclear arms race and its concomitant militarism, which squanders enormous human talent and economic resources so badly needed especially in the world's poorer nations, nukespeak's contribution to the destruction of human life and human dignity has already been immense.7 And of course if the superpowers were ever to unleash even a relatively small number of their total nuclear arsenals, the destruction of life will be inconceivable.

Nukespeak has flourished since the inception of the nuclear age, when the first detonation was called "Trinity," and the atomic bombs which destroyed Hiroshima and Nagasaki were dubbed "Little Boy" and "Fat Man." Today we hear of "clean, surgical strikes," "counterforce," "countervalue," "margin of safety," "modernization," "nuclear umbrellas," "peacekeeper" and "window of vulnerability." How are we to respond to such anesthetizing terms and euphemisms? We usually don't respond. As Robert Jay Lifton points out, such words
provide a way of talking about nuclear weapons without really talking about them. In them we find nothing about billions of human beings incinerated or literally melted, nothing about millions of corpses. Rather, the weapons come to seem ordinary and manageable or even mildly pleasant (a "nuclear exchange" sounds something like mutual gift-giving). (emphasis in original)

George F. Kennan, former U.S. Ambassador to the Soviet Union, also decries the profoundly misleading nature of such language:

How many times have we had to listen to these terrible euphemisms, about how many cities or industrial objects we would "take out" if a government did not do what we wanted it to do, as though what were involved here were only some sort of neat obliteration of some inanimate object, the removal of somebody else's pawn on the chessboard, and not, in all probability, the killing and mutilation of innocent people on a scale previously unknown in modern times (unless it be, if you will, in the Holocaust of recent accursed memory)?

One of the most frequently used of these terrible euphemisms is "counterforce" (targeting military targets and forces, as opposed to "countervalue," targeting cities). Proponents of counterforce, who often employ this term in sanctioning nuclear-war fighting doctrines, have attempted to convince us (and themselves as well?) that the "clean, surgical strikes" they envision translate into a more humane strategy than targeting cities. The U.S. Catholic Bishops, among others, have not been convinced, as their landmark pastoral letter makes clear. "We are told," the Bishops write,

that some weapons are designed for purely "counterforce" use against military forces and targets. The moral issue, however, is not resolved by the design of weapons or the planned intention for use; there are also consequences which must be assessed. It would be a perverted policy or moral casuistry which tried to justify using a weapons which "indirectly" or "unintentionally" killed a million innocent people because they happened to live near a "militarily significant target."
One is compelled to ask, Are U.S. policymakers incapable of such discernment? Journalist Ronnie Dugger reports that in January, 1983, when five Bishops and their assistants confronted government officials on the issue of civilian casualties, they were told at length that the U.S. was developing accurate counterforce weapons, apparently implying that such weapons would minimize civilian casualties. But according to Edward Doherty, a member of the Bishops' staff who was present, the truth suddenly came out when a Pentagon official, Ron Lehman, conceded:

We don't want to deceive you. We don't want you to feel you have been deceived. Even if we did not target any civilian and even if our whole force was made up of systems that could hit military targets precisely, the distribution of targets in Russia is such that civilian casualties would be virtually the same as if we were targeting cities. But there's nothing we can do about it. We didn't plan the location of their military targets.

"And, as usual, the ruling groups of all three powers are simultaneously aware and unaware of what they are doing," wrote George Orwell in 1984. "No administration has an unwavering attachment to nuclear candor," writes McGeorge Bundy in 1984, "but things have been worse than usual in the last three years. Without ever troubling to understand these matters (nuclear weapons issues) for themselves, President Reagan and his Secretary of Defense, Caspar W. Weinberger, have repeatedly indulged in misleading argumentation based on advice from ideologues with a shameless addiction to half-truths." According to Bundy, Weinberger's assertion that the Soviet Union has a monopoly of "prompt hard-target kill capability" is "quite simply false." "Inaccuracy of this kind," adds Bundy, "may be intentional; it is seldom accidental." Also persuasively arguing that the reduction in destructive capability of the U.S. arsenal that the Secretary of Defense boasts of simply has not happened, Bundy asks, "Are we to suppose that Mr. Weinberger understands this bit of deception? Or is he himself deceived? And which would be worse?" It is a troubling question. Have we reached the point where, in the words of Kurt Vonnegut, "There's no need for euphemisms anymore. The day of euphemisms is over. Now we hear total untruths." When Ronald Reagan announces that he considers the neutron warhead a conventional weapon, that "the U.S. seems to be the only nation that is..."
trying to stop the proliferation of nuclear weapons," and that we have "exercised unilateral restraint" in the arms race, how are we to respond? Is Vonnegut's cynical remark on target?

If this administration's disdain for nuclear truth has been particularly egregious, it is hardly unprecedented. It was in 1947 that the War Department became the Defense Department, and throughout the nuclear age the esoteric language of nukespeak and a "mystique of secrecy" have been indispensable allies in promoting America's nuclear policies. President Truman's momentous decision in early 1950 to proceed with the hydrogen (or "super") bomb was made with minimal public knowledge or involvement. "A major issue of public policy, one quite possibly involving our national existence," wrote physicist Louis Ridenour in March, 1950, "was decided in a fully authoritarian way. Not without public discussion, to be sure, but without anything that could be called informed public discussion. The public did not even know, and still does not, what the actual questions at issue were." An entry in AEC Chairman Gordon Dean's diary suggests that such lack of meaningful discussion is often no accident. On May 27, 1953, President Eisenhower, according to Dean, "made the suggestion that we leave 'thermonuclear' out of press releases and speeches. Also 'fusion' and 'hydrogen'. . . . The President says 'keep them confused as to fission and fusion.'" (ellipses in original)

IV

Orwell emphasized that the political chaos of his time was connected with the decay of language, and that one could probably improve conditions by starting at the verbal end. E.P. Thompson concurs, writing that "the deformation of culture commences within language itself," that wars also "commence in our culture first of all, and we kill each other in euphemisms and abstractions long before the first missiles have been launched." At the heart of our predicament with nuclear weapons and the seemingly unbridled nuclear arms race, then, is the problem of language. After the bombing of Hiroshima a survivor insisted: "There exist no words in any human language which can comfort guinea pigs who do not know the cause of their death." Lifton believes that this problem continues to haunt us, that "we have found no language, and perhaps there is none, to express the destructiveness, evil, and absurdity of the nuclear devices." Yet we must find a new language and a new vocabulary to make nuclear weapons and their terrible, genocidal (and possibly omnicidal) destructiveness real to us. "In

-78-
politics as in ethics," Richard Gambino correctly observes, "what our language prevents us from articulating, it prevents us from thinking."25 And to be prevented from thinking means to be incapable of asking the kinds of questions that demand to be asked. In a particularly important essay, "Strategic War: What are the Questions and Who Should Ask Them?", Paul Bracken and Martin Shubik state that while nuclear war is not unanalyzed in academic literature, "the subject has fallen into a professional ghetto where an antiseptic vocabulary cannot even define the most important questions, which the authors believe to be organizational and institutional rather than ones of raw nuclear firepower."26 Robert K. Musil also accentuates that we must no longer allow the language of the "nuclear priesthood" to define the terms and demarcate the parameters of permissible debate:

The arms race has a deep, almost metaphysical hold on our society. . . . We will need to understand and challenge its deep structure and symbols, its special language and mythic code if the arms race is to be halted. Part of the real power of any society is in the act of defining reality through symbols and language. In earlier times this was carried out by seers, shamans, and priests. In the modern state, such naming is controlled by state classification of information, public relations and propaganda, and technocratic jargon that obscures the subject so as to limit discussion and debate.27

Not only is discussion and debate sharply limited, but our reliance on nukespeak and the language of the pre-nuclear era may preclude any meaningful discussion of these issues. Einstein's frequently cited but rarely pondered aphorism reminds us that "the unleashed power of the atom has changed everything except our way of thinking." And, he might have added, our language! In 1967 psychologist Jerome Frank declared that the language describing present-day international conflict, appropriate before Hiroshima, "is now hopelessly dated, and in thinking about the problems of nuclear war, we may be committing ourselves to false conclusions by our choice of words even before we realize that we have begun to think."28 The term "nuclear war" itself may be the ultimate misnomer. "While the Soviet Union and the United States are perfectly free to fire their thousands of nuclear weapons at one another," writes Jonathan Schell, "the result would not be war, for no end could be served by it. It would be comprehensive destruction—a 'senseless thing'".29
It is McGeorge Bundy's contention that nothing would do more to increase the chances of our survival than "a new level of candor and integrity" in what our own government tells us about nuclear weapons. But even as it behooves us to demand such candor—and by our apathy we are complicit in our own exclusion from information that citizens of a democracy must have—perhaps of much greater value in enhancing our chances of survival would be a very healthy skepticism about everything we are told about these issues. Peter Klappert notes that "We want and expect a poet to be honest; if he is not honest he is a bad poet. We want a politician to be honest, but we do not expect him to be..." For four decades now Americans have been systematically misled and deceived by their leaders about this most important of all issues. We should indeed insist on "a new level of candor and integrity" from our policymakers, but as teachers of English perhaps our greatest efforts at this time should be directed towards helping our students to become much more skillful at analyzing the messages—including euphemisms, distortions, evasions, half-truths, and outright lies—that they receive. Again, a robust skepticism is essential. Only by purging our language of nukespeak can we forthrightly confront the nuclear predicament, and begin developing alternative, non-nuclear methods of national security.

Jonathan Schell, whose eloquent New Yorker essays (later published as The Fate of the Earth) have helped so many to acknowledge their denial of the nuclear peril, underscores that a number of additional words (not generally part of the nuclear argot) must be considered if we are to envision alternatives to the narrow, bipartisan, cold-war consensus which has propelled the arms race at least since the bombing of Hiroshima and Nagasaki. Inveighing against "a special, constricted mode of political thinking, which is permitted to creep around the edges of the mortal crisis in the life of our species but never to meet it head on," Schell explains that

In this timid, crippled thinking, "realism" is the title given to beliefs whose most notable characteristic is their failure to recognize the chief reality of the age, the pit into which our species threatens to jump; "utopian" is the term of scorn for any plan that shows
serious promise of enabling the species to keep from killing itself (if it is "utopian" to want to survive, then it must be "realistic" to be dead); and the political arrangements that keep us on the edge of annihilation are deemed "moderate," and are found to be "respectable," whereas new arrangements, which might enable us to draw a few steps back from the brink, are called "extreme" or "radical." With such fear-filled, thought-stopping epithets as these, the upholders of the status quo defend the anachronistic structure of their thinking, and seek to block the revolution in thought and in action—which is necessary if mankind is to go on living.33

Notes


3. Ibid., xiv.


14. Ibid.

15. Ibid.


17. On Reagan, 419.

18. Ibid., 427.

19. Jerome Grossman, President of Council for a Livable World, in a letter in The Bulletin of the Atomic Scientists (May, 1984), 62, has some important observations here challenging the use of the term "defense budget" "when more than 70% of that budget is not directly connected to the defense of the U.S. itself. The proper characterization is 'military budget.' This is not an idle quibble over words. The voters and even the legislators are less likely to criticize a budget for 'defense,' a word with positive connotations. Who would be against the defense of the homeland? It is difficult to justify as defensive such weapons as the MX missile, the B1-bomber, the Trident II submarine-launched missiles, poisonous nerve gas and Pershing II missiles, to say nothing of a 600-ship navy designed to patrol every sea. When the word 'defense' is used, the battle has been half lost with the general public. Let us call things by their correct names, in this case the 'military budget.'"


21. Ibid., 217. See also the comments of Norman Cousins on "clean" hydrogen bombs. "Almost without realizing it," wrote Cousins in 1957, "we are adopting the language of madmen.... What kind of monstrous imagination is it that can connect the word 'clean' to a device that will put the mar-th of man's cities?" Cited by William Blanchard in Aggression American Style (Santa Monica, Calif: Goodyear Publishing Co., 1978), 82.


24. Ibid.


32. McCracken offers excellent practical suggestions on how to go about this. See note 5 above. Teachers who fear that helping students to develop a much more skeptical attitude toward the messages they receive will turn them into mere cynics should read the introduction in Richard D. Altick and Andrea A. Lunsford, Preface to Critical Reading, sixth ed. (New York: CBS College Publishing, 1984), especially xviii, xix.

33. The Fate of the Earth, 161. See also the editorial "Sane Center or Just Anti-Left?" Commonweal (March 11, 1983), 131-32.

Additional Sources


Everywhere you turn these days people are writing and talking about nuclear issues. Look at a recent issue of Psychology Today, and you'll see a cover layout on "Nuclear Fear: Growing Up Scared...Of Not Growing Up." Look at the highly different The Bulletin of the Atomic Scientists, and you'll see a special section on "Nuclear Winter." On your television, and you'll hear the commentators analyzing the nuclear views of a political candidate. Pick up a newspaper or news magazine, and the story's the same. Yes, everywhere you turn the subject is "nuclear." And well it should be.

For teachers, this proliferation of information poses a challenge and an opportunity. The challenge is how to make some sense out of the deluge of information. The opportunity is having such a wealth of material available for teaching.

At Drake University, I've been teaching a course in "The American Media and the Nuclear Threat." I've offered the course for both one hour and three hours of semester credit. What I propose to do here is talk about some ways in which secondary and college teachers can use the media in teaching about nuclear issues.

In using the media, you can serve a two-fold purpose: You can educate your students on nuclear questions, and you also can give them insights into the societal role of the media—newspapers, magazines, radio and television, and books.

I begin by challenging students to think about where they get their information, which to me is a central concern in the nuclear debate. We are deluged by the views of government
leaders, military people, scientists, and special interest groups, nearly all of whom are seeking to convince us that theirs is the "correct" assessment. We are tested on whom to trust, whose word to believe. And all the while, the media are a conduit for much of this information.

In my classes, I draw on all the major media. I compare and contrast approaches used on stories and news analysis. I talk about how the media seek to translate technical information for lay readers and viewers. I raise questions about good and bad elements of media coverage. I encourage students to keep a log or journal on where they get their nuclear information. In short, I teach them to be good "consumers of nuclear news."

Let's look first at newspapers and consider some ways in which they can be used in instruction.

You can begin by examining the hometown paper. How many stories and columns are carried on nuclear issues? What attempts, if any, does the paper make to link national stories to local interests? How is the material displayed in the paper—on page one, inside, with graphics, with large or small headlines? Who are the writers—reporters for the wire services such as Associated Press and United Press International, nationally known columnists, unidentified contributors, local reporters? And just what does the coverage lend to the overall nuclear debate?

If your hometown paper was the Omaha World-Herald, for example, you'd soon find that the paper carried a significant number of items, often stories written by its own staff members. Why? Because Omaha is the home of Offutt air base and the U.S. Strategic Air Command, and the World-Herald has defined defense affairs as a major area of its news coverage.

By studying your hometown paper, you can begin to determine how important the editors consider nuclear issues to be. You can invite an editor into the classroom to talk generally about the newspaper's role in the community and specifically about the coverage of nuclear issues.

If you have access to back copies of your hometown paper or if your local library has microfilm of, say, the New York Times, you can ask your students to look at coverage surrounding two key historical periods of nuclear coverage—the dropping of the atomic bomb on Hiroshima, Japan, on Aug. 6, 1945, and the development of the Cuban missile crisis in October 1962. An examination of such material helps provide perspective for assessing the contemporary nuclear dilemma. Over the years, I've collected original copies of papers from the two periods to help illustrate the nature of the coverage.
As you examine newspapers, you'll find a number of the sources in stories are not identified by name but rather by references such as "informed sources," "highly reliable sources," "defense officials," etc. That's a troubling problem in any story, but it's particularly so in ones concerning nuclear issues. As consumers of the news, we are confronted with the question of whom to trust, and it's at this point where media credibility becomes a key factor. You can teach your students to examine carefully who the sources are for the information, and you can discuss with them the importance of a newspaper's credibility.

A recent article in the New York Times provided a primer on news sources. As reporter Charles Mohr noted: "No one addicted to newspapers can have failed to notice that a lot of news, maybe even most of the really interesting news, is dispensed like pronouncements of the Wizard of Oz, from behind a whirling, blinking, smoke-belching screen."3

As teachers, we may not be able to tell our students the names of the sources but we can provide them with an understanding of how to test the information being said about in the nuclear debate.

I consider nuclear questions to be the most important news stories in contemporary America, and I approach my media analysis from this perspective. Are the newspapers doing enough? What could be done differently? Two examples of something special from newspapers were a Pulitzer Prize-winning section on "War and Peace in the Nuclear Age" by the Boblobe and "The Present Challenge: A Report on The Nuclear Dilemma" by the Cox Newspapers, which include the Atlanta Constitution and Miami News. Those sections sought to provide readers with a perspective on the nuclear debate. But special sections aren't a possibility in every newspaper; what you can hope for is consistent and comprehensive coverage. For example, on the continuing debate over the MX missile system, are the newspapers providing a wide range of views? Is there a solid presentation of the background to help you understand what's involved in the debate? How good are the newspapers at explaining the technical aspects of the MX?

A key point in the examination of any medium, of course, is the importance of distinguishing between fact and interpretation. Items in the news pages likely will include interpretation but should not include editorializing. Editorial statements should be saved for the editorial pages. You can have some good class discussions by teaching your students to look for interpretive elements. What may seem to be interpretation to one person might seem like editorializing to another, but examination of
good newspapers should illustrate where editors draw the line between the two. Many newspapers mark items in their news columns as "news analysis" or "interpretation," but often interpretive material will not be marked. Teach your students to look for words and phrases that go beyond the facts of the story, and talk about how and why the elements are used.

Let's turn now to a discussion of magazines. The news magazines Time, Newsweek, and U.S. News & World Report are especially helpful because they are readily accessible for most students, and they do a good job of surveying key issues. They are generally more analytical in their coverage than newspapers are, and they provide a good opportunity to show students how different media present information in different ways.

Take, for example, an article on the "Battle Over Missiles" that appeared in the Oct. 24, 1983, Newsweek. The article, on the anti-nuclear protests in Europe, described demonstrators as a "motley" group including "punkish radicals spoiling for a fight with police." Readers were told that the protesters' "real passion is aimed at America in general and Ronald Reagan in particular" and that "the campaign is almost certainly bound to fail." The words and phrases were highly analytical and judgmental, to say the least, and would have been much less likely to appear in the news pages of American newspapers. But the news magazines fulfill a different role than newspapers do in society, and part of your discussion could include an examination of those differences. You could also compare a week's newspaper coverage to the subsequent roundup story in the news magazine.

Your examination of articles in both magazines and newspapers can involve two key steps—a look at the way the material is reported and analyzed and a discussion of the subject matter itself. I try to help students by providing some categories of stories that they might expect to find. Some students may choose to watch the coverage of a single category—the protest movement, for example—in one or more publications. In a recent semester, some of the story categories we studied were the European front including the placement of the Pershing II and cruise missiles, the worldwide protest movement, the MX debate, the Reagan administration policies and how they were treated in the media, the Soviet Union's policies, the race for the presidency and the nuclear question, non-proliferation, and civil defense.

Two specialized magazines often include articles that suggest possibilities for class discussion. They are The Bulletin of the Atomic Scientists, published in Chicago, and Nuclear Times, described as a "news magazine on the anti-nuclear
As you develop ways to use media in your teaching, you'll see that one good approach involves comparisons between and among the various media on their capabilities to deal with the subject matter. As I analyze the media, I'm struck by a comment by Yale University psychiatrist Robert Jay Lifton, who made an extensive study of the victims of the Hiroshima bombing. In the book, *Indefensible Weapons*, he wrote: "The truth is that we have found no language, and perhaps there is none, to express the destructiveness, evil, and absurdity of the nuclear devices." Using the Lifton comment as a departure point, I challenge students to think about the continuing nuclear coverage. Is the coverage too routine, too traditional? Should it be? Should media be doing more to point up the threat? Is too much already being done?

In that context, let's look at the broadcast media, especially television. Given the broad impact of television on society, the "language of television" is crucial in presenting nuclear issues.

You can suggest that your students watch how the major evening news programs cover the nuclear question, and you can watch for special programming on the subject. Two movies made for television, NBC's "Special Bulletin" and ABC's "The Day After," provided good opportunities for classroom discussion of TV's role.

"The Day After" was what I categorize as a "warning," one of the many warnings that the media carry about the potential destructiveness of nuclear weapons. The continuing discussion about the so-called "nuclear winter" involves another warning. In fact, you could ask your students to watch specifically for "warning" stories in various media. How effective are these warnings? Is television a more effective way than the print media to provide the warning? As Lifton has suggested, is our language capable of fully expressing the threat? You might ask your students: What would the ultimate "warning" story be?

In my classes, I ask students to develop ways in which they would use media for dealing with nuclear subjects. I ask them to choose a medium and then plan a strategy for coverage to raise public awareness. Or I might pose a specific problem: If you owned a television station in the Louisville market, what responsibility would you feel to your viewers to deal with nuclear subjects? How would you do it? With traditional programming? Special programming? Would you use a shock
effect—an end-of-the-world scenario? Or would you leave the programming to the networks and the coverage to the print media?

In talking about television and the other media, you can discuss the basic question of what their role should be. Should it be one of information and education? Should it be one of advocacy, as some have suggested? I've been arguing for some time that the media have a special responsibility where nuclear stories are concerned. Good class discussions can develop around the question of responsibility. On the nuclear question, who's responsible? The government? The Schools? The churches? The media? Every individual? For students, this is an especially important area to consider because it's their future world that we're discussing.

Using responsibility as a guideline, you might ask: What major network provides the most responsible continuing coverage on nuclear issues? Are any networks failing the test? Should they do more and, if so, what? My view is that television has perhaps the most potential for innovation in media attempts to deal with the nuclear question.

Finally, let's consider books. The choice of books on nuclear subjects is a highly personal one, especially since we are being inundated with so many these days. As a helpful starting point, Publishers Weekly published "A Checklist of Nuclear Books" in 1982 that should give you a solid survey of the works available.

There's certainly no unanimity on which books work best in the classroom. In June 1984, I attended a two-week workshop on nuclear weapons and arms control at Harvard University and Massachusetts Institute of Technology. About 50 college professors participated, and we had several discussions about the best books for classroom use. Personal favorites and special course emphasis seemed to be the key dictating factors.

First on my list is John Hersey's Hiroshima, first published in The New Yorker magazine and then in book form in 1946. The book provides needed historical perspective, gives graphic insight into the destructiveness of nuclear weapons, and stands as a masterpiece of good writing. And it comes in an inexpensive paperback. Other books that I've successfully used in my classes are Nuclear War: What's in it For You?, published by the non-partisan Ground Zero project; the popular The Fate of the Earth by Jonathan Schell; Nukespeak, a solid examination of the jargon surrounding the nuclear debate; and Indefensible Weapons by Lifton and Richard. Two collections of essays are excellent for stimulating thinking on the nuclear question—Thinking About the Next War by Thomas Powers and The Nuclear Delusion by George F. Kennan.
Obviously what you do in your class is limited by the amount of time you intend to spend on the subject. Using some of the steps I've outlined here, you could develop a short course on the media role or a much more elaborate class. In a semester, I require students to do a major analysis of the nuclear coverage of one medium over a two-month period and to write a research paper. I also require several shorter papers and a report on one book on nuclear issues. You can require short essays on specific subjects—the role of the newspaper in framing the nuclear debate, the role of the columnist in examining nuclear points of view, the editorial content of the hometown paper. Or you might opt to test over the specifics of the material you've discussed.

My main goals are to raise student awareness on the nuclear threat and to make them more thoughtful consumers of the media. I've found that students are highly receptive, especially when they are asked to become media critics as part of their assignment. They're also especially concerned about where the nuclear future will take them.

Notes


AN ANNOTATED BIBLIOGRAPHY
OF NUCLEAR FICTION
FOR THE ENGLISH CLASSROOM
Sam Totten, Columbia University

NOVELS

Anderson, Poul. **Twilight World.** New York: Dodd, Mead and Company, 1961. This science fiction novel explores what the world might be like after World War III. It is a grim story of ruin, famine, bar- arism, but also hope. Paradoxically, the genetic mutations from radiation exposure prove to be the greatest boon for the human race.

Blume, Judy. **Tiger Eyes.** Scarsdale, N.Y.: Bradbury Press, 1981. In this novel a 15-year-old girl is trying to put her life back together after her father was murdered in a robbery of his store. In doing so she goes to live with her aunt and uncle in Los Alamos, New Mexico. It just so happens that her uncle works as a nuclear weapons researcher, and the girl comes to connect her personal experience with violence (her father's murder) to her uncle's association with the threat of nuclear violence.

Blumenfeld, Yorick. **Jella.** Boston: Little, Brown and Company, 1982. A fictional diary, **Jella** presents the moving story of a young girl in England who is confined to a fallout shelter during a nuclear war. The words in the book are in script which adds a heightened touch of reality to the story.

Briggs, Raymond. **When the Wind Blows.** New York: Shocken Books, 1982. This slim volume is a comic-strip tale of an average English couple, James and Hilda Boggs, preparing and muddling through nuclear war, from early advice on fixing a fallout shelter through radiation poisoning.
Buck, Pearl. *Command the Morning*. New York: J. Day, Co., 1959. This is a novel about the scientists who developed the first chain reaction at the University of Chicago, December 2, 1942.


Caidin, Martin. *Almost Midnight*. New York: Morrow, 1971. In this novel U.S. Air Force personnel work to recover five atomic bombs that have been taken by terrorists and placed in American cities.

Collins, Larry, and Dominique La Pierre. *The Fifth Horseman*. New York: Avon, 1981. In this novel the president of the United States receives a nuclear ultimatum—either America surrenders to absurd demands or a major city will be obliterated. A fascinating and highly believable story.

Drury, Allen. *The Hill of Summer*. New York: Pinnacle Books, 1981. This novel presents the "tense and powerful story of the clash of minds, purpose, and ultimate aims represented by the unyielding and grimly determined new leader of the Soviet Union, and the easy going, grandfatherly new President of the U.S., as the Russian launches the Soviet climatic drive to win "the final battle that will decide the fate of all mankind" and the American seeks, with a combination of decaying military force, guts, and bluff and sheer determination to head him off."


to flare into nuclear war. The Soviet President, Yuri Serapin, vows to become the "Supreme Ruler and Arbiter of All Mankind," but his adversary, Delbacher, is not about to let that happen.

Farki, Morkis. *The Last of Days*. New York: Crown, 1983. In this novel a self-proclaimed Islamic messiah and leader of a terrorist organization believes he has been chosen by Allah to crush Israel. To do that he is bent on unleashing a nuclear holocaust. Jews and Muslims unite to stop him.

Guild, Nicholas. *Chain Reaction*. New York: St. Martin's Press, 1983. *Chain Reaction* is a suspenseful novel about a Prussian nobleman's mission to rendezvous with a German spy who has been placed in the Manhattan Project, in order to obtain critical data about how to develop the atomic bomb so that he can deliver it to Germany's atomic scientists.

Hoban, Russell. *Ridley Walker*. New York: Pocket Books, 1980. This novel is about a primitive civilization in England, about 2,300 years after a nuclear holocaust, and the growing pains it is going through. It is ostensibly pursuing the same course that led to the demise of the civilization.

Ibuse, Masuji. *Black Rain*. Palo Alto, CA: Kodanska International Ltd., 1982. Written by an elderly Japanese writer, this is a highly acclaimed novel about the impact that the atomic bombing had on Hiroshima and its people.


Mast, Dexter. *The Accident*. New York: Knopf, 1965. This is a novel about the invention and use of the atomic bomb, and it is told during the eight days that it takes a young atomic scientist to die from exposure to radiation. The setting is Los Alamos, New Mexico, in 1946.


Miller, Walter M. *A Canticle for Leibowitz*. Philadelphia: Lippincott, 1969. Originally a short story, this Hugo-winning novel is divided into three sections and tells about a world plagued by nuclear holocaust. The sections
are "Fiat Lux," a medieval tale of faith and spirituality in the deserts of Utah 600 years after a nuclear holocaust; "Fiat Homo," a Renaissance story set 600 years after the first, and which is concerned with the overgrowth of religion by science; and, "Fiat Voluntar Tua," the story 600 years later still, of the events leading to and flowing from yet another holocaust.

Morris, Edita. The Seeds of Hiroshima. New York: Braziller, 1965. An American realizes the full horror of the atomic bombings when he discovers that the Japanese family with whom he is lodging lost the wife and mother in the bombing raid in 1945, and that the father is now dying from radiation sickness.


Quammen, David. The Zolta Configuration. Garden City, N.Y.: Doubleday, 1983. In this novel an ex Green Beret becomes involved, against his will, in a case of nuclear espionage after he receives a formula concerning a thermonuclear weapon.

Rinehart, Luke. Long Voyage Back. New York: Dell Publishing Co., 1983. In this novel, a strange group of people (including an "iron-willed sailor, a high-rolling financier, and a stranger who 'could neither be trusted nor abandoned'"") race on a sea voyage when a nuclear war breaks out. The book is both an adventure story and a modern day morality tale.

Shute, Nevil. On the Beach. New York: Ballantine Books, 1979. This novel is about the last generation of people on earth living out their last days prior to the day when the effects—radioactive fallout—of an accidental nuclear war reach them.

-96--
Strieber, Whitley, and James Kunetka. *Warday.* New York: Holt, Rinehart, Winston, 1984. Five years after the U.S. has been destroyed by a nuclear war, two journalists go on a journey in order to discover what had happened to the nation. Their discoveries are extremely startling.

Vonnegut, Kurt, Jr. *Cat's Cradle.* New York: Dell Publishing Co., 1963. In this wild satire, Vonnegut takes deadly aim at the role of atomic scientists in society as well as the way people "live" their lives while having to face the fact that their very species could be wiped out, at any time, by "Ice-9."


**SHORT STORIES**


Barthelme, Donald. "The Game," *Un Akable Practices, Unnatural Acts.* New York: Farrar, Straus and Giroux, 1980. This short story is a first-person narrative account of a man who has been on duty in the command capsule of a missile launch control center for 133 days. Normally men in his line of work are relieved after 24 hours, but there has been an oversight. The oversight has clearly lost the man his sanity. All that he can think of is playing jacks, but the man who shares the capsule with him keeps the jacks and the rubber ball locked in his attache case. This is black humor at its best.

Benet, Stephen Vincent. "By the Waters of Babylon," *Twenty-Five Short Stories.* Garden City, N.Y.: The Sun Dial Press, 1943. This is a fascinating story about a young primitive "priest" who journeys to the "Dead Places" and has a vision of what the earlier civilization was like before "the time of the Great Burning and Destruction."
Bradbury, Ray. "Embroidery," *Twice Twenty-Two*. Garden City, N.Y.: Doubleday and Co., 1966. In this story three women find out that something terrible (most likely an atomic war) is going to shortly take place, but they cannot seem to even come close to comprehending its magnitude nor the impact of it on their own lives.

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"The Garbage Collector," *Twice Twenty-Two*. Garden City, N.Y.: Doubleday and Co., 1966. This is a morbid story about a garbage collector who has been ordered to collect dead bodies in the event of a nuclear war.

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"The Smile," *Twice Twenty-Two*. Garden City, N.Y.: Doubleday and Co., 1966. The people in this story seek to ritually destroy all remnants of the previous civilization, which they blame for the shambles the world has become.

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Grave, Robert. "Christmas Truce," *Collected Short Stories*. Garden City, N.Y.: Doubleday and Co., 1964. In this lengthy short story (17 pages) a grandfather and grandson disagree on the best approach to take in regard to the nuclear weapons race. The grandson is for nuclear disarmament, whereas the grandfather is for maintaining a strong nuclear deterrent.

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Henlein, Robert. "Solution Unsatisfactory," *Expanded Universe*. New York: Grosset and Dunlap, 1980. This is an interesting story about the search for a way to provide safety for humanity in the nuclear age. As the title suggests, the characters in this story come up with an unsatisfactory solution.

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Petesch, Natalie L. M. "How I Saved Mickey from the Bomb," After the First There is No Other. Iowa City, Iowa: University of Iowa Press, 1979. This spoof, which highlights the absurdities that confront humanity in the nuclear age, is about a dog who dreams of saving his master in the event of a nuclear war.


Drama

Kipphardt, Heiner. In the Matter of J. Robert Oppenheimer. New York: Hill and Wang, 1968. J. Robert Oppenheimer earned the title of "the father of the atomic bomb" from the role he played as Director of the Scientific Laboratory at Los Alamos. In 1954 as Chairman of the General Advisory Committee of the Atomic Energy Commission he was widely criticized for delaying the development of the hydrogen bomb in a manner which had allowed the U.S.S.R. to gain ground on the United States in the nuclear arms race. At the height of the cold war, his security clearance was withdrawn and he was required to answer questions by a Personnel Security Board concerning his views, his associations, and his actions.

This play conveys the tension and conflict of that secret hearing. The author uses the facts taken from the published transcript to present some fundamental issues which face the world today—the conflict between the responsibility of the individual (above all the nuclear physicist) to his country and to humanity as a whole, the right of the patriot to express views at odds with those of his government without his loyalty being called into question.
Somerville, John. Crisis: True Story About How the World Almost Ended. In this play the process of deciding about what to do during the Cuban Missile Crisis is re-enacted. The main characters are the President, the U.N. Ambassador, and the presidential advisors. There is a sub-plot about the President’s secretary and an intern who figure out what is going on and then react to it. To order this script, write to the author at: 1426 Merrit Drive, El Cajon, Calif., 92020. $1.00 a copy.
POETRY OF THE NUCLEAR AGE:
A CHECKLIST
Carol Rainey, Northern Kentucky University

Many of us are beginning to develop courses in the literature of the nuclear age, for use in comp, thematic lit courses, or programs in peace studies. The following is a list of poems I have collected over the past few years which express concern about the nuclear arms buildup and the increasing likelihood of holocaust, perhaps the end of the world, unless the arms race is stopped. None of the poems here is pro-nuclear (if any exist), but the poems express a variety of attitudes about the nuclear danger: its causes and our responses.

I have arranged the poems historically beginning with those about Marie Curie. I have tried to make the selections multi-racial, by women as well as men, and though the focus is on American writers, there are also poems from other countries. Several books are to be commended in their entirety because of the fullness of their treatment of the subject: Denise Levertov's Candles in Babylon, Allen Ginsburg's Plutonian Ode and Other Poems 1977-1980, Millen Brand's Peace March: Nagasaki to Hiroshima, and Susan Griffin's Woman and Nature: The Roaring Inside Her. My principal sources of information were the Elliston Poetry Collection of the University of Cincinnati library and the Hiroshima/Nagasaki Memorial Collection of Wilmington College, Wilmington, Ohio.

I. The Discovery of Power


II. Hiroshima and Nagasaki

A. Japanese Responses


Munetoshi Fukagawa. "This Bone of Pretty Shape," The Songs of Hiroshima, p. 29.


B. American Responses


III. Nuclear America: The Fifties


IV. Nuclear America: The Sixties and Seventies


V. The Age of Terror


Denise Levertov. "Beginners," Candles in Babylon, pp. 82-83.

VI. Other Voices


In addition to these poems are several recent anthologies on the poetry of the nuclear age by contemporary poets, many of whom are not yet well known.


**Writers in the Nuclear Age: New England Review and Bread Loaf Quarterly, 5 (Summer, 1983).**

One final note. I am in the process of assembling a large anthology of the literature of the nuclear age. If anyone is interested in collaborating, I would welcome assistance.