AVAILABLE MEANS:
MANIFESTATIONS OF ARISTOTLE'S THREE MODES OF
RHETORICAL APPEAL IN ANTI-NUCLEAR FICTION
DISSERTATION

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* * * * *

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I. Rhetoric and Fiction

Aristotle says relatively little about literature as a means of persuasion. Beyond some strong implications in the Poetics and a few passing comments in the Rhetoric, he remains silent about how rhetorical principles might influence poetic writing or how literary works might serve some persuasive function. In fact, his separation of his treatments of the subjects into two different works might even suggest that the two fields of endeavor have no bearing on each other. Certainly the facts that literature and rhetoric, until recently, have been studied separately in universities, frequently in different departments, and that even today rhetoric is most often identified solely with the teaching of expository writing reflect a commonly held bias that the methods of finding the available means of persuasion have nothing to do with the study of creative writing.

When critics have employed rhetorical principles with literary works, they have generally used these principles more to explain how artistic effects are achieved than to examine how the work succeeds as a persuasive tool. For example, rhetorical studies have frequently provided the basis for examinations of style in literary works. On occasion principles of argumentation have been cited to demonstrate how a work has been structured. Some studies, to be
sure, do use rhetorical principles to examine how a writer actually attempts to persuade using fictional means. E. P. J. Corbett's explication of the use of style in Swift's "A Modest Proposal," for example, demonstrates how Swift develops a fictional persona with a negative ethical appeal to argue ironically for economic reform in Ireland. Sheldon Sacks' *Fiction and the Shape of Belief* is an attempt to demonstrate how Henry Fielding is actually using *Tom Jones* as a means to urge moral improvement upon his audience. Such examples of critics studying literature as rhetoric, however, are relatively rare, and when they do occur, they generally concern themselves with literary involvement in either past social or political issues, as in the case of Corbett's study, or in general aspects of human life, as in the case of Sacks' book. Rarely have critics used rhetorical principles to examine fictional works in an effort to demonstrate how authors can use fiction to influence popular opinion on current social or political issues.

The concept that literature can have a significant function beyond the purely aesthetic, however, has had a long and honorable tradition in the history of letters. In an essay entitled "Poetry as Instrument," O. G. Brockett states that, until about 1800, in fact, the dominant view of literature was that its mission was to teach pleasurably (17). This is to say that, for upwards of two thousand years in western society, literature was seen, at least in part, as a specialized teaching device. This concept received its most unequivocal early form in the *Ars Poetica* of Horace. In
Instructing Piso's sons in the art of writing, Horace counselled, "Poets wish either to profit or delight, or to combine enjoyment and usefulness when they write . . . . He who combines teaching with enjoyment carries the day by at the same time delighting and admonishing the reader" (80-81). He goes on to cite examples of the power of the poet in a variety of human affairs:

When men still lived in the forests, Orpheus, the priest and interpreter of the gods, deterred them from savage slaughter and bestial living . . . . Amphion, the builder of the Theban wall, is said to have moved the stones by the sound of his lyre and to have led them persuasively where he wished them to go. In days of old it was the wisdom of the poet that distinguished public from private welfare, things sacred from things profane, that prohibited sexual promiscuity and established rules for married people, that planned cities and engraved laws on wooden tablets (82).

We might assume from these statements that Horace saw the literary artist as the originator of truth. This impression is not quite accurate, however. Horace cautions his students that the foundation of any good writing is wisdom and advises the aspiring writers to look to the philosophy of Socrates for guidance (80). Thus literature is not the source of philosophical truth, but rather a method by which philosophical truth can be transmitted most effectively. The poet (or fiction writer) not only has the power to teach powerfully through the entertaining aspects of his work, but he also has the duty to find out what the truth is from the best sources and to transmit that truth accurately in his work.
The principle that the nature of literature includes moral persuasion became the cornerstone of the first great critical work in the English language, Sir Philip Sidney's "Defense of Poesy." Written in the late sixteenth century, Sidney's treatise was an attempt to defend the art of literature from charges of frivolity and immorality. To answer these charges, Sidney falls back on Horace's dictum. He defines poetry as "an art of imitation, for so Aristotle termeth it in the word mimesis, that is to say a representing, counterfeiting, or figuring forth—to speak metaphorically, a speaking picture, with this end, to teach and delight" (127). Whatever the Immediate end of poetry may be, he adds, "The final end is to lead and draw us to as high a perfection as our degenerate souls, made worse by their clay lodgings, can be capable of" (129).

Sidney goes on to assert that literature is, in fact, the preeminent teacher. To make his point, he compares literature to history and philosophy and points out that history deals with particular aspects of human behavior whereas philosophy deals with human questions taken in the abstract. While he sees the necessity of looking at life from both perspectives, he points out that each of the two perspectives excludes the other. Literature, on the other hand, deals with human questions on both a general and a particular level. It combines the function of philosophy with that of history and, therefore, teaches more completely and more powerfully than either of the other two endeavors (130-31).
In the early nineteenth century, this Horatian view was largely supplanted in English literature by what M. H. Abrams calls the "expressive" view. In The Mirror and the Lamp, he describes the general qualities of the critical theories of Wordsworth, Shelley, and other romantic writers:

A work of art is essentially the internal made external, resulting from a creative process operating under the impulse of feeling, and embodying the combined product of the poet's perceptions, thoughts, and feelings. . . . The paramount cause of poetry is not, as in Aristotle, a formal cause, . . . nor, as in neo-classic criticism, a final cause, the effect intended upon the audience; but instead an efficient cause—the impulse within the poet of feelings and desires seeking expression, or the compulsion of the "creative" imagination which, like God the creator, has its internal source of motion (22).

Of course, a theory that holds that the ultimate cause of poetry is the need for self-expression and not the desire to affect the audience does not necessarily imply that the poet's self-expression in the poem does not affect the audience. Nineteenth-century English poets may have been primarily interested in expressing themselves, but the fact that they wrote publicly suggests that they intended an audience to receive that self expression and, presumably, be affected by it. Wordsworth, himself, explicitly addresses this point:
For our continued influxes of feeling are modified and directed by our thoughts, which are indeed the representatives of all our past feelings; and as by contemplating the relation of these general representatives to each other, we discover what is really important to men, so, by the repetition and continuance of this act, our feelings will be connected with important subjects, till at length, if we be originally possessed of much sensibility, such habits of mind will be produced, that, by obeying blindly and mechanically the impulses of those habits, we shall describe objects, and utter sentiments, of such a nature, and in such connection with each other, that the understanding of the Reader must necessarily be in some degree enlightened, and his affections strengthened and purified (322).

Much of the same attitude seems to form the foundation of Shelley's statement, "Poets are the unacknowledged legislators of the world" (1087).

Developments in critical theory during the twentieth century, however, seem to have posed greater obstacles to the conception that literature can perform a rhetorical function. Formalist orientations toward literature, for example, became the dominant critical mode in academic circles during the middle part of this century when the New Criticism was at its peak. After treating expressive theories, Abrams describes the formal approach to literature, which he terms the "objective" approach:

But there is also a fourth procedure, the "objective orientation," which on principle regards the work of art in isolation from all these external points of reference, analyzes it as a self-sufficient entity constituted by its parts in their internal relations, and sets out to judge
It solely by criteria intrinsic to its own mode of being (26).

Such a view necessarily minimizes or ignores a consideration of the work as an attempt to communicate a specific message from the author to the reader. If the nature of a literary work is a function of the internal relationships of its parts, any study of literature would confine itself to a consideration of those relationships. The work could not be evaluated on the basis of such external considerations as how it affected the individual who experienced it or the society in which it was produced.

This position does not eliminate completely the consideration of theme in a literary work, however. In fact, James L. Kinneavy, who himself adopts a formalist view of literature in his _A Theory of Discourse_, argues that thematic material is inevitable in literature:

It is, of course, undeniably true that literature does communicate meaning. This is necessarily so because literature uses words as its artistic material, just as painting uses color and lines; and words refer to reality, they have meaning. Further, many of these meanings are usually marshalled by a unified ordering into what is normally called "theme" (329).

Given this inevitability of theme in literature, formalist views cannot deny any possibility that literature can perform a rhetorical function. If someone makes a statement, the person who reads it
will either affirm or deny it. If the reader affirms the statement, the author has succeeded rhetorically. The most formalist critics can do is to say that the work has ceased to function as literature when such a rhetorical act is occurring. But such a distinction would be academic. Since, to a formalist, a work is complete in itself and unchanging, it would still be a work of literature even if it were being used rhetorically. A wrench is still a wrench even if someone uses it to hammer nails.

It is not always easy to see how the increasingly complex—even chaotic—critical debate of the last twenty-five years has affected the study of fiction as rhetoric. Various critical movements—structuralism, deconstructionism, neo-Aristotelianism, feminism, Marxism, reader-response criticism, and so forth—have competed for preeminence, but none has succeeded in dominating the scene to the extent that New Criticism had. Consequently, it is difficult to identify a current overriding view of the question of the rhetorical function of literature. Some movements do overtly support the concept that literature can be used to have an effect on social and political issues. For some feminist critics, for example, the ability of literature to help shape the perspective of its culture is very important. This attitude is inherent in Jane P. Tompkins's comments on *Uncle Tom's Cabin*:

Expressive of and responsible for the values of its time, it also belongs to a genre, the sentimental novel, whose chief characteristic is that it is written by, for, and
about women. . . . It is the summa theologica of nineteenth-century America's religion of domesticity, a brilliant redaction of the culture's favorite story about itself: the story of salvation through motherly love. Out of the ideological materials they had at their disposal, the sentimental novelists elaborated a myth that gave women the central position of power and authority in the culture; and of these efforts, Uncle Tom's Cabin is the most dazzling exemplar (83).

In much the same way, practitioners of Marxist criticism see literature as an element in the struggle for social change. Terry Eagleton, in fact, calls for a return to rhetoric as the dominant mode of literary examination:

What would be specific to the kind of study I have in mind, however, would be its concern for the kinds of effects which discourses produce, and how they produce them. . . . It is, in fact, probably the oldest form of "literary criticism" in the world, known as rhetoric (205).

Other contemporary critical schools, however, offer apparent difficulties to a study of fiction as rhetoric. While various reader-oriented critical movements reintroduce into literary theory the rhetorically vital component of the reader, who had been banished by the New Criticism, they also tend to strike at the heart of a rhetorical approach by maintaining that the meaning of a work is found, not in the author's act of writing but in the reader's act of interpretation. Stanley Fish makes this point in Is There a Text in This Class?:
Whereas I had once agreed with my predecessors on the need to control interpretation lest it overwhelm and obscure texts, facts, authors, and intentions, I now believe that interpretation is the source of texts, facts, authors, and intentions. Or to put it another way, the entities that were once seen as competing for the right to constrain interpretation (text, reader, author) are now all seen to be the products of interpretation. A polemic that was mounted in the name of the reader and against the text has ended by the subsuming of both the text and the reader under the larger category of interpretation (17).

Clearly, a theory that suggests that the meaning of a work is not primarily the product of the author's attempt to communicate with the reader through the text but rather the result of the reading community's acts of interpretation of the text undercuts, on a theoretical level, at least, the concept that fiction can perform as rhetoric.

Deconstructionist critics take this view even further by maintaining that any given text is so indeterminate that its meaning is totally dependent on the linguistic and cultural assumptions with which various reader's approach the text. Given this phenomenon, the deconstructionists insist that every text holds within itself the seeds of its own contradiction and pursue a course of making those contradictions explicit by revealing the multiple meanings of the text's components. Jonathan Culler defines the process:
[To] deconstruct a discourse is to show how it undermines the philosophy it asserts, or the hierarchical oppositions on which it relies, by identifying in the text the rhetorical operations that produce the supposed ground of argument, the key concept or premise (86).

Once again, this concept questions the ability of an author to communicate a message to his audience since, in the very act of writing, he is revealing the limited and contradictory assumptions that make his meaning possible, thereby giving his reader the tools with which to "deconstruct" his meaning.

As might be expected, any number of critics have argued vigorously against the claims of these approaches, and the more extreme the claims of any given approach, the more vigorous have been the arguments. E. D. Hirsch, Jr., for example, is a leading proponent of the validity of authorial intent--of the ability of a writer to frame an understandable meaning that will tend to control the reader's experience of the work: .

The brackets implied by the terms "meaning" and "significance" do in fact represent something that most of us believe we experience in verbal discourse, namely, an alien meaning, something meant by an implied author or speaker who is not ourselves. Whenever we have posited another person's meaning, we have bracketed a region of our own experience as being that of another person. . . . The hermeneutic circle, on the other hand . . . has now been shown to be an inadequate model for what actually happens in the interpretation of speech (6).
In a chapter of Wayne Booth's *Critical Understanding*, M. H. Abrams, in response to the deconstructionist theories of J. Hillis Miller, suggests that some of his own critical procedures parallel those of Miller while maintaining the importance of authorial intention:

I in fact hold that all complex passages are to some degree ambiguous, and that some passages are radically and insolubly ambiguous. Furthermore I have myself, when writing critiques of poems, engaged in the critical game of teasing a passage for multiple meanings and of unravelling its ambiguities and implications. I do, however, approach the passages I quote in *Natural Supernaturalism* with certain interpretive assumptions, which I think I share with all historians who rely on texts for their basic data. These assumptions are: the authors cited wrote, not in order to present a verbal stimulus ... to the play of the reader's interpretive ingenuity, but in order to be understood. To do so, they had to obey the communal norms of their language so as to turn them to their own innovative uses. The sequences of sentences these authors wrote were designed to have a core of determinate meanings; and though the sentences allow a certain degree of interpretive freedom ... the central core of what they undertook to communicate can usually be understood by a competent reader who knows how to apply the norms of the language and literary form employed by the writer (187).

Obviously we do not have the space here to settle the debate over textual meaning once and for all. Indeed, given the nature of the debate, it is doubtful that any argument could be advanced that would satisfy all the participants. I would like to suggest, however, that, to the extent that some contemporary critical theories have insisted on focusing exclusively on the reader's
actions in their approach to literature, they have displayed the same sort of myopia that the New Critics have frequently been charged with exhibiting. Literary communication, like any other form of discourse, is a multi-staged process that depends on the cooperative interaction between the writer and the audience through the text. To the extent that New Criticism sought to exclude the writer and the audience from consideration, its attempt to examine literary communication was limited. To the extent that reader-oriented criticism has divorced the reader's act of understanding and interpretation from the Intentions of the author, it, too, has limited its view of how literature communicates. A. P. Foulkes, citing the theories of semiotician Charles Morris, makes this point in his book *Literature and Propaganda*:

Schools of criticism, which in Morris's sense function as "descriptions of aspects of a complex process" claiming to be "rival accounts of the whole process", distort the model by introducing hierarchies of interpretants, the purpose of which is often to create rules regarding validation procedures, admissibility of evidence and so on. Interestingly, twentieth-century criticism has moved steadily across the model from left to right; biographical emphasis was dislodged by various text-related methods such as New Criticism, while more recently these methods have been replaced by a criticism based on reader-response (30).

At any rate, an examination of the practice of fiction suggests that, all theory aside, fiction frequently has been used as tool of persuasion. As we have already seen, the most notable
instance of this phenomenon in American fiction is Harriet Beecher Stowe's *Uncle Tom's Cabin*. The success of the novel in raising abolitionist sentiment in the North was so great that, upon meeting Stowe, Lincoln jokingly remarked that she was "the little woman who made this great war" (Davidson 184). Without pretending to exhaust the field, we could add such names as James Russell Lowell, Edward Bellamy, Upton Sinclair, John Dos Passos, and John Steinbeck to the list of American writers who have urged some specific social or political reform in their works. A random list of reform-minded English authors might include Samuel Butler, Charles Dickens, George Bernard Shaw, and George Orwell. Clearly, these examples suggest a tradition of authors using fiction to communicate specific messages—messages that readers can understand sufficiently to respond to.

Even one who accepts the principle that fiction can take on a persuasive function, however, might still ask what relationship this principle has to a study of literary persuasion based on Aristotle's *Rhetoric*. After all, Aristotle was careful to distinguish the art of literature from the art of rhetoric by placing his treatments of the subjects in two different treatises. One may well ask if an attempt to apply the principles of one discipline to the matter of another violates Aristotle's own views, thereby putting the present study on uncertain philosophical grounds.
And, in fact, Aristotle's definition of poetry, which emphasizes that art is imitation without even mentioning persuasion, seems to provide no immediate justification for mingling rhetorical principles with literary matter. Nor do we find much encouragement in his definition of tragedy as "an imitation of an action that is serious, complete, and of a certain magnitude... through pity and fear effecting the proper purgation of these emotions" (40; ch 6). The emphasis in this definition on emotions rather than intellect seems to be much closer to the concept that art has a purely aesthetic basis than it is to the Horatian principle that it has a duty to instruct as well as delight. Moreover, Aristotle's exclusion of such forms as verse epistles, philosophical dialogues, and verse treatises from the province of poetry seems to argue directly against the sort of approach I am trying to take.

We might, at this point, find it helpful to return to Sidney's definition of literature and notice that it is not simply a restatement of the Horatian formula, but a combination of the Horatian and the Aristotelian. Notice that Sidney does talk of poetry as being an imitation in that it is a "representing, counterfeiting, or figuring forth," and specifically refers to Aristotle as the source of this view. Only then does he suggest that the purpose of this imitation is to delight and instruct. In other words, Sidney's definition of literature is not a contradiction of Aristotle's, but an extension of it. Where Aristotle says that tragedy pleases us by bringing about a purgation of the emotions of
pity and fear, Sidney might add that through this pleasure we might also learn something.

Moreover, a close inspection of both the Poetics and the Rhetoric support the validity of Sidney's combining Horace's view of literature with Aristotle's. In chapter four of the Poetics, Aristotle makes the following statement:

Poetry in general seems to have sprung from two causes, each of them lying deep in our nature. First, the instinct of imitation is implanted in man from childhood, one difference between him and the other animals being that he is the most imitative of living creatures, and through imitation he learns his earliest lessons. . . . Thus the reason why men enjoy seeing a likeness is that in contemplating it they find themselves learning or inferring, and saying perhaps, 'Ah, that is he' (37-38; ch. 4).

This identification of imitation as a method of learning casts the definitions of poetry and tragedy in a new light. It provides some foundation for Sidney's definition of poetry as an agent of moral persuasion. It also provides some basis for a study of fiction as a rhetorical medium.

In fact, Aristotle himself explicitly mentions the art of rhetoric in the Poetics. When setting forth the parts of a tragedy in chapter six, he places thought directly after plot and character:

Third is thought, that is, the faculty of saying what is possible and pertinent in given circumstances. In the case of oratory, this is the function of the political art
and of the art of rhetoric: and so indeed the older poets make their characters speak the language of civic life; the poets of our time, the language of the rhetoricians (42; ch. 6).

Later when he examines the subject of thought in more detail in Chapter XIX, he has the following comment:

Concerning thought, we may assume what is said in the Rhetoric, to which inquiry the subject more strictly belongs. Under thought is included every effect which has to be produced by speech, the subdivisions being proof and refutation; the excitation of feelings, such as pity and fear, and anger, and the like; the suggestion of importance or its opposite. Now it is evident that the dramatic incidents must be treated from the same point of view as the dramatic speeches when the object is to provoke the sense of pity, fear, importance, or probability (57).

Note that in this passage Aristotle mentions two of the three modes of appeal which he treats in the Rhetoric, the rational ("proof and refutation") and the emotional ("the excitation of feelings"), and he speaks of these appeals as subdivisions of one of the integral parts of a literary work.

We can see, then, that, even in strict Aristotelian terms, literature and instruction are not necessarily mutually exclusive. Rather, literature has as part of its essence the conveying of thought. Since Aristotle specifically links the examination of thought in poetry to his treatise on persuasion, we can assume that the truths conveyed by a work could be intended as persuasive
truths. Indeed, in the *Rhetoric* Aristotle mentions the value of fiction as a persuasive device. He points out that the basic methods of logical appeal in rhetoric are the example and the enthymeme. Of the former he states, "There are two kinds of argument by example. One consists in the use of a parallel from the facts of history; the other in the use of an invented parallel. This last may take the form of a comparison, or one may employ fables such as Aesop's or the African beast tale" (147; bk. II, ch. 20). While in so endorsing the use of fiction as a persuasive device, Aristotle probably did not have in mind fables that would run hundreds of pages, one must admit that making a point by citing the tale of the fox and the grapes is essentially the same as making a point by citing the tale of Dr. Strangelove and the bomb. Moreover, Aristotle identifies the unique value of fiction as a persuasive device a bit later in the chapter:

Fables are suited to speeches in a popular assembly; and they have an advantage in that it is hard to find parallels in history, but easy to find them in tales. In fact, the speaker must contrive with the fable as he contrives a comparison; all he needs is the power to see the analogy—and facility in this comes from literary training (149; bk. II, ch. 20).

Thus, when we look beyond the cosmetic separation of Aristotle's treatises on rhetoric and poetics and the bare bones definitions he gives of the two fields, we find that, far from completely separating literature and persuasion, Aristotle asserts
significant connections between the two. Moreover, by pointing out how suitable the use of the fable is in a popular forum, he suggests the reasons why fiction is a particularly effective medium of persuasion for mass audiences. Earlier in the treatise he explains that the art of rhetoric is directed primarily at mass audiences of common people who, he assumes, are less sophisticated than experts and, therefore, must be approached on a more basic, less technical level. By suggesting that the fable is particularly effective when used with such audiences, he seems to be suggesting that fiction provides just the sort of basic, uncomplicated forum one needs to teach the masses effectively. The justification for this notion lies, perhaps, in the concept of human nature that Horace and Sidney had in mind when they exhorted the poet to delight as well as teach. The painful human truth is that most people, or most "degenerate souls," to use Sidney's terms, would much rather be entertained than instructed. The pleasure of the literature softens the pain of the instruction.

Having found a philosophical basis in Aristotle for studying literature as a persuasive medium, we are faced with the decision of precisely how to apply the principles of the *Rhetoric* to fiction. There are, of course, any number of ways to do so. One could, for example, survey a wide range of fictional works and attempt to demonstrate how widespread the use of rhetorical principles in fiction is. Or one could take an array of social or political issues and compose a bibliography of fictional works that deal with those
issues. One could even attempt to classify various fictional works according to Aristotle's types of rhetoric: forensic, deliberative or epideictic. The possibilities are, if not endless, at least wide-ranging.

What I have chosen to do is to take a single issue—nuclear disarmament—and demonstrate how fictional works employ the three basic modes of persuasion that Aristotle set forth in the *Rhetoric*: the ethical, the rational, and the emotional. While I am not so much concerned with the literary qualities of the works as I am with their persuasive appeal, I do follow Aristotle in focusing primarily on works of fiction, works that distinguish themselves from philosophical tracts by using imitation of life as their means of Instruction. I will, however, study these fictional works against a background of non-fictional works in an effort to show that rhetorical fiction—by which I mean fiction that has as at least part of its purpose the persuasion of its audience to some particular view—does parallel rhetorical non-fiction.

Thus far I have been careful to use the word "fiction" when referring to the works I will concentrate on, and for a good reason. I have taken the subjects for my study from both the print and the film media. The inclusion of film in the study is valid because certain aspects of film—plot, character, theme, and so forth—are identical to, if not derived from, aspects of narrative writing. While I would in no sense argue that film is nothing more than photographed drama, I would maintain that the art of drama is
Integral to most narrative film. Therefore, to the extent that drama provides a valid basis for literary study, film does as well. In fact, many recent anthologies of literature reflect this view by including screenplays from films in their drama sections.

Moreover, there are strong reasons why the inclusion of film in the study is advisable as well as permissible. First of all, as I shall point out shortly, some of the most critically respected fictional works dealing with nuclear war are films. It would seem absurd to attempt a study of the impact of anti-nuclear fiction without mentioning Stanley Kubrick's Dr. Strangelove. Even works that have not achieved the widespread critical acceptance of Strangelove demand some kind of treatment if only for their general impact on the anti-nuclear debate. The Day After is such a work. On a more practical level, a project that attempts to study the impact of dramatic narrative in the twentieth century must face the fact that film is the most commonly experienced form of drama in the United States at the present time. In fact, filmed storytelling is probably the most commonly experienced form of narrative in this country today. Therefore, films mingle indiscriminately with novels in the following examination.

Every novel and film that deals in some way with nuclear war or nuclear weapons, however, is not necessarily a rhetorical work, at least not one that would find a home in this study. Only those novels and films that seem intended, as a significant part of their purpose, to develop or increase in their audiences an
opposition to the further development and use of nuclear weapons are legitimate subjects for the study. Therefore, I have ignored works that use nuclear war or nuclear weapons simply as a plot point or as a part of the setting. The plots of various spy thrillers, for example, turn around the threat of some madman to use nuclear weapons, but the emphasis of these works is almost always on sheer entertainment rather than on the issues of the anti-nuclear debate. The depiction of a Soviet premier's threat to explode a nuclear device in *Fall Safe,* on the other hand, is intended to warn its audience of the dangers of nuclear weapons.

There are also examples of works that are set in some future world that has been laid waste by a nuclear war. This situation, as we shall see, can be an effective device in an authentically anti-nuclear work. The novel *War Day* makes powerful points designed to turn its audiences against nuclear weapons by demonstrating what the possible effects of nuclear war might be. Other works, however, use what amounts to a cliche of the nuclear apocalypse to set the scene for stories that are more intent on showing the extremities of human behavior than in seriously examining, much less inveighing against, nuclear war. For example, the recent "Mad Max" films, although set in a post-nuclear world, are much more concerned with portraying moral choice and heroic action in a primitive, anarchistic future than they are with attacking nuclear weapons.
To say that a significant part of the Intention of the work must be the inculcation or strengthening of anti-nuclear attitudes, however, is not to say that this must be its whole or even primary purpose. An artist may adopt the Sidneysesque dual goal of entertaining and enlightening, but the question of what is most on his mind may remain open. To take Russell Hoban's *Riddley Walker* for an example, I must admit that the primary purpose of the novel does not seem to be the inculcation of anti-nuclear attitudes. Primarily, and perhaps more than most works in the study, the purpose of the novel is to provide an artistic experience detailing a young man's coming to age in a post-apocalyptic society through a realization of man's persistent capacity for self-destruction. To do so, Russell Hoban has his hero discover one of the terrifying truths of the anti-nuclear debate. In short, the theme of the novel, while embracing recognizable anti-nuclear attitudes, is broader than a simple anti-nuclear message. Nevertheless, as we shall see, the strength of the artistic experience, connected as it is to an identifiably anti-nuclear message, enhances the power of the message. Others of the works I deal with do seem to have propaganda as their primary purposes. Eugene Burdick and Harvey Wheeler state their rhetorical purpose in an author's note at the beginning of *Fall Safe*. Mordecai Roshwald dedicated his novel *Level 7* to Nikita Khrushchev and Dwight Eisenhower in an wry, but revelatory, plea for international cooperation in ridding the world of the danger of nuclear weapons.
Not all of the works I deal with here are of the highest literary merit. Most are examples of popular fiction, and many betray the weaknesses of much popular fiction: contrived plots, unsubtle characterization, strained style, and so forth. In fact, although a number of small anthologies of anti-nuclear short stories and poems by "literary" writers have recently been published, there are relatively few highly artistic novels that directly confront the question of nuclear arms.

Two factors may account for this scarcity of "artistic" anti-nuclear works. First of all, the general prejudice of critical opinion has tended to push artists away from the practice of expressing their political opinions in their works. The dictum of "art for art's sake" necessarily tends to preclude the use of art to oppose political or social dangers. To the extent that "serious" fiction has been granted a persuasive or instructive function at all, to the extent that thematic material has been important in twentieth-century literature, artists have been encouraged to concentrate on the struggles of man with his own personal demons rather than on the struggles of men with societal demons.

The other reason that anti-nuclear works have tended to be examples of popular fiction rather than serious artistic pieces is that, on the whole, serious art is not popular in this country. As I have noted, the average citizen is much more likely to rush out and read the latest novel by Stephen King than Ulysses. He is much more likely to pay five dollars to see the latest Sylvester
Stallone film than the latest Werner Herzog. In short, what entertains a mass audience today is likely to be less intellectually challenging than what most "serious" artists feel comfortable producing. But if someone wishes to persuade a large audience, he will first have to reach a large audience. And since moving a large, unsophisticated audience is one of the purposes of couching a persuasive appeal in fiction, it is natural that the rhetorically inclined writer or filmmaker will often direct his work toward the tastes of the masses. Therefore, the fact that some of the works are less than top quality, far from crippling their persuasive appeal, actually may tend to enhance that potential by increasing their possible audience.

This fact does not necessarily mean, however, that all of the works in this study, or all works that are in some way intended for a persuasive function, are necessarily artistic failures. Some artists have found ways to address themselves to mass audiences without compromising the artistic integrity of their works. Dickens, for example, specialized in artistically satisfying works that reached large numbers of people with their attacks on social injustice. And, as I have already stated, a number of the works in this study have had similar artistic and popular success. Novels like *Riddley Walker*, *A Canticle for Leibowitz*, and *Level 7* are strong artistic pieces as well as effective persuasive efforts. The same can be said for *Dr. Strangelove*, and *Testament*. In fact,
artistic excellence in an anti-nuclear work can increase the effectiveness of its rhetorical effort under certain circumstances.

What follows then, is an overview of how rhetorical modes have entered into fictional works opposing nuclear war. While I do structure the study by basing it on the three dominant modes of persuasion in Aristotle's *Rhetoric*, I do not mean to conclude that the creators of the works in the study consciously had Aristotle in mind when they were attempting to persuade their audiences. Rather, I maintain that, for the most part, the creators of the works were responding to natural impulses in order to increase their persuasive efforts. Ultimately the study will demonstrate that Aristotle's observations about the modes of persuasive appeal are not only as valid in our day as they were in his, but at least as powerful in fiction as they are in non-fiction.
II. The Function of the Ethical Appeal in Fiction

What Aristotle termed the ethical appeal is that which stems from the perception the writer gives of his character. He maintained that the audience is more likely to accept the speaker's message if he can create a strong positive impression of his own character. To do so, he must establish that he has sufficient knowledge of the facts at hand and the judgment to make the proper relationships between those facts. He also must convince the audience that he is virtuous enough to relay the facts truthfully and advocate the position that he sincerely feels is best. Finally, he must show that he has the audience's best interests at heart. It should be noted that Aristotle insists that the speaker create only the impression in the audience's minds of his own high character. While he would, no doubt, assert that the speaker should actually have such a character, the ethical appeal in a rhetorical situation is based only on the audience's belief that he possesses one (91-92; bk. II, ch. 1). Moreover, as Aristotle points out, this mode of appeal can be absolutely vital in any rhetorical situation:
It is not true, as some writers on the art maintain, that the probity of the speaker contributes nothing to his persuasiveness; on the contrary, we might almost affirm that his character is the most potent of all the means to persuasion (9; bk. I, ch. 2).

Along these lines, it is impossible to overestimate the importance of the writer's ethical appeal when he is dealing with a subject as difficult and technically involved as that of nuclear weapons. Because so few people understand the complexities of the subject matter, they find it difficult, if not impossible, to evaluate the reliability of statements about nuclear weapons on the basis of their own knowledge. Therefore, they must have confidence in the intelligence, truthfulness, and good will of the person making the statements. It may seem odd that forty years into the nuclear age the American people, whose elected leaders control over twenty thousand nuclear warheads (Arkin, 38), would not know precisely what they are and what they do; but many, if not most, Americans probably know little more about nuclear weapons than that they are tremendously destructive and give out lethal radiation. This level of ignorance, while unfortunate, is understandable and, to some extent, excusable. We live in an increasingly specialized society in which it is difficult to have a working knowledge of all the technologies that affect our lives and impossible to know them in detail. Therefore, someone who wants to make a sincere judgment about the nuclear arms race must find an expert whom he trusts to give him the facts without coloring those facts for personal or professional gain. He must find someone whom he believes to have
intelligence, good character, and good will. He must, in short, find someone with a strong positive ethical appeal.

Consequently, if someone writes a book, either fictional or non-fictional, intended to engender or strengthen an opposition to the development and use of nuclear weapons, he will be careful to cultivate a positive ethical appeal. He will want to indicate that he understands all the aspects of the issue at hand, that he is dealing with those aspects honestly and impartially, and that he has the best interests of his audience at heart.

While Aristotle cautioned that the speaker must be sure to establish his ethical appeal in the context of his speech rather than relying on a possible "antecedent impression" of his character, it is a fact such an impression frequently does exist. Certain writers will already be known and respected by their potential audiences before those audiences even begin to read the specific rhetorical works. For example, when Bertrand Russell wrote Has Man a Future? In 1961, he was an internationally famous mathematician and ethical philosopher, a Nobel Prize winner who had maintained his pacifist principles even to the point of suffering imprisonment for them. Although he argued in the book for unpopular positions like the necessity of world government, his reputation alone would have gone a long way toward securing a fair hearing for his opinions.

As Aristotle indicated, however, such a built-in ethical appeal is not necessarily sufficient to win the complete confidence of the audience. A writer may be an admirable man and have mastered
many subjects, but in order to be truly convincing, he must demonstrate some expertise in the subject at hand. Russell, for example, did the bulk of his work before the splitting of the atom in 1944, and his primary field of expertise was mathematics, not nuclear physics. Therefore, he must show within the work that he is fit to give advice about the nuclear question. To do so he embeds a great deal of technical knowledge about the workings of nuclear weapons among his arguments. One notable example of this technique is the inclusion of a speech he made before the House of Lords in 1945 predicting the advent of the hydrogen bomb four years before its actual development. By including such scientific details, Russell demonstrates that he has an impressive understanding of the technology of the issue and can, therefore, speak with some authority about it.

Besides his knowledgeability, Russell is careful to demonstrate his sincerity. Because the issue of nuclear weapons involves national security, Russell must be careful to show that his opposition to nuclear weapons results from a genuine impulse to protect the lives of his readers and not from a desire to weaken the defenses of the reader's country. In short, he must be careful to avert charges that he is a Communist attempting to subvert the freedoms of the United States or a Communist dupe unwittingly aiding in such a subversion. In fact, Russell uses charges of disloyalty as an opportunity for demonstrating his sincerity. In his discussion of the Pugwash movement, a series of meetings by scientists from both sides of the Iron Curtain to find ways of
reducing the danger of nuclear war, he mentions a report by the Senate Internal Security Committee branding western members of the movement, including Russell himself, Communists or Communist sympathizers. To refute the charge he points out the Committee's lapses from candor in quoting Russell out of context, in suggesting that senility, rather than a changing world situation, had lead to Russell's evolving attitudes toward nuclear policy, and in implying that Klaus Fuchs and Julius Rosenberg were members of the Pugwash movement. In summary he says, "I have seldom come across a piece of propaganda more dishonest than this" (73).

Perhaps more important and more effective than his direct attacks on the Committee's own veracity is his appeal to the reader's common sense, an appeal which subtly plays upon the reader's own perception of himself. In an attempt to expose the simplistic assumptions of the Committee, Russell notes the report's implication "that in any more or less friendly contact between any Communist and any non-Communist, the Communist must be capable of outwitting the Non-communist, however great may be the ability of the latter" (72). In effect he is saying that the Senate Committee believes that somehow the Communist is inherently superior to the non-Communist, while Russell obviously feels that the two are at least equal. Since, presumably, the non-Communist reader will want to believe himself better than the Communist, he will be flattered by Russell's implicit compliment and Insulted by the Committee's implicit insult. As a result, he may feel Inclined
to give Russell the benefit of the doubt, believing in his truthfulness and good will more than in the Committee's.

When the writer is not as well known as Russell, the importance of establishing the ethical appeal within the text is, obviously, much more important. In addition to making his case, the author must make sure that he is projecting a personality that will appeal to a reader who is totally unfamiliar with him. Moreover, he must do so without distracting from the actual case he is making. He cannot focus on his own personality, at least not for very long, for fear of alienating his audience by appearing more concerned with himself than with his subject. In short, he must communicate a positive character as subtly, or even subliminally, as possible. This sort of subtle communication of personality is made by Freeman Dyson in Weapons and Hope.

A biographical note in the book informs us that Dyson is a professor of physics at Princeton who has served as a consultant to the Defense Department and to the Arms Control and Disarmament Agency. In addition, he has written a number of articles for such publications as The New Yorker and made numerous speeches about the problems of nuclear arms. While all of this is an impressive record of professional accomplishment, it does pale beside the worldwide celebrity of a Nobel Prize winner like Bertrand Russell. And, indeed, although Dyson does have a following, we can presume that his name is largely unknown to his potential audience. Thus, Dyson's establishment of his ethical appeal depends on how he
presents himself in this book. He must turn an appealing face to the reader even while he is making his case.

To perform this dual function, Dyson makes frequent and effective use of a combination of cold facts and personal anecdotes. For example he speaks knowledgeably and lucidly about the various aspects of the arms problem. He devotes whole chapters to types of hardware, the complexities of strategic doctrines, the history of the arms race, and so forth. All of this information, of course, not only provides the basis for his various arguments but also demonstrates his grasp of the complexity of the problem, thereby establishing his credentials as an authoritative guide to the question at hand. He also, however, feels the need to show that this expertise stems from personal experience. By making a point of the fact that he is himself a scientist and that he has been involved in military matters he indicates more vividly that he has the technical background to evaluate fairly and effectively the relationship between science and war.

To do so, Dyson uses the anecdote. For example, in attempting to make the point that the most sophisticated weapon is useless unless it can be deployed in actual combat, he tells about his experiences during World War II in helping to develop automatic gun laying turrets for Allied aircraft. Dyson relates that although his scientific team was able to conquer the seemingly impossible task of developing the turret itself, it was unable to develop a system by which the radar could distinguish between enemy planes and friendly ones. The principal importance of the anecdote is to
suggest, by analogy, that the MX system is an unfeasible and costly technological boondoggle. In the process of making this point, however, Dyson has communicated relevant facts about himself. He has demonstrated, and not just asserted, his experience and skill in developing military technology. He has also shown that he has the humility and the honesty to admit not only the limitations of military technology in general, but also his own failures as a military technologist. Finally he has revealed an insider’s sympathy for the occasional necessity of developing such technology.

Anecdotes are even more valuable to Dyson in establishing the moral soundness of his character. The attitudes that he expresses and the values he seems to support will, of course, give some insight into his moral character. Thus, the very fact that he is concerned about nuclear war and openly expresses revulsion for some of the more inhumane details of strategic theory suggests a strong reverence for life. But his even-handed treatment of the strengths and weaknesses of the two sides of the anti-nuclear debate and the respect with which he speaks of certain military men throughout the book indicate his refusal to lock himself into a narrow, doctrinaire approach to the issue that would lead him to look for clear villains and simplistic solutions.

The use of anecdotes allows him to give a more direct and vivid impression of this basic sense of morality. For example, early in the book, he relates that as a young man before World War II he was a strict pacifist but, realizing that pacifism was not always
the most appropriate response to aggression, joined the fight against Nazi Germany. Overtly Dyson relates this incident to support his contention that armed defense of one's country is justifiable, and to the extent that he wishes his reader to share that view, he is inviting us to approve his renunciation of strict pacifist principles. Since the enemy that he chose to fight was one of the most evil in the history of mankind, he knows that few of his readers will withhold that approval. Without expressly saying so, however, he is also pointing to two of his admirable qualities: the Idealism that led to the pacifism and the flexibility to change his mind about it. Thus, while apparently doing nothing more than illustrating an abstract point, he is actually giving the reader an insight into his own basic decency and judgment. Later he relates a more recent anecdote demonstrating the fact that he still possesses these characteristics. In 1981 a peace group of which he was a member was debating various anti-nuclear tactics. While Dyson favored urging the government to adopt a no-first-use policy, the majority voted to support the nuclear freeze movement. Although he felt, and still feels, that the no-first-use policy would have a greater practical effect on reducing the threat of nuclear arms, he supported the majority decision and notes that the freeze movement was a superior device to galvanize public opinion. Once again, Dyson brings up the incident to illustrate the need for politically effective tactics in fighting nuclear weapons. At the same time it demonstrates that Dyson is still idealistic enough to take part in grass roots protest movements instead of just writing
books about his views and flexible enough to adapt that idealism to practical situations.

Dyson's use of anecdotes presents a potential problem, however, with the question of good will. On several occasions he finds it necessary to refer to his formative years in England, his native country. For example, in discussing the question of fallout shelters, he cites the comaraderie that developed in the London air raid shelters during the Blitz: "Americans can never share the feelings of warmth and friendliness which Europeans of my generation associate with our experiences of shelters in World War II" (92). As we have seen, he speaks about his pacifist positions when he was in school in England before World War II and about his work with the RAF during that war. The trouble with these anecdotes, of course, is that he may begin to sound like a foreigner to an American audience and make them question how sincerely he has their welfare at heart. One need not be a Russian or Chinese Communist to raise the suspicions of an American audience, especially about questions dealing with national security and foreign policy. Any voice that seems to be criticizing from the outside is liable to call forth a degree of xenophobia.

Perhaps to forestall such a reaction, Dyson frequently makes clear his American citizenship. In fact, at the very beginning of the book, he speaks about returning to the United States, his "adopted" country, from a vacation, thereby indicating strongly, but indirectly, that he has chosen to live in this country. He repeats this implication at various crucial points throughout the book. For
example, two paragraphs after the statement about the air raid shelters he speaks of his concern for his new country: "So long as our land is loaded with nuclear weapons, serious shelter-building is ethically unacceptable. If we succeed in negotiating ourselves into a non-nuclear world, we shall probably feel even less inclined to build shelters than we do today" (93). Almost immediately after noting a difference between himself and a native American, then, he reasserts his identity as an American citizen and shows his concerns for his new countrymen by speculating about how they might best protect themselves from nuclear weapons.

The effect of these various strategies is to give the reader a very positive image of Dyson. He is most of all an intelligent, compassionate man who worries about the nuclear threat but who does not see simple solutions to it. Moreover he is open to arguments from all sources, conservative as well as liberal, the military man as well as the peace worker. The implication is that the arguments and solutions he presents are the considered result of his having sifted through the best of everyone's ideas. Thus, the reader will feel that here is a man whose opinions can be respected, whether they happen to agree with his own or not. As is true in any work, the ethical appeal in weapons and Hope does not necessarily guarantee the reader's acceptance of Dyson's arguments, but it does help insure a fair hearing for those arguments.

The same dynamic holds when fiction is the medium of attempted persuasion. Whether the form is novel, play, or film, audiences will feel more receptive to the work if they are
confident that the author is intelligent, thoughtful, and sincere. A work, for example, that is an official product of Soviet propaganda sources would obviously lack any real rhetorical appeal for the majority of Americans. Even a work by someone whom the public perceived to be excessively liberal might suffer a severe erosion of its rhetorical potential because of the author's negative ethical appeal, no matter how sincere and even artistically sound that work might be. If, on the other hand, the audience can see that a work is the product of an objective, thoughtful person who respects the freedom and security of the American people, they are more likely to listen to, and even sympathize with, the author's efforts.

Once again, the creator of a fictional work may have a positive ethical appeal above and beyond the work itself. Such is the case with Pearl S. Buck, whose *Command the Morning* deals with the scientific quest to build the atomic bomb. At the time Buck wrote the novel in 1959, she was a very popular writer widely known for her sensitivity to other cultures and her respect for human life and freedom. In fact, she was the first woman recipient of the Nobel Prize for literature, an award which, for better or worse, frequently elevates a writer to the status of literary sainthood in the popular mind. This reputation no doubt helped her to maintain her audience while she dealt with the still volatile issue of the morality of the use of the atomic bomb against the Japanese.
A number of other writers could also trade on a certain immediate ethical appeal at the time they produced their works. Nevil Shute closed a long career of writing popular novels about serious issues with On the Beach. C. P. Snow's The New Men was part of the Strangers and Brothers series of novels detailing how conflicts between morality and power shape, and sometimes destroy, the human character. Both of these authors could count on large audiences which respected them and relied on their sensitivity and insight. To a somewhat lesser extent, by 1964 when Dr. Strangelove and Fail Safe were made, Stanley Kubrick and Sidney Lumet enjoyed some degree of immediate ethical appeal. Kubrick's anti-war film Paths of Glory had paved the way for his popular and critical successes Spartacus and Lolita. Lumet had made Twelve Angry Men, which demonstrated his commitment to social justice, and Long Day's Journey Into Night, which showed his artistic predilections.

On the whole, however, a film director's name is less recognizable to a wide audience than is a popular novelist's. While the director is largely perceived to be ultimately responsible for a film, its actual prior ethical appeal usually comes from the actors who are cast in the leading roles. The Hollywood star system has been a long-standing admission of the fact that actors develop certain screen images which cause audiences to build up certain expectations of them. While this situation can sometimes be a source of constraint for the actors themselves, it does often provide an instant attitude toward the characters they play that
can be valuable both artistically and rhetorically. For example, the opening shot of Stanley Kramer's film of *On the Beach* is a closeup of Gregory Peck's face. Despite the wide variety of characters he has played, Peck's image tends to be that of the quintessential upright American. Film critic Ephraim Katz, in fact, describes him as "A leading star of Hollywood films whose tall, dark, and handsome figure has projected for three decades of filmgoers moral and physical strength, intelligence, virtue and sincerity" (903). Besides being primary components in Aristotle's definition of the the ethical appeal, these qualities are precisely the ones that Peck's character, Commander Dwight Towers, is supposed to possess. Thus, the opening shot of the film automatically disposes the audience to think well of the character and, by extension, the film.

In most cases, however, the creator of a fictional work will have little automatic ethical appeal to rely upon. People like Mordecai Roshwald, Russell Hoban, and Lynne Littman are relatively unknown to the public at large. In these cases the artists, like many of the writers of non-fiction, would have to create an ethical appeal within their works. Their task in this respect, however, may be somewhat more difficult. The non-fiction writer, given the nature of his medium, can afford to be somewhat more forthcoming in displaying his moral character. Freeman Dyson, as we have seen, can tell anecdotes about himself that reveal aspects of his personality. The fiction writer, however, usually finds it inappropriate to stop in the middle of a novel to talk
about himself. How then, does the artist establish an ethical appeal in a work?

The least equivocal way the author can accomplish this task is through direct commentary. When he is writing his work from the third-person point of view, he can comment on the action, evaluate the characters, and make philosophical points that have some relationship to the story that he is unfolding. Even if he lacks the objective voice that a third-person narrator gives, the author can make his points by placing his commentary in the mouths of characters, including a first person-narrator, whom he has created in his own image. Thus, when General Black denounces the use of computers to order nuclear attacks in *Fall Safe*, he is actually speaking for Eugene Burdick and Harvey Wheeler, the authors of the novel.

Of course, this technique presents some potential problems for the audience. How does one know whether certain characters are speaking for the author? How does one know, for that matter, that even a third-person narrator is actually identifiable with the author? The author may be using an ironic narrator, as Swift does in "A Modest Proposal," for example. In order to solve this dilemma, the audience must examine the commentary in the light of the whole work. If the action of the piece tends to support the statements of certain characters, we can assume that the opinions of those characters reflect the author's own. Because he can control absolutely the world that he has created, the fiction writer can give a character the force of a prophet simply by causing the
action of the novel to support whatever that character says. If the author is at all interested in persuading the reader, he will give this force only to characters with whom he agrees.

Victory, by Philip Wylie, illustrates this point. The novel, which is written from the third-person omniscient point of view, describes the destruction of the Northern Hemisphere in a full-scale nuclear war and details the efforts of fifteen Americans to survive in an extremely elaborate fallout shelter. In commenting on this series of events throughout the novel, Wylie leaves little doubt about his political sympathies. For example, when describing the crisis that precipitates the war, he summarizes the history of East-West relations this way: "Threat, counterthreat, compromise, and--usually--some slight retreat of the free world that, as time passed, showed itself to be greater than it had first appeared" (26). The implication of this comment is that American diplomacy since World War II has allowed the Soviets to gain persistent advantage, and we may assume that Wylie would like America's leaders to adopt a more aggressive policy. Moreover, he leaves no doubt about what he sees as the Soviets' ultimate goal:

What, fundamentally, the free-world leaders--military and political--had never understood was that the Russian Communist leaders had always been willing to pay any price whatever to conquer the world, so long as some of the Soviet elite survived to be its rulers (46).
The behavior of Wylie's Soviets indicates that these statements reflect his actual views. His Soviet Premier promises the President of the United States not to annihilate the free world, but does so only to make the West drop its guard and waste valuable time during which it could be martiailling its retaliatory forces. Later, after devastating the North American continent, the Soviets set off a number of nuclear mines in the Atlantic ocean to saturate the United States with additional radioactive fallout just when they calculate any survivors of the initial strike would begin to come out of their shelters. Months after the war, the Soviets bombard the United States one more time to make absolutely sure that the population is completely destroyed. While these actions might seem excessively savage and pointless to the reader, Wylie explains them as steps in a coldy calculated plan. His Soviets have purposely instigated the war in order to destroy the United States, thereby eliminating any effective opposition to their dreams of world conquest. The fact that this plan calls for the annihilation of over ninety percent of their own citizens in the Inevitable American counterattack does not deter them in the slightest; they have insured ultimate victory by stockpiling people and weapons--including nuclear warheads--under the Ural mountains. Thus, the novel is an illustration of Wylie's own contention that the Soviets will "pay any price whatever" to achieve ultimate victory.

Many, of course, might find this view of the Soviets simplistic, but it does protect Wylie from the charge of being soft on Communism. In fact, his characterization of the Kennedyesque
U. S. President as a well-meaning dupe and his negative attitude toward arms limitation agreements in general seem to distance him from the camp of conventional liberalism. Judging from his attitudes toward defense, one could see Wylie fitting comfortably into the right wing of the Republican party. On the positive side, this aspect of his character would give him a high level of ethical appeal among extremely conservative Americans—those, for example, who believe the continued survival of the United States depends on our maintaining weapons superiority over the Soviets. While readers from this camp would be suspicious of anti-nuclear works in general, they might at least be receptive to one written by a man who shares their suspicions of the Soviets. On the negative side however, these anti-Soviet sentiments might well cause liberal minds to wonder about Wylie and his work. They might dismiss him as a militarist who is actually fueling the arms race with his fears rather than helping to make the world safer from nuclear weapons. They may see him as a spokesman for the old guard, complacent, suspicious of reform, and convinced that civilization is best maintained in a society dominated by capitalism.

Wylie's ethical appeal is not so simple, however. His attitude toward racial and religious bigotry, for example, does not fit the profile of the arch-conservative, especially as that profile would have been constructed in 1963 when the novel was written. While the group of fifteen people whom Wylie preserves from nuclear destruction is headed by a white, male businessman, the
hero is a young Jewish scientist who provides the moral foundation of the novel. The other minority members of the group, two blacks and two orientals, are all very positive characters. Most importantly, Wylie gives both his minority women beauty and dignity and treats sympathetically the attraction of the white men for them. In fact, a reflection on the absurdity of sanctions against interracial relationships leads to an attack on bigotry as an underlying cause of the war:

A dozen branches of science, in thousands of unanswerable tests, had shown no special quality or superiority in black men or white, red, brown, or yellow; Jew or gentle or Moslem or Hindu. But most human beings, and the arrogant white man in particular, had refused to examine the evidence and accept the truth; and in that rejection of known reality they now had lost . . . everything (189).

This is a surprisingly strong statement, especially when one considers that Wylie is singling out the dominant racial group of his society for special criticism. If his view of Soviet treachery seems to be to the right of Ronald Reagan, his insistence on laying the blame for most of the world's problems at the feet of "the arrogant white man" may strike many as being to the left of the views of many mainstream liberals.

More to the point, Wylie's vivid treatment of the effects of nuclear war suggests that he may have as much aversion for nuclear weapons as he does for the dreaded Soviets themselves. He vividly describes the heat wave that melts the ground, vaporizes
buildings, and destroys all life within the immediate radius of ground zero and the shock wave which, farther out, flattens even the strongest structures. He goes on to detail the various horrors that can befall a human being during nuclear warfare: blinding from the flash of the weapon, burning from the afterfires that have the power to sweep up everything near them, asphyxiation in shelters from which the fires suck all oxygen, and death from radiation poisoning. None of these details of the novel is consistent with an attempt to downplay the danger or destructiveness of nuclear war. On the contrary, it is difficult to see how a person could read them and not develop a fear of and an aversion to nuclear weapons.

Wylie's ethical appeal, then, is more complex than it might at first appear. Ultimately he seems to be a decent man with a sense of justice and the courage to attack what he sees as the destructive elitism of Western society but who has a deep seated--some might say paranoid--conviction of the danger of the Soviet threat. His overall attitude toward nuclear weapons seems to be that they will necessarily play a role in world affairs until the nations of the earth find a way to deal justly and peacefully with each other, probably through some form of world government. The fact that this perception of his character contains elements that appeal to both extremes of the political spectrum may help insure that a wide range of audience will trust him enough to read to the end of the work and consider his view seriously.
The fiction writer's use of the ethical appeal is not limited to projecting his own personality into the work, however. The writer of fiction, by the very nature of his work, creates characters who possess a certain ethical appeal of their own. If the writing is good enough, the characters will come alive in the reader's imagination and whatever ethical appeal they have may be capable of influencing the reader as much as, if not more than, that of that actual author. Moreover, the ethical appeal that the author creates for his characters can legitimately differ completely from his own, thus compensating for weaknesses in his ethical appeal. When his characters speak, however, they can deliver the thoughts that their creator most firmly believes and wants the world to embrace.

The novel Level 7 by Mordecai Roshwald illustrates this use of the fictional ethical appeal. The book is narrated by the main character, an army officer identified only as X-127. Thus, all the information we receive, every statement Roshwald wishes to make, will have to be filtered through a created intelligence. Moreover, the character's personality evolves during the book to such an extent that the attitudes he expresses at the end are quite different from those he held at the beginning. Since the author's personality presumably did not experience a similar metamorphosis while he was writing the book, we can be sure that, at points, X-127's thoughts and attitudes must be different from Roshwald's.
At the beginning of the novel, we learn that X-127 is a push button officer in his country's armed forces. Because not everyone is qualified to be a push button officer, he is proud of his position and even disdainful of his commanding officer:

As the administrative apex of a highly trained unit of military technicians, he was our superior in rank but inferior to us in technical education, in I.Q. and--so we thought--in his indispensability for modern warfare. . . . Our attitude probably resembled that of a bunch of Ivy-league college boys under a veteran sergeant who ruled as a god on the parade ground but with whom they would not have dreamt of associating in private. I wouldn't know for certain because I was never an aristocrat and our instruction bore little resemblance to the old-time training for officers (6).

Certain crucial aspects of X-127's personality manifest themselves in this passage. He makes a point of the fact that he is a common man, not an aristocrat. On the other hand, he is, and takes great pride in being, a member of an elite group that is instituting a new form of war, and this sense of elitism leads him to alienate himself from those less gifted--in this case his commanding officer. The reader will eventually realize that Roshwald is planting here the seeds of the interior personality conflict that will afflict X-127 throughout the novel: a sense of commonality, of being a part of humanity against feelings of elitism and alienation.

X-127's complacency about his position begins to crumble when he is ordered to Level 7, a bunker four thousand feet underground housing the command center for his nation's nuclear
arsenal. The security arrangements of Level 7 require that it be a self-sustaining community from which no one is ever allowed to leave. When X-127 realizes that he will never see the sun again, he begins to appreciate what he has taken on in becoming a PBX officer. He must live in an unnatural environment, with very little privacy, somehow staving off boredom even though he can never fulfill his function—pushing buttons to unleash his country's nuclear weapons—unless a faceless, nameless voice over a loudspeaker tells him to. In short, X-127 is fated to live the remainder of his life in the sole company of that elite group he is so proud of, his whole life centered around waiting for the war that only he and his colleagues are able to fight. Surprisingly, instead of rejoicing in the fact that he will never be bothered again by intellectually and technologically inferior people like his old commanding officer, X-127 initially has mixed feelings about Level 7. On the one hand, he consciously strives to adjust to his new home. He faithfully takes his six-hour tours of duty in front of his push button waiting to perform his fateful duty; he helps a teaching officer to develop a new mythology for Level 7 in which hell is up and heaven is downward; and in an extreme effort to find some normality in his new life, he marries a female psychological officer. On the other hand, he finds he can never quite reconcile himself to a perpetual underground existence. He is obsessed with the belief that he can smell sewage of Level 7 in the air and taste it in the food; he has recurrent dreams in which he witnesses the horrors of nuclear war; and he keeps a diary of
his experiences in the irrational hope that, even if he does not emerge from underground, one day it might. In short he questions the basic assumptions of Level 7 and begins to repeat ironically the loudspeaker's contention that Level 7 is the best of all possible worlds.

His reactions are reflected by those of two other PBX officers. One is his roommate X-107 who accepts his place on Level 7 enthusiastically and continually tries to reinforce X-127's resolve. He points out why various provisions of Level 7 are necessary in an effort to prove that Level 7 really is the best of all possible worlds. Although X-127 concedes much of his roommate's argument, he feels a secret affinity for his counterpart X-117, who does not adjust well to Level 7. At one point, X-117 has a nervous breakdown because an attachment to his mother makes his isolation on Level 7 unbearable. A psychiatrist assigned to his case blames the breakdown on a failure of tests designed to screen out people who were too sensitive and too attached to others to serve effectively on Level 7. Upon hearing this explanation, X-127 begins to question his own character, wondering why he is not sensitive enough to have been excluded from Level 7. His pride in being a PBX officer falters a bit now that he realizes that the principal qualification for his position is a cold-hearted alienation from his fellow man, and he begins to envy X-117's attachment to someone other than himself. Ironically, however, even as X-127 is berating himself for his alienation, he is giving accounts of dreams in which he sees his mother destroyed by
nuclear war. It is clear to the reader, although not yet to X-127 himself, that he is more like X-117 than he realizes.

The outbreak of nuclear war finally forces X-127 to confront and resolve his conflicts about his life in general and Level 7 in particular. Realizing that the whole surface of the earth has been destroyed, he must face the fact that now there is definitely no hope of going back to the life he knew before his entombment in Level 7. When X-117 commits suicide out of guilt for his part in the war, X-127 begins to realize the true nature of what he has done and to regret his own part in the war. And when a leak in the nuclear reactors spreads a plague of fatal radiation poisoning throughout Level 7, he realizes that, even by Level 7's very limited standards, his life is a failure: his function was to insure his country's continued existence in the event of nuclear war, but even the small remnant of his countrymen that are cowering in the supposed haven of Level 7 are now condemned to certain death. As a result of the tragedy, however, X-127 is finally able to see Level 7 and its whole philosophy for the sham it is. "Never in human history," he says, "was there anything so grotesque. Two vast countries, the two greatest world powers, reduced in a matter of hours to the status of a few moles, hiding below ground in the constant fear that the next hour will be their last" (135). Now that he has taken part in the destruction of the world and seen that destruction for the terrible tragedy it is, X-127 can deliver Roshwald's attack on nuclear war. Now, Instead of writing myths
that will support the mission of level 7, he, like Roshwald, writes a symbolic story about the madness of nuclear war.

At the end of the novel, X-127 is the only person left alive on Level 7. Indeed, he is the last person alive on earth. By now he has come to realize that he is not as detached from his fellow man as he had thought: "It is lonely here. I wish I had someone to talk to. Even a dying soldier on a battlefield cannot have felt as lonely as I feel... I would give anything to have some people around me" (142). Early in the novel he had gloried in his alienation from his fellow man. Later he had questioned the virtue of that alienation. Now, when that alienation has become tangible and irreversible, he realizes that it was illusory. He does need people; he does need to be connected to the human community. But, of course, this realization comes too late. His sense of alienation has allowed him to push the buttons that have destroyed the world, and now there is no human community for him to join. At this crucial point, Roshwald suggests an identification between X-127 and the human race in general. As he begins to succumb to radiation sickness, X-127 writes, "I am dying and humanity dies with me. I am the dying humanity" (142). Roshwald's message is clear: X-127 is everyman, and his struggle to see through the apparent alienation of his life and endure the absurdity of his death, is everyone's struggle to maintain his or her humanity in the nuclear world.
Our aesthetic satisfaction with the novel largely depends on our appreciation of the treatment of X-127's character. The spine of the work is the development of X-127's realization of his own nature, and the poignance it imparts stems from the fact that that realization comes too late to prevent humanity's ultimate destruction. In the end, because Roshwald has allowed us to see X-127's character so intimately, we are saddened more by the individual tragedy of his death than we are by collective disaster of the destruction of the world. At the same time, because we come to realize that X-127 represents humanity in general, we are able to generalize our vivid emotional reaction to his death to include all humanity, thereby enabling ourselves to appreciate the destruction of the world more fully than we could if we were considering that event in the abstract. Moreover, because X-127 represents all humanity and because we are members of the human race, we can experience in his death our own potential deaths, and this experience will increase the sense of loss that Roshwald wants us to feel.

Besides enhancing the artistic effect of the work, however, these elements also help to increase its rhetorical potential. The sorrow we feel at X-127's death will increase our tendency to accept his attack against the forces that have destroyed him, especially since our appreciation of the author's artistic purpose shows us that that death symbolizes the death of humanity in general. Moreover, our sense of identification with X-127 may help us to see that our passive acceptance of life in the nuclear age is
as unnatural and as fatal as X-127's efforts to convince himself that life on Level 7 is the "best of all possible worlds." Then, with Roshwald's hero, we may begin to see that we can insure our survival not by isolating ourselves behind barriers and arming ourselves with weapons of mass destruction, but by accepting the essential unity of all men. Thus, the power of the artistic experience adds to the power of the rhetorical experience.

The ability of literature to create characters, then, is a unique and powerful rhetorical tool. At the very least, it can enable an author with a weak ethical appeal to speak through a created personality with a stronger one. At best it can place the personality of the character, and, therefore, his ethical appeal, at the very heart of the artistic experience. If the personality of the character changes as the result of the conflicts that the novel presents him with and if these changes somehow enlighten us, we have an artistic work with a high thematic content. If we feel compelled to change an opinion or take some action on the basis of our experience of the character's personality, we have a literary and rhetorical artifact.
III. Categories of Ethical Appeal in Anti-nuclear Fiction

Having demonstrated how the ethical appeal functions in fiction generally, I would like to detail some of the major categories of characters who have a high degree of ethical appeal in relation to the issue of nuclear disarmament. Under the theory that certain kinds of people will be more convincing in dealing with nuclear war than others, novelists, playwrights, and film directors have frequently used similar characters to serve as their heroes and deliver their messages. This tendency is not surprising since it implicitly follows observations Aristotle makes in the rhetoric that certain classes of people have a higher inherent ethical appeal than others. He maintains, for example, that a middle-aged man would have the strongest immediate ethical appeal because the audience would presume him to have good judgment, lacking both the impetuousness of youth and the excessive caution of old age. Youth, on the other hand, receives high marks for idealism, but is hampered, in Aristotle's view, by a certain slavery to physical appetites. Noble men, because of their birth, have a greater ethical appeal than slaves or women (131-37; bk. II, ch. 12-14).
Clearly, we might differ with Aristotle about the specifics of the influence of various states of life on the ethical appeal. Even before the women's liberation movement, women had a greater standing in American society than the non-person status of the slave. For that matter, the abolition of slavery in the United States over one hundred years ago reflected a democratic ideal that all people are created equal and, therefore, have an equal claim to respect. Thus, the accidents of birth—sex, social rank, even wealth—that might have affected a person's ethical appeal during Aristotle's time do not necessarily carry the same advantages or liabilities in our own. Even factors that might legitimately be presumed to give a person greater ethical appeal—the wisdom that supposedly comes with age, for example—are not necessarily advantages to a contemporary audience. We have seen a tremendous rise in the ethical appeal of youth during the past twenty years as many people have elevated the importance of youthful idealism over mature prudence. Moreover, the rise of the machine age has caused man to reevaluate his own position in the world and given birth to elements of the ethical appeal that Aristotle could not have dreamed of. For example, the computer wields an ethical appeal that may supersede that of man, woman, or child.

One of the most widely used categories of ethical appeal in anti-nuclear literature is that of the scientist, especially the nuclear scientist. In non-fiction we have already seen at least one
example of the appeal which stems from the special knowledge that
But the voice of the scientist has been raised against the bomb
from the beginning of the debate over nuclear weapons. Before the
atomic bomb was dropped on Hiroshima in 1945, in fact, many of
the scientists who had developed the weapon petitioned President
Truman to refrain from using it (Wyden 175-76). After the war the
Federation of Atomic Scientists called for international control of
nuclear weapons, warning that a world of individual nations all
armed with such weapons would soon perish (Zuckerman 76). Both
Albert Einstein and J. Robert Oppenheimer publicly opposed the
development of the hydrogen bomb (Zuckerman 80-81). In 1960
Ralph E. Lapp, a scientist and adviser to the Defense Department,
wrote *Kill and Overkill,* which strongly criticized the size of the
current nuclear arsenal. More recently, organizations like
Physicians for Social Responsibility have tried to warn about the
physical effects of nuclear war and nuclear testing.

The basis of the strong ethical appeal of the scientist is
twofold. First, the reader feels sure that the scientist knows what
he is talking about. Who would know more about what a nuclear
weapon does or how it works than the scientists who invented it?
To a lesser extent, or at least in a different sphere, who would
know more about the horrifying effects of these weapons on the
human body than a physician? This expertise is so important that
even writers who are not scientists are careful to display their
scientific knowledge about the subject. Such is the case with writers as diverse as Bertrand Russell, Jonathan Schell, and Edward Zuckerman. Nevertheless, the scientist himself speaks most authoritatively to the audience of laymen.

The other thing that increases the ethical appeal of the anti-nuclear scientist is the fact that many of these scientists have nothing to gain and everything to lose by opposing nuclear weapons. Since the nineteen forties, the weapons industry has been a major employer of various types of scientists. Not only does the government provide jobs for theoretical scientists who might otherwise be employed as educators at educators' salaries, it also provides enormous amounts of funding for research that private industry could never generate. Thus, if the continued buildup of nuclear weapons is of immediate value to anyone, nuclear scientists are certainly among the primary beneficiaries. When someone takes an action that will almost certainly have an adverse effect on his financial and career success, we are more likely to accept his claim that his action stems from a desire to perform some higher good for his society. No doubt this principle was in Dr. Helen Caldicott's mind when she recounted the story of Bill Perry, a scientist at the Lawrence Livermore laboratories who quit his job and began to work for the nuclear freeze after hearing her speak (362). The fact that the scientist is risking financial ruin to oppose something that his own science has created suggests to the reader that he has not only the knowledge to speak authoritatively
on the issue but also the strength of character to uphold his readers' long-term best interests above his own short-term welfare.

It is, therefore, no accident that nuclear scientists and the moral dilemmas they face play a major role in the literature of the issue. Many of the earliest works that dealt with the question of the bomb revolve around the historical dilemma of the scientists who developed it. James Hilton's *Never so Strange*, Pearl S. Buck's *Command the Morning*, and C. P. Snow's *The New Men* all fall into this category. Each explores the relationship between the scientist, his science, morality, and public policy.

Snow, for example, develops his treatment of the nuclear scientist's dilemma in the context of the relationship between two brothers. Martin Elliot is a young scientist involved in the British effort to develop an atomic bomb during World War II, while his older brother Lewis is a politician overseeing the project for the government. We first meet Martin shortly after he has become engaged to a woman who is clearly wrong for him, a fact that only Lewis and the reader are aware of. From the outset, then, Snow is manipulating the reader to sympathize with the scientist; the engagement reveals his emotional vulnerability and gives him a clear and practical reason for needing to succeed in his profession: he now has two mouths to feed instead of one. Lewis, the narrator, reinforces this sympathy by admitting that he is trying to use his brother to fulfill his own sublimated desire for greatness. In fact, Martin involves himself with the bomb project
largely as a result of Lewis's urgings. Thus, Snow is careful to portray his scientist as a sensitive human being from the start and to link his ultimate involvement with the bomb to a recognizably human impulse. In doing so he insures that his reader's initial reaction to Martin will be sympathetic.

This initial sympathy is important because Martin's attitude toward his work suggests a detachment from humanity that could damage the ethical appeal of the character. Gladly seizing any opportunity to advance his career, he accepts his brother's help to join the bomb project, even though he expresses a conviction that if it works it may well end humanity. To be sure, he trusts in the fact that the bomb will not be developed in time, but the reader has no doubts that his primary interest is not the survival of democracy but the advancement of abstract science. At one point, Lewis describes the attitude that lies at the heart of Martin's attraction to science:

Martin had been visited by an experience which might not come to him again. So far as I could distinguish, there were two kinds of scientific experience, and a scientist was lucky if he was blessed by the visitation of either just once in his working life. The kind which most of them, certainly Martin, would have judged the higher was not the one he had just known; instead the higher kind was more like (it was in my view the same as) the experience that the mystics had described so often, the sense of communion with all being. Martin's was quite different. Not so free from self, more active; as though, instead of being one with the world, he held the world in the palm of his hand; as though he had, in his moment of insight, seen the trick by which
he could toss it about. It did not matter that the trick had been invented by another; this was a pure experience, without self-regard, so pure that it brought to Martin's smile, as well as joy, a trace of sarcastic surprise (50-51).

Despite the narrator's avowals that the experience is somehow "pure," his description of it is not likely to attract a reader's sympathy. Inherent in the description is the image of the scientist that laymen fear: someone so impelled by the sheer joy of discovery that he has no regard for what effects his discoveries will have on the world.

So Snow begins his novel by humanizing the basic image of the scientist. He is the detached, and therefore dangerous, man of popular conception, but he is also a loving brother, a touchingly loyal spouse, a devoted father, and a suitably skeptical servant of the government. We are encouraged to sympathize with the scientist even while we feel concern about his work. In this way Snow increases our sense of the character's authority by allowing him to help develop the bomb, but preserves his capacity to serve as an effective moral spokesman later in the book. If we are sympathetic to Martin, we will not reject him, but rather begin to hope that he will see the danger of his position for the rest of the world.

The level of the moral conflict the scientists face becomes clear whenever the question of the actual use of the bomb arises. When asked if the government would actually use the bomb, Lewis
answers that he finds the idea "almost incredible." Martin replies that he finds it absolutely incredible and goes on to outline the steps he and his colleagues could take to insure that the weapon would never be used. Even so, he is elated when his team manages to build a reactive pile, and he shares his colleagues' joy when the Americans finally do develop the bomb, even though his own team has been beaten to it. His justification for his attitude is that someone is bound to find the secret one day. If he and his colleagues find it first, he believes, they will be able to keep it from being used.

Ultimately, of course, Snow's work, like all the others dealing with the development of the atomic bomb, points up the impotence of the scientists to control their own creation. It passes into the hands of the military and the government who have few qualms about using it. Having failed to prevent what he has come to see as a misuse of his work, Martin is forced to face the reality of his life: scientific research is not abstract; it has practical, sometimes destructive, results. Following the bombing of Nagasaki, he decides to resign his position with the bomb project and take up a much less prestigious career as a teacher. Ultimately, he reports to Lewis, he can find no compromise: either he accepts the responsibility for the deaths that his work brings about, or he can have nothing to do with developing the weapons. Martin has finally seen that he cannot separate his actions from their consequences. He must accept moral responsibility.
What is the rhetorical effect of this rejection of the bomb by the very people who helped develop it? In one respect, it illustrates the horror that even nuclear scientists historically have felt about the bomb and its effects. If they, who know those effects better than anyone, are reluctant to use the bomb, we should be too. And the fact that the scientists in the novels are initially in love with the project increases our sense of their revulsion. They are turning against the practical application of the knowledge they love so much and have struggled so hard to obtain. They are, in effect, sacrificing their lives' work in order to preserve humanity, and that level of sacrifice emphasizes the level of revulsion they feel. On another level, the fact that the scientists have created the bomb invests them with a proprietary interest in it. They have given the world a certain knowledge—a certain power, in fact—but have forbidden the world to use that power destructively. The violation of this prohibition becomes an act of willfulness—our act of willfulness—that takes on the nature of a secular sin. What right do we have to use the bomb if those who invented it withhold their permission for its use? How can we justify our actions in such a circumstance? If the author can make us empathize with scientists he creates in his work, we will be more sensitive to the moral dilemma they face and more inclined to accept the condemnation of nuclear weapons that they ultimately advocate.
Closely paralleling the use of the scientist as a spokesman against the bomb is the use of the enlightened soldier. In a sense, the soldier's position is similar to that of the scientist in the literature of nuclear war. While it was the scientists who developed the bomb, it was the military who actually used it against Japan and then insisted that we stockpile the weapon after World War II. The history of the nuclear-arms race is replete with examples of how the military's shortsightedness and lust for power helped increase the numbers and kinds of nuclear weapons in the nation's arsenal. Given this history, we should not wonder that the public image of the military in relation to nuclear weapons is of a group of aggressive and insensitive men who plot cold-blooded strategies for World War III and are all too ready to put those strategies into operation. Certainly this view of the military prevails in anti-nuclear works ranging from Ralph E. Lapp's *KII and OverkII* to Helen Caldicott's *Missile Envy* and Edward Zuckerman's *The Day After World War III*. Unsurprisingly, this attitude is a significant strain in anti-nuclear fiction as well. Such works as *Command the Morning* by Pearl S. Buck, *The Accident* by Dexter Masters, and *The Day the Earth Stood Still* all present military figures whose stern and often thoughtless policies frequently add to the nuclear dilemma. The quintessential portrait of this sort of military type, of course, is found in Stanley Kubrick's *Dr. Strangelove* where General Jack D. Ripper initiates a
strike against the Soviets because he fears they are fluoridating his water.

Given the pervasiveness of this unflattering view of the military, we may initially be surprised to find how many sympathetic portraits of soldiers can be found in anti-nuclear fiction. Two of the main characters in On the Beach, for example, are naval officers, themselves victims of the war without having taken any real part in it. The hero of Ben Bova's Millenium is an Air Force Colonel whose sensitivity to human life causes him to commit treason in order to stop a nuclear war. Even the tough-minded, gung ho Air Force general in War Games eventually shows a willingness to listen to reason, withholding a counterstrike when scientists tell him that warnings of a Soviet attack are the result of a technical malfunction.

Because this image of the sensitive, enlightened military man runs so counter to popular perceptions of the military's attitudes toward nuclear weapons, we may well speculate about its prevalence in anti-nuclear fiction. Why would an author choose his anti-nuclear spokesmen from the group of people who would seem least likely to provide such a spokesman? One answer to this question, of course, may be artistic. The very fact that the author chooses the least likely candidate to speak against nuclear war vitiates our expectations and provides his work with a degree of complexity. The mystery is always more intriguing if the butler did not do it. A second, perhaps more important, reason for an
author's presenting sympathetic military men is that the popular
conception of the heartless military man is not entirely accurate.
We have seen that Freeman Dyson draws sensitive portraits of
enlightened soldiers in his work. Zuckerman points out that no less
a paragon of military correctness than General Douglas MacArthur
warned against the horrors of nuclear war (43). In 1983 a group of
former NATO generals wrote Generals for Peace and Disarmament
to point out that increasing nuclear arsenals actually decreases the
security of Western Europe.

Finally, of course, there are compelling rhetorical reasons for
putting anti-nuclear arguments into the mouths of military men.
The dynamic of the ethical appeal at work here is similar to that
which worked in the case of the scientists. The audience feels
that if anyone would support nuclear weapons, a military man
would. He, after all, is the professional trained to pursue victory
at any cost, cold-heartedly dismissing sentimental concerns about
individual human life. If he questions the value of nuclear
weapons, he presumably does so for strategic reasons, and his
objections undercut the rationale for the weapons' existence. We
might put up with their horrible potential if they were necessary
for the defense of the country, but if even the military questions
their usefulness, we might be unwilling to risk total destruction by
relying on them.
Fall-Safe provides an excellent example of the use of the enlightened military man to frame the author's opposition to nuclear weapons. The hero of the book is Warren A. Black, an Air Force brigadier general and a member of the Pentagon Alert Group. As they do with all the characters in the book, the authors give a brief biography of Black shortly after introducing him. They tell us that he is the scion of a wealthy San Francisco family and give us an idea of the sort of ideals that shaped his education:

Black had seen Ned Black's library. It was made up of books by John Locke, Fourier, Robert Owens, the great Chartists, Marx, Spencer, Ricardo. The Books were worn and used. . . . He lectured his children on only one thing: man was social, he had a primary obligation to his society. . . . The Blacks, like all rich San Franciscans, gave to the Opera and the Symphony and museums, but most of their money went into schools, hospitals, and libraries. And not a single building they gave to the city bore the name of Black. Ned's sons, grandsons, and great-grandsons . . . became ministers, businessmen, educators, and a few of them, to old Ned Black's great gratification, became politicians. . . . Whenever there was a reform movement, a commission to investigate crime, and effort to broaden education, a Black played an important role (Burdick 80).

In short, General Black's heritage is a monument to modesty, intelligence, and civic responsibility.

When Burdick and Wheeler concentrate the biographical sketch on Black himself, they show how he brought the Black heritage to a new field of endeavor: the military. They tell us that Warren Black felt no particular calling to the usual family careers even
though he was intelligent and diligent enough to graduate from an Ivy League school. Instead it was in the military during World War II that he found his fulfillment:

He flew and fought with unspectacular success and although he loathed the destruction of life he brought himself to agree that it was necessary. He was steady, competent, and with absolutely no desire for publicity. Over the years he had developed a love for the Air Force, although he knew that it should be impossible to love such a great impersonal organization (Burdick 81).

Thus, Black presents what might seem to the reader to be an anomalous image of the military. He is a soldier, and he does love his service, recognizing the necessity of fighting and killing for his country. At the same time, however, he is a cultivated humanitarian and a self-effacing man of integrity. The reader who expects the soldier to be a mindless militarist will have to reevaluate his attitudes toward Black. In fact, Burdick and Wheeler introduce such a reevaluation into their novel when they describe Black's first meeting with the woman he eventually marries. At first, we are told, Betty is put off by his occupation: "He was in uniform and she had assumed that he would automatically support Tilliver's views on the inevitability of war" (Burdick 85). Eventually, however, he is able to make clear to her his attitude toward war:
"Don't use labels, Betty," he commanded. "Do you think the SAC people are all anxious to have war? Don't be a fool. We're as scared as everyone else. Look, I was on the Strategic Bombing Survey of Germany after the war. It's not something that's liable to make you a warmonger" (Burdick 88).

Besides sealing the romance between Black and Betty—they are married three months later—this speech also seals the romance between Black and the reader. Even if we do not change any preconceptions we might have held toward the military in general, we are compelled to see Black as a humanitarian man, one who will uphold the dignity and safety of human life even in the violent world of the soldier. Thus even those who are disposed to distrust the military mind are encouraged to have faith in Black.

Therefore, when Black expresses doubt about the wisdom of various aspects of the nuclear arms race, the reader is disposed to consider his position seriously. For example, early in the novel we are told that, while he considers the Soviet Union dangerous, he feels that it is not the overwhelming threat that many believe. In stating this belief, he undercuts the whole theory of the need for nuclear weapons to keep Soviet conventional forces at bay. Later he off-handedly attacks the philosophy of overkill:

It's damned nonsense to spend billions of dollars to develop a 'military posture' which might or might not be credible to the Russians. Who needs more muscle now? Neither side. It gets down to a guess in a psychological game, Stark. This thing of piling up
bombs on bombs and missiles on missiles when we both have a capacity to overkill after surviving a first strike is just silly (Burdick 146).

Of course, Black also expresses opinions about the central issue of the novel, the possibility of accidental nuclear war. Although he was one of the first Air Force generals to recommend psychological testing for military personnel who would be in a position to command a nuclear strike, he is not entirely convinced that even such a system can completely prevent the possibility of some mad general's ordering his planes to bomb the Soviet Union. He goes so far as to suggest to the Alert Group the possibility of the President's going insane and ordering such a strike. Even barring insanity, he is all too well aware of less spectacular forms of human error:

Many was the time that General Black had seen a tired and irritated mechanic turn a screwdriver a half turn too far, fail to make one last check, ignore a negative reading on a testing instrument. On a plane, such errors would mean only that an expensive piece of machinery and a few men would be lost. On a Fail-Safe black box--and the men who adjusted and installed them had not the remotest notion of what they were--the slightest accident could trigger the final disaster (Burdick 161).

Moving beyond the realm of human failure, Black reflects on the problems with machines themselves:
There was ample evidence from the experiences of the Electra planes and the now obsolete DC-6s that a serious flaw in an elaborate machine could survive every experimental situation—and then in real practice come completely unstuck (Burdick 160).

He also knows that, in fact, a weapons system as complex and destructive as the United States' nuclear retaliatory force can never be fully tested:

The whole Positive Control system really depended on equipment that could never really be tested until the time came for its first use, and because of this nobody could really know in advance whether or not it would work right. The Fail-Safe machines could be truly tested only once: the single time they were used (159).

Doubtless many of these points are based on actual incidents or studies that Burdick and Wheeler are eager to popularize. But the fact that the statements are put in the mind, if not the mouth, of a military figure that we have come to care about at once personalizes them and makes them more credible. Because we have come to know the man who delivers these thoughts, we pay more attention to them than we would if they were the pronouncements of an anonymous figure. We trust Black to tell us the truth. At the same time, because we know that he is a loyal, competent officer, we have greater confidence in the military soundness of his opinions.
Black's negative attitudes are not limited to specifics of the problems of accidental nuclear war, however. He sees the irrationality that underlies all aspects of the nuclear arms race:

Black often had the sensation in a meeting that they had all lost contact with reality, were free-floating in some exotic world of their own. It was not just SAC or the Pentagon, Black thought. It was the White House, the Kremlin, 10 Downing Street, De Gaulle, Red China, pacifists, wild-eyed right wingers, smug left-wingers, NATO, UN, bland television commentators, marchers for peace, demonstrators for war... everyone. They were caught in a fantastic web of logic and illogic, fact and emotion. No one seemed completely whole. No one could talk complete sense. And everyone was quite sincere (Burdick 151).

This passage, which reflects the attitude that Freeman Dyson would take a decade later in Weapons and Hope, suggests the irrationality, even madness, that the whole subject of nuclear weapons can generate in otherwise stable, reasonable people.

In the end, of course, both Black's negative view of the arms race in general and his specific fears about accidental war are justified. Because a malfunction in a Fail-Safe box has caused an American plane to bomb Moscow, the President of the United States, to prove that the bombing was an accident, must order Black to bomb New York, Black's home. A technical accident combined with the convoluted anti-logic of nuclear weaponry has forced upon Black the ultimate contradiction: to protect his homeland, he must destroy his home; after preparing for a lifetime
to kill the enemy if such is his duty, he finds that duty requires him to kill his own family. Burdick and Wheeler have arranged for him to consummate his anomalous function in the novel by becoming both the reluctant perpetrator and submissive victim of nuclear destruction. In doing so, the authors have increased the strength of his ethical appeal by showing his worth as a prophet; the actions of the book demonstrate that his fears about nuclear war were well-founded. And by placing our ultimate realization of the worth of Black’s objections in the same scene in which we sympathize with him most, they give their message its greatest chance of success. We will naturally feel great pity for Black at the end of the book. At the same time, because the forces which he inveighed against have forced him to become the agent of his own destruction, we may tend to transfer our sympathies for Black to his argument, which is, of course, the authors’ own argument. Thus, the force of Black’s ethical appeal, as it is developed in the book, marshals our sympathies for his, and the authors’, arguments against nuclear weapons.

Such treatments of the military in anti-nuclear works far outstrip sympathetic portraits of civilians who control nuclear weapons. For example, the leading villain in Fail-Safe is a civilian adviser who advises the President and his staff to undertake a preemptive strike against the Soviets. Other works--Wargames, A Canticle for Leibowitz, and Dr. Strangelove, for example--also present civilian experts who, out of stupidity or blindness or
Insanity, do more to contribute to the nuclear crisis than to solve it. Politicians do not fare much better. True, the President in *Fail-Safe* is an enlightened, rational man who puts his duty to mankind over considerations of personal or political gain or loss, but more frequently the chiefs of state in anti-nuclear fiction lack a strong ethical appeal. The President in Ben Bova's *Millenium*, for example, is ineffectual and stupid. After the destruction of the country in *The Day After*, the President delivers a vapidly pompous and inadequate statement assuring his people that the United States will prevail against its enemies. Even in *Riddley Walker*, which is set years after a nuclear holocaust has destroyed civilization on earth, the leader of the atavistic society portrayed in the novel follows a mindless quest to redevelop the "1 big 1" that led to the destruction in the first place.

If heads of state have not, for the most part, been in the forefront of fictional movements to oppose the bomb, however, another type of leader has played a consistent role in such opposition--the clergyman. Indeed, the opposition of fictional priests, ministers, rabbis, and the like to nuclear weapons has been much more nearly uniform than that of their real life counterparts. To be sure, clerical opposition to nuclear weapons traces its roots to the very beginning of the atomic age. After the bombing of Nagasaki, both the Vatican and the Federal Council of Churches of Christ in America questioned the morality of atomic warfare (Zuckerman 71). Continuing this tradition into the present, the
Episcopal House of Bishops, in 1982, and the United States Conference of Catholic Bishops, in 1983, each issued pastoral letters calling for eventual global nuclear disarmament. The General Assembly of the United Presbyterian Church in the United States, the United Methodist Council of Bishops, and the National Council of Churches all issued resolutions specifically supporting the nuclear freeze (Lefever 339-349). Other religious leaders, however, have given tacit, and sometimes explicit, support to the arms race. In 1980, for example, the Reverend Jerry Falwell, leader of the Moral Majority, suggested that the United States was falling in its duty to God by falling behind in the nuclear arms race:

Ten years ago, we could have destroyed much of the population of the Soviet Union had we desired to fire our missiles. The sad fact is that today the Soviet Union would kill 135 million to 160 million Americans, and the United States would kill only 3 to 5 per cent of the Soviets because of their anti-ballistic missiles and their civil defense . . . . Earlier I quoted verses 1 through 6 of the Book of Romans in the Bible. Rulers should be ministers of God to the people for good. In the verse, "he beareth not the sword in vain," we find the acknowledgment that those in places of authority, officials in Washington, have the right to bear the sword (Falwell 98).

Even more traditional religious leaders have had mixed reactions to the morality of nuclear weapons, however. Pope Pius XII, while condemning the terrible destructive force of the atomic bomb,
suggested that its use could be morally justified in certain extreme situations (Lefever 297-298).

Religious leaders in anti-nuclear fiction, however, if not quite unanimous in their opposition to nuclear weapons, at least seem to present an overwhelming consensus. It is difficult, if not impossible, to find a religious figure in these works who joins with the Reverend Falwell in proclaiming a divine mandate for nuclear superiority. Instead, these fictional clergymen either attack nuclear weapons directly, or are sympathetic victims of nuclear destruction. In A Canticle for Leibowitz, for example, Roman Catholic monks deliver Walter M. Miller’s message that knowledge without faith and compassion can lead to destruction:

We all know what could happen if there’s war. The genetic festering is still with us from the last time Man tried to eradicate himself. Back then, in St. Leibowitz’ time, maybe they didn’t know what would happen. Or perhaps they did know, but could not quite believe it until they tried... They had not yet seen a billions corpses. They had not seen the stillborn, the monstrous, the dehumanized, the blind. They had not yet seen the madness and the murder and the blotting out of reason... Now they have the bitter certainty. My sons, they cannot do it again. Only a race of madmen could do it again (Miller 255-56).

Thirty years after the publication of Miller’s book, Whitley Strieber and James Kunetka also use a priest to denounce nuclear war:
The message of Hiroshima wasn't understood. We thought that it meant devastation. But ruins have to do with the past. Modern nuclear war means life being replaced by black, empty space. It means ancient seats of government evaporating in a second. The moral question of Is almost beyond asking. What are we that we can do this? What is evil, that it can speak with such a voice? We no longer know what we are, we of the Holocaust, and Stalin, and Warday. We unleashed hell on ourselves by pretending that diplomacy, of all things, could control its fires. The heart, and the heart alone, is more powerful than hell (139).

The ethical appeal of the clergy is not difficult to understand. Clergymen have consistently placed highly in polls measuring what classes of people the public at large respects most. Apparently even in an age when the efficacy of institutionalized religion is questioned most people are still impressed by those who sincerely dedicate their lives to the service of their God. Moreover, while clergymen are not involved in the development or use of nuclear weapons, they are experts in their own sphere: the ethics of the weapons. At the same time, however, they are not usually seen as technocrats. While some priests, ministers, rabbis, and so forth are respected scientists, our usual picture of the man (or woman) of the cloth is of the pastoral counselor whose scientific expertise extends about as far as our own.

Even the clergyman's image, however, sometimes requires some modification if he is to present a positive ethical appeal. A comparison of Abbot Zerchi in A Canticle for Leibowitz with Fr. Michael Dougherty in Warday illustrates this point. A crucial plot
movement in the third part of Miller's novel concerns Abbot Zerchi's attempts to prevent a woman who has been exposed to radiation from seeking euthanasia for herself and her infant daughter. The abbot is here following the dictates of orthodox Roman Catholic doctrine that any taking of innocent human life, for whatever reason, is a serious offense. The denouement of the novel, upholding as it does the primacy of spiritual rule over natural philosophy, makes it clear that the reader is expected to applaud the abbot's stand. Since 1959, however, concepts such as euthanasia have gained public acceptance to such an extent that many, if not most, people reading Miller's novel might consider Abbot Zerchi unreasonable, if not heartless, for insisting that the woman accept her suffering. Such a case would certainly be indicated by the way Strieber and Kunetka handle the subject in Warday. In this work, the authors interview a doctor who has converted to Catholicism only after the Pope relaxed the sanctions against euthanasia. Consequently, their Fr. Dougherty never has to face the conflict between his duty to maintain orthodox doctrine and his compassionate human impulses that Abbot Zerchi must struggle with. Therefore, he, and the authors, need not risk alienating either the faithful who might be put off by the sight of a clergyman sinning against his duty or the more secular reader who would be repulsed by the image of someone clinging to abstract doctrine by insisting that those in pain live out their suffering. In this way, Strieber and Kunetka emphasize the most
positive aspects of the clergymen's ethical appeal without introducing aspects that might be deleterious to a secular audience.

No doubt Aristotle would approve, if not applaud, the use of the various classes of ethical appeal we have discussed so far. Scientists, military leaders, and clergymen all seem to have the basic requisites of the ethical appeal: knowledge, virtue, and good will. Where various of these classes might seem to lack some element of these qualities, their creators have been careful to supply those deficiencies: Martin ultimately achieves virtue, Black is shown to be Intelligent, Fr. Dougherty is allowed to display a humanist's view of good will. Other classes of ethical appeal that have been used in anti-nuclear literature, however, might raise Aristotle's eyebrows a bit in that they do not seem to fit the overall thrust of his view of society.

The use of the special ethical appeal of women in anti-nuclear fiction, for example, actually violates Aristotle's observations in the *Rhetoric*. As I have already noted, Aristotle ranked women with slaves and suggested that they lacked any significant positive ethical appeal. A look at the literature of nuclear war, however, shows that women, in fact, exercise a significant ethical appeal. One of the strongest voices in the anti-nuclear movement today, for example, is that of Dr. Helen Caldicott, a pediatrician formerly on the staff of Harvard University Hospital. She has spent several years touring the world speaking against both nuclear weapons and nuclear power, has
written two books on the subject, and has contributed to two films. In all of this activity, some of her impact has stemmed from her credentials as a physician and a self-made expert on nuclear issues. But a large part of her ethical appeal—and a part that she repeatedly emphasizes—is that of a woman capable of giving birth and traditionally concerned with the nurturing of children.

In *Missile Envy*, she sets out the philosophical background of the special ethical appeal of women. She maintains that there are essential psychological differences between men and women. Men, she claims, are emotionless and excessively logical but unable to admit mistakes. They are competitive and eager to prove their masculinity, frequently through violence. Above all, men are interested in being—or at least appearing—physically strong and fear that any sign of tenderness may be taken as a sign of impotence, particularly sexual impotence. Women, on the other hand, are in tune with their feelings, willing to admit mistakes, and possessed of intuition that is almost unerring. Most of all, the woman is nurturing. Caldicott claims that, like the male's instinct for violence, this nurturing aspect is inborn. It helps women rise above competitive urges and find ways to compromise. She compares relations between world powers to marriage and points out that it is always the woman who makes the initiative that resolves marital conflict. The nurturing aspect of a woman, of course, gives her a great concern about children and, therefore, about future generations in general. Because of this concern, war
Is her enemy. This conception of the differences between male and female personality traits may be disputed, especially by men, but the fact remains that it has been a significant strain in both fictional and non-fictional works about nuclear arms. Besides Caldicott's book, for example, recent years have seen the publication of Over Our Dead Bodies, a work by and for women denouncing nuclear armaments.

The exploration of the problem from a woman's viewpoint has probably been even more prevalent in anti-nuclear fiction. Pearl S. Buck used the women's perspective in Command the Morning by placing a denunciation of the sort of thinking that developed the bomb into the mouth of the technically ignorant but deeply feeling wife of the project head. It should be noted that male authors, too, have employed the unique ethical appeal of women. In Fall Safe General Black's wife interrupts a theoretical discussion of nuclear strategy to deliver a humanist view of the issue:

You are both romantics caught up in your fantasy world of logic and reason and that is why it is so damned hopeless. Because man himself has become obsolete... His damned brain has gotten us into this mess because of its sophistication and we cannot get out of it because of his pride. Man has calculated himself into so specialized a braininess that he has gone beyond reality. And he cannot tap the truth of his viscera because that, for the specialist, is the ultimate sin... We all know that the big explosion is going to happen. Your concern, the two of you, is to make sure that you die intellectually correct. But my problem is more primitive. I only want to make sure that when it
comes and my boys are dying that I am there to ease their last pain with morphine (95-96).

It may say something about the general awareness of this aspect of ethical appeal that, when the novel was made into a film in 1964, this speech was eliminated and the character of Black's wife was reduced to the level of a supportive "little woman" whose principal dramatic function was to be present in New York City when duty forced Black to drop a bomb on it. I suspect that twenty years later a director with Sidney Lumet's progressive sensitivities would have been more concerned with bringing out Mrs. Black's ethical appeal.

The development of the general public's consciousness of the woman's viewpoint during the last twenty years may be inferred from the fact that in 1984 a woman, Lynne Littman, was able to make a major film about nuclear war from a woman's viewpoint. Testament details the death of Hamlin, California from radiation poisoning after a nuclear strike in San Francisco. The central character is a housewife named Carol Wetherly who struggles to keep her family together as her world crumbles. The film maintains its artistic integrity in dealing with the woman's ethical appeal in that, although the nurturing and family life are central to the structure of the film, no one delivers speeches about the differences in viewpoint between the women who suffer the effects
of the war and the men who, presumably, planned and carried it out. Instead the points are made subtly.

By opening with various scenes detailing the beginning of a typical day in the Wetherlys' lives, Littman establishes the difference between the mother's orientation and the father's. We see the mother attending to domestic details—picking clothes off the floor, fixing breakfast and making sure that her daughter eats it, getting her youngest dressed, even taking out the garbage. While many of these actions are the sort that more radical feminists might decry for perpetuating false stereotypes of the woman's role, they are necessary for the preservation of orderly family life, and it is the preservation of the family that lies at the heart of the particularly feminine ethical appeal. While the mother is performing her role as the foundation of the family's smooth existence, her husband is pursuing his own early morning routine. He takes his usual bicycle ride with his older son, challenging him to race up a steep hill. While he is supportive of the boy's efforts, he does betray an underlying sense of competitiveness combined with a slight insensitivity that seems to fit Caldicott's views of the differences between men and women.

The next section of the film, a discussion between the husband and wife in bed that night, reinforces this perception. At first the man wants to sleep, but the woman wants to talk about what to get the oldest son for his birthday. The husband complains that the birthday is two months away and there is no reason to
worry about it now. But the mother is insistent and eventually reveals that her real concern is that the son is getting older and will eventually have to face the draft. Once again, the husband complains that she is being impractical, pointing out that the son will not be draft age for two years. The scene is written and played semi-comically, the humor stemming from the husband's reasonable contention that it is too soon to worry about his fourteen-year-old son's being hurt in a war. The underlying conflict of the scene, however, illustrates Caldicott's view of the opposition between men and women. The father appeals to logic to quiet the mother's fears—fears that arise from her instinctive, nurturing concern for her child. Having answered those fears to his own satisfaction, he then insensitively ignores the fact that his arguments have not really quieted those emotions but simply transformed the concern into anger. Moreover, subsequent scenes vitiate the smug ridicule that grows from the father's logic. War is closer to his family than he could possibly imagine. It is, in fact, only a day away. Thus, the film justifies the woman's irrational emotional concern for her son's safety and undercuts the father's "reasonable" complacency.

The balance of the film repeatedly renders the horrors of nuclear war in domestic terms. For example, we witness the explosions themselves totally from the perspective of the Wetherlys' living room. The scene begins with the children watching television while the mother takes care of family business. Suddenly
a news bulletin about hostilities between the United States and the Soviet Union interrupts the program. When, in turn, static interrupts this bulletin, the mother, perhaps responding immediately to some intuitive sense of danger to her loved ones, gathers the children in the center of the room, clutching them to herself in an attempt to cover them with her own body. Later we see the first hint of the radioactive fallout which will ultimately kill the town's inhabitants in a fine dust that the family notices covering their breakfast dishes. Even the breakdown of social order is rendered in domestic terms. A neighbor boy breaks into the home to steal food—more of an issue for mothers to handle over the back fence than a crime that demands the attention of the National Guard.

Indeed, the dramatic structure of the film depends on and supports this emphasis on domestic matters, following, as it does, the gradual disintegration of the family as one member after another dies. First the father is presumed killed at work in San Francisco. Then, in a series of low-key scenes we watch the deaths of the youngest son and the daughter. Intercut with these scenes—almost punctuating the deaths—are home movie views of the family's last celebration together—the father's birthday. The film climaxes when the mother decides to commit suicide with her son and an orphaned neighbor boy. As she prepares for the act, she straightens up her house, arranging knick-knacks on her youngest son's dresser, closing the lid on her daughter's piano, touching her husband's pictures. All of these acts remind her, and
us, of the family unit that is now all but destroyed. Then she takes the children to the garage, closes the door, and starts the car. Before she can lose consciousness, however, she relents. She finds she cannot destroy what is left of the family. She must cling to what is left even though logic tells her that her situation is hopeless. Her decision, as Caldicott might point out, is typically a woman's response. Ultimately she cannot destroy the family because it is against her very nature to do so. Instead she decides to celebrate the son's birthday—a festival of life—with the meager food they have available to them. When the son asks what to wish for, the mother delivers her final speech:

That we remember it all, the good and the awful. The way we finally lived. That we never gave up. That we will last to be here to deserve the children.

These lines echo an incident that takes place shortly after the attack. At the end of a performance of "The Pied Piper of Hamlin" given by the local school children, the mayor of the fictional Hamlin mourns the loss of his children and curses his own stupidity for causing that loss. The parallel between the leaders of the fictional town and the leaders of the countries of the real world is obvious. But a messenger reassures the mayor that the children are not dead: "They are just waiting until the world deserves them." This suggestion that the leaders of the world have
betrayed the children, and, by implication, future generations by allowing a nuclear war is a central part of the woman's ethical appeal. Caldicott would say that the leaders have destroyed the very people they were supposed to nurture. Littman underscores this concept with a sub-plot about a young couple whose baby dies of radiation poisoning. Significantly, the first sign the couple has of the baby's illness is her refusal to nurse because her mother's milk is contaminated. Here is the essential image of the woman's view of the horror of nuclear war. It makes her unable to fulfill her primary biological function: to give and to nurture life.

The concept that the world does not deserve its children suggests another kind of ethical appeal—that of children. Of course, the depiction of youthful victims to arouse emotions of pity has a long tradition. We think of children as innocents, especially in the ways of international politics. Of all the potential victims of the horrors of war children are potentially the most poignant. So, as we shall see later, writers have paraded suffering children through both the non-fictional and the fictional literature of nuclear war in an attempt to arouse their audiences' emotions. It is also possible, however, to find instances when children are permitted to act not so much as passive victims but as persuasive spokesmen in their own right.

There is, to be sure, some justification in the Rhetoric for the ethical appeal of the child—or, to be more specific, of the male youth. Aristotle points out that the young man is more
idealistic than his elders because experience has not yet taught him the necessity for tempering virtue with prudence. Consequently, the youth is prone to act on principle, but he is also subject to behaving rashly. Moreover, youth's idealism is offset by a tendency to be overwhelmed by passions, particularly anger and lust. Valuing the balance that the tempering of idealism with prudence gives, Aristotle placed the ethical appeal of mature man much higher than that of the youth, but social critics of our own day do not always accept his reasoning. Especially in the last fifteen to twenty years, the advantages of the particular attributes of youth have, for some people, all but subsumed the role of experience in persuasive appeal. The passionate idealism that Aristotle grants to youth projects a more attractive sense of sincerity than does the tendency toward compromise that maturity frequently urges. In fact, at various points in recent history, compromise has been seen as the product of failed idealism or outright corruption in "mature" people. Even the more passionate nature of youth can be an advantage rather than a liability. Recent popular culture has frequently portrayed youthful anger as a legitimate reaction against the corruption of an evil adult world. Increased freedom of sexual expression among the young is often seen as a sign of vitality and an instinct to create that the older generation has lost.

We are dealing here with a Wordsworthian view that begins with the assumption that children are naturally good and naturally wise. Indeed, in this view, children are morally and intellectually
superior to adults. This attitude flavors some of Caldicott's comments in *Missile Envy*:

Children are unable to deny harsh realities . . . . They are, therefore, extremely vulnerable to fears about nuclear war, the reality of which is apparent to them every day as they watch TV and read newspapers. They just have to listen to President Reagan make a speech renaming the MX missile 'the Peacekeeper' to realize they are living in an insane world. Children also seem to have an intuitive sixth sense about truth which adults usually lack . . . . Children are so honest and straightforward that their comments are often disarming to adults, who prefer to dismiss their profound truth as childish thinking and therefore not to be taken seriously (334).

As arguable as this attitude may be, one cannot deny its widespread popularity. For example, the Vietnam War is widely believed to have been hurried to its close by the protests of idealistic young students. More recently, a twelve-year-old schoolgirl, the late Samantha Smith, became an international celebrity by writing to Soviet Premier Yuri Andropov--and, subsequently, visiting the Soviet Union--to plead for world peace.

Anti-nuclear fiction, of course, has not ignored the power of this appeal. For example, Riddley Walker, who rejects the pursuit of nuclear technology in Russel Hoban's novel, is a twelve-year-old making the transition into adulthood but without quite losing the ideals of youth. *Warday* includes a touching chapter in which children writing about spring naively attack the destructiveness of
nuclear war. In Robert Bolt's play *The Tiger and the Horse*, a young idealistic teacher convinces an older faculty member to risk his career by signing a petition against nuclear-weapons testing. Probably the most extensive and purest use of the ethical appeal of the young, however, is found in John Badham's *Wargames*. The film is an adventure depicting the efforts of two high school students to save the world from nuclear destruction threatened by an out-of-control computer. Even though the pair have some share in perpetrating the crisis by breaking into the Defense Department's computers to play war games, their youth enables them to respond to the crisis more sensitively and pragmatically than their elders.

In the early part of the film, Badham takes time to establish the superiority of the two students to the adult world that surrounds them. To this end, we learn that, although David Lightner is a poor formal student, he is a computer genius. Moreover, his abilities at the computer terminal enable him to outsmart the adult world and vitiate the effects of his academic deficiencies: he is able to break into the school's computers and change his grades. At home his fad-oriented mother and ineffectual father, neither of whom have the slightest idea what all of his electronic gadgetry does, play out comic scenes eating raw corn and congratulating their son on his fraudulent grades, while he sits in his room impressing his girlfriend by demonstrating that, aided by his computer, he has the world, literally, at his fingertips. This superiority of the young to the adult achieves its apotheosis
when David succeeds in bypassing all of the elaborate security measures that are designed to prevent anyone from tampering with the WOPR (War Operations Planned Response) computer which controls the country's nuclear capacity.

The use of the ethical appeal of the child in the film comes most obviously into play when the high school students attempt to enlist the aid of a scientist named Falken who originally programmed the defense computer. The scientist, however, has grown fatalistic about mankind's ability to stave off its self-destructive tendencies. He explains to the two students that man, like the dinosaur, has outlived his usefulness and is ready for extinction:

And when we go, nature will start again—with the bees, probably. Nature knows when to give up, David .... Extinction is part of the natural order.

The boy's response to Falken's suave, cosmic argument is an instinctive affirmation of life: "If we're extinguished there's nothing natural about that. It's just stupid." Though his lines lacks the eloquence of the scientist's speech, they reflect two valid points. One is that while the dinosaurs became extinct through natural forces outside themselves, the extinction of man in a nuclear war would be the result of man's own choices. He would become the first species to cause his own destruction. Stemming from this
point is the second. Since nuclear extinction would be the result of man's own actions, it can be judged as any of his other actions can be. As interested parties, most viewers of the film would probably agree with the boy that such an extinction would, indeed, be stupid.

More importantly, the children are perceptive enough to see through Falken's philosophical arguments to the real reason he is unwilling to help them save the world. Their research into the computer's origins has informed them that Falken's wife and son, Joshua, were killed in an automobile accident shortly before Falken gave up government research. The girl, after listening to Falken's lecture on human extinction, points out that, at seventeen, she is too young to die and suggests that he would help if his son were alive. David, picking up on this theme, delivers youth's rebuke to age in its strongest terms:

This is unreal. You don't care about death because you're already dead. I know a lot about you. I know you weren't always like this. What was the last thing you cared about?

This complaint is, of course, the classic one levelled by vibrant idealistic youth against the cynical, despairing older generation. Significantly, it is this rebuke that seems to change Falken's mind. These two children have forced him to remember the hopes and ideals of his youth—hopes and ideals that he had embodied in his
son--and this memory convinces him to help the students ward off nuclear destruction. In a final triumph of the child's superiority to the adult, David, with Falken's blessing, once again proves himself more adept than the civilian analyst by teaching the computer that nuclear war is unwinnable before it can launch an attack against the Soviet Union.

The climax of this film brings to the fore another type of ethical appeal that Aristotle would certainly not have considered: that of the computer. It may seem odd to think that a piece of hardware could have an ethical appeal. After all, ethical appeal is supposed to be based on personality and character. Machines, properly speaking, have neither. But, as Aristotle pointed out, actuality is not as important as perception in determining the ethical appeal. Because people generally perceive the computer to be an almost limitless thinking machine, they tend to confer on it many of the qualities of a thinking being, including character and personality. In fact, the computer's ability to perform certain functions much more quickly and accurately than a human being may cause many people to think of them as superior beings. Of course, one might argue that even if they are seen as superior beings, their appeal tends to be more negative than positive. Whenever someone receives a bill that doesn't seem quite right, he immediately blames the computer for making a mistake. More often than not, whoever issued the bill is only too happy to confirm that suspicion. The computer has become the unseen and
defenseless scapegoat for all the bureaucratic problems of modern man. We reason that it is a machine, observe how often our other machines break down, and conclude that it, too, breaks down, probably more often than it should. And, in fact, popular culture has confirmed this impression and played on the fears it arouses. *Fail-Safe* and *Wargames* are both nightmare stories of what could happen if too many computers had too much control over our nuclear forces.

There is, however, another side to man's relationships with his thinking machines. He may complain about them; he may question their accuracy; he may deride what he perceives as their undependability—but he has learned to rely upon them. If a mistake appears on his bank statement, he may immediately assume that the computer has erred (again), but just as immediately he takes out his pocket calculator to check his own arithmetic. Usually he discovers, with no special surprise, that he, and not the computer, has committed the error. The recent frenzy for buying desktop microcomputers for various domestic purposes ranging from balancing the family's budget to scheduling the family's activities suggests that we trust the computers much more than we like to admit. Even the die-hard humanist has discovered the advantages that a word processor can provide. The simple fact is that, say what we might, on some deep level the human being does trust the computer in certain areas more than he trusts himself.
An instructive perspective on the changing ethical appeal of the computer can be gained by comparing differing treatments of the most famous of fictional computers, the HAL 9000 from Stanley Kubrick's 1968 film, *2001, A Space Odyssey* and Peter Hyams' 1984 sequel *2010*. HAL is, for all practical purposes, as human as any character in either film. He speaks with a distinctly human voice; he engages in meaningful dialogues with the other members of the cast; and he even has a rudimentary personality with an apparent capacity for emotion. But his capabilities far surpass those of actual human beings. He is supposedly incapable of error, which makes him the perfect being to control the various functions of the spaceship *Discovery*: navigation, life support control, and so forth. As frequently happens in films pitting man against his machines, however, the HAL of *2001* eventually becomes a threat. After making a mistake about the status of a piece of equipment, he realizes that his human companions have begun to lose confidence in him. To maintain his primacy, he tries, in a very human fashion, to kill the crew. It is only by luck and cunning that the last surviving member of the crew is able to lobotomize the machine and regain control of the ship. The message is ominously clear: man stands in danger of becoming subject to his superhuman machines, which, when they inevitably break down will pose a possibly insuperable danger to the human race.
In 1984 director Peter Hyams made a sequel to 2001 in which a delegation from Earth reboards the spacecraft Discovery to find out what went wrong with the mission. HAL's original creator, Dr. Chandra, revives the computer's higher memory functions, and we learn that its behavior was the result of a neurotic episode triggered by an inability to lie to the astronauts as mission control commanded it to do. Thus, not only is HAL's reputation restored in the second film, but it is actually enhanced. We learn that HAL is, in fact, morally superior to his human counterparts: a man can lie, but HAL cannot. To emphasize HAL's heroic character, Hyams has him sacrifice himself in order to save the human astronauts at the end of the film. Combined with Chandra's contention that a computer is just a silicon-based life form as opposed to the carbon based forms that created it, these events reflect a powerful positive ethical appeal for the computer.

What we see in these two films, then, is an evolution of people's attitudes toward computers from deep-seated fear to confidence and even awe. Of course, the films themselves simply reflect, with some exaggeration, the general attitudes of society. We do place great confidence in computers, and writers and filmmakers can exploit this confidence as they once exploited our fears. Since we have come to recognize the computer's superiority to us in certain respects, the skillful artist can increase the force of his message by placing it into the circuits of a superhuman, but
benign thinking machine. Certainly such a process is at work in *Wargames*.

At the beginning of the film, director John Badham presents the WOPR computer as the usual impersonal bank of blinking lights. Its caretaker explains that the machine plays war games twenty-four hours a day, experimenting with various scenarios for nuclear war in order to point out flaws in strategy. He tells us that the machine's unique talent is an ability to evaluate its own mistakes and learn from them. At this point in the film, the computer has no observable personality, although the caretaker does affectionately refer to it as "he" and the camera movements along its surface sometimes seem designed to suggest the movements of a caged animal— or at least a caged intelligence— pacing the confines of its box.

Only when the high school students contact the computer does it begin to take on the trappings of personality. First, the boy discovers that the secret password that will allow him to circumvent the security devices built into the computer is *Joshua*, the name of the scientist's dead son. The students even begin to call the machine Joshua, thus giving it the status of the professor's surrogate son. This suggestion of incarnation is enhanced when the boy attaches a voice synthesizer to the computer, allowing it to "talk" in a high-pitched, slightly mechanical voice like some cartoon character. This quality goes a long way toward making the computer sympathetic, as does the fact that when the boy suggests
that they play "Global Thermonuclear War," Joshua seems reluctant, suggesting a game of chess instead; not only is he a lovable buddy and a faithful son, he is basically non-violent and uninterested in mankind's hostility. Later, when the computer is about to cause the destruction of the world, we may advert to this scene and remember that he is just a dutiful servant who has been programmed to do humanity's dirty work.

At the climax of the film, Joshua has taken complete control of the United States' nuclear forces and is preparing to launch an attack against the Soviet Union. Mankind's sole hope of survival lies in teaching him that nuclear war is futile before he is able to launch one. The high school boy is able to accomplish this task by forcing the computer to play tic tac toe—a game that cannot be won. As Joshua goes through game after game without finding a winner, he comes to understand the analogy. In the several seconds left before he discovers the codes that will launch the missiles, he tests what seems to be every conceivable scenario for nuclear war, each one ending with the same result: no winner. We see the various scenarios flashing on the plotting board, dotted lights tracing paths of missile trajectories punctuated by large flashes indicating explosions. After each scenario, a sign flashes "Winner: None." The tempo increases as the computer plays more and more games faster and faster. Finally he discovers the final missile launch code at precisely the same moment he learns his lesson. Instead of launching a strike, he says, "Strange game,
Professor Falken. The only winning move is not to play." Significantly, this is the first time the computer speaks over the voice synthesizer in this scene. Presumably no one would have thought to hook it up during the crisis, so Badham is cheating a bit in order to increase the sense of the computer's humanity when it is announcing the theme of the film.

The computer really has only repeated what the scientist has already implied, that nuclear war cannot be won and that limited nuclear war is impossible. When Falken first meets the students, he attacks the military's perceptions of nuclear war: "There's no way to win. The game itself is pointless. But back at the war room they believe you can win a nuclear war. That there can be acceptable losses." In delivering this speech, Falken has undercut the reason for the existence of nuclear weapons and, essentially, delivered the main message of the film. One might argue that the film would be as effective if, having allowed Falken to make this statement where he does--about three-quarters of the way through the film--Badham had permitted the computer to launch its attack, thus proving the professor's point more vividly. A number of arguments could be made against this strategy, including the fact that the resulting film would have been so depressing that it would have repulsed the teenaged audience it was intended for. The most important argument, however, is that this scenario would deprive the film of its most potent spokesman--Joshua himself. The simple fact is that when the professor claims that nuclear war is
unwinnable, we may tend to trust him because he is an expert. But we know that he is also a fallible human being. He might be overlooking some small possibility of victory.

When Joshua tells us that nuclear war is unwinnable, however, we believe him absolutely. He is a computer. He is a thinking machine. He is the first cousin to our department store's computers, our bank's computers, our hospital's computers. Moreover, we know that Joshua has considered all the evidence. We have just seen him go over all the possibilities of nuclear war exhaustively. We can be absolutely certain that no options will lead to victory in nuclear war. We subconsciously fall back on our trust that these machines can, in fact, consider such possibilities much more quickly, much more completely, and much more reliably than a human being. For these reasons, Badham causes the last words in the film to be spoken by Joshua: "The only winning move is not to play."

Of course, not all of the heroes and heroines of anti-nuclear fiction fall into one of the categories we have discussed here. The Day After and Warday both develop a wide variety of characters: farmers, economists, teachers, bureaucrats, and so forth. It is true, however, that what we have examined here are the dominant recurrent classes of characters that have helped provide the ethical appeal in anti-nuclear fiction during the past forty years. In fact, one is hard pressed to find a work that does not rely on at least one of these categories of ethical appeal. Given the rhetorical
artist's desire to do everything in his power to insure the success of his message, we may conclude that these categories of characters are the ones most likely to gain the confidence of the audience, at least in regard to the subject of nuclear weapons. We may also note that each of these categories of ethical appeal emphasizes a different aspect of the overall components of the ethical appeal. For example, the strength of the scientist's or soldier's ethical appeal rests in his knowledge of the technical aspects of nuclear weapons and strategy. Virtue and idealism, on the other hand, are more important to the ethical appeal of the clergyman, and the youth. Good will, the passionate desire to insure the continuation of the human race, emerges as the primary quality of the woman's ethical appeal.

In any case, the attention that artists pay to their selection of characters is a tribute to the continuing importance of the ethical appeal in anti-nuclear fiction. As Aristotle pointed out, the ethical appeal is often powerful enough to persuade an audience in and of itself. Even when it does not, however, its function is still vital in that it provides the foundation on which the substance of the rhetorical act--the rational case--frequently depends.
IV. The Function of the Rational Appeal in Anti-nuclear Fiction

For Aristotle, the function of the rational appeal in rhetoric parallels the working of dialectic. Two general processes operate in dialectic: induction and deduction. In rhetoric, the corresponding elements are the example and the enthymeme. The rules for employing the example and the enthymeme, however, are less stringent than those for using induction and deduction because the subject matter of rhetoric deals with probabilities rather than with absolutes. Thus, while the premises of a syllogism in a dialectical argument should be absolutely and universally true, the probabilities that would form the equivalent premises in an enthymeme could admit some level of doubt. For example, George Kennan's arguments against the deployment of nuclear weapons in western Europe stem from a premise which maintains that the Soviet Union does not necessarily desire to overrun the region (127-133). The United States' current strategy toward western Europe, however, begins with the premises that the Soviets do wish to invade the area and that only nuclear forces could stop them if they did. No one, not even the experts involved, can be certain which of these premises is correct, but policy makers must decide which is more probable when recommending strategy.

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Aristotle also maintained that the enthymeme need not be as formally complete as the syllogism. A rhetorical argument need not begin as far back along the logical chain as is often necessary with syllogisms. Also any premises along the chain that are obvious can be omitted for the sake of brevity and directness. For example, Edward Zuckerman recounts an exchange between nuclear scientist Philip Morrison and a senator in a committee hearing a few months after the bombing of Hiroshima. The senator kept asking Morrison how a man might protect himself from radiation at the site of an atomic blast, and Morrison kept answering that no such protection was possible. When the senator kept bringing up the fact that a lead-lined tank had approached the Trinity test site, "Morrison finally caught on that the senator was from a state where one important industry was the mining of lead. Morrison allowed then that a man could be protected from a bomb's radiation if he wore a fifty-ton lead suit, and the questioning was allowed to get back on course" (73-74). Clearly, it was unnecessary for Morrison to develop the entire line of argument establishing that, since such a suit would crush a man, there was no feasible and effective means of protecting an individual from the radioactivity of a nuclear explosion.

The second major method of rhetorical argumentation, according to Aristotle, is the example. While insisting that the example corresponds to induction in dialectic, he pointed out that it does not concern the relationship of part to whole, as true
Induction does, but rather the relationship of part to part. In other words, it draws parallels between two individual instances, using the more familiar to explain the less familiar. Thus, a speaker might cite the similarities between the buildup of nuclear weapons in our time and the buildup of conventional weapons before the World War I to suggest that the current worldwide nuclear arsenal increases the possibility of war. Evidently, the inductive quality of example arises when a speaker or writer compiles a sufficient number of individual examples to suggest the likelihood of some general principle. A number of examples of arms buildups which led to war would increase the audience's conviction that arms races generally lead to war.

We may assume, however, that, like the enthymeme, the rhetorical example need not meet the same stringent standards for validity that a dialectical induction would. In order to make a valid scientific induction, one must find a statistically significant number of identical instances without finding any contradictory instances. Rhetorical induction, on the other hand, need not be based on as many individual observations. For example, proponents of weapons systems frequently assure the public that the dangers of nuclear war are minimal because only the president can order a nuclear strike and, under the current strategy of mutual assured destruction, only a madman would order such a strike. Zuckerman points out, however, that in 1974, when President Nixon was on the verge of resignation, "Secretary of Defense James Schlesinger
deferred all trips and ordered the armed forces to accept no commands from the White House without his concurrence" (60-61 n). With this single example, Zuckerman casts substantial doubt on how the official nuclear response apparatus actually works and, in light of widespread speculation about Nixon's mental state at the time, implies that the United States' nuclear capacity could fall into the hands of a madman more easily than many people imagine.

One would, of course, expect to find heavy use of the rational appeal in non-fictional rhetorical works. And, indeed, most of the non-fictional works opposing nuclear war employ rational appeal to one extent or another. Besides taking care to develop a positive ethical appeal, Freeman Dyson also presents facts and arguments in a way that an audience of laymen can easily grasp. Zuckerman depends heavily on the use of example to demonstrate the inadequacy and even absurdity of this country's nuclear strategy. Even Jonathan Schell, whose *The Fate of the Earth* is probably the most emotionally potent of the non-fiction books in this study, is careful to base his emotional appeals on logical attempts to project the damage that a nuclear war would cause.

We may initially be surprised, however, to find how extensively the two strategies of rational appeal, the enthymeme and the example, enter into the fiction of nuclear war. We tend to think of fiction as a representation of imaginary actions that exist in their own self-contained world. We do not normally expect the author to stop in the middle of building a character or
delineating the plot to detail a logical argument. It is true, however, that if the action of the novel revolves around some controversial issue, the author will find it possible, even necessary, to include in his fictional action a representation of the controversial aspects of the issue, including the arguments that people advance to support their various positions. In this way, a work dealing with the nuclear weapons controversy will duplicate the sorts of arguments a non-fictional work about the issue would set forth.

For example, Dore Schary's play The Highest Tree concerns a nuclear physicist who rejects the government's nuclear policy. At the climax of the play, the scientist, Aaron Cornish, explains his position in an exchange with his superior, John Devereaux:

DEVEREAUX: In these times there are things we must accept. We must learn, as the saying goes, "to live with it."
AARON: Yes, if we grow old, or bald, or become sick, or suffer defeat. But if we can effect any change, then it's a sin to "live with it."
DEVEREAUX: Last night, I asked you what you proposed. You said you could propose nothing. Have you suddenly found an answer?
AARON: I only know your policy won't work, Devereaux. The policy of defending a nation with a plan for mass extermination is suicide--also immoral--also there is no chance for delayed admission of error.
DEVEREAUX: Aaron, in my mind I've gone through all the risks and possible dangers. Stripping away the imponderables, my position is simply this: I would rather be dead than live in a slave world.
AARON: So would I. But do we have the right to make a private decision that can affect the lives of millions of people and the existence of future generations? And are you certain that the only
alternative to submission is death?
DEVEREAUX: Only alternative to keeping our freedom is to surrender it.
AARON: I don't think so. Another alternative may be more freedom. More freedom for more people through political orders, balances and concepts never tested or even conceived.

This dialogue encapsulates a wide range of arguments on both sides of the nuclear debate. Devereaux is the apologist for the government's strategy of mutual assured destruction. Given the fact that the Soviets have nuclear weapons, the only thing the United States can do is to keep up with, if not ahead of, its rivals. Consequently, the defense establishment must continue the development and testing of nuclear weapons. His position is that, essentially, our country has no choice in the matter. When Aaron counters that man does have a choice, he is asserting the concept that, because man has developed the weapons, he can control them. As an attempt to refute this notion, Devereaux challenges him to suggest a workable way out of the nuclear dilemma. Instead of making such a suggestion, Aaron attempts to undercut Devereaux's position by citing the three most popular arguments against mutual assured destruction. If each side has the capacity and the will to destroy the other in the event of nuclear war, any government's use of the weapons is suicidal. The fact that casualties in such a war would include countless non-combatants violates widely-held criteria for conducting a moral defense of a country. Finally, because mutual assured destruction works only if a full retaliatory
response to an initial strike is automatic, no one will be able to prevent the retaliation even if the first strike is accidental.

Devereaux then introduces a disjunctive syllogism: we have a choice between either maintaining our present policies, even at the risk of our own destruction, or falling prey to Communist domination. This "better dead than red" philosophy directly counters the first argument Aaron makes about the policy being suicidal. And since the Communists are implicitly so heinous that death is preferable to them, it would not seem immoral to destroy them. Thus his line is designed to neutralize most of Aaron's argument and suggest once again that we have no choice but to accept present policy. Aaron counters that we have not exhausted other possibilities for escaping from a nuclear world, citing the possibility of other political orders, perhaps the concept of world government. In a few short lines of dialogue, then, Schary has carried on, in brief form, some of the principal debates of the nuclear age. He has not developed the debate in all its detail, as someone interested in strict dialectic would feel compelled to do, but has, instead, presented the debate in the form of an enthymeme, leaving his audience to fill in the details of the arguments.

Of all the kinds of rhetorical fiction, the drama--play and film--is most analogous to the kind of discourse Aristotle had in mind when he wrote the *Rhetoric*. In both instances, the audience will have to be able to understand the argument readily, without
referring to the whole line of reasoning. Therefore, the basic line of argument must be simplified, reduced to its most crucial points. Hence, the importance of the enthymeme. In other works, novels, for example, more time and space is available to the author to make his point, and the reader can look back and re-read the argument if he loses the thread of the reasoning. In the novel *Fall-Safe*, for example, a group of generals, civilian analysts, and government officials carry on a twelve-page debate about the possible Soviet reactions to an accidental nuclear strike by the United States. The characters have ample space to give various statistics, draw lines of probability, and consider various options, and the audience is able to peruse this material at their leisure. When the scene was adapted for the film, however, it had to be simplified greatly in order to fit into seven minutes of screen time. Only the most general and most pertinent lines of argument could be drawn, and much of the statistical matter was dropped entirely. Even though novels allow for a greater development of an argument, however, the authors still must fulfill their function to delight as well as instruct; they must be careful not to lose their audience's interest by belaboring their argument. In order to avoid the pitfall of boredom but still carry out their persuasive function, novelists also resort to the enthymeme.

Even the enthymeme, of course, will have to be buttressed with facts that support the premises on which it is based. Once again, however, these facts need not give the kind of absolute
proof to a premise that empiricism might demand. Instead they will establish a reasonable probability that will solicit the audience's support. In non-fiction, this step presents the author with no dilemma. He will simply state his facts as necessary to support his argument. Jonathan Schell for example, simply quotes statistics to support his contention that the world would be made uninhabitable by nuclear war. The fiction writer, on the other hand, must produce enough facts to make his argument convincing, but not to the extent that he harms the artistic value of the work. If the presentation of facts supersedes the creation of an illusion of reality, the artistic foundation of the work may be eroded.

The writer can use two strategies to insert factual information into his work. He can simply make the narrator introduce facts as they are needed, or he can have the characters recite those facts as part of their dialogue. In the first instance, he must be careful not to let his novel degenerate into a contrived fact book, as Philip Wylie's Triumph so often does. In the second instance, he must make the exposition flow naturally, or at least as naturally as exposition normally flows. Fortunately for the rhetorical novelist, the recitation of facts is as much a part of life as is debate. An accurate imitation of reality will naturally include the citing of facts by characters. The potential problem is that in a valid effort to convey the truth about an issue as serious as nuclear war, the author will want to convey the facts as accurately as possible. In real life, however, people often speak
with great conviction about things they are actually unsure of. They even lie to advance their own interests. An absolutely accurate imitation of reality would reflect these human tendencies. Therefore, the writer must balance his desire to convey the truth against his desire for artistic integrity, keeping in mind that if an ethically appealing character in a work says something about nuclear weapons, millions of readers will believe him.

The degree of effectiveness with which the two methods of exposition can be used is exemplified by Stanley Kubrick's film Dr. Strangelove. The film is designed to illuminate a number of aspects of the nuclear-arms debate: the suicidal nature of the strategy of mutual assured destruction, the possibility that human failure could lead to nuclear war, and the danger of man's being overwhelmed by his nuclear technology, to name a few. Consequently, Kubrick is required to explain the crucial aspects of a number of factors in the nuclear arms predicament. Clearly, he ran the risk of letting his film bog down in a swamp of exposition. He recognized, however, that one effective way around that danger would be to use humor. Originally Dr. Strangelove, which is based on a serious novel by Peter George called Red Alert, was supposed to be a drama. While preparing the film, however, Kubrick came to the conclusion that it would work better as a satire. He said, "The only way to tell the story was as a black comedy, or, better, a nightmare comedy, where the things that make you laugh are really the heart of the paradoxical postures that make a nuclear
war possible" (Bayer 80). These "paradoxical postures" are, at least in part, the very things that will require exposition. Thus, by deciding to make his film a satire, Kubrick has insured that the exposition, instead of detracting from the entertainment the film has to offer, will be at the very heart of it.

The film opens with an example of direct exposition. Over the image of some mountain peaks rising above a cloud bank, a deep-voiced narrator suggests a Soviet plot against the free world:

For more than a year ominous rumors had been circulating among high level western leaders that the Soviet Union had been at work on what was darkly hinted to be the ultimate weapon—a doomsday device. Intelligence sources traced the site of the top secret Russian project to the perpetually fog shrouded wasteland below the lofty peaks of the Zokoff Islands. What they were building or why it should be located in such a remote and desolate place, no one could say.

Kubrick then goes into a credit sequence that shows a B-52 being refueled by a tanker aircraft to a sentimental rendering of "Try a Little Tenderness." The humorous incongruity of music and image is reinforced by the titles themselves, which are printed to suggest skywriting but are proportioned so that, for example, the A in "A Stanley Kubrick Production" towers above all the other words in the phrase. While this lettering may be meant to suggest the insane lack of perspective in the nuclear world, Its most immediate effect is to amuse the audience and, therefore, to indicate to them that the film is a comedy. It also sets an immediate attitude
toward the narration we have just heard. The gravity of the narrator's voice combined with his excessively melodramatic words might suggest a cheap horror film or an inept documentary. But the cleverness of the credit sequence that immediately follows the narration shows that the film is actually neither cheap nor inept. The effect is to throw the narrator into sharp relief; we tend to think of him as someone who has failed to realize that he is taking part in a satire. Therefore, we tend to be amused by his narration, if only in retrospect.

Kubrick uses this pompous narrator to good effect again when he needs to give the audience the essential information about the fail-safe system:

In order to guard against surprise nuclear attack, America's Strategic Air Command maintains a large force of B-52 bombers airborne twenty-four hours a day. Each B-52 can deliver a nuclear bomb load of fifty megatons, equal to sixteen times the total explosive force of all the bombs and shells used by all the armies in World War II. Based in America, the airborne alert force is deployed from the Persian Gulf to the Arctic Ocean, but they have one geographical factor in common—they are all two hours from their targets inside Russia.

Obviously, Kubrick wants to indicate how destructive a single plane carrying a nuclear payload of two bombs can be. By making this point in a narration that parodies the tone of an Air Force recruiting film, he manages to deliver the exposition while
entertaining his audience. We laugh at the hopelessly naive narrator but recall from the terrifying facts he presents.

Kubrick also embeds exposition in the character's speeches, doing so quite naturally and comically. For example, he must explain how an Air Force general was able to launch a strike single-handedly, given the fact that the President is the only official supposed to be able to do so:

PRESIDENT: General Turgidsen, I find this very difficult to understand. I was under the impression that I was the only one in authority to order the use of nuclear weapons.
TURGIDSEN: That's right, sir. You are the only person authorized to do so. And, although I hate to judge before all the facts are in, it's beginning to look like General Ripper exceeded his authority.
PRESIDENT: It certainly does. Far beyond the point I would have imagined possible.
TURGIDSEN: Well, perhaps you're forgetting the provisions of Plan R, sir.
PRESIDENT: Plan R?
TURGIDSEN: Plan R is an emergency war plan, in which a lower echelon commander may order nuclear retaliation after a sneak attack if the normal chain of command has been disrupted. You approved it, sir. You must remember. Surely you must recall, sir, when Senator Buford made that big hassle about our deterrent lacking credibility. The idea was for Plan R to be a sort of retaliatory safeguard.
PRESIDENT: A safeguard.
TURGIDSEN: Well, I admit the human element seems to have failed us here, but the idea was to discourage the Russkies from any hope that they could knock out Washington and yourself, sir, as part of a general sneak attack and escape retaliation because of lack of proper command and control.
Zuckerman points out that, in reality, there are provisions for delegating the authority to order retaliation in the case of the President's death during nuclear war, so the information we are receiving here not only provides a crucial justification of the plot but also points up a valid danger of the United States' nuclear retaliatory capacity (64). The problem with this exposition, however, is that Turgidsen is explaining these facts to the President, who should be aware of them. In a more serious film, the audience would be aware of this fact and immediately realize that they, and not the President, are the ones being given the information. Kubrick, however, uses this aspect of exposition to his advantage. The confusion that Peter Sellers as President Merkin Muffley registers in his words and actions indicates that, although he approved of the legislation creating Plan R, he has been unaware of its full implications. He does need to have the situation explained to him. Thus, for all of Muffley's intellectual mien and authoritarian manner, he has, in effect, ceded control of the weapons to military "experts" like General Jack D. Ripper, who has lost his mind and ordered the strike, and General Buck Turgidsen, who recommends that the President take advantage of the situation to destroy the Soviets. Therefore, the necessity of the exposition advances Kubrick's point that the whole question of nuclear weapons has gotten beyond the civilian authority's understanding and control. Turgidsen's manner of delivery—a parody of an insurance adjuster explaining difficult clauses in a policy to a
clalmant—provides the humor that keeps the audience entertained even while the terrifying point is being made.

Aristotle's second method of rhetorical argument is the example. Essentially the example functions in two ways. First it provides argument by analogy. The speaker or writer makes the point that some historical or literary situation is similar to the problem under examination. Therefore, he can assert that whatever happened in the analogous situation is likely to occur in the present one as well. For example, someone who opposed the Strategic Defense Initiative, the so-called "Star Wars" defense shield, might characterize it as a "Maginot line in the sky," referring to the fixed line of defense in France before World War II. His reference would imply the likelihood that the system of satellites that SDI called for could easily be overwhelmed by a massive increase of Soviet missiles or avoided by low-flying cruise missiles, just as the Maginot line was skirted by the German blitzkrieg in 1940. Such an example might be persuasive on its own merits, or it might be combined with other examples to form the rhetorical equivalent of a general principle. For example, the SDI opponent might cite other examples of unsuccessful fixed defenses to suggest that such defenses in general are ineffective.

Aristotle himself speaks of the importance of literature to this type of reasoning. In the Rhetoric he points out that examples could be either historical or invented and suggested that the invented examples were superior because they can be tailored
to the situation being discussed (149; bk. II, ch. 20). And, in fact, many of the novels, plays, and films in this study are really just extended examples of what has happened or, more to the point, will happen with nuclear weapons. For example, *On the Beach* and *Level 7* demonstrate the possibility of life on earth could be extinguished by nuclear war while *Warday*, *A Canticle for Leibowitz*, and *Riddley Walker* speculate about the sort of life that might be left after a nuclear war.

Of course, even a fictional example must be plausible. In the 1950's, a spate of science fiction-films used the popular fear of radiation to stimulate their audiences. One device was to suggest that radiation from nuclear weapons could cause organisms to change their sizes radically. Consequently, films showed people shrinking to the size of microbes and insects growing to the size of elephants. A quintessential example of this genre is *Them!* in which a strain of giant ants--mutants spawned by radiation at the original Trinity test site--invade Los Angeles. While the film shares the crude charm of the best of the science fiction films of the nineteen-fifties, its premise is patently absurd: there is no evidence to suggest that radiation would actually change the size of any creature so radically, and studies show that the insect is one of the species that best resist the effects of radiation. Even this fantastic example, however, can take on persuasive force if the audience accepts the giant ants as merely symbolic
representations of the magnitude of the unknown problems man unleashed when he entered the nuclear age.

More plausible fictional examples of the effects of radiation are the menagerie of mutants that parade through post-apocalyptic novels and films. In A Canticle for Leibowitz, characters with spotted faces, horns, two heads, and so forth make appearances without unduly shocking the other people in the book. In Riddley Walker the "Eusa folk" lack eyes, noses, or ears. These projections may be more plausible than giant ants, but they may be no more accurate. We know, of course, of instances of children being born handicapped in some way because chemical pollution or excess radiation in the mothers' environments caused genetic damage, but whether or not the level of radiation in a full-scale nuclear war would lead to mutations of the magnitude portrayed in these works is by no means certain. Strieber and Kunetka confront this question in Warday. After discussing rumors about dramatic forms of mutation—giant man-eating bats, monstrous children who claw their way out of their mothers' wombs, etc—they admit that they have found no proof of such mutations. They do, however, find less spectacular but no less pathetic forms: children born with decreased mental capacity or without limbs. Since these forms of genetic mutation are more in keeping with known cases of such deformities, they may be more plausible and, therefore, provide a stronger argument.
Of course, as Aristotle pointed out in the *Poetics*, an action may be plausible without being possible. The same is true for an invented example. In *On the Beach*, Nevil Shute suggests that human life could be destroyed if the United States and the Soviet Union fought each other using hydrogen bombs sheathed in cobalt. Shute asserts that the fallout produced by such bombs would remain lethally radioactive for five years after the initial explosions, during which time it could be carried by winds all over the globe. This scenario seemed plausible and was certainly terrifying. There is evidence to suggest that the novel, and the film that was subsequently made from it, did have an effect on people's attitudes toward nuclear weapons. But the viability of Shute's projection is actually problematical. It is, and was at the time Shute wrote, technically feasible to sheathe hydrogen bombs in cobalt, thereby increasing the length of time fallout would remain radioactive, but Freeman Dyson suggests that, wind patterns being what they are, the fallout would not spread to the Southern Hemisphere quickly enough to destroy all life on earth (33-34). He goes on to point out that the fallout that did come down would fall in patches, allowing people to escape death by fleeing to shelters. Despite these lapses from the realm of possibility, however, the novel is persuasive for two reasons. First, it is plausible. Someone not trained in the complexities of meteorological phenomena could well accept the scenario Shute presents. Helen Caldicott, for example, traces her opposition to nuclear arms to her reading of the novel.
while she was in medical school in the nineteen-fifties. Secondly, Shute's story does render in simplified, and, therefore, readily understandable, terms the concept that man does in fact possess the capacity to destroy human life. Granted, the pattern of bombing in an actual war would limit the immediate effects of the weapons to areas in the United States, Western Europe, China and the Soviet Union, but the fact remains that man does now possess the power to do exactly what Shute projected—destroy all life on this planet. Moreover, as Jonathan Schell points out in *The Fate of the Earth*, man still does not know the full effects of a widespread use of nuclear weapons. In attempting to determine how the destruction of life in the Northern Hemisphere would affect the whole ecosystem of the Earth, he suggests that it might damage that system beyond repair. In 1984 the Conference on the Long-Term Worldwide Biological Consequences of Nuclear War suggested that the firestorms generated by nuclear attacks on cities would throw up a cloud of smoke and dust that would block out the sun causing a so-called "nuclear winter," which would destroy crops and produce a worldwide famine. In 1986 a Defense Department report confirmed the general validity of this theory (Begley 65). Thus, even if the Southern Hemisphere did not perish along with the Northern as a result of the direct effects of nuclear weapons, it might well perish as the result of indirect effects, thereby substantiating the essential theme of Shute's novel: that
man has the power to commit species suicide and must confront that power before it is too late.

We have examined the two types of rhetorical argument in fiction separately. It is, however, possible to find both enthymeme and example in the same work. An author may portray debate about a certain problem and then create an actual instance of the problem in the work. Naturally, the way the author handles the instance will tend to support the position of one side of the debate. Throughout the novel *Fall-Safe*, for example, characters debate various aspects of nuclear war including the possibility that an unintentional nuclear strike could be triggered by the various machines that control the weapons. A number of characters, including the hero, assert that such an accident is possible. Others, most notably the civilian analyst, discount the possibility. Even while this debate is being carried on, however, a component in one of the machines is malfunctioning, causing just the sort of unauthorized strike that the characters have been debating. If the audience finds the example presented in the novel plausible, they will support that side of the debate which says that accidental war through technical malfunction is possible. Thus Burdick and Wheeler present us with the enthymeme that argues the danger of accidental war and a fictional example that supports that enthymeme. In short, they have presented the reader with a self-verifying argument against nuclear weapons.
The problem with the use of the rational appeal in fiction is that it presents demands beyond the purely artistic. In using the enthymeme, one must be able to create a scene that will plausibly introduce a debate without destroying a sense of verisimilitude. In using the example the writer must be able to manipulate the action of the story to support his point without making that action seem strained. There are, of course, great dangers in attempting these processes. The author may find himself facing a conflict between artistic and rhetorical demands. Too frequently in this conflict, the rhetorical demands win out, and the work moves in the direction of crude didacticism. This fact probably accounts for the poor critical reputation that manifestly rhetorical fiction in general suffers. And, in fact, there are many examples of anti-nuclear fiction that are inferior because of their failure to balance adequately the two demands. In *Triumph*, for example, Philip Wylie frequently halts the development of his story in order to lecture about some fact of nuclear weapons that he wants to publicize, frequently emphasizing his purpose by saying, or having a character say, that these facts are obvious to anyone who cares to look for them. At such moments, the reader has little choice but to advert to the fact that the novel exists largely to popularize this knowledge rather than to provide a stimulating artistic experience. Moreover, his need to develop the novel as an example of the potential destructive power of nuclear weapons causes him to develop his plot in a patently implausible manner by painting the
Soviets as incredibly, almost suicidally, savage and the American President as fatally naive. Most crucially, the climax of the novel, in which a remnant of American submarines obliterates threatening Soviet bases, works artistically only at the expense of Wylie's anti-nuclear message. While his theme seems to be that only universal brotherhood will solve the nuclear crisis, his climax forces his reader to support unquestioningly the total annihilation of the remaining Soviet people.

A less striking, if more famous, example of the failure of a work to balance the rhetorical and artistic demands is the television film *The Day After*. While the film received a great deal of popular acclaim, many critics have attacked it for a lack of artistic impact. Moreover, a poll taken shortly after the film was shown indicates that it seemed not to have had a major impact on popular opinions about nuclear weapons (Fromm 29). To a large segment of the population, then, the film apparently was not the artistic and rhetorical triumph that its publicity may have suggested it was. In an attempt to show what the effects of nuclear war would be on a typical American city, the film presents examples of the major components of such a war. First, it shows how such a war might begin: a buildup of tension in Western Europe leads to an invasion by Soviet conventional forces that provokes nuclear retaliation by the West. It proceeds to demonstrate the effects the initial explosions would have at several points various distances from ground zero. After the blasts we see
various examples of how people succumb to secondary effects of the explosions: radiation sickness, disease, and starvation. The presentation is plausible throughout.

The problem with *The Day After*, however, is that, in order to avoid destroying the dramatic flow of the film, director Nicholas Meyer has left the details of his examples unclear. Although the initial appearance of each location is accompanied by a title giving its position in relation to Lawrence, Kansas, the titles appear too quickly for the viewer to orient himself. Moreover, when the blasts do come, the viewer must determine where they occurred in relation to Lawrence in order to calculate where the location he is observing is in relation to the blasts. Because, the film cuts so quickly from location to location at this point, it is not always clear just which location is being shown at any given moment. While these factors may communicate the chaotic nature of nuclear war, they tend to vitiate the director's attempts to inform his audience about the direct effects of nuclear explosions. At other moments, Meyer's determination not to force awkward exposition on the audience leaves important points totally unexplained. For example, some time after the blasts—we don't know precisely how long—a character emerges from his shelter wearing dark glasses. Evidently the glasses are an allusion to the theory that ozone depletion in the wake of large-scale nuclear explosions could increase to dangerous levels the amount of ultraviolet radiation reaching the earth. Unfortunately, no reference is made in the
film to this theory, and the viewer who is not familiar with the more arcane speculation about nuclear war may miss the point completely. Since one of the purposes of the film is to persuade by informing people, this omission seems irresponsible. Most important of all is the fact that, since the film clings determinedly to the unity of place, we are given no real idea of the scope of the destruction. Granted, we are told that the strike was a full-scale one, and characters speculate about the destruction elsewhere, but we are given no visual verification of this destruction.

At the same time, rhetorical claims help to undercut the artistic effort. Because Meyer wants to show the effects of nuclear war on ordinary people like the viewer, none of the characters in the film has any say in whether or not these weapons will be used. Therefore, he cuts himself off from one major source of potential dramatic conflict. Since no one in a targeted area can take any effective action to save himself, the film realistically eschews any portrayal of heroic action among those who happen to be at Ground Zero at the time of the explosions. While this choice is in keeping with the film's serious intent, it provides a number of characters nothing to do but scream a little before being incinerated. Much of the latter part of the film shows people dying of radiation poisoning, but, since there is nothing they can do about their problem, this situation also lacks drama. Again and again, Meyer's commitment to showing ordinary, unheroic
people as victims of nuclear holocaust eliminates potential sources of dramatic conflict. Even given this commitment, however, he could have fallen back on one dramatic situation: the choices a person makes when faced with the inevitability of his own death. We have already seen that Testament uses this kind of dramatic device to good effect. Here again, however, the rhetorical mission of The Day After hampers its artistic potential. Because Meyer wants to show the effects of nuclear war on a cross section of people, he must keep cutting from one character to another in the large cast, never concentrating on one long enough to develop any real psychological depth.

The demands of the rational appeal in rhetorical fiction do not necessarily have to compromise the artistic strength of the work, however. In fact, the rational appeal can contribute to the artistic effect in various ways. For example, the necessity of establishing a self-verifying argument will influence the writer's manipulation of events in the novel. Thus, he will be assured of a work that will have a coherent structure, and structure is an important artistic consideration. On another level, the rhetorical novelist will necessarily produce a work with some strong thematic content. If the reader feels an affinity with that thematic content—if he can recognize the relevance of what the author is saying to his own life—he may react even more strongly to the experience offered in the novel than he otherwise would. Of course, in either case the author must manipulate his elements
with skill, but the same can be said of an author who has no rhetorical ambitions in his art.

Russell Hoban's novel *Riddle Walker* illustrates how elements of rhetorical argument may be skillfully used to increase the effect of an artistic experience. On its most basic level, *Riddle Walker* is a coming-of-age novel. During the course of the book, Riddley innocently becomes a pawn in a local leader's power play, and learns through his experiences that mankind possesses an unquenchable capacity for destruction. In order to make this point about human nature, Hoban calls upon a standard premise of the nuclear-weapons debate.

At the beginning of the novel Hoban plunges his reader into a harsh, primitive world in which boys become men at the age of twelve, and anyone who lives to thirty is considered old. In this world, villagers hunt and kill boars with wooden spears and always travel in groups for fear of being ripped apart by packs of wild dogs. In many respects the world may strike the reader as a medieval one, an impression that may be increased by the style of the book. Narrated by Riddley himself, it begins with the line, "On my naming day when I come 12 I gone front spear and kilt a wild boar he parbly been the las wyld pig on the Bundel Downs any how there hadnt ben none for a long time befor him nor I aint looking to see none ager" (1). The strangeness of the diction and the spellings here suggest an earlier, developmental stage of modern English before usage was standardized.
Gradually, however, Hoban gives us clues that the world we are dealing with lies somewhere in the future. Telling a folk story, Riddley makes dark references to something called Bad Time, which seems to be the dividing line between the present and "time back way, way back." He goes on to describe this earlier time:

They had iron then and big fire they had towns of parperty. They had machines et numbers up. They fed them numbers and they fractlont out the Power of things. They had the Nos. of the rain bow and the Power of the air all workit out with counting which is how they got boats in the air and pictures on the wind. Counting cleverness is what it war (19).

Obviously Riddley is referring to computers, airplanes, television and other modern Inventions, and we are probably not too surprised when we gradually learn that the world has been plunged into its primitive state by a nuclear war. Thus the basic situation of the book, in attempting to demonstrate how terrible life would be after a nuclear war, provides a type of anti-nuclear argument by example.

The real significance of Hoban's novel as an anti-nuclear work, however, lies in the fact that it exemplifies a theory that nuclear weapons are an ineradicable force in our world. Hoban structures the novel around this point. Early in the novel we learn that, although the society in general opposes progress, Abel Goodparley, one of the leaders, is obsessed with regaining the glory of "time back, way, way back." Most of all he covets the most
powerful manifestation of the "cleverness" of the ancients: "the 1 Big 1," which we realize is a nuclear capacity. The portrait of the technological world that Goodparley draws is so seductive that Riddley is drawn into his scheme. Of course, the reader, knowing the technology required to build a nuclear weapon, tends to dismiss their quest as a pathetic yearning for something they can never possess. And seeing, as he does, what nuclear weapons have done to the world, he is probably happy that this yearning will remain unfulfilled.

This quest, however, does comprise the plot of the story, providing Hoban with the structure he needs to develop Riddley's understanding of the nature of man. Shortly after we learn of Goodparley's ambitions, Riddley flees his community after a dispute with a powerful man. After his flight, he meets a mutant boy-man who calls himself Lissener. This character is one of the "Eusa folk," who claim to have preserved the knowledge of the 1 Big 1 through the centuries. Riddley joins him, and they find a bag of "yellerboy stoan," which Lissener maintains is one of the ingredients of the 1 Big 1. Eventually Goodparley tracks them down and brings Riddley and the yellerboy stoan to an old man named Granser. It is at this point that we learn that Goodparley's quest is not so ridiculous as it might originally have seemed:

Granser said, "There won't never be no 1 Big 1 for us Abel we aint got the cleverness for it but befor
there ben the 1 Big 1 there ben the 1 Littl 1 and wil be agen. Which weare waiting for the day and ready."

Goodparley said, "Ready with what?"
Granser said, "Ready with 2 of the 3 aint we and ben ready this long time and keeping ready and til it comes never mynd how long it takes the chard coal burners will be wearing red and keeping ready."

Goodparley said, "Til what comes Granser?"
Granser said, "The yellboy stooan."

Goodparley and me we boath let out our breaf at 1ce. Goodparley said, "The yellboy stooan."
Granser said, "Thats right Abel weve got the other 2 all ready. . . .

Goodparley he were leaning tods Granser he were lissening hard . . . . He said, "That's the 3 of the 1 Is It? The 3 of the 1 Littl 1 Is yellboy stooan and Saul & Peter and chard coal?"

Granser said, "That's It Abel there you have the knowing what ben kep safe right the way from time back way back . . . (188-189).

As we shall see in the next chapter, the underlying philosophical point being made in this passage has been a staple of the debate over nuclear weapons for more than thirty years. Since the power of the atom is a constant principle of physics, man's capacity for nuclear weapons can never really be eradicated; even if we could succeed in ridding the world of these weapons, they could always be redeveloped since the secret of how they are made is a constant that can either be preserved or rediscovered. Of course, Hoban makes this point indirectly by substituting dynamite for nuclear weapons, but the connection made throughout the novel between the "1 Littl 1," dynamite, and the "1 Big 1," nuclear weapons, is a clear indication that, as Granser says, we are witnessing the first step in a long line of technological developments that will lead to the reinvention of nuclear weapons.
Moreover, by making his anti-nuclear point in this indirect way, Hoban increases the reader's sense of horror. Throughout the novel the characters have concentrated so exclusively on developing the 1 Blg 1 that we are distracted from less grandiose endeavors that might actually be within their reach, and Hoban's use of unusual diction enables him to conceal the fact that they are gathering the components of dynamite. Consequently, the feasibility of their developing a destructive property takes us more or less by surprise, and their success in developing that property shocks us more than it would have if we, and they, had known all along what they were doing.

This specific point about the persistence of nuclear weapons, however, is part of a larger point about the persistence of evil in human nature. At one point Riddley watches a Punch and Judy puppet show in which a character named Mr. Drop John is responsible for bringing nuclear weapons to the world. Mr. Drop John is described as having a "red face and little poyny beard and the horns and all" (137). Clearly, this character is a representation of Satan, and the fact that he gives nuclear weapons to man highlights their essential evil. At other places, however, we are told that the 1 Blg 1 is the result of the ripping apart of "the Littl Shyning Man Addom" who is found In the Hart of the Wud. Here again, Hoban is using his unusual diction and spelling to make a point. The splitting of the Littl Shyning Man named Addom is, of course, a reference to the splitting of the atom.
However, the spelling of Addom reminds us of Adam and calls to mind the Biblical myth of the fall of man. Theologically, this myth explains man's inborn susceptibility to evil. Thus, Hoban seems to be connecting nuclear weapons with the most basic weaknesses of man. The concept of Hart of the Wud supports this idea. In the Eusa story which provides a mythological account of the destruction of the world by nuclear weapons, the Littl Shyning Man is found between the horns of a stag that wanders through the woods. As Riddley points out, however, "There is the hart of the wood meaning the veryes deap of It" (2). In this meaning, the spelling might more properly be rendered heart of the world—the depth of man's desire. Thus, nuclear weapons would arise out of the essential nature of man—of that basic destructive capacity that is part of man's fallen nature. Given this concept and given the idea that the technology of nuclear weapons is a constant of nature, the fact that man will redevelop these weapons becomes inevitable, and the actual redevelopment of dynamite as a step toward the reinvention of nuclear weapons verifies this concept of human nature.

It is in realizing this fact of human nature that Riddley comes of age. He now knows that the same "cleverness" that put boats in the sky and pictures on the wind also split the Littl Shyning Man and plunged the world into the state that has caused him to mourn, "O what we ben! And what we come to!" (100). Knowing that the key to a permanent improvement in mankind's
condition does not rest solely on a technological developments but on the ability of man to confront and control his darker side, he decides to travel the countryside presenting a Punch and Judy show that warns audiences of their own destructive capacities. Thus, besides providing an anti-nuclear warning itself, Riddley Walker asserts the validity of rhetorical fiction.
V. The Use of the Rational Appeal in Anti-nuclear Fiction

The combination of enthymeme and example has allowed fiction to encapsulate the history of the nuclear-weapons debate over the past forty years. The opening arguments of this debate took place outside of the public's consciousness. Immediately after the development of the atomic bomb, the United States was faced with the question of what to do with it. The military recommended that the bomb be dropped on Japan to end the war quickly and forestall an invasion of the Japanese mainland that would cost an estimated 500,000 to 1,000,000 American casualties (Wyden 132). Many of the scientists who had developed the bomb, however, opposed its use. A group of Manhattan project scientists known as the Committee of Social and Political Implications had already issued a report stating that a surprise use of the bomb would hurt the United States' reputation and could make control of this powerful weapon in the future impossible. Instead, the report suggested, the weapon should be demonstrated on some uninhabited island in the hope that the enemy would be so impressed by it that they would surrender (Wyden 166-67). Later, physicist Leo Szilár sent a petition signed by sixty-nine scientists to President Truman urging that the bomb not be used (Zuckerman 39). Victory in the
debate, as we know, went to the military. On August 6, 1945, an American B-17 dropped the bomb on Hiroshima. On August 9 a second bomb was dropped on Nagasaki.

The American public first learned of the existence of nuclear weapons in the news reports of these bombings. Although most of the people did not understand the nature of the weapons, they probably agreed with President Truman's statements justifying the use of the bomb as a means of shortening the war. There were some dissenting voices, however. Many scientists continued to denounce the use of the bomb and warn of its threat to the future of civilization. A few months after the bombings, Philip Morrison, a nuclear scientist, testified before Congress about the devastation at Hiroshima and said that in a future nuclear war, conventional troops would be obsolete (Zuckerman 73). A number of religious leaders either questioned or condemned the use of the bomb and urged the President to halt production of it (Zuckerman 71). Publications like the New York Times and the Saturday Review of Literature published editorials condemning the bombings (Wyden 317). The initial public debate over the bomb, then, was a post facto one, focusing on the morality of the attacks on Hiroshima and Nagasaki. Since these actions were fait accompli, however, the question soon became the morality of nuclear weapons in general.
The issue of the morality of the atomic bomb soon found its way into fiction. As early as 1947 the popular English novelist James Hilton wrote *Nothing So Strange* detailing the disillusionment of scientists who became convinced of the immorality of the bomb. At one point in the novel, a scientist likens it to the Nazi death camps and suggests that the United States and its Allies have lost their moral superiority in using it. While Pearl S. Buck's *Command the Morning* presents a slightly more sympathetic view of the bomb's use by emphasizing the argument that it was necessary to end the war quickly, she does allow her hero scientist to level some harsh criticism:

I'm sick. I'm really sick. I still say we had to do it. But I want to get out of the whole damned business.... What else could I have done? But I yield to this extent—I ought not to have let myself be put in that position. The glory of science compelled me to devise superlative means to murder—what's that but sin against the Holy Christ? The unforgivable sin (232).

We have already seen that in *The New Men*, C. P. Snow uses the bombings of Hiroshima and Nagasaki as the catalyst for the scientist-hero's similar moral revulsion against his work in atomic weapons research.

Clearly, each of these novels raises the larger question of the use of nuclear weapons in general. In each case, someone closely connected with the production of these weapons resigns his
position because he feels they represent a new kind of threat to the existence of humanity—a threat that cannot be justified by any argument. This sense of the essential immorality of nuclear weapons provides the foundation for Aldous Huxley's 1947 novel *Ape and Essence*. The novel is written in the form of a film script, and the earliest images are a surrealistic rendering of the history of the atomic age. Huxley shows us two groups of apes who dress like human beings and lead around on chains men who resemble Albert Einstein. The two groups are warring factions who force the Einsteins to make weapons that will eliminate the other side. Of course, because each side has these weapons, both are destroyed. Clearly Huxley feels that man is, at heart, a brute being with savage impulses. Instead of using his science to improve his state, he allows the brute impulses to dominate and to pervert his knowledge toward destructive ends.

This concept is refined later in the novel when a survivor of the nuclear war, a priest of Satan, explains his philosophy of human history:

As I read history . . . It's like this. Man pitting himself against Nature, the Ego against the Order of Things, Belial . . . against the Other One. For a hundred thousand years or so the battle's entirely Indecisive. Then, three centuries ago, almost overnight, the tide starts to run uninterruptedly in one direction. . . Slowly at first, and then with gathering momentum, man begins to make headway against the Order of Things (120).
He goes on to point out that the rise of Industrialism began to lead to the dehumanization of man and the rise of overpopulation:

These immortal souls . . . lodged in bodies that grow progressively sicklier, scablier, scrubbier, year after year, as all the things foreseen by Bellal inevitably come to pass. The overcrowding of the planet. Five hundred, eight hundred, sometimes as many as two thousand people to a square mile of food-producing land--and the land in process of being ruined by food farming. . . . Even in America, even in that New World, which was once the hope of the Old. Up goes the spiral of industry, down goes the spiral of soil fertility. Bigger and better, richer and more powerful--and then almost suddenly, hungrier and hungrier. Yes, Bellal foresaw it all--the passage from hunger to imported food, from imported food to booming population, and from booming population back to hunger again (122-123).

Man undertook this spiral, he maintains, in the name of progress. He points out, however, that progress is the "midwife of force," so that the dynamic he outlines here inevitably led to war. Science, of course, also insured "progress" in war, developing bigger and better machines of death including, ultimately, the atomic bomb:

And finally, of course, there was the Thing. . . . And it all happened without any miracle or special intervention. . . . By purely natural means, using human beings and their science as His instruments, He created an entirely new race of men, with deformity in their blood, with squalor all around them and ahead, In the future, no prospects but of more squalor, worse deformity and, finally, complete extinction (132-133).
Obviously, the argument presented here does more than attack nuclear weapons. It takes aim at nationalism, Industrialism, and dehumanizing science as well. In explicitly linking the atomic bomb to these issues and by using a representation of ultimate evil to symbolize the diabolical spirit that gives rise to them, Huxley does argue powerfully for the abolition of nuclear weapons. If they are the most recent and most dramatic manifestation of the worship of Bellal, eliminating them might be a logical place to start an attempt to counteract mankind's suicidal tendencies.

This conviction of the basic immorality of all nuclear weapons is also central to the theme of Walter M. Miller, Jr.'s *A Canticle for Leibowitz*. A significant part of the debate carried on in the book concerns the responsibility of science for the power it gives to man. Miller questions whether or not scientists can ignore their moral responsibility in giving nuclear capabilities to mankind when they know that mankind will almost certainly misuse those capabilities. This issue is debated by the abbot of a monastery which has preserved a remnant of twentieth-century knowledge after a nuclear war and a secular scientist who is attempting to usher in a new renaissance twelve centuries after that war. While the scientist coldly admits that some people, of necessity, will be destroyed in the effort to build the new world, the abbot is not so willing to concede the necessity of this price:
But you promise to begin restoring Man's control over Nature. But who will govern the use of the power to control natural forces? Who will use it? To what end? How will you hold him in check? Such decisions can still be made. But if you and your group don't make them now, others will soon make them for you. Mankind will profit, you say. By whose sufferance? The sufferance of a prince who signs his letters X? Or do you really believe that your collegium can stay aloof from his ambitions when he begins to find out that you're valuable to him? (206-07).

Of course, the fact that this discussion is taking place 1200 years after nuclear war has all but destroyed civilization validates the abbot's argument. Since man has already used the power of science irresponsibly once, the scientist cannot ignore the probability that he will do so again. And Thon Taddeo's attempt to dismiss his moral responsibility for the knowledge he finds strikes the reader as criminal folly.

Moreover, as Hoban does in Riddley Walker, Miller links the misuse of power that nuclear war represents with basic flaws in the nature of man, this time in a specifically religious context. In an effort to influence Thon Taddeo's attitude toward the dissemination of scientific knowledge, one of the monks recites an account of the holocaust that destroyed civilization in the twentieth century. Because records of the war are fragmentary, however, the account takes the form of a biblical myth:

Now the prince Name was not as Holy Job, for when his land was afflicted with trouble and his people less rich than before, when he saw his enemy become
mightier, he grew fearful and ceased to trust in God, thinking unto himself: I must strike before the enemy overwhelmeth me without taking his sword in hand. . . .

And Satan spoke unto a certain prince, saying: "Fear not to use the sword for the wise men have deceived you in saying the world would be destroyed thereby. Strike and know that you shall be king over all.

And the prince did heed the word of Satan, and he summoned all of the wise men of that realm and called upon them to give him counsel as to the ways in which the enemy might be destroyed without bringing down the wrath upon his own kingdom. . . .

Being afraid, the less wise men among the maji counseled the prince according to his pleasure, saying: "The weapons may be used, only do not exceed such-and-such a limit, or all will surely perish."

And the prince smote the cities of his enemies with the new fire. . . .

And a great stink went up from the Earth even unto Heaven. Like unto Sodom and Gomorrah was the Earth and the ruins thereof, even in the land of that certain prince, for his enemies did not withhold their vengeance. . . . The stink of the carnage was exceedingly offensive to the Lord, Who spoke unto the prince Name, saying: "WHAT BURNT OFFERING IS THIS THAT YOU HAVE PREPARED BEFORE ME? WHAT IS THIS SAVOR THAT ARISES FROM THE PLACE OF HOLOCAUST? HAVE YOU MADE ME A HOLOCAUST OF SHEEP OR GOATS, OR OFFERED A CALF UNTO GOD?"

But the prince answered him not, and God said: "YOU HAVE MADE ME A HOLOCAUST OF MY SONS."

And the Lord slew him. . . . and there was pestilence in the Earth, and madness was upon mankind, who stoned the wise together with the powerful, those who remained (170-72).

This schematic rendering of the arms race and the possible origins of a nuclear war, with its veneer of traditional biblical language, its specific reference to the faithfulness of Job—a faithfulness that modern man fails to imitate—and its echoes of the stories of Adam and Eve and Cain and Abel, all help to establish
Miller's contention that the root cause of the problem of nuclear weapons is man's fallen nature. The inherent capacity of man for sin--and for repentance--remains constant in the several centuries that the plot takes to play itself out. What changes is man's technological capacities--capacities that ultimately combine with his fallen nature to destroy the civilization that has been slowly and painfully rebuilt throughout the novel. Miller's point is that, given man's history, it is unreasonable to expect him to be able to control the overwhelming power of the atom. His nature is too flawed to do so. This idea is highlighted at the end of the novel when the fallen nature of man, which has produced the second nuclear holocaust in history, is implicitly contrasted with the nature of the Virgin Mary as defined in the Roman Catholic Doctrine of the Immaculate Conception. The doctrine states that Mary, by virtue of a special dispensation from God, was conceived without the effects of Original Sin, and therefore was not subject to the normal imperfections that mankind suffers. Miller implies that only such a special person could conceivably be expected to avoid the temptations toward power and destruction that nuclear weapons afford. Thus, giving nuclear weapons to man is a hopelessly irresponsible act which ultimately dooms the human race to destruction.

Clearly, then, *A Canticle for Leibowitz* points up the essential immorality of nuclear weapons, implying that such weapons should not be deployed or even researched. At the same
time, however, the novel provides the most elaborate fictional rendering of another great theme of the nuclear debate: the impossibility of ridding the world of nuclear weapons. From the beginning of the nuclear age in 1945, scientists pointed out that, even if the leaders of the Earth's nations were wise enough to abolish nuclear weapons, the knowledge of how to make them could never really be eliminated. Therefore, the weapons would remain taboo only while political accommodations existed between nations. But if war broke out between two nations that possessed nuclear capabilities, nothing would stop those nations from rearming. Indeed, they would feel compelled to rearm for fear that the enemy was redeveloping nuclear weapons. Furthermore, even if all the books that contained the information necessary to build nuclear weapons could be destroyed and every person who knew anything about the process could be silenced, nuclear capacity is a fact of physical law. The secret could always be rediscovered.

*A Canticle for Leibowitz* demonstrates how persistent the knowledge of making nuclear weapons can be. According to Miller's account, man destroys his civilization through nuclear war sometime in the latter part of the twentieth century. Enraged at what science has done, the common people attempt to destroy all knowledge of the weapons by burning books and killing the scientists who developed the knowledge. One nuclear scientist, Isaac Leibowitz, is protected from the mobs by a group of Catholic monks. He eventually converts to Catholicism and sets up his own
religious order with the express purpose of salvaging man's knowledge from obscurity and preserving it through the new Dark Ages until man wants it again. The first part of the novel takes place six hundred years after these events when the monks find the remains of a fallout shelter in which a number of Leibowitz's colleagues died. Within the shelter they discover scientific documents, including a blueprint for part of a nuclear device. Given their mission in life, the monks preserve the information in their abbey, awaiting the time when someone will come to integrate it with other bits of knowledge.

Another six hundred years passes before that time comes. Thon Taddeo Pfardentrott visits the abbey to study the ancient documents in order to advance the cause of science. Even he is impressed by the amount of knowledge that the monks have been able to preserve; among the documents is a full explanation of Einstein's theory of relativity. Clearly, the information he finds, combined with his own considerable talents as a research scientist, will give the burgeoning second renaissance a great thrust forward. The problem, as we have already seen, is that Thon Taddeo makes no effort to insure that the knowledge he is reintroducing into the world will be used responsibly. The Thon himself scorns the religious values that lead the abbot of the monastery to warn him of the dangers of putting enormous power in the hands of flawed mankind. Moreover, the Thon is financed and controlled by his cousin, the despotic, power-hungry King Hannegan II. The stage is
set for another cycle of scientific growth climaxed by another calamity.

That calamity comes in the third section of the novel which takes place in 3781. Civilization has now risen up to and beyond the technological level of the twentieth century. Unfortunately, this level of technology includes the existence of more powerful nuclear weapons. Once again, man destroys his planet with these weapons, but this time the only hope for his continued existence lies in fleeing to colonies on other planets. In order to continue the effort to help man to battle his fallen nature, the Order of St. Leibowitz sends a self-sustaining community to these colonies. Miller is suggesting that, given the persistence of the knowledge of nuclear weapons, mankind's history will consist of ongoing cycles of destruction, slow rebirth, and renewed destruction unless man learns to control the destructive aspects of his nature. If the laws of physics must remain the same, then man's response to his basic nature must change.

Not everyone who has confronted the inevitability of nuclear technology, however, has suggested large-scale changes in man's basic behavior in order to control the threat of nuclear weapons. Indeed, more people have looked toward systemic solutions to the nuclear crisis. One of the earliest proposed solutions to the problem was to ban war in general. If there were no wars, then there would be no use for the atomic bomb. In fact, many believed that the terrors of nuclear destruction would serve to end
war. General Henry H. Arnold, commander of the Army Air Forces, publicly made this suggestion as early as August, 1945: "This thing is so terrible in its aspects that there may not be any more wars" (Zuckerman 72). George Bernard Shaw echoed this hopeful view in the first two sections of his Farfetched Fables in the late 1940's.

Those who advocated the abolition of war, however, were taking on a problem even more formidable than banning the bomb. War has been a staple of man's behavior throughout history. Even those who cite the fact that the nations of the world have refrained from total war over the past forty years must admit that the threat of nuclear catastrophe has not entirely quelled man's aggressiveness. Indeed, the number of localized conflicts since 1945—in Korea, in Vietnam, in Central and South America, in Afghanistan, in Cambodia and so on—suggest that mankind either is hopelessly addicted to warfare or is desperately in need of a humane method of solving international conflicts.

One method for settling such conflicts peaceably—world government—has long been a dream of many people. The first actual movement toward it, in fact, predated the use of nuclear weapons by thirty years when the League of Nations was formed after World War I. In principal, this body was to arbitrate international disputes and guarantee international order. In actuality the League had little power and even lacked the cooperation of the United States, whose President Woodrow Wilson
had urged the concept on the victorious Allies in 1917. The failure of the League was most obvious, of course, in its inability to prevent World War II. That war, however, gave rise to the second and, to some extent, more successful attempt at world government in this century—the United Nations. Once again, the UN was an attempt to settle international disputes without resort to war and to establish a unified code of international behavior. Those who established it saw it as the beginning of the end of all war, and the advent of the nuclear age underlined the importance of achieving such a goal. As we have seen, however, the UN did not sound permanent retreat for the armies of the world. Nevertheless, those who have felt the need to deal with the nuclear threat in some final, effective way have continued to look to world government as the solution to man's greatest problem. Is the solution that Bertrand Russell outlines in Has Man a Future? He calls for the absolute abolition of independent nations to the point that children would be taught loyalty, not to their native countries, but to the world community. This goal is also at the heart of Jonathan Schell's 1982 book, The Fate of the Earth.

Naturally the concept of world government as a solution to the nuclear threat found its way into fiction. As we have seen, Huxley attacked the whole concept of nationalism in Ape and Essence as early as 1947. In 1950 the theme was presented to a wider audience in a popular science-fiction film, The Day the Earth Stood Still. The film presents a man from outer space who warns
mankind of the dangers presented by the combination of nuclear weapons and rocket technology. He cites the example of the more advanced planets which he represents in suggesting how the nations of the Earth might solve their problems:

The universe grows smaller every day, and the threat of aggression by any group anywhere can no longer be tolerated. There must be security for all, or no one is secure. Now, this does not mean giving up any freedom, except the freedom to act irresponsibly. Your ancestors knew this when they made laws to govern themselves and hired policemen to enforce them. We of the other planets have long accepted this principle. We have an organization for the mutual protection of all planets and for the complete elimination of aggression. The test of any such higher authority is, of course, the police force that supports it. For our policemen we created a race of robots. Their function is to patrol the planets in spaceships like this one and preserve the peace. In matters of aggression, we have given them absolute power over us. This power cannot be revoked. At the first sign of violence, they act automatically against the aggressor. The penalty for provoking their action is too terrible to risk. The result is we live in peace, without arms or armories, secure in the knowledge that we are free from aggression and war—free to pursue more profitable enterprises. We do not pretend to have achieved perfection. But we do have a system, and it works. I came here to give you these facts. It is no concern of ours how you run your own planet. But if you threaten to extend your violence, this Earth of yours will be reduced to a burned-out cinder. Your choice is simple: join us and live in peace, or pursue your present course and face obliteration. . . . The decision rests with you.

If we replace the fantastic universal federation of planets with a hypothetically possible world federation of nations, we see that the director, Robert Wise, is symbolically proposing a more
powerful version of the UN whose principal function is to keep peace between nations, although not necessarily within them. The suggestion that the Earth could be reduced to cinders if the federation is not adopted foresees a time when the nations of the Earth would have sufficient nuclear weapons to destroy the planet. The notion of the race of robots built to enforce order in the universe, of course, implies that the UN must have some form of effective coercive power to enforce order in the world. While, in reality, the UN has been unable to establish such a coercive power, the statement that the robots' action is too terrible to risk might be a reference to a plan to turn control of all nuclear weapons over to the organization. If this action were taken, not only could individual nations not use the weapons against each other, the UN could use them to force recalcitrant nations to accept arbitration of international disputes. Such a plan had actually been put before the UN by the United States in 1946, but had been rejected by the Soviet Union (Dyson 170-71). When the Soviets developed the atomic bomb themselves, all hope of international control was abandoned on both sides, and the arms race was engaged.

It is interesting that The Day the Earth Stood Still could argue for a position that had become very controversial. The stand the film takes is especially surprising when one remembers that it was made during the height of the Communist "witch hunts" which had an enormous impact on Hollywood. Of course, the method Wise used to avoid political problems was to employ fantasy to
distance the immediate impact of what he was saying from the real world. Instead of having a world leader get up and propose an international government, he manufactured a fantastic analog for such an action. By doing this he allowed the audience to analyze the proposal in the abstract and come to some conclusion about its desirability without feeling constrained by current political propaganda. If their conclusions were favorable, they would be more disposed to accept an actual proposal for effective world government when it came without dismissing it as some form of Communist plot. Thus, The Day the Earth Stood Still exemplifies the ability of fiction to mask its true persuasive intent when necessary and argue its case symbolically in order to avoid ingrained but baseless objections to what it is proposing.

By the time Ben Bova wrote Millenium in 1976, it was no longer necessary to mask an appeal for world government. Even though he uses fantastic elements in telling his story, Bova explicitly argues for world government as the only hope for the survival of mankind. The plot concerns the efforts of the commander of an American moon base to avoid being drawn into an American-Soviet nuclear conflict. Together with the commander of the adjacent Soviet moon base, he establishes an independent nation on the moon, which he intends to defend by taking over the American and Soviet anti-missile satellites. When he discovers that these satellites can also be used to control the weather on Earth, he decides that they could be used to give the UN the power to
maintain order on Earth. While, of course, the regulatory force with which Bova empowers the UN does not exist, he succeeds in making his point: only through International action—through some form of world government—can the threat of nuclear annihilation be laked to rest.

Unfortunately, the nations of the world did not decide to institute international control of their nuclear weapons. Instead they allowed their reactions to the weapons to be controlled by mutual suspicion and fear. As soon as Stalin learned that the United States had developed the atomic bomb, he ordered his scientists to increase their efforts to develop their own (Wyden 226). Immediately after the bombings of Japan, when the United States had a monopoly on atomic weapons and had nothing to fear from any other nation on Earth, the Army recommended the development of an arsenal of over four hundred nuclear weapons (Zuckerman 43). The implication of this recommendation was that the United States should consider nuclear weapons as valid instruments of conducting foreign policy. And, indeed, on some occasions the weapons were used as just that. The most notable instance occurred shortly after Dwight Eisenhower became president in 1953. He subtly threatened the use of atomic weapons in Korea if the war continued to drag on. Even though the Soviets had developed the bomb by that time, the United States still had an overwhelming nuclear superiority, and by July of 1953 a truce was
signed. Secretary of State John Foster Dulles later credited the threat with ending the Korean War (Zuckerman 187).

The fear of just such threats had been at least partially behind the Soviets' own rush to develop the bomb in the late 1940's. And the materialization of the threats no doubt spurred them to try to keep up with the Americans in the arms race. However, their development of the atom bomb in 1949 caused the United States to decide to build a hydrogen bomb, which they successfully tested in 1952 (Zuckerman 82). Terrified of falling behind once again, the Soviets developed their own hydrogen bomb by 1954 (Zuckerman 82). At the same time the two nations were also rushing to stay ahead of each other in developing quicker and more accurate delivery systems for the weapons—improved bombers and, later, missiles. Of course, none of these developments, of themselves, could keep either side safe from the other's nuclear weapons. Instead, the weapons were developed and deployed to provide a counter-threat to the other's threat. If one side used nuclear weapons, the other side would destroy the aggressor with its weapons.

The theory behind this dynamic was formalized in the early 1960's by Secretary of State Robert McNamara and named by him in 1967:

Damage Limitation Programs, no matter how much we spend on them, can never substitute for an Assured Destruction capability in the deterrent role. It is our
ability to destroy an attacker as a viable twentieth-century nation that provides the deterrent, not our ability to partially limit damage to ourselves (Zuckerman 195).

Of course, the United States was deterred from attacking the Soviet Union by the realization that the Soviets possessed the same capacity to destroy it as a viable twentieth-century nation. Because of this fact, the theory became known as the strategy of Mutual Assured Destruction (MAD). Each side knew that if it used its weapons it would be committing an act of national suicide. The United States and the Soviet Union were locked into what McNamara referred to as a "balance of terror."

Despite its cold blooded logic, the strategy of Mutual Assured Destruction had much to recommend it, at least on a theoretical level. Many policy makers argued that the threat of ultimate annihilation was necessary to curb the aggressive tendencies of the Soviet Union. Given this premise, they felt that it was equally necessary for the United States to announce its resolve to carry out that destruction if necessary. Even those who were uncomfortable with the concept for humanitarian or moral reasons had to admit that it did provide at least some immediate solution to the problems of the potential use of nuclear weapons. As long as both sides realized that using the weapons was an act of suicide, no sane leader would do so. The policy made nuclear war too terrible and too final for anyone to want to risk it. On a more mundane but immediately practical level, it actually reduced
the need for nuclear weapons. Once a government had enough weapons to destroy a certain percentage of the enemy's cities, population, and production facilities, it would not need to add to the arsenal.

But from the start, the policy had its opponents as well as its supporters. Some found the concept unacceptable because they felt it was, at base, immoral and unethical for two great countries to maintain the peace by constantly threatening to destroy the civilian populations of its enemies. Dyson vividly puts forth this widely-held view:

I do not need to spell out why it is immoral to base our policy upon the threat to carry out a massacre of innocent people greater than all the massacres in mankind's bloody history. But it may be worthwhile to remind ourselves that a deep awareness of the immorality of our policy is a major contributory cause of the feelings of malaise and alienation which are widespread among intelligent Americans, and of the feelings of distrust with which the United States is regarded by people overseas who might have been our friends (245).

The American Catholic Bishops, in their 1983 pastoral letter on nuclear war, specifically condemned the logic of MAD:

Retaliatory reaction whether nuclear or conventional which would indiscriminately take many wholly innocent lives, lives of people who are in no way responsible for reckless actions of their government, must also be condemned. This condemnation, in our judgment, applies even to the retaliatory use of weapons striking
enemy cities after our own have already been struck (National Conference 47; par 148).

Others had less altruistic reasons for opposing MAD. Some saw it as a strategy that robbed a nation of a viable defense option—limited nuclear war. Herman Kahn, for example, suggested a whole range of responses to enemy aggression, from negotiation, through the use of conventional weapons and the limited use of nuclear weapons, and finally to full-scale nuclear war. He also warned that "even if the balance of terror becomes relatively stable, war can still occur" (Zuckerman 192) and proposed the analogy of the Doomsday Device in order to point up the danger of MAD:

Assume that for say, ten billion dollars we could build a device whose only function is to destroy all human life. The device is ... connected to a computer which is in turn connected, by a reliable communications system, to hundreds of sensory devices all over the United States. The computer would then be programmed so that if, say, five nuclear bombs exploded over the United States, the device would be triggered and the Earth destroyed (Dyson 34).

He goes on to point out that the device would fulfill most of the requirements for a credible deterrent: it would be frightening, inexorable, persuasive, cheap, and non-accident prone. It would not have another necessary quality of a stable deterrent, however: it would not be controllable. It could not be disarmed in the event
of an actual strike; therefore, if something happened by accident, it could lead to the destruction of the world. Kahn felt that the MAD, taken to its logical conclusion, was the equivalent of such a device.

It might be asked, of course, how MAD could possibly fail given a situation of stable deterrence. The most common answer has been accidental war caused by either technological or human failure. Helen Caldicott speaks of 152 Incidents from January 1979 to June 1980 in which the United States' early warning system indicated that Soviet missiles might be attacking:

All but 3 of the 152 alarms were caused by misleading or ambiguous information received from infrared sensors aboard U.S. satellites or from early-warning radar. . . . Five of these were serious enough for U.S. bomber and Intercontinental missile crews to be placed on alert. Of the other three alerts, one was caused by a war games tape that was fed into a computer in November 1979, and the other two in June 1980 by defective silicon chips in the computer system. There were also an unspecified number of false alarms caused by a random failure in computer and communications equipment (29).

Dyson cites the volatility of the human factor as a threat of accidental war:

We all know this idea [MAD] makes sense so long as quarrels between nations are kept under control by statesmen weighing carefully the consequences of their actions. But who, looking at the historical record of human folly and accident which led us into the
International catastrophes of the past, can believe that careful calculation and rational decision will prevail in all the crises of the future? Inevitably, if we maintain assured destruction as a permanent policy, there will come a time when folly and accident will surprise us again as they surprised us in 1914. And this time the guns of August will be shooting with thermonuclear warheads (246).

All of these objections have found their way into the fiction of nuclear war. The moral and psychological debilitation of living with the kill-and-be-killed attitude of MAD provides the theme of Level 7, for example. The novel presents a world in which the two major nuclear powers are equally well-armed. Logically, neither side can make a move against the other without committing suicide. The strategy of Mutual Assured Destruction would consider them to be in a state of perfect stable deterrence and would judge this situation to be ideal. What is clearly not ideal is the life of those who inhabit Level 7. As we have seen, the people on Level 7 are trapped there—condemned to live in this subterranean world for the rest of their lives. Also they have been sent to Level 7 without their consent, realizing their plight only after their arrival. Their lives are controlled by faceless voices who are not elected but who claim to have the security of the state at heart. Most of all, while the rules of Level 7 have their own consistent internal logic, they are ultimately dehumanizing.

In many ways, life on Level 7 is symbolic of life in a country armed with nuclear weapons. Like the Inhabitants of Level 7, we find ourselves trapped in a condition that daily threatens us
and reduces the joy of life. At the same time, we see our survival as dependent on threatening our enemies and forcing them to live in the same kind of trap. Like Level 7 the nuclear strategic balance has become an environment—the world in which we live our lives. We follow the principles of deterrence—the strategy of Mutual Assured Destruction—and those principles have their own consistent internal logic. But that logic, upon close examination, reveals itself to be inhuman and even insane. We hold elections, leaders change, but the principles that govern life in the nuclear age remain the same. Parity, stability, deterrence, assured destruction—all are part of the common vocabulary of Democrat and Republican, liberal and conservative.

If we accept the idea that Level 7 is a symbol of our own world, we may begin to see how the debilitating effects of Level 7 on its inhabitants parallel the impact of MAD on us. The sense of limits that life on Level 7 necessarily imposes, depresses even the most ardent believers in the system. As X-127 notes, man needs a sense of the infinite—a sense that life can stretch beyond the visible horizon. Stripped of this quality of life, man begins to lose the sense of his humanity. Of course, the rulers of Level 7 have attempted to meet this danger of dehumanization. They provide psychiatrists to work their magic of modern medicine on the inhabitants. But the psychiatrists themselves are compromised by their own growing angst. Level 7 also attempts to provide a sense of normalcy by continuing key social relationships. Most
Importantly, it urges its Inhabitants to marry and institutes an appropriately sterile ceremony to celebrate these marriages. Theoretically, the aims of Level 7 and the demands of the human personality should come together in these marriages. Level 7 wants to maintain stabilizing social relationships and provide a second generation of inhabitants for Level 7. The stable relationships could remind the Inhabitants what it is to be a human being, and the second generation could give them the sense of the infinite that they need. But the depressing basic assumptions of Level 7 itself counteract any possible advantages of these relationships and most of the marriages break up. X-127 himself marries a psychological officer, but he finds no comfort in the relationship.

At the same time that their own lives have become circumscribed and cheapened by Level 7, some of the Inhabitants worry about the moral implications of their condition. X-127 has nightmares about his mother's being killed in nuclear explosions. He also worries if his supposed psychological fitness for Level 7 indicates a fundamental flaw in his own personality:

I am sitting here alone at the desk and probably do not need--not much, at least--any company. But I wish I did. Why can I not care more for other people?--people up there or people down here, it does not matter which. It is as if my soul were deformed or part of it had been amputated (47).
This moral uneasiness is shared by many members of the community. X-117, to cite the most extreme case, suffers severe psychological problems as a result of his alienation from his loved ones. He eventually breaks down completely and commits suicide out of guilt for his part in the destruction of the world. Before he does so, he reproaches the psychological officer:

So you've had enough of this visit, you psychologist, you soul killer! You managed to cure me of my conscience so that I'd be able to kill humanity (110).

As Dyson has indicated, all of these psychological and moral problems are the legacy of man in the nuclear age. If man needs a sense of the limitless to be fully human, clearly the constant possibility of imminent destruction that MAD mandates must do something to his humanity. And if one of the most basic laws in the canon of Western society is, "Thou shalt not kill," the fact that we have chosen to defend ourselves by threatening the wholesale slaughter of innocent civilians must be a moral evil that, ultimately, we cannot ignore.

Other works attack the efficacy of the strategy of Mutual Assured Destruction by attempting to show how the strategy could break down and what would happen if it did. Fail Safe, for example, deals with a technological failure that almost leads to accidental war. The event begins when the Strategic Air Command's radar detects an unidentified flying object encroaching
on American air space. According to routine, the U. S. bombers are ordered to their fail safe points--fixed areas in the sky near Russian air space--to await further orders. Just when the American commanders discover that the unidentified object is an off-course airliner, however, a malfunction in the computer that controls the fail-safe system orders one bomber wing to attack Moscow. Detecting this movement, the Soviet commanders, responding to suggestions from their computers, block radio contact between the wing and its base, frustrating any attempt to inject a human control into the situation. Thus, the incident is precipitated by a machine's malfunction, which itself vitiates the basic assumptions of the safety of MAD, and is perpetuated on the Soviet side by human response to another machine.

All through these various events, the inability of the human being to gain control of his machines is emphasized. As we have seen in an earlier chapter, a congressman, a systems manufacturer, and two military men attempt to settle the question of human accountability. When the congressman asks who has ultimate responsibility for the system, the soldiers say the President does, but the manufacturer contends that, in reality, no one does. And, essentially, this statement is true. William M. Arkin and Richard W. Fieldhouse of the Institute for Policy Studies note that, given the complexity of nuclear warfare and the short time in which decisions must be made, "the ability of humans to manage the whole nuclear apparatus at a central location diminishes" (82).
Thus, the President will have less and less control over the decision-making process, and the machines themselves will grow more and more important. The problem with this state of affairs is that the machines may malfunction. The manufacturer in *Fall-Safe* admits this possibility:

The more complex an electronics system gets, the more accident prone it is... Take our missiles. Each of them is, in the design stage, checked, double checked and thoroughly pretested. All of their characteristics have been put through simulated conditions long before the missile is even built. All along the line, everything checks out perfectly. Each of the missiles should fire and fly beautifully. But it never happens that way in practice. The Atlas is the most reliable missile we possess. But what happens: we make our first moon shot and it misses by 25,000 miles... Pile all those electronic systems on top of one another and sooner or later there will be a deteriorated transistor or a faulty rectifier, and the thing breaks down. Sometimes even those marvelous computers suffer from fatigue. They start to get erratic just like overworked humans (Burdick 186-87).

This argument, backed up with specific references to actual weapons systems, seems designed to assert that an accidental strike is not only possible, but inevitable. Of course, the action of the novel, in which such a malfunction sends a wing to bomb Moscow, verifies and illustrates the validity of this argument. The logic of MAD, however, does not allow for accidental nuclear strikes. The strategy would insist that, in the case put in the novel, the Soviets should launch a full strike against the United States as soon as the bombs destroyed Moscow. It would also demand that the United
States, observing this attack, launch one of its own, laying waste to the Soviet Union. In the end, the two greatest powers on Earth would have destroyed each other because of a faulty component in a weapons system.

In point of fact, however, this scenario does not occur in the novel. The President of the United States manages to convince the Soviet Premier that the destruction of Moscow was an accident, but only by ordering one of his own generals to drop two hydrogen bombs on New York City. As horrifying as this solution is, some might argue that it weakens the point of the book by allowing the United States and the Soviet Union to survive the accidental strike. The reader might be left with the inference that MAD is not the great danger that its opponents claim it is, since the example presented allows human understanding to override the cold logic of the strategy. Such an objection, however, ignores the basic dramatic terms of Burdick and Wheeler's argument. As an object lesson, Fail-Safe does present us with a picture of mutual destruction. Granted, the destruction is not on the vast level that MAD calls for—it does not destroy the two countries as functioning twentieth-century nations. But it does destroy the two greatest cities of those nations—the two cities that more than any others symbolize them. The crucial point is that the sacrifice of New York at the end of the novel will not restore Moscow, just as full-scale retaliation against an aggressor would not restore the attacked country in a nuclear war. The dynamic may be presented
In microcosm, but the point that it is senseless and brutal has been made. Moreover, because the President has had to order the destruction of his own city, we see the essential suicidal nature of MAD. Just as the dropping of the hydrogen bombs on Moscow also condemns New York, any attack on a nuclear rival—whether by design or by accident—insures the destruction of the attacker.

Stanley Kubrick's *Dr. Strangelove* attacks the logic of MAD by concentrating on the other great threat of accidental nuclear war—an unauthorized strike generated by human failure. As a result of fears about a Communist plot to subvert the United States by contaminating the bodily fluids of its citizens, an Insane Air Force base commander named General Jack D. Ripper sends his wing to bomb the Soviet Union. Knowing that the strategy of MAD would cause the Soviets to respond to such an attack with full retaliation and knowing that the President and the Pentagon realize this fact, Ripper hopes they will feel compelled to join the full might of American military power to his renegade attack in order to annihilate the Soviets' retaliatory capacity before being annihilated themselves. Thus, the weaknesses of MAD are central to the action of *Dr. Strangelove*.

Despite the satirical intent that pushes characters and events up to and past the level of caricature, there is an underlying plausibility to the film that points up specific dangers of the doctrine of MAD. It is true, for example, that other people than the President may possess the actual power to use nuclear weapons.
We have already seen that in the event of the President's death, authority to order nuclear retaliation is automatically passed to the next person in the chain of command—the Vice-president, then the Speaker of the House of Representatives, and so on. Edward Zuckerman points out that, because communication with submarines is difficult in times of crisis, submarine commanders are able to launch nuclear weapons without submitting to the same sorts of checks and balances that those who control ground-based missiles must. It is conceivable—although, according to Zuckerman, unlikely—that a deranged submarine commander could launch the sort of strike portrayed in Dr. Strangelove (161). In addition, the United States has deployed over 3,000 tactical nuclear weapons of various sizes throughout Europe designed to be used if conventional resistance to Soviet aggression is insufficient (Arkin 56-59). Of course, there are strict controls over the use of these weapons, but those controls are, of necessity not as strict as those on strategic weapons. Once again, such weapons are in the hands of line commanders who could presumably use them even without proper authorization.

In order to accept the plausibility of Kubrick's scenario, however, the audience must be convinced not only that powers under the president could have the physical ability to launch some kind of nuclear strike, but also that they could have lost their senses sufficiently to do so. There is some evidence to indicate that this case is also possible. The United States government,
recognizing the dangers of an unreliable person's being involved with nuclear weapons, does have a program that attempts to screen out unstable people and prevent them from working with nuclear weapons in any capacity. Helen Caldicott points out that from 1975 to 1977, people were removed from the reliability lists at the rate of four per cent per year. In 1977 about three quarters of those removals were for abuse of drugs such as alcohol, marijuana, heroin, and LSD. About one quarter were removed for "significant mental, physical, or character trait or aberrant behavior substantiated by competent medical authorities," which might "prejudice reliable performance of the particular duties of a particular controlled condition" (Caldicott 41-42). While some might cite these removals as evidence that the system works to insure that no one connected with nuclear weapons is unbalanced, critics might point out that the individuals removed were authorized to work with nuclear weapons until their instability was identified. They might also ask whether any psychological screening system can be as absolutely foolproof as one involving the possible destruction of western civilization must be. Kubrick plays on this point when, in a discussion of such a screening system, he has General Turgidson say, "Well, I don't think it's fair to condemn a whole program because of a single slip-up." The biting satire of the line is based on the irony that in an imperfect world, MAD places the only hope for survival on absolute perfection.
Despite the apparent absurdity of some of the characters, then, *Dr. Strangelove* is designed as a plausible satire of a specific danger of MAD—the possibility that war could be triggered by a monumental miscalculation of someone who is unwilling or unable to see its suicidal nature. But in making real Herman Kahn’s metaphor of the “doomsday device,” Kubrick expands his attack from the specific to the general. Ultimately, the audience sees that his target is the basic thinking behind the strategy.

Halfway through the film, the Soviet Premier informs President Merkin Muffley that, if even one American plane of Ripper's wing is able to penetrate Soviet defenses and drop its bombs, it will trigger a doomsday device: fifty one hundred megaton hydrogen bombs jacketed with "debalthorium g," an element with a radioactive half-life of ninety-three years. As the Soviet ambassador warns, when the bombs go off "they will produce a doomsday shroud, a lethal cloud of radioactivity which will encircle the earth for ninety-three years." When the President asks if it is possible to trigger such a device automatically, his own science advisor, Dr. Strangelove, delivers an answer that parallels Kahn's own account of a doomsday device:

Mr. President it is not only possible, it is essential. That is the whole idea of this machine, you know. Deterrence is the art of producing the fear to attack. And so because of the automated and irrevocable decision-making process which rules out human meddling, the Doomsday Machine is terrifying and simple to understand and completely convincing....
When you only wish to bury bombs, there's no limit to the size. After that they are connected to a gigantic complex of computers. Now then, a specific and clearly defined set of circumstances under which the bombs are to be exploded are programmed into the taped memory bank.

Of course, Strangelove's familiarity with the concept comes from first-hand experience; as weapons consultant he ordered a study by the "Bland Corporation" into the feasibility of such a system. Ultimately he rejected the concept "for reasons that at this moment should be all too obvious." The obvious reason is, as Kahn would say, that the doomsday machine lacks an important component of a credible deterrent: It is not controllable. Thus, the system that Kahn proposed whimsically as a *reductio ad absurdum* of MAD finds actual form in Kubrick's film.

Clearly, then, the film is an attack on the basic strategic concepts of its--and our--day by suggesting what civilization's future would be if somehow the "balance of terror" were accidentally breached. And to emphasize the horror of man's plight, Kubrick does not even supply the modicum of hope that the authors of *Fail-Safe* do. Instead of adopting some scenario that would allow him to make his point without destroying the world, Kubrick plays out the logic of the doomsday device--and the MAD strategy. The final images of the film are a montage of nuclear explosions which, presumably, will blanket the world with deadly levels of debaithorium g for the following ninety-three years.
Despite arguments such as these, Mutual Assured Destruction has remained the official strategy of the United States for at least twenty years. On a practical level, however, decisions about weapons systems during that period have been based increasingly on a strategy of enabling the United States to fight a limited nuclear war. As we have seen, Kahn opposed MAD principally because the strategy eliminated a whole range of alternatives to Soviet aggressions, including limited use of nuclear weapons. He insisted that nuclear weapons be placed in the arsenal of democracy along with conventional weapons, the difference being considered one of degree rather than kind. Thus, he justified the deployment of an array of nuclear weapons ranging from the tactical to the strategic, and recommended intricate but flexible strategies that would govern their actual use. This concept has been labeled the strategy of Limited Nuclear War or Nuclear War Fighting.

Official policy statements aside, the concept of limited nuclear war has long been a part of United States' strategic thinking. When we had a monopoly on nuclear weapons in the late nineteen-forties, policy makers had no difficulty in seeing them as viable instruments of enforcing our national will on the world. We have already seen how threats of nuclear intervention helped Eisenhower bring the Korean war to an end. Barry Goldwater created a controversy during the 1964 Presidential election by urging that NATO commanders be authorized to use tactical nuclear weapons during crises (Manchester 1028). Richard Nixon
apparently threatened their use in Vietnam in the late 1960's and early 1970's (Caldicott 178). Moreover, such uses would not really have represented aberrations from ongoing policy. While the United States does maintain a policy of Mutual Assured Destruction in relation to strategic nuclear weapons, its plans for the defense of Western Europe are heavily predicated on the possibility of the limited use of tactical nuclear weapons--types with yields so low that their effects would theoretically be limited to the battlefield.

The concept that actual limited exchanges of strategic nuclear weapons is possible without insuring the destruction of the two countries involved has infiltrated policy makers' thinking gradually over the past twenty years. The theory of strategic nuclear war fighting states that, given proper command and control systems and viable diplomatic channels, the two sides in a nuclear exchange could employ their weapons judiciously and be able to disengage the conflict before fatal damage was done to the infrastructure of civilization. The justification of this theory lies in the sort of targeting the strategy mandates. MAD depends on "counter value" targeting, which means that the enemies aim at each other's cities and Industries. Nuclear War Fighting presumes a different kind of targeting called "counterforce" targeting. In this strategy, the participants aim at the enemy's weapons--primarily their nuclear weapons--hoping to destroy them completely before they can be launched (Dyson 229-231).
The advantages of a Nuclear war Fighting capacity based on counterforce targeting seem obvious. Instead of holding the enemy's civilians hostage, so to speak, a country aims to destroy the most dangerous of its enemy's weapons with a minimum loss of civilian life. On the surface, at least, this strategy seems at once more humane in its approach to the enemy and potentially more effective in protecting a country's own population. It is more clearly a defensive strategy than MAD in that it concentrates on destroying the enemy's real threat before it is used than on exacting unacceptable revenge on the enemy's people after the enemy has already destroyed one's own country. It would seem to provide a more acceptable response to the threat of nuclear war than does Mutual Assured Destruction.

In line with the convoluted logic that is ingrained in the nuclear debate, however, those who most oppose nuclear weapons prefer the concept of Mutual Assured Destruction to a strategy of Limited Nuclear War. The reason for this attitude is simple: In making nuclear war less total, Nuclear War Fighting strategies make it less terrifying and, therefore, more likely. Despite the dangers of accidental war, MAD at least has the virtue of declaring any use of nuclear weapons unacceptable for a sane, responsible nation, if only because such a use would seal the user's own fate. Nuclear War Fighting, however, again opens the door for the use of these weapons as legitimate instruments of national policy.
Opponents maintain that any use of nuclear weapons, even the limited use that Nuclear War Fighting envisions, would be disastrous beyond measure for the people in the vicinity of the targets. An even greater problem would be the level of fallout that counterforce targeting would create. In order to destroy hardened missile silos, nuclear weapons would have to be detonated at ground level. These ground bursts would create much more radioactive fallout than air bursts, thereby increasing the long-range and long-term effects of the attack. A more serious objection is that the term "Limited Nuclear War" sounds much more civilized than "Mutual Assured Destruction." For this reason, opponents fear that leaders would be psychologically much more able to launch a limited strike than a full-scale attack. Of course, there is no guarantee that a limited strike would stay limited. Once the absolute prohibition against using the weapons was breached, opponents of nuclear weapons fear that use would grow uncontrollably until mutual destruction was realized.

Indeed, all sides of the nuclear debate seem to agree that the most likely scenario for the onslaught of nuclear war would not include a "bolt out of the blue" strike by one side on the other. Instead it would much more likely be the result of a protracted international crisis in some sensitive spot like Western Europe or the Middle East. The sequence of events would begin with some diplomatic dispute involving territorial claims and threatened troop movements. Some conventional action might be taken—for example,
a Soviet invasion of West Germany. Faced with the Soviets' overwhelming conventional superiority in the area, NATO forces might be faced with the option of succumbing to a latter-day blitzkrieg or of using various kinds of tactical nuclear weapons to stem the invasion. Presuming that NATO commanders felt they could use such weapons without fear that the conflict would escalate into full-scale nuclear war, they would probably pick the nuclear option. However, the Soviet Union's policy is that they will answer any use of nuclear weapons against them with an all-out response, including the use of their strategic missiles (Dyson 251).

This scenario is almost precisely the one presented in The Day After. While the film seems to compress into a few days a sequence of events that would, in reality, occur over the course of weeks, director Nicholas Meyer seems determined to show as realistically as possible how an actual nuclear conflict could arise and escalate. To this end, the first reports of conflict in Europe are introduced as largely ignored background activity to the everyday lives of the people of Lawrence, Kansas. Only as the dispute escalates and leaders begin to hurl threats of war, do the characters become at first interested and then frightened by the news. Soviet troops approach a neutral border, and NATO troops go on maneuvers. In Lawrence, the local missile base goes on alert and an Air Force missile technician is forced to cancel vacation plans. In Germany, an incursion of some sort is made,
and NATO troops fight back. East Germany launches a full-scale invasion of West Germany, and students at the University of Kansas debate the possibility of the United States' risking nuclear war to defend Western Europe. The pace quickens and the news reports become more emotional as a tactical nuclear weapon is detonated over Eastern Bloc troops and another destroys a ship in the Persian Gulf. Finally, Intercontinental ballistic missiles rise out of their Kansas silos headed for the Soviet Union.

Of course, the point of the film is that the premises of limited nuclear war are faulty. The first use of tactical nuclear weapons in Europe leads inexorably to the obliteration of normal life in Lawrence, Kansas. And since we are told that over three hundred missiles have been detected heading for the United States, we can assume that the destruction has, in fact, been total. The number of missiles we have seen on their way to the Soviet Union suggests further that the destruction is mutual.

The proponents of Nuclear War Fighting, of course, question the theory that any nuclear exchange would lead to full-scale strikes as well as the assertion that even large-scale nuclear strikes would lead to the complete destruction of the country. Even Jonathan Schell, whose _Fate of the Earth_ suggests that life on Earth could be destroyed if even a moderate exchange between the United States and the Soviet Union occurred, admits that no one—-not the scientists, not the military, not the politicians—really knows what would happen in such an exchange. In answer to this
admittedly valid point, some opponents of Nuclear War Fighting have suggested that even the most limited nuclear war would bring about an unacceptable change in American life. According to this view, modern Industrial society is so complex and delicate that even the smallest nuclear war would plunge the country into the middle ages. Edward Zuckerman's *The Day After World War III* details the government's plans to preserve the structure of society through a nuclear war and reveals how often unrealistic those plans are. For example, he quotes a memorandum by Gary Robbins, a Treasury Department planner, responding to a scenario that assumed nuclear weapons fell on twenty-five per cent of the country:

"The pattern of the attack ran along the East Coast—they hit New York and Washington—and then through Georgia and out to the missile installations in the West," Robbins said. "The results were interesting. The attack destroyed the entire capability of the United States to print money, and we were told there were no currency reserves. It was a frightening situation. East-West transportation was cut off. Communications were wiped out. And the explosions' electromagnetic pulse wiped out computer memories. In that situation, our current tax policy is absolutely meaningless. Employers have no records, so they can't fill out W-2 forms. Bank records are gone. Paper backup records are no good. You can't process them fast enough" (4).

Added to this almost certain destruction of the economic underpinnings of society would be other problems: the contamination of the food chain, the probable decimation of local governments, and increased instances of disease arising from the reduction of
health-care services. The effect of these various factors would be to reduce the level of civilization in this country dramatically.

James Kunetka and Whitley Strieber's 1983 novel *Warday* is an effort to show the long-term effects of a nuclear exchange that is, if anything, more limited than that proposed in Robbins' memorandum. The authors postulate a nuclear exchange in 1988 initiated by the Soviets in response to the United States' efforts to deploy a defensive satellite system. Using weapons dropped from their own satellites, the Soviets first generate an electromagnetic pulse (EMP) which destroys the solid state circuits in computers and electronic equipment all across the country. Then they attempt to attack the principal cities and weapons bases in the United States. American retaliation is so swift and so similar, however, that the command and control systems on both sides are quickly destroyed, effectively eliminating, within a few hours, each side's capacity to carry on the war. In the United States—and presumably in the Soviet Union, as well—only a fraction of the damage that MAD theory would postulate has actually occurred. We learn that New York City has been rendered uninhabitable by radiation, that Washington, D.C. and San Antonio, Texas have been annihilated, and that various missile fields in the Midwest have been destroyed. Other than these areas, however, most of the country has not been touched by direct blast effects. Given this relatively low level of apparent damage, the reader might at first conclude that the country could survive a limited war quite
handily. Certainly he would have no trouble believing a 1972 Joint Chiefs of Staff study that predicted the country could recover from a nuclear war almost completely in six years (Zuckerman 13).

In the light of such predictions, it is significant that Strieber and Kunetka set the main part of their novel in 1993, five years after the war. As characters in their own fiction, the two authors set out on a journey to discover how well their ravaged country is actually recovering. What they find is not particularly encouraging to the proponents of Limited Nuclear War. Although relatively little of the country has been incinerated by the immediate effects of the weapons, it has all been affected to a much greater degree than most people might suspect.

As Zuckerman suggests in his book, the economy has been devastated. Strieber and Kunetka invent an economist who explains the consequences of a nuclear war on a complex economy:

What happened to the economy on Warday was quite simple. Six out of every ten dollars disappeared. The Great Depression of the thirties was caused by the stock market crash of 1929, when three out of ten dollars ceased to exist. Simultaneously we lost the ability to communicate. We lost all our current records.

All the money that was somehow in process in the computer systems of the government and private banks ceased to exist because of the electromagnetic disruption or, in the case of Washington, permanent and total destruction. That was about one dollar in ten, but it was all hypercritical money, because it was in motion. It was the liquid cash, what people were using to pay other people (180).
One of the advantages of Strieber and Kunetka's method is that they combine their overviews and statistics with the stories of fictional people who exemplify them. In the case of the economy, they use their own imagined selves as exemplars. Before the war, they were both successful authors; now they are reduced to poverty. In their journey they have to smuggle themselves into California—a golden land almost untouched by the effects of the war—because they have so few financial assets. The incident is reminiscent of scenes in Steinbeck's *Grapes of Wrath*, and, indeed, Strieber and Kunetka seem to play repeatedly on images of that social cataclysm. Apparently, they hope to suggest some sense of the horror of limited nuclear war by evoking memories—either direct or indirect—of the archetypal time of social suffering in our century.

Paralleling the breakdown of the economy is the collapse of central authority. Although the government of the United States nominally exists, it has relatively little power. For the most part, the elected government was incinerated at its desk, so to speak. Without a strong central authority to hold it together, the country has disintegrated into regions controlled by various power groups. California, which has largely escaped the ill effects of the war, is a land unto itself, severely limiting immigration from the ravaged Midwest. Parts of Texas and Mexico have evolved into the Spanish-speaking country of Aztlan, which no longer recognizes the United States government. The South, like California, maintains a
relatively robust economy and regards attempts at immigration with hostility.

This fragmentation of the nation has retarded recovery from the war. Detroit does not produce even a fraction of the automobiles it did before the war, even though its factories were untouched by the devastation. Economic depression and lack of organization have combined to kill the industry. Agriculture is hampered by constant problems with radiation contamination and reduced productivity. The central government, of course, is powerless to help change these conditions. Instead foreign nations like Japan and Great Britain hold the key to the United States' recovery. These countries have fallen heir to the position of economic and industrial leadership of the Free World, and Americans are at their mercy in redeveloping their industrial capacity.

Still other long-range problems become issues in the novel. One is the ongoing effect of the war on the general health of the country. Various radiation-related illnesses—cancers, genetic mutations, unspecified new syndromes—are a major concern. At the same time the reduction in general hygiene and nutrition in areas affected by the war have left the population vulnerable to various illnesses ranging from cholera to flu. The most notable example of virulent disease mentioned is the Cincinnati Flu of 1990 which killed twenty-one million Americans. The incidence of illness, especially radiation-related illness, has so overwhelmed the
abilities of the existing medical facilities to deal with it that a system of triage has been instituted. Under this system, people whose "life dose" of radiation exceeds a certain level are permanently denied medical care under the presumption that they will almost certainly develop life-shortening illnesses so that medical help will ultimately be wasted on them. To bring this point home, the authors give Strieber an excess dose of radiation during the war and often refer to the fact that he is legally prohibited from seeking medical care.

Above all, the country suffers the lingering aftereffects of a savage psychological blow. Paranoia is a recurring feature of the authors' conversations with the people they meet in their travels. A large percentage of the populace is convinced that someone somewhere is out to get them. Some fear that the Soviets have survived the war relatively unscathed and are about to launch an invasion. Others are convinced that countries like Japan and Great Britain are exploiting the United States economically, much as the United States once exploited Third World nations. Still others are certain that somewhere an absolute paradise has been built and that those who control it are systematically excluding refugees from it. The only section of the country that remotely resembles such a paradise, California, fears that the rest of the country will overrun it. Everywhere, even in California, extremist groups spring up dedicated to anarchy against the government and anyone else
who might have had anything to do with the tragedy. A member of one group, the Destructuralists, explains the group's philosophy:

We say that the whole social edifice, from the Boy Scouts right up to the Army, is essentially an addiction, that it is more than unnecessary, it is dangerous. Social structures are the breeding grounds of ideology, greed, and territorialism. Agricultural communities are peaceful communities, and families bound together by need and love do not go to war (131).

Even among those who cling to hope and work for a better life, the daily thought of inexpressible loss clouds joy. For Strieber it is the knowledge that his mother and brother were incinerated in San Antonio on Warden day and that he will eventually develop cancer as a result of his exposure to radiation. Knetka must face the agonizing doubt that his wife may or may not be dead. For everyone, a world of ease has been obliterated and replaced with a constant struggle for survival. Strieber encapsulates this feeling early in the book:

We are not the people we were on that sharp October day in 1968. I see the change in my wife and son, certainly in my collaborator, Jim Knetka. And in all whom I know. Sitting here with my pad and paper, I find that writing about it evokes obscure and powerful feelings. Am I bitter, or angry, or simply sad? So much of what I saw as basic to life is gone; what I counted valuable, worthless (3).
The power of the work lies in its understatement. Just as much of the effectiveness of Solzhenitsyn's *One Day In the Life of Ivan Denisovitch* stems from the fact that it describes what the narrator considers a good day in a Soviet prison camp, much of the point of *Warday* is made by showing how devastating a relatively minor exchange of nuclear weapons would be. Nevertheless, it communicates its message clearly and unmistakably:

To decide that a given war can be endured and survived is to let oneself come that much nearer to fighting it. War's greatest tragedy is not the destruction; it is the lives that are prevented from unfolding. And size counts: the greater the war, the more profound the wrong.

The mere existence of nuclear weapons was the most revealing symptom of what was out of balance about the past. Two societies, in varying degrees acceptable or unacceptable to one another, were so interested in their differences that they came to hate their common ground. That obsession was as a cancer in the mind and heart of the old world, which spread cruelty and blindness through the whole enormous body, and finally killed it (373).

*Warday* also deals with the most recent development of the nuclear debate—the Strategic Defense Initiative of the Reagan administration. The Strategic Defense Initiative (SDI) calls for the development of an elaborate, technologically advanced system that would use lasers and particle beam weapons to shoot down Soviet missiles at various stages in their flight. Those who support the system cite as its advantages the fact that it attacks enemy weapons instead of people and does so in such a way that no
human being would die even by accident. In addition, they claim, if the system could be perfected, it would, in the words of President Reagan, make nuclear weapons "impotent and obsolete" (Duke 196).

A number of objections have been raised against the proposal, however. First is the testimony by many scientists that the complexity of the sort of system the administration proposes would make a completely effective deterrent impossible. The Union of Concerned Scientists sees little hope for the president's dream of a world in which anti-missile systems take the place of nuclear weapons:

No amount of testing under simulated battle conditions could confidently explore the response of a complex defensive system to an actual nuclear attack. In part, this is because the nature of the attack and the attacker's countermeasures, as well as their effectiveness, cannot be known in advance. It is also because one cannot simulate the stress and the demands on the system of the circumstances of war...

Without confidence in the defense, the most important of the president's goals in pursuing space defense recedes and becomes unattainable. Nuclear weapons cannot be made "impotent and obsolete" until, and unless, we have a defense we can trust (149).

Opponents of nuclear weapons in general have also attacked the system because it could lead to instability in the arms balance and might precipitate war. The reasoning behind this theory suggests that, if the United States did attempt to develop an anti-missile defense, the Soviets would produce more nuclear missiles in
order to overwhelm it. Thus, the defense system would actually serve only to spur the arms race. Opponents argue further that, if the United States actually succeeded in developing a system that could dispose of all Soviet missiles, the Soviets would face a future in which they were open to attack by the United States but could not rely on the old threat of retaliation to deter such an attack. Any attempt by the United States to deploy such an anti-missile system could spark a preemptive Soviet attack before the system was fully operational.

This scenario causes the nuclear exchange that occurs in Warday. The United States begins to deploy the "Spiderweb" anti-missile system. Statements made by Wilson T. Ackerman, a fictional former undersecretary of defense, emphasize the similarity of this system to President Reagan's SDI:

This system, utilizing ultra-high-power laser beams, which targeted and destroyed warheads in space after they were ejected from their missile buses, was intended to render the United States invulnerable to land- or sea-based attacks. As the target acquisition system was optical, the Soviet low-radar-profile systems were no defenses. We did not know at the time how far in advance of existing Soviet weaponry this system was, or deployment would have been evaluated differently (56).

The Soviets, too afraid of American technological superiority even to protest the deployment, act in what they consider to be self-defense. They drop nuclear weapons from satellites to set up an
EMP effect across the United States. Besides inflicting the terrible damage to the nation's economy that we have already examined, the action gives Strieber and Kunetka an opportunity to distribute evenly the blame for expanding the arms race into the heavens.

While the authors do not dwell excessively on the so-called "Star Wars" issue, it seems to be no coincidence that this fictional warning of the dangers of an SDI-type system came just a year after President Reagan's speech announcing a commitment to the SDI concept. It also seems to be no accident that Ackerman's words summarize so well the principal objection to such a system:

Although I was not a party to the decision to deploy Spiderweb, I am trying to come to grips with the fact that I was assisting in the management of a system of defense that had drifted into a state of extreme brittleness, in the sense that our own technological superiority was making our enemy increasingly desperate, and thus was actually causing the very war it was intended to prevent (57).

In dealing with the horrors of limited war and the dangers of anti-missile systems, Warday brings fictional treatments of the anti-nuclear debate up to date. Indeed, what we have seen in this brief survey is that an examination of fiction dealing with nuclear war provides an overview of the general movements of that debate during its forty year history. Undoubtedly as new issues emerge, or old ones take renewed prominence, fiction will dramatize them
as well, bringing to the attention of a mass audience specific aspects of a debate which might otherwise remain obscure to the public at large.
VI. The Function of the Emotional Appeal in Fiction

Of the three types of rhetorical appeal, the emotional seems most obviously compatible with traditional views of the purpose of fiction. In a certain sense, in fact, one might well argue that emotional reaction is the primary goal of literature. The rationale behind this statement is that most theories maintain that at least part of the purpose of literature is the stimulation of pleasure. Of course, the source and the importance of this pleasure varies depending on the theory, but the presence of the pleasurable emotion seems universal. Aristotle spoke of the pleasure we derive from seeing reality imitated well. Horace, as we have already seen, determined that pleasure was one of the twin purposes of literature along with instruction. Longinus said that the source of poetic pleasure was the sense of the sublime: a kind of emotional ecstasy by which poetry helps the reader transcend ordinary existence. Wordsworth's definition of poetry as "the spontaneous overflow of powerful feelings" (Perkins 328) suggests that Longinus's view of the source of literary pleasure was at the base of much Romantic poetic theory. Others, like the New Critics of the twentieth century, located the source of literature's aesthetic pleasure in an appreciation for the structure of a work and insisted
pleasure in an appreciation for the structure of a work and insisted on the primacy of that pleasure as a criterion for the worth of a piece of literature.

Whatever a particular school saw as the source of aesthetic pleasure, however, they all seemed to see such pleasure as somehow central to the literary experience. What rhetorical fiction does is to communicate some thematic point through the literary work in order to use the aesthetic pleasure to help enlist the reader's allegiance to the point. I have already spoken about the validity of this practice and asserted that, whether or not one agrees that persuasion is a valid part of fiction, the process does occur. By entering into this persuasive process, fiction facilitates the communication of valuable lessons to mass audiences by leavening the lessons with the literary pleasure. Thus, a novelist like Samuel Richardson could advance a case for the virtue of chastity in the fictional tale of Pamela, a form that the pleasure-loving masses, who presumably most needed the lesson, would find more attractive than a sermon. Moreover, the novel enhances Richardson's ability to show "virtue rewarded" because it is fiction; he did not have to produce a real example of a maidservant who, by dint of her constancy in refusing her master's improper sexual advances, maintained her chastity and won the heart and hand of that same gentleman. A moralist or sociologist might have to search far, wide, and long to find such an example in the real world; Richardson had only to look into his own fertile imagination.
Of course, some might question how much actual pleasure Richardson's Pamela affords. Many argue that it, and other works like it, are heavy-handed and boring and cite this fact to assert that rhetorical fiction is not really literature. In the light of such attacks, it should be noted that, although the ultimate purpose of rhetorical literature is to make some intellectual point, the work must still deliver the sort of aesthetic pleasure that any other artistic work does. If it does not do so, if the artistic element is so lacking that the audience will perceive that the work is simply making a point, it not only forfeits the right to be called literature, it also forfeits the advantages that rhetorical fiction offers. In other words, the whole purpose of couching some intellectual point in a literary work is to make the point more palatable to a mass audience. If that which makes it palatable is missing, then the intellectual point will be only as persuasive in the "fictional" work as it would be in the non-fictional. Fortunately, proponents of rhetorical fiction can point to many other works which have had greater success in entertaining audiences. One need look no further than Dickens to see that a truly pleasurable work can instruct its audience. In his time, Dickens attacked abuses in education (Nicholas Nickleby), the unwieldy legal system (Bleak House), harsh treatment of the poor (Oliver Twist), and so forth, all in works whose enduring popularity argue their genuine pleasurableness. The ongoing validity of the rhetorical approach to fiction can be seen in twentieth-century
works as diverse as Upton Sinclair's *The Jungle*, D. H. Lawrence's *Lady Chatterley's Lover*, Evelyn Waugh's *Sword of Honor*, Joseph Heller's *Catch 22*, and Walker Percy's *The Second Coming*, to name a representative few from the ranks of "serious" novels. While we could not reduce the themes of these works to the level of an Aesop's-fable moral, a large part of their purpose is to communicate some sort of point about human life in the hopes of winning or reinforcing the audience's allegiance to that point. At the same time, each work attempts to give the audience the aesthetic pleasure that distinguishes literature from other forms of communication.

The emotional appeal also enters into the study of rhetorical fiction on another level. Besides the emotions of aesthetic pleasure, literature will arouse other specific emotions in its audience. Thus, a novel, whether in whole or in part, will be designed to elicit the reader's pity, anger, joy, and so on. At the end of *Warday*, for example, Strieber reflects on the fact that, although his world is in a shambles and he is probably developing cancer, life holds certain compensations that help him endure. He concludes with the following thoughts:

As I slip into our room, I see that Anne is sleeping heavily, her right arm stretched across my side of the bed. I lay it on her breast and get into bed beside her. There is a sense of completion now. At last I am going to sleep.
I lie down, drawing the sheet up around my chin. I sit with my pad on my knees. Music comes to me, an unknown melody, and an image of my son rises in my mind. I want to allow myself to have hope for him and his generation.

If only we have gained wisdom from the fire. If only we can accept how alike we all are, one and another (374).

The fictional narrator here is experiencing certain emotions—muted hope mingled with a sense of completion. Our own identification with the character invites us to share those emotions with him. So in addition to experiencing the aesthetic pleasure of the work, we also share this sense of sadness and hope that Strieber is attempting to convey. Because the work is a rhetorical fiction, the emotion we feel will be important in the attitude we form toward the theme of the novel: that limited nuclear war is unthinkable.

The relationship between the point conveyed and the emotions aroused in rhetorical fiction can be complex, however. The point and the emotion may arise from the same source without the existence of any necessary causal connection between the two. For example, the point of Strieber and Kunetka's Warday is that even limited nuclear war is unjustifiable madness. To make this point, they describe a journey across an imagined America that is still devastated five years after a very limited nuclear war. The anecdotes of suffering that they tell make the intellectual point. To the extent that we identify and empathize with the people portrayed as we would with real human beings, however, we may be
saddened by the scenes and events that the authors describe. Our appreciation of the theme has not necessarily caused the emotion, nor has the emotion brought about the realization of the theme. Thus, the twin goals of delighting and instructing can be achieved more or less independently. This fact explains why we may be genuinely moved by the imagined experience of a novel even while we reject the intellectual point that the novel is making or vice versa.

Of course, the two effects of the work may, either intentionally or unintentionally, support each other, with the intellectual helping to arouse the proper emotion and the emotional effect magnifying the reader's allegiance to the intellectual point. In fact, a very powerful work may set up a kind of cyclical reaction in which the intellectual appreciation increases the emotional effect, which then heightens the intellectual appreciation even further and so on. To some extent, this dynamic is apparent in Warday. If our emotional response to the suffering survivors is sufficiently strong, we are much more likely to accept with deep conviction the authors' point. We have, in a sense, come as close as we can to experiencing their suffering without actually living through a nuclear war. Given this heightened emotional commitment to the intellectual point, we may begin to appreciate the point as a real principle of life rather than just an abstract philosophical maxim. Given this heightened intellectual commitment to the concept of the futility of nuclear war, we may
be even more saddened by the plight of the survivors because we see even more clearly how senseless and unnecessary that suffering is. Thus, even if the two reactions are, in one sense, separate, they can, in the reader's overall response, increase each other's effect and the overall rhetorical effect of the work. This fact may explain why even those who have an inherent conviction that art somehow aims primarily at the emotional rather than the intellectual level tend to find greater aesthetic satisfaction in a work that has some deep thematic content.

There is, however, another possible dynamic in which the whole purpose of the author is to instruct through the emotional reaction without making any real pretension to increasing the emotional response through the intellectual apprehension. In other words, the use of the fictional form aims primarily at making some intellectual point, and any emotional response the work engenders is useful only insofar as it makes the audience's allegiance to the point stronger. We are, of course, firmly in the realm of didactic or propagandistic literature here, but before we are tempted to dismiss literature in which emotional effects are aimed primarily at making intellectual points, we might reflect that satire generally works in this way. In Dr. Strangelove, for example, Kubrick urges his audience to feel scorn for the character of Buck Turgidsen and, by extension, everything he does and says. Since Turgidsen is expressing the militaristic philosophy that Kubrick is attacking, the
director is using the scorn to win his audience's support of his own position.

Given the power of the emotional appeal in fiction, then, how does the author of a rhetorical work succeed in arousing particular emotions? Of course, a complete explication of this process could fill hundreds of pages. We must limit ourselves to suggesting some general parameters which will be particularly useful in examining how the emotional effect operates in anti-nuclear fiction.

First, human beings respond powerfully to vivid images. The sight of a starving child holding an empty bowl, a piercing scream of pain or terror, the aroma of a field of flowers after a rain are all capable of arousing some emotion in the receptor. This fact explains why advertising companies search for the right set of images for magazine and television advertisements. It accounts for corporations' spending millions of dollars to develop logos for their companies. It explains why various relief agencies were flooded with contributions when films of the starving people in Ethiopia were shown on news programs in 1985.

The imagery of nuclear war, of course, can be particularly vivid. Photographs or descriptions of children horribly burned by the heat wave or of people suffering the violently debilitating stages of fatal radiation sickness can evoke powerful feelings of pity. John Hersey's *Hiroshima* engenders strong anti-nuclear feelings in its audience, not by moralizing about the destructiveness of the bomb, but by describing in detail the effect of the bombing
on ordinary people who had little or no part in Japan's war effort. One image from the book has stayed with me ever since I first read the book as a seventeen-year-old high school sophomore. Hersey describes a priest taking refuge in a park crowded with wounded after the bombing. Responding to a cry for water, he comes upon a horrifying sight:

When he had penetrated the bushes, he saw there were about twenty men, and they were all in exactly the same nightmarish state: their faces were wholly burned, their eyesockets were hollow, the fluid from their melted eyes had run down their cheeks. (They must have had their faces upturned when the bomb went off; perhaps they were anti-aircraft personnel.) Their mouths were mere swollen, pus-covered wounds, which they could not bear to stretch enough to admit the spout of the teapot (67).

This single image, more than anything else in the book, brought home to me on an emotional level the horrors of nuclear war. It made real and palpable a danger that had previously been abstract. While actual images of real victims can evoke extremely powerful emotions, they do have certain disadvantages. They may arouse intense pity in the audience, but they may also, or alternatively, arouse other passions less conducive to the writer's purpose. An American confronted with such images may begin to feel guilty that his nation had caused such suffering. In itself, of course, such guilt could be as effective as pity in turning the audience away from nuclear weapons. On the other hand, however,
people often tend to resist guilt, and in the present instance that resistance could spawn a reactive justification of the bombing. The American reader, even while admitting that the suffering he sees is pitiable, may be inclined to salvage his sense of guilt by citing the bombing of Pearl Harbor as a justification for the destruction of Hiroshima and Nagasaki. Thus, the emotion raised by the images would be diverted into another debate entirely. In any case, the fact that the audience is looking at a foreign people in a now distant time may allow them to dissociate themselves from the victims and dilute their sense of pity.

In order to heighten the effectiveness of the image, then, it is valuable to show images of people like the audience as victims. Hersey, himself, seems to be aware of this point since one of the six victims he follows in Hiroshima is a German Jesuit priest, with whom a predominantly white American audience could easily identify. Still, distance of time and space may prevent the audience from appreciating as fully as possible—or necessary—the full horror of the suffering that nuclear war causes. One tactic documentary sources have used to try to circumvent this problem is to link the image of destruction to the audience itself. The documentary, If You Love this Planet finds a very subtle way to accomplish this task. The film is a record of a lecture given by Helen Caldicott to a group of college students dealing, in part, with the effects of nuclear weapons on the population of Hiroshima and Nagasaki. As she talks, Images of the wounded Japanese,
mainly women and children, come on the screen. In order to make a psychological connection between these actual victims and Americans as potential victims, the film makers intercut these images with reaction shots of the audience. An image of a young Japanese woman whose face is horribly burned, for example, is immediately followed by a close-up of a fresh-faced, blond student listening to the lecture. The juxtaposition of the two images may work only subconsciously, but it makes the point that this lovely young girl could suffer the same fate as her Japanese counterpart.

If we accept this principle that most people will respond more powerfully to images with which they can identify closely, then the most effective way of arousing an American audience's emotion would actually be to show the effect of nuclear war on the United States, rather than just to hint at it subliminally as If You Love this Planet does. And, in fact, many non-fiction sources do attempt to do this. Much of Jonathan Schell's The Fate of the Earth is an attempt to describe the various effects, both primary and secondary, of a nuclear war on North America. Countless sources attempt to make the concept of a nuclear blast vividly understandable for an American audience by describing the effects of a nuclear bomb detonated directly over the Empire State Building, drawing concentric circles to show what various effects of the blast would be at different distances from Ground Zero. In attempting to make their points this way, the authors of non-fiction have entered the fictional realm. They are dealing, not
with actual images drawn from the real world, but with Invented Images. The images may be realistic in that they are true projections drawn from known scientific fact, but they still exist only in the realm of the imagination—the realm of the fictional.

Of course, the sort of fictional images one is likely to find in a predominantly documentary work will be tentative and crude. The victims they will present, and with which the readers will have to identify, will be drawn with the most shadowy outlines. In short, the limited fiction that documentary writers are likely to employ will generally lack the power of traditional literary fiction to engage the audience's emotions on the highest level. Here the writer of fiction has an advantage over the writer of non-fiction. If the fiction writer can create his characters vividly enough to make us feel that we know them, then the images he creates of their suffering may have nearly the same emotional effect on us that the actual suffering of real people might. And the more like us those characters seem, the greater our emotional response will be. In the case of nuclear war, novels and films can confront us with images of Americans like us being subjected to the horrors of nuclear war and bring about the desired emotional response even though no such attack on the United States has ever occurred.

Consequently, anti-nuclear fiction has offered its readers a range of images to arouse an emotional commitment to the cause of nuclear disarmament. One of the final images in *Level 7* is a vision of the last man on Earth straining against the effects of the
terminal stages of radiation poisoning to turn on his music speaker so he will not die in silence. The most effective moments of Triumph are descriptions, without Wylie's editorial comments, of the breakdown of social order in the wake of a nuclear attack: masses trampling each other to death in a race for shelter, ordinarily law-abiding citizens shooting their neighbors down to protect their own supplies, mobs of scavengers running down and raping a terrified lone woman. Aural imagery can also be used to great effect: the screech emitted by melted telephones at the end of the film Fall-Safe is powerfully unnerving in its implications. In On the Beach the beeping of a radio sending unit in California at first suggests hope, then strikes an ironic tone of disillusionment when it is discovered to be the action of the wind rather than a human being. At the end of the film, it provides the soundtrack accompaniment to otherwise silent shots of the lifeless streets of Melbourne.

Besides being the product of powerful images, emotions can be evoked by the situations the authors create for their characters. The basic situation Shute deals with in On the Beach, for example, inherently begs the reader's pity: the world has suffered a nuclear holocaust and the population of the Southern Hemisphere--represented by a group living in Melbourne--is waiting for the inevitable arrival of lethal radioactive fallout. Given this situation, Shute's characters must find some way of bringing meaning to lives that have no future. Level 7 is similar in that
Roshwald also puts his characters into a situation over which they have no control and which robs their lives of any meaningful purpose. In the end, they too must grimly face inevitable death as a result of nuclear war. Other life-after-the-bomb situations are less hopeless but can be equally evocative emotionally. *Ape and Essence*, for example, horrifies the reader by portraying a world in which deformed babies are routinely and impassively sacrificed to Satan as a form of genetic engineering. We have already seen that *Riddley Walker* takes place in a depressingly primitive and savage world thousands of years in the future.

In addition to the post-apocalyptic situation, anti-nuclear fiction also uses the nuclear-crisis situation, in which people attempt to control forces that threaten to explode into war. The most famous of such works, of course, are *Fail-Safe* and *Dr. Strangelove*, in which characters must race against time to prevent the actions of renegade aircraft from precipitating World War III. Other works depict attempts to prevent nuclear holocaust on a less immediate, but more philosophical level. *A Canticle for Leibowitz* locates the real source of the nuclear nightmare in the fallen nature of man and places its main characters—several generations of monks—in the situation of attempting to convince various influential people that the only hope for man's survival lies in a change in his relationship with his technology. The reader is invited to feel the same frustrations, the same mix of possibility
and failure, felt by the abbots and, by extension, all those who try to eradicate the root causes of the nuclear problem.

The fact that the abbots are ultimately unsuccessful and must witness the end of life on Earth points up the emotional potency of the action of the novel. The action, or plot, arises out of the choices the characters make given the situation in which the author places them. Returning to Aristotle's definition of tragedy as the imitation of a significant action that arouses the emotions of pity and fear, we can see that the ability of plot to evoke an emotional effect is strong. In *Fall-Safe*, for example, Burdick and Wheeler manipulate the reader's emotions through the basic action of the novel: the efforts of the President and his advisers to prevent a nuclear tragedy. Naturally the basic situation—the possible destruction of civilization—is one which should invite the reader's emotional involvement. Presumably, he will instinctively desire the preservation of his society, and this desire will carry over to the fictional calamity proposed by the novel. In order to increase and personalize this essentially abstract emotional interest, the authors provide us with the characters of General Black and his wife. Because a nuclear war would mean the destruction of New York, where the Blacks live, and Washington, where General Black is attending a meeting, these two attractive characters are directly threatened by the potential disaster.
Thus, the book presents the reader with a suspense plot in which characters with whom we identify work against time and circumstance to save their own lives and those of their loved ones. Every turn of the plot involves some ultimately unsuccessful plan to resolve the crisis peacefully. At each turn the hopes of the audience are raised with those of the characters, only to be dashed. Each episode increases in emotional pitch until a final hysterical plea by the pilot's wife fails to deter him in his mission. The final plot movement, of course, plays directly on the identification that has been developed between the reader and the Blacks. In order to prevent a general holocaust, the President orders Black to drop the bomb on New York City. The reader will feel relief that the conflict in the novel has been resolved successfully: a general holocaust has been averted. But overriding this relief will be horror that the two people with whom the reader most identifies have been destroyed. Presumably, this sense of horror tinged with hope is the emotional reaction that Burdick and Wheeler want the audience to feel.

Finally, as we have already suggested, the rhetorical emotional effect may also be aroused—or at least increased—by the audience's apprehension of the theme of the work. *Wargames*, for example, makes the point that nuclear war is unwinnable, that nuclear accidents are possible, and that, therefore, the arsenal of nuclear weapons presents an unacceptable danger to mankind's survival without offering any compensatory advantages. If we
accept this intellectual point, our hostility towards nuclear weapons may be increased because we will realize that they threaten us without having any useful purpose. We have seen ample reason to fear nuclear weapons in this and other films and novels, but we may have harbored mixed feelings if we perceived them as in some way useful—for example, if we actually felt that they protected us from Soviet attack through the doctrine of Mutual Assured Destruction. If we accept the point of the film that any use of the weapons will be self-destructive and that an unintentional use is possible, our feelings may be stripped of their ambivalence; we will feel unalloyed hostility toward the weapons.

Of course, the success of the emotional appeal in anti-nuclear fiction is often dependent on the ability of the author to encourage the audience to transfer their emotional motivation from the fictional world to the real world. The mixture of horror and hope that we feel at the end of Fall-Safe, for example, will be rhetorically useless if we look only to the past—if the emotions have reference only to the fictional event that we have just experienced. The success of the book is dependent on the reader's putting the emotional experience in context by acknowledging that the events portrayed are actually possible and could become reality—and have a more wide-ranging effect—unless something is done to remedy the problem. In this respect, a particular scene in the novel is significant. Just before Moscow is destroyed the President has one more conversation with the Soviet Premier:
"This is not the most terrible of tragedies," Krushchev said. ... "In World War II we lost more people. ... But what makes this intolerable is that so many will be killed so quickly and to no purpose ... and by accident. ... I am willing to come to the United States and to agree to disarmament. Before I leave I will take steps that will make it impossible for our armed forces to repeat what has happened today."

"Premier Krushchev, I will welcome you and I shall also take the same steps that you have mentioned in regard to our armed forces," the President said. ... "Today what we had was a machine-made calamity. And I'm thinking that today you and I got a preview of the future. We damn well better learn carefully from it. More and more of our lives will be determined by these computer systems. ... They represent a new kind of power--despotism even--and we've got to learn how to constitutionalize it" (277-280).

This conversation does nothing to influence the major action of the book; all the decisions that will determine the main action have already been made. The passage is important, however, in that it signals to the audience that something remains to be done in the real world after the fictional events are completed. It provides a direction in which we are to channel our emotional reaction and suggests that we should be supporting some action to solve the nuclear crisis. Here, in fact, the authors provide us with specific actions to support: total disarmament and refusal to rely heavily on mechanized systems of defense. By introducing these possible solutions at the moment that the emotional pitch is greatest--immediately before the bombings of Moscow and New York--Burdick and Wheeler hope to use our emotional reaction to motivate our support for these solutions. Fail-Safe is not unique in using this strategy. The plot developments of many works serve to
channel the emotional effect of the audience. The act of sending a community of monks to serve the extraterrestrial colonies at the end of Canticle for Leibowitz emphasizes the need for man to confront his flawed nature. In the same vein, Martin Elliot's rejection of his career as a nuclear physicist challenges the audience to act on the emotions that the novel The New Men has aroused.

The importance of giving some direction to the audience's emotional reactions is a corollary to the fact that the emotional appeal is very powerful but also volatile. The rational appeal sets out its point as clearly and attractively as it can, directly soliciting the audience's assent. The emotional appeal, as we have seen, presents images, situations and actions to provoke a certain reaction in the audience. Even if the correct emotional reaction is provoked in the audience, however, they may not embrace the course of action that the author advocates. An image of the effects of nuclear war may frighten us, but our fear may cause us to support an increase in the nuclear arsenal rather than the decrease that the author may have had in mind.

This danger of confusion—the threat that the emotions raised by a work will take on a life of their own that may counteract the rhetorical purpose of the author—explains why many fiction writers, in addition to placing "signposts" in the plot to channel the audience's emotions, tie the emotional appeal to a strong statement of theme. We have seen that Fail-Safe inserts a thematic
statement just before the emotional climax of the novel in order to channel the emotional reaction toward a support of nuclear disarmament. A similar tack is taken in the film of *On the Beach*. The final shots show the empty streets of Melbourne after all life has been destroyed, the director's purpose being to frighten the audience into an opposition to nuclear weapons. There is a danger, however, that the audience will be so devastated by the images that they will believe any attempt to reduce the nuclear danger will be futile. In such a case, the emotional effect of the film would be at odds with the rhetorical purpose. In order to prevent a fatalistic reaction, Kramer ends the film with a close-up of a banner which reads, "There is still time, brother."

While the phenomenon of the author's supplying a thematic statement to accompany the emotional climax of the work is not universal in the fiction of nuclear war, it does occur frequently. The highly emotional climactic scene in *Wargames* ends with an image of the computer display screen bearing the message, "The only winning move is not to play." In the midst of his bittersweet tour of his old home in New York, Warday's Strieber reflects on the theme of personal responsibility that permeates the novel:

I think of the sins of the past. Then, it was so easy. Now I realize that I, like everybody else, was directly and personally responsible. The land was not despoiled by chemical companies, nor the war caused by countries. It was us, each one. We are all accountable for our era (339-340).
As Abbot Zerchi dies from wounds received in a nuclear blast at the climax of _A Canticle for Leibowitz_, his thoughts summarize Miller's theme:

He did not ask why God would raise up a creature of primal innocence from the shoulder of Mrs. Grael's, or why God gave to it the preternatural gifts of Eden—those gifts which Man had been trying to seize by brute force again from Heaven since first he lost them. He had seen primal innocence in those eyes, and a promise of resurrection (311-312).

As I have said, all of these statements are designed to help channel the movement of the reader's emotions. At the same time, however, the emotions give force to the thematic statements. Caught up in the emotion of the scene in particular or the work as a whole, the audience may feel more impelled to accept and act on the message that the work is presenting. And this effect is the power of rhetorical fiction. Because literature works so much on an emotional level, and because emotion can influence a person's actions greatly, fiction provides a dynamic springboard for whatever message the author wishes to convey.
VII. The Use of the Emotional Appeal in Anti-nuclear Fiction

In the light of Aristotle's comments on the nature of tragedy, it is significant that two of the most potently persuasive emotions that anti-nuclear works employ are pity and fear. In the *Rhetoric*, Aristotle defines pity as "a sense of pain at what we take to be an evil of a destructive or painful kind, which befalls one who does not deserve it, which we think we ourselves or some one allied to us might likewise suffer, and when this possibility seems near at hand" (Bk. II, Ch. 8). His definition of fear is very similar: "Fear may be defined as a pain or disturbance arising from a mental image of impending evil of a destructive or painful sort" (Bk. II, Ch. 5). In fact, Aristotle admits that the origins of the two emotions are often the same and that what really distinguishes them is the perceived victim of the evil: "Speaking generally, we may say that those things make us fear which, when they befall, or threaten, others, make us pity" (Bk. II, Ch. 5). Thus, a young person in sound health will be moved to pity when someone suffers a heart attack because he does not perceive such a danger's being an immediate threat to him. An older person, on the other hand, may feel fear in addition to pity, recognizing that he himself may be vulnerable to heart attack as well.
Although this sense of imminence, or potential imminence, seemed to be the crucial factor in arousing either pity or fear as far as Aristotle was concerned, I suspect that the nature of the threat may also be a factor. We do seem to be more likely to respond with fear to a danger that is very violent or highly unusual and with pity to a danger that may be as damaging but which seems less violent or more common. While we may feel pity when Willy Loman commits suicide, for example, we may feel fear in addition to pity upon reading of the death of Joe Christmas because it is more violent and more unusual. Of course, it may be that this phenomenon can be explained in terms of the Aristotelian distinction between the two emotions. Perhaps a more violent or unusual danger is so vivid that we are more likely to consider its potential for harming us, thereby increasing its perceived imminence and causing us to move through pity to fear.

In any case, the two emotions are obviously very close and can be experienced simultaneously. Whether a particular member of the audience of a work experiences pity or fear or both when confronted with representations of a certain kind of danger will frequently depend on the sort of emotional potential he brings to the work rather than on anything the author does. Consequently distinguishing between works that arouse pity and those that arouse fear must be, to some extent, arbitrary. Such distinctions may say more about the emotional makeup of whoever is making the distinctions than they do about the actual intentions of the authors.
Nevertheless, we can be sure that both the emotions are used in anti-nuclear fiction even if we disagree about which emotion is being raised in any particular example.

Non-fiction works that attack nuclear war find the means to appeal to the audience's pity readily at hand. As we have already pointed out, numerous documentaries graphically depict the results of the bombings of Hiroshima and Nagasaki: people scarred with burns from the intense heat wave, people sickened and dying from the effects of radiation poisoning, people suffering from various radiation-induced cancers. The images of these people in photographs or in films—or their stories told in books like John Hersey's *Hiroshima* or Peter Wyden's *Day One*—tend to evoke empathy in sensitive people. In the absence of any specific antipathy, normal men and women seem to have a natural revulsion toward seeing their fellow human beings in pain. True, this revulsion may express itself passively in efforts to avoid encountering suffering, but at its most noble, this revulsion can generate a positive desire to help end the the victim's pain. Spurred by this sort of desire, people contribute to movements to ease world hunger, cure disease, and aid victims of natural disasters. On a deeper level, a person's empathy with the victims of a tragedy may cause him to seek to remove the root causes of the tragedy. Since the root cause of the suffering at Hiroshima and Nagasaki were the atomic explosions and since those explosions can no longer be prevented, the sympathetic audience may transfer
their pity to potential sufferers of future blasts. By doing so, they would be accepting the principle of nuclear disarmament.

This dynamic, of course, is as effective in fiction as it is in non-fiction. In fact, fiction may provide an even greater potential for arousing pity since its goal is to create a world so vivid and so plausible that the reader can lose himself in it, accepting it as its own reality. To this end, the fiction writer can explore the personalities and thoughts of his characters as fully as he sees fit. The non-fiction writer, on the other hand, is at the mercy of his subjects' desire for privacy. Moreover, the documentarist is bound by reality, by what actually exists in the world. The fiction writer is free to create any possibility.

And so a novelist like Nevil Shute in On the Beach can carefully select a cross section of especially sympathetic characters to follow through humanity's final days. One set of characters consists of a married couple, Peter Holmes and his wife Mary, who have just become the parents of a baby girl. They are young, attractive, and dedicated to each other. On the surface, their lives seem to be the ideal of domestic bliss. But we--and they--know that they are not going to be able to fulfill the potential of that domestic ideal. They will not grow old together. They will not have another child. They will not even be allowed to see the one they have grow up. They will, instead, be forced to choose between killing her and watching her die a horrible death from radiation poisoning. The pity that such a situation immediately
arouses may be increased by the fact that the wife is unable to accept the inevitability of death, continually denying reality whenever anyone brings up the subject of radiation. Our reaction may be that she should not have to accept such a reality.

The second couple that Shute focuses on are the American submarine commander, Dwight Towers, and the Australian playgirl, Moira Davidson. In making one of his characters an American, Shute attempts to ensure the empathy of a large part of his audience, readers in the United States. Moreover, Towers is almost an archetypal American hero—a paragon of right-thinking and devotion to duty. He possesses all of the qualities that leaders in fictional works are supposed to possess—all of the qualities that usually enable them to defeat any antagonist they might face. Unfortunately, no one, not even a man with the heroic attributes of Dwight Towers, can affect the outcome of this novel. No human action can prevent the lethal radioactive cloud from descending. Part of the pity that we feel for Towers stems from our recognition of the helplessness he feels as a man of action who is powerless to act effectively. In the film made from the novel, Gregory Peck delivers a speech that makes Towers' sense of helplessness explicit:

You see, in the Navy during the war, I got used to the idea that something might happen to me, that I might not make it. And I also got used to the idea that my wife and children were safe at home. They'd be all right no matter what. What I didn't reckon with was
that in this . . . this kind of monstrous war, something might happen to them and not to me. Well, it did, and I can't . . . I can't cope with it. My kids and . . . All the planning since the day they were born. Sharon . . . Sharon and I, we--well . . . You see, we were the sort of people who . . . Well, we would have been happy to grow old together. I can't accept it. I can't.

The fact that he also cannot help Moira Davidson--the surrogate for his wife--increases the poignancy of his situation.

Moira is another stock character from fiction: the charming waster with the heart of gold who is waiting for the right person or set of circumstances to reform her. Literature is filled with examples, from Prince Hal to Scarlett O'Hara, which indicate that this archetype somehow strikes a responsive emotional chord in audiences. In Moira's case, the potential savior is Dwight Towers, who needs the only thing she has left to give--her love. For a while, it seems that they will find some kind of fulfillment, but, in the end she cannot make Towers forget the memory of his wife and children:

If she had had more time things might have been different, but it would have taken many years. Five years, at least, she thought, until the memories of Sharon and of Junior and of Helen had begun to fade; then he would have turned to her, and she could have given him another family, and made him happy again. Five years were not granted to her; It would be five days, more likely (244).
Once again, our pity for the character arises from our appreciation for her lost potential. In any other conventional fiction, Moira would be granted the time to complete her reformation, bringing happiness both to herself and to Towers. As with the other characters, however, the forces that stand in the way of this fulfillment are out of her control. Nuclear death—inevitable, impersonal, and undeserved—robs her of a happy ending.

The final object of pity in On the Beach is the scientist, John Osborne. He, too, is an example of the reprobate: a charming but cynical alcoholic. His alcoholism, however, is softened by the fact that it stems from Osborne's guilt over being a scientist in the wake of the greatest scientific disaster in history. In a way, he feels responsible for the war and is willing to admit that responsibility, but, at the same time, he is a victim of it: he will suffer the same penalty as everyone else. Unlike the scientists in other films of the fifties, he will discover no great solution to the dilemma; the single hope that science offers here, the Jorgensen effect, proves to be an illusion. Moreover he will face his fate alone; he has no companion with whom to share what remains of his life. He is in love with Moira but must sublimate his feelings because of her love for Towers. Once again, the film makes Osborne's isolation clear. In an attempt to comfort Peter Holmes, he speaks of his own loneliness:
I envy you. . . . You have someone to worry about. I never envied anyone before; I never really believed in it. But you, yes, I do. I envy you. You have a wife, child, nappies to change. You have a lot to remember. You're fortunate to have someone to worry about. There are those who don't you know . . . . We let it all go by the board. It's too late now. But you. You've had it all.

One might argue that Shute is being manipulative in choosing these particular characters to represent dying humanity. One might well ask where the thieves, rapists, and killers are. Instead of caring, sensitive military men who are more victims of the war than perpetrators, why doesn't Shute examine the militarists who remain adamant about the necessity of the terrible destruction in order to halt the Red Menace? In short, we may wonder where the underside of humanity is in these last days of the species. There is little or no reference to that underside in either the book or the film. People go about their daily lives—in almost all cases productive, useful, middle-class lives—awaiting the end with stiff upper lips. We hear no mention of mass panics or looting, see no evidence that the human race would face its certain end with anything less than dignity and discipline.

Some might dismiss this view of human nature as unrealistic. Even if the majority accepted extinction with the equanimity that Shute's characters do, most readers would have difficulty believing that everyone would. The history of disaster tells us that a certain percentage of people do panic in such circumstances. Others do attempt to exploit the situation through looting and
other crimes. Certainly we would not expect everyone who ordinarily lived on the far side of the law to reform when faced with death. To the extent that *On the Beach* ignores these human characteristics, it is unrealistic.

This criticism, however, ignores the rhetorical strategy of the work. Shute intends to persuade by securing, to the highest degree possible, the audience's sympathy for his characters. Showing the various levels of perfidy that humanity might be capable of in the event of a nuclear war would be counterproductive in a work that attempts to arouse the sympathy of the human race for itself. By demonstrating that nuclear war would extinguish a species that could produce the admirable family unit of the Holmeses, the possibility for unselfish love shown by Towers and Moira, and the intellectual potential of a scientist like Osborne, Shute is suggesting the parameters of the waste that such a war would cause.

Numerous other works of anti-nuclear fiction, of course, also employ pity. The film *Testament*, for example, brings the victims of nuclear tragedy physically closer to home for American audiences by dramatizing the death by radiation poisoning of the residents of a small California town. While it is true that *Testament* may be a bit more realistic than *On the Beach* in that the pressures of facing death do tend to unravel the central family's stoicism somewhat, director Lynne Littman, on the whole, is using the same strategy that Shute does. The sympathetic
depiction of the final days of humanity in Mordecai Roshwald's novel Level 7 also appeals to the reader's pity.

While pity plays a part in the emotional appeal of Nicholas Meyer's television film, The Day After, fear seems much more crucial to its rhetorical appeal. To instill fear of nuclear war in his audience, he begins by insuring the maximum level of identification for an American audience with his choice of setting: Lawrence, Kansas, almost the exact center of the nation. To emphasize this identification, Meyer superimposes the opening credits on a montage of day-to-day life in Lawrence and the surrounding areas. Farmers harvest corn in the nearby fields; children play in a park; workers in a milk plant run their bottling machines; students go to classes at the university. Knowing that we are viewing the opening of a film about nuclear holocaust, we realize that these are meant to be glimpses of the lives of people like us—lives that are about to be destroyed by a calamity that threatens us daily. Through this identification, Meyer is conditioning us to feel the sense of imminent danger that fear demands.

To increase this sense of Imminent danger, Meyer develops the crisis that leads to the holocaust, not in direct confrontations between great leaders in the corridors of power, but obliquely on the screens of ubiquitous television sets. As an audience, we receive the same information that the people in the film receive at the same time that they receive it and in the same way. Thus,
the mode of exposition that Meyer chooses heightens our sense of identification with the characters in the film.

In order to hold as many mirrors as possible up to the members of his audience, Meyer presents a number of reactions that ordinary people might feel as a nuclear crisis evolves. Dr. Oakes and his wife deny the reality that they see unfolding on their television screens, taking comfort in having seen the Cuban Missile Crisis resolved peacefully. Mrs. Dahlberg and her daughter Denise are too involved in the mundane details of their daily lives to realize the seriousness of their situation. Joe Huxley, the college professor, recognizes the danger but, realizing his helplessness in the nuclear age, takes refuge in flip cynicism to mask his terror. Mr. Dahlberg, the farmer, must confront reality when it intrudes into his world of marriage plans and baseball games, forcing him to worry about what he, as the head of a family, can do to protect his loved ones when the danger comes.

Having set up the identifications that will provide the groundwork for fear, Meyer attempts to exploit the repertoire of nuclear dangers by showing their effects on these people. First, in a series of special effects shots that last for nearly four minutes, he tries to give some idea of the initial effects of the attack. Those in downtown Kansas City are incinerated. Included among them is Dr. Oakes's daughter. We see her vaporized as she runs from a shelter, her flesh disintegrating to reveal a skeleton that glows red briefly and then disappears. Meyer works the same
effect on a number of other people, including a few groups of children. He also shows us the blast effects on buildings, apparently in an attempt to overawe us with the force of the weapons. Buildings fly apart, glass shatters and showers into the streets, a metal bridge is torn from its foundation. Intercut with these special-effect shots are actual films of bomb tests showing buildings flattened by the shock wave and great fir trees bending almost flat and even breaking.

But this four minute sequence only begins Meyer's assault on the viewer's emotions. True to the facts of nuclear war—and Meyer is scrupulous in making sure that his depiction is accurate—the survivors of the missile strikes face an ongoing struggle for life. One of the most obvious and immediate problems that they must deal with is the breakdown of the technology that modern man depends on in his daily life. As a result of the EMP effect, electrical systems have been disrupted. We have already seen some of the results of the effect during the attack: electrical systems in cars fail causing a massive traffic jam among those attempting to evacuate; the lights in an operating room go out in the middle of surgery; a fountain in the city dies as the electrical pump that fed it fails. Only after the attack, however, is the effect explained and its implications made clear. During a meeting of the doctors at the Lawrence University Hospital, someone asks why they cannot generate enough power to pump water. Another doctor answers him:
When a large nuclear device is airburst at a high altitude, a lot of electrical disruption can be created, principally with radios, communication systems, electrical wires, computers, cars, transistors. Of course, it's all theoretical. It's never happened before. In short, very little electricity.

The implication is obvious: civilization, as dependent as it is on electronic technology, will not survive even the most personally harmless effects of nuclear war. We are left to imagine how many will die because the medical equipment has failed. We are also largely left to imagine the other effects in society of this breakdown of technology. At night city streets will be lit, if at all, by the uncertain glow of fires. Police cars, like all other equipment relying on electronic components, will be rendered useless. Refrigeration will cease and food will spoil. Even water supplies will be limited by the failure of electrical pumps. The list could go on and on.

Paralleling this breakdown in technology—indeed, to some extent caused by it—is the breakdown of social order. For years books and films have painted bizarre and terrifying pictures of the social anarchy that would follow nuclear war—or that audiences fear would follow it. Novels like *A Canticle for Leibowitz* and *Riddley Walker* suggest a social collapse so extensive that the effects would be felt for generations. Films like *Panic in the Year Zero* and the various "Mad Max" movies immerse their characters in this terrifying anarchy. As I have already mentioned, Philip
Wylie, in *Triumph*, presents vivid images of the complete breakdown of social order that might follow a nuclear holocaust.

By comparison with many of these portrayals, *The Day After* is very restrained. A doctor tells Oakes that people are storming the hospital demanding to be cared for. A rumor is reported that soldiers are shooting people for looting, rape, and other crimes. Near the end of the film, Dr. Oakes sees a man about to be executed, although neither he nor we know what crime he has committed. In three scenes, however, Meyer shows the breakdown of order more vividly and, therefore, more frighteningly. In one, a crowd of hungry people attacks soldiers who are rationing food to them from the back of a truck. Even though we hear the soldiers fire several shots into the crowd, the people overwhelm them, and we assume that the soldiers have been beaten to death. In another scene, a group of thirsty survivors line up at a water spigot and take turns drinking. They methodically chase one man away from the water, however. Although their reasons remain unexplained, they seem to be united in the cause of keeping this one man from the water. Finally, someone carrying a revolver appears and forces the crowd to give the man water. Again, the implication is clear: in a post-apocalyptic world, those with strength—or with weapons—will rule.

The final example of social anarchy is the most telling. Dahlberg rides home from a meeting of farmers to discover a crowd of drifters on his land butchering one of his cattle.
Angered, he confronts the group with his rifle in hand. As he
nears the people, however, he sees that many of them are women
and children, and his mood shifts from anger to pity. Instead of
shooting, he protests plaintively, "This is my home." At that
moment, someone shoots him in the back with a shotgun, and
Meyer cuts to a scene of his wife and young daughter, hearing the
sound without realizing what has happened. The incident
encapsulates both the horror and the pity of the breakdown of
order.

The most basic source of fear in the latter part of *The Day
After*, however, is radioactivity. Even more than the
unprecedented power of the blasts themselves, the threat of
radiation poisoning represents the unique danger of nuclear weapons
for many people. One of the principal reasons for this deep fear is
the sense of mystery that surrounds radiation. Its characteristics--
the initial effect on the human body, the minimum lethal level of
radiation, the stages of radiation sickness, and so on--are largely
unknown to the general public. Therefore, it is a mysterious force
capable of striking terror in the same way that a new disease
might. When confronted with the threat of radiation, people
conjure up all sorts of strange images ranging from the very real
threat of cancer to more questionable speculation about gross
mutations.
Indeed, when the dangers of nuclear radiation began to become widely known in the early 1950’s, many low-budget science-fiction films exploited this new fear for sensational effect. Visions of giant scorpions, giant ants, and giant housewives—-all given their freakish character through contact with radiation—-piqued the juvenile fears of countless Saturday-matinee movie goers. The Incredible Shrinking Man—another memorable science-fiction film of the period—-provided the story of a man who shrinks to the size of a microbe after passing through a cloud of radiation. Although the character in the film finds some comfort at the end in a philosophical acceptance of the relativity of size and the thought that “To God there is no zero,” we can assume that the normal twelve-year-old boy would much rather grow up to be an NBA hopeful than down to be the family cat’s snack. Of course, these conceptions are ridiculous. Certainly, radiation can cause mutations in organisms, but these mutations most commonly affect generations subsequent to those receiving the radiation and would not take the dramatic forms shown in these films. As Strieber and Kunetka point out in Warday, the mutations would probably be more mundane: an increase in the various kinds of birth defects with which we are already all too familiar.

It might be unwise to dismiss these films too quickly, however. True, even the young people who saw them probably did not take their premises too seriously. Very few of those who might have been terrified by Them! actually expected to see a
giant ant crawl out of their city's sewer systems. The young audiences were content to experience the same sort of thrill that a roller coaster ride produces—a fleeting sense of imaginary danger. What is interesting is the vehicle chosen to arouse that thrill. Attempts to provoke fright in an audience often play on deep-seated, psychological fears. Robert Brustein points out that, in the 1930's, film makers appealed to the audiences' fears of supernatural evil (276). *Dracula*, *The Mummy*, and *The Wolf Man* presented threats that audiences found mysterious and frightening because they had their source in some unseen, unexplored world that man could not reach or influence on his own. During the 1950's, however, scientific dangers largely replaced supernatural evil as the main device for arousing the audience's fear. Nuclear radiation was certainly one of the most common of these scientific dangers: a mysterious, unseen, uncontrollable power that somehow threatened man's existence. Thus, these films, as ridiculous as they are, may say much about the level of psychological fear that radiation engendered in Americans during the period.

Interestingly enough, in a number of these science-fiction films, radiation somehow changes the size of man relative to his world. In *Them!*, for example, common ants become threatening because they grow beyond man's power to control them. In *The Incredible Shrinking Man*, the effect of radiation is to make the hero shrink progressively throughout the film so that, for example, a spider that he would ordinarily ignore or step on becomes a
dangerous monster he must engage in deadly combat. Again, on a conscious level, these stories are designed to frighten children momentarily and to show off what were then state-of-the-art special-effects techniques. I do not think we would go too far wrong, however, in inferring that the premises of the films play upon a sense that man's stature had somehow changed since he had begun to tamper with the atom. In unleashing the destructive capacity of this invisible particle, man had lost control over his environment. The smallest thing in his universe—the atom—had become larger than him—had threatened to extinguish him. Of course, the realization of such a possible subtext to these films might have been beyond the grasp of their audiences of twelve-year-olds, but the deep-seated psychological fear of radiation—a fear that children did live with daily during the period—might well have contributed to their emotions while watching the films.

In any case, there is ample evidence that the fear of radiation is a powerful one, even when it is treated more seriously. In *A Canticle for Leibowitz*, Walter M. Miller, Jr. occasionally uses the specter of genetic mutation to arouse the reader's fear of nuclear war. Since his novel takes place centuries after the war has infected the atmosphere with radioactive fallout, the mutations he portrays are more plausible than those found in the fantasy films of the 1950's. Although his casual mention of extra limbs and fingers may not have the immediately terrifying effect of the sight of a giant ant, the concept that an unseen force can play
havoc with our reproduction systems does frighten the thoughtful reader on a very basic level.

Twenty-one years later, Russell Hoban used similar—and, perhaps, more plausible—mutations to even more frightening effect in *Riddley Walker*. In the course of the novel, Riddley meets another young man, Lissener, who has no eyes, ears, nose or mouth. He is a member of a race of people, the Eusa folk, who all share such hideous deformities as a result of living for centuries at a spot where a nuclear explosion took place. Riddley gives a properly nightmarish description of them:

Faces like bad dreams. Faces with 3 eyes and no nose. Faces with 1 eye and a snout. Humps on backs and hands growing out of shoulders wer the leas of it they had every kynd of crookitness and ther shapes and shadders wivvering and wayvering on the wall with the shadder of Goodparley twissing and terng (174).

Given the limited time span of the film, *The Day After* must confine itself to depicting the more immediate effects of exposure to radiation. However, the fact that these effects may be less spectacular than genetic mutation does not mean that they are not frightening. In one scene, Dahlberg's daughter cannot bear being in the family's basement fallout shelter and bolts outside to cavort in fields that are covered with radioactive ash. The young medical student who goes out to bring her back delivers a short speech that cuts to the core of our fear of radiation:
You can't see it. You can't feel it. And you can't taste it. But it's here, right now, all around us. It's going through you like an X-ray. Right into your cells. What do you think killed all these animals?

Once again, Meyer emphasizes the invisibility and inevitability of radiation. And in showing the deterioration of the girl throughout the remainder of the film, he makes the extent of the danger clear. Her hair thins, and she develops a deathly pallor. Later, the pallor is explained: a blood stain on the front of her dress near the vagina tells us that she is hemorrhaging. Because of massive casualties from the blast, however, nothing can be done for her even after she is taken to the hospital; she is placed in a hospice--actually the local gym--to await death with hundreds of other terminal patients.

The same fate awaits Doctor Oakes. Caught in the open at the time of the blast, he, too, has received a fatal dose of radiation. Throughout the remainder of the film, he grows pale and bald, develops sores, and eventually collapses only to awaken in the same hospice. Although he recovers temporarily, it is clear at the end that he, too, will soon die. A soldier who was also caught in the open by the blast alludes to the problems of diarrhea and nausea that are the earliest symptoms of radiation sickness. We last see him in the hospice, screaming in pain and suffering hallucinations.
Although these immediate effects are the ones most thoroughly explored in the film, there are allusions, if only by implication, to other kinds of danger. One of the patients at the hospital is a pregnant woman whom we first see being wheeled into the hospital two weeks before her baby is due, apparently on the verge of premature delivery. We next see her, still pregnant, a few weeks after the bomb has gone off. Although no one mentions the dangers of genetic malformation, the very presence of a pregnant woman will call to the viewer's mind the effects of radiation on reproduction. While the exposure may have occurred too late in this particular woman's pregnancy to cause any malformation in the baby about to be delivered, it has had an opportunity to affect the mother in terms of future pregnancy and to affect the baby's own reproductive organs. The thought of an unseen force entering our bodies and destroying, not only our lives but the lives and health of future generations, should create a degree of fear in the viewer.

Thus, The Day After does attempt to exploit most of the fears of the nuclear age. By using the word "exploit," however, I do not mean to imply any negative connotation. Meyer does not sensationalize the dangers. Indeed, he presents the various horrors of nuclear war tastefully, perhaps in deference to the film's presence on prime-time network television. A crawl at the end of the film, in fact, admits that the effects of nuclear war would probably be worse than they are pictured here. This reluctance to
draw the picture as vividly as possible, however, may ultimately damage Meyer's efforts to strike terror in his audience. In an article in *American Film* magazine, French film director Marcel Ophuls raises this objection:

Since the Chinese craftsman's painstaking quest for authenticity is the only claim to distinction being made throughout this portrayal of nuclear catastrophe, why don't we get the full treatment, the full horror, the total obscenity? (34)

Later he evaluates those moments of the film that are designed to be the most horrifying—the scenes of actual destruction:

On the whole, however, the special effects of *The Day After*, the earnest, well-meaning efforts to make us taste and feel the violence of nuclear catastrophe seem woefully inadequate, naive, and almost clumsy. Some of the shots of the actual explosion appear to be archival footage from Los Alamos and Bikini, tinted pink and run through a series of chemical baths. Others are miniature models or unconvincing tricks to make human figures change color before disintegrating in the nuclear blast (36).

Such judgments are subjective, of course, and many people seem to have been genuinely moved by the film, although, as Ophuls also suggests, many may have been moved more by the idea of *The Day After* than by its execution. Nevertheless, the film remains the most widely experienced single effort to acquaint the public at large with the various horrors of nuclear war.
The emotions of pity and fear have reference to the victims of nuclear destruction. It is also possible, however, to arouse emotions against the proponents of nuclear war. To do so, the author of the work will attack the ethical appeal of those who support the development and deployment of nuclear weapons in order to discredit their position. The procedure is known in logic, of course, as the fallacy of the argument ad hominem. The fact that the technique is unsound according to the rules of logic, however, does not make it any the less effective as a persuasive device. Moreover, as we shall see, the attacks on the people in the works we will be studying is frequently so closely tied to the issues at hand that the onus of the logical flaw becomes muted. In any case, the primary negative emotions that anti-nuclear fiction attempts to arouse are anger and scorn.

Interestingly enough, many of the works that attempt to arouse anger against the proponents of nuclear weapons violate Aristotle's principle that anger is always aroused against specific individuals. Many seem to direct their anger at a nameless, faceless "they" who are somehow responsible for the nuclear problem. For example, near the end of the film Testament, frustration builds up in Carol Wetherly to such an extent that she falls down on her knees and, in what amounts to an inverted prayer, damn's all those responsible for the destruction. Since we have been conditioned to identify with this character, we are being
invited to share her anger at those responsible, even though we are unable to identify those people specifically.

The same dynamic applies to Level 7. Once again, besides pity for the characters we know—particularly X-127—we also are prodded to feel anger at the leaders who have engineered the end of the human race. No doubt this anger begins when the authorities trick the main characters into descending to Level 7 without revealing that they will have to remain there forever. Later in the book, we learn how cynical the leaders are about human priorities. The relatively safe shelter levels of 4, 5, and 6 are all reserved for an elite of little more than half a million people—including the very leaders who are responsible for the nuclear predicament. The masses will inhabit levels 1 and 2 which are insufficient to protect them from an all-out war or to sustain them if the surface of the Earth remains radioactive for a prolonged period. The policy immediately strikes the reader—and X-127—as self-serving and undemocratic and generates resentment against the leadership presented in the novel. Certainly, we can sympathize with the anger that X-127 feels in the wake of the nuclear war. At one point he reflects on the leaders' reluctance to tell the shelter dwellers how long the surface of the Earth will remain radioactive:

If we could contact them, those leaders of ours, we would get the truth pretty soon. There are ways of
squeezing it out of men without using atomic bombs...

My guess is that the truth is worse than many people think. Otherwise our leaders would tell us all they knew. But they do not, perhaps because they are ashamed. Or maybe they are repentant. To hell with them, anyway! (115-16)

While this sort of non-specific antipathy may violate Aristotle's concepts of the use of anger, the strategy is valid in relation to nuclear weapons. One of the principal frustrations of the nuclear problem is that it is so complex we cannot blame it entirely on any one individual or nation. Most objective chroniclers of the nuclear age, from Bertrand Russell to Freeman Dyson, seem to agree that no one side of the arms race is totally responsible for the buildup of weapons. Even while they have been adding to their nuclear stockpiles throughout the past forty years, the officials of both the United States and the Soviet Union have consistently denounced nuclear weapons in general. Given the potential danger that the weapons present to their nations—not to mention the actual ongoing expense of the arms race—we can assume that these denunciations are sincere, at least in part. Unfortunately these nations have become trapped in the spiral of nuclear expansion, a victim of burgeoning scientific breakthroughs and lingering human fear.

If we cannot point the finger of blame at any nation, how much more difficult is it to accuse particular individuals who have served those nations? Strieber and Kunetka bring home the
parameters of this problem in *Warday*. During their travels, the authors meet a Canadian who expresses great anger toward Americans in general for the devastation that has affected his country. While we may not share his anger, we may reflect on our own responsibility when he asks if Americans ever thought about the impact of the war on their neighbors. The question personalizes the issue; after all, we live in a democratic country and choose the leaders who control that country's policies. Must we not share the responsibility for the actions that country takes? Of course, we realize that the complexity of the nation and the world makes such anger directed at an individual citizen unreasonable. The same principle should tell us that it is also dubious to lay the blame for the nuclear predicament at the feet of any individual or group of individuals.

Nevertheless, a few works do attempt to identify specific targets for the reader's anger. *Fail-Safe*, for example, treats most of its characters sympathetically, including the generals in charge of the nation's nuclear weapons. One character, however, emerges as a clear-cut villain: the civilian analyst Groteschele. From his first appearance in a flashback depicting General Black's graduate-school career, Groteschele strikes an ominous figure:

Now Black was only aware of a faint rasp of irritation at what Groteschele said. There was nothing on which he could put his finger, nothing he could use his intellect against--only a dim kind of restlessness, a
sense that there was some obscure danger in what Groteschele said (86).

Later in the novel, the reader receives a full view of Groteschele's philosophy, and that view justifies Black's uneasiness. He becomes famous for a dissertation advocating that the United States adopt a first-strike policy in regard to nuclear weapons. Because Americans like to think of themselves as peace-loving people who fight only when they or their allies are directly attacked, Groteschele's philosophy should be especially repugnant to the reader. In fact, one of the generals in the film angrily denounces Groteschele's advice, comparing it to the thinking that went into the Japanese attack on Pearl Harbor, which, for Americans, remains an archetypal act of perfidy.

Little in Groteschele's personality mitigates this repugnance. While we learn that much of his ambition and ruthlessness is the result of his being the son of a Jewish refugee from the Nazi holocaust, the ruthlessness soon becomes unappetizing. Significantly, we learn that during World War II, Groteschele worked for Army Intelligence interrogating captured SS officers. In reaction to these prisoners' remarks about "rabbit-like" Jews, Groteschele embarks on what may seem an unhealthy course of action to outdo them in toughness:
It was during this time that Groteschele found himself trimming off excess weight and taking daily exercises. Finally he was doing hours of bar-bell exercises, pushups, and road work every day. He became as physically tough as the SS troopers, his belly as flat, his face as expressionless (107).

Groteschele's fashioning himself in the likeness of the SS troopers suggests a kind of equivalence between the Nazis and himself. Thus he is linked with one of the primary symbols of evil in our time, a factor that increases his villainy in the reader's eyes. Moreover, Groteschele's tendency to mimic his enemy also operates in his approach to the Soviet Union. After all, he advocates a first strike policy—the kind of policy that he warns the Soviet Union is capable of. Here, too, he takes on the qualities of his enemy—an enemy that the mass audience would see as the equivalent of Nazi Germany.

Finally, we are bound to be repulsed further when we learn Groteschele's actual motivation. His initial advocacy of the first-strike policy stems from the fact that it is a controversial issue, which, if handled properly, can make him famous quickly. Later, in an encounter with a woman named Evelyn Wolfe, he—and we—learn other personal motives for his fascination with nuclear weapons:

As Groteschele turned off Massachusetts Avenue and threaded through Rock Creek Park, he felt a sudden hard understanding cross his mind. It was not he, Groteschele, the physical man, who was attractive to
women. It was Groteschele, the magic man, the man who understood the universe, the man who knew how and when the buttons would be pushed. He was a master of death and somehow that gave him potency...

"Knowing you have to die, imagine how fantastic and magical it would be to have the power to take everyone else with you," Groteschele said, spinning out what he had never said to himself. "The swarms of them out there, the untold billions of them, the ignorant masses of them, the beautiful ones, the artful ones, the friends, the enemies... all of them and their plans and hopes. And they aremurderees: born to be murdered and don't know it. And the person with his finger on the button is the one who knows and who can do it" (121-22).

The glee that Groteschele takes in planning the destruction of the world—and the perverted sexual drive that underlies the glee—will provoke the reader's anger against him. If he pursued his job as a reluctant policy analyst caught up against his will in the madness of the arms race, we might be willing to treat him with greater charity. But the fact that he actually yearns for the destruction of millions of lives because his mastery of the mechanics of that destruction will somehow prove his own sexual potency makes us hate him.

Interestingly, Groteschele seems to have definite counterparts in the real world. Fail-Safe does pattern many of its characters on real people: the description of the President unmistakably links him to John Kennedy; the Soviet Premier actually is Khrushchev. Groteschele seems to reflect many actual civilian analysts of the early 1960's, most notably Herman Kahn and Henry Kissinger. In
fact, Burdick and Wheeler speak of him as a forerunner of these men:

Groteschele was the earliest of the brilliant group of mathematical political scientists that developed after World War II, a group which later included such as Henry Kissinger, Herman Kahn, Herbert Simon, and Karl Deutsch (86).

Like Kissinger, Groteschele is affiliated with a "prestigious Eastern university" and rose to fame with a book expounding unorthodox views of nuclear war. Like Kahn, Groteschele advocates the use of nuclear weapons under certain circumstances. Also like Kahn Groteschele has a rather flip wit about the subject of nuclear war. Finally both Groteschele and Kahn speak of "Doomsday Devices."

Whether Kahn and Kissinger shared some of Groteschele's personal qualities is problematical and probably irrelevant. In arousing anger against Groteschele, the authors hope to make the reader reject not only Kahn and Kissinger, but the whole class of civilian analysts, and their theories of strike and counter strike, graduated nuclear war, acceptable losses, and so forth. To do so they have struck at the most famous members of the class, employing a particularly repulsive character to do so. It should be noted that the care they take to establish Groteschele's resemblance to his enemy of the moment implies that his enemy--the Soviets--have their own detestable analysts who echo Groteschele's own blithe talk about the art of nuclear war.
The other emotion that anti-nuclear writers have evoked against the proponents of nuclear war is scorn. By scorn I refer here to the emotion that satire attempts to arouse toward its subject matter. Although Aristotle does not treat this emotion in the Rhetoric, the place of satire in the history of literature argues for its place in any study of persuasive fiction. In fact, scorn holds a high place in even non-fictional efforts to attack an opponent's ethical appeal. Edward Zuckerman's The Day After World War III is an extended example of the use of scorn against those who plan for nuclear wars. A passage in which he discusses the use of tactical weapons illustrates his method of supplying wry comments to official statements to ridicule those statements. In this case, he is quoting from the official military manuals governing the use of tactical nuclear weapons:

The purpose of concentrating the nuclear firepower will be "to convey to the enemy that we are using nuclear weapons in a limited manner." Presumably, a sudden nuclear barrage in a single geographic area will be interpreted by the enemy as "limited" and not part of a general nuclear counterattack.

If the enemy doesn't seem to be getting the message, he can always be telephoned. Field Manual 100-5 notes, in fact, that the use of a nuclear package will be timed "to insure full integration with . . . diplomatic actions" (54-55).

Anti-nuclear fiction offers many examples of the use of satire. Walter M. Miller employs mild scorn in his treatment of Taddeo Pfardentrott in A Canticle for Leibowitz. As the
representative of science, Thon Taddeo holds a pivotal position, and our attitude toward him will help shape our reaction to the divorce of science from morality that Miller's novel attacks. The Thon is a condescending genius, the Francis Bacon of his age, but his self-pride and arrogance frequently seem ridiculous when Miller emphasizes that his level of scientific knowledge is primitive when compared to that of our own age. At one point he is astounded—and visibly jealous—when he discovers that one of the monks, using the ancient documents preserved in the abbey, has succeeded in reinventing the electric light. Russell uses a similar technique in Riddley Walker. His image of Goodparley—as ignorant as the rest of the characters in the book—searching for the secret of atomic power is meant to strike us as ridiculous.

The work of anti-nuclear fiction that employs scorn to the greatest effect, however, is Stanley Kubrick's Dr. Strangelove. Virtually no character, and, therefore, no class of people connected with nuclear weapons, escapes Kubrick's satire. The cast is filled with people who march to the beat of their own demented drummers toward nuclear destruction: the mad general obsessed with a Communist plot to fluoridate the water, the bomber commander ready to do nuclear combat "toe to toe with the Russkies," the Pentagon general who recommends a full-scale strike against the Soviet Union promising American casualties of only "twenty million, give or take, depending on the breaks," the determinedly bland United States President who chastises people for
fighting in the war room, the ex-Nazi civilian analyst whose eyes light up at the thought of being locked in a mine shaft with ten beautiful women for the next ninety-three years. Each embodies the contradictions and absurdities that Kubrick sees at every level of the nuclear-weapons establishment.

The central satiric strategy of the film is to show what a potently disastrous combination paranoia and patriotism can be. No one in the cast—at least no one in a position of authority where the bomb is concerned—seems immune from the destructive mixture. Most obviously affected is General Jack D. Ripper, the certifiable maniac who opens the film by ordering his command to attack the Soviet Union. Skillfully underplayed by Sterling Hayden, the character could, at first, almost be taken as a serious portrait of an obsessed military man. We begin to see how laughably mad he really is only when he begins to explain the reasons for his actions:

I can no longer sit back and allow Communist infiltration, Communist indoctrination, Communist subversion, and the international Communist conspiracy to sap and impurify all of our precious bodily fluids.

The opening of this speech is meant to recall the sort of things politicians and military leaders actually did say during the height of the Communist witch-hunts of the 1950's. It links Ripper with those who continued to see Communist conspiracy everywhere, even
In 1964 after the period of the witch-hunts had largely died out. The customary language of such people leads us to expect Ripper to speak of the sapping and impurifying of "our free and independent spirit" or "our American way of life." Instead we hear the completely unexpected and apparently literal reference to "precious bodily fluids." The audience may have heard the Communist conspiracy linked to many things, but probably not to bodily fluids. Given the distance between bodily fluids and the various other things that Communist conspiracies might attack—the economic system, personal freedoms, even morality—we might share Buck Turgidson's puzzlement about what the reference means. On the other hand, we may simply leap to the conclusion that Merkin Muffley draws—that Ripper is out of his mind.

This second reaction is vindicated when Ripper expands on his view of the Communist conspiracy:

On no account will a Commie ever drink water. And for good reason. . . . Mandrake, water is the source of all life. Seven-tenths of this Earth's surface is water. . . . Seventy percent of you is water. And as human beings you and I need fresh, pure water to replenish our precious bodily fluids. . . . Have you ever heard of a thing called fluoridation? Fluoridation of water? . . . Do you realize that fluoridation is the most monstrously conceived and dangerous Communist plot we have ever had to face?
We discover, here, that Ripper is one of the last holdouts in a controversy that had ended years before the film was made. At the time that communities first began fluoridating their drinking water in 1946, some people actually did feel uneasy about the process. A dramatic decrease in the number of cavities in children born after the process began, coupled with the lack of any evidence of harmful effects from fluoridation, however, ended most opposition. By 1964, the whole question of fluoridating water had become nothing more than an amusing footnote in recent cultural history. Ripper's continuing to make a point of the controversy and seeing a Communist plot in it instantly marks him as paranoid and colors everything else he says and does with a hue of absurdity.

Unfortunately for the world, Ripper's paranoia is inextricably linked to his patriotism. If he cared only about himself, he could maintain his own safety, drinking grain alcohol and rain water and depriving women of his essence, without bothering to strike at the root the Soviet threat that has made these precautions necessary. But Ripper is a loyal American who takes seriously his duty to protect his country from any threat, even if he has to disobey orders to do so. At one point he tells Mandrake that the Communists are even contaminating ice cream. "Ice cream, Mandrake! Children's ice cream!" Here we have an image of the world that Ripper is fighting for—a defenseless child eating an ice
cream cone. Of course, the image is naively sentimental, but its influence has put the security of the world in jeopardy.

Ripper is not the only paranoid military man in the film, however. In fact, based on what we see here, paranoia would seem to be a requirement, if not for admission into the armed forces, at least for promotion. Consider the minor character of Bat Guano, who is willing to allow the world to be destroyed rather than trust his fellow man. When Mandrake pleads with him to be allowed to contact the President with the code that will recall the bombers, Guano's initial reaction is to arrest him. Unaware of what is going on at the base, Guano is not sure whom to trust, and, unconsciously echoing Ripper's earlier orders, decides to trust no one. His distrust extends particularly to Group Captain Mandrake who, while an ally, wears a different uniform.

Here, again, Guano's paranoia is linked to patriotism, and the shallowness of this patriotism is emphasized by his homage to that most archetypal of American corporations, the Coca Cola Company. When Mandrake orders him to shoot the lock off a Coke machine for the change to make a phone call to the President, Guano hesitates at first, citing the fact that the machine is private property. He eventually succumbs to Mandrake's insistence, but delivers a warning that remains one of the most remembered lines in the film:
Okay. I'm going to get your money for you. But if you don't get the President of the United States on that phone, you know what's going to happen to you? . . . You're going to have to answer to the Coca Cola Company.

Like Ripper, Guano's actions are controlled by a mindless allegiance to the shallowest concept of the American way of life. He would rather see the world go up in flames than damage one of the country's primary icons. The way the scene is played and filmed—right down to the slapstick ending in which the Coke machine sprays Guano in the face—heaps scorn on the character and the attitude he caricatures.

The character of General Buck Turgidsen, the Pentagon general played by George C. Scott, shows us how this combination of runaway paranoia and patriotism affects decisions at the highest level of the military establishment. In the midst of a crisis that demands the most delicate and open negotiations, Turgidsen is horrified at the thought that the Soviet ambassador will be allowed into the war room. In an effort to have the ambassador expelled, he attempts to plant a camera on him and alleges that the ambassador was trying to photograph "the big board." It is also Turgidsen who raises the possibility that the runaway bomber "might be some sort of Commie trick." His continual references to the "Commie menace" and his willingness to sacrifice millions of lives in order to destroy this menace also suggest the levels to which his patriotism has become debased by his paranoia. For him,
patriotism has lost its emphasis on love of country and protection
of values and has become an excuse to hate and destroy someone
else.

Paranoia even infects such an apparently normal character as
President Merkin Muffley. On the surface, at least, Muffley seems
calm and rational. Indeed, in his conversations with Turgidsen, the
two are perfect foils. He is outraged by the fact that Ripper
could launch such a strike and strongly condemns Turgidsen's
suggestion that the United States commit itself to a full-scale
attack. His faults seem to be largely those of ineffectuality; he
does not really seem to be in control of events for which he is
ultimately responsible. But he has been affected, if not afflicted,
by the rampant paranoia of the nuclear age. He has, after all,
approved Plan R, which enables a line commander to authorize a
nuclear strike in the event that the Soviet Union killed the
President in a sneak attack. It is, of course, this plan that Ripper
uses to launch his attack. Thus, the crisis was made possible by a
policy that arose from the same type of paranoia that Turgidsen
exemplifies. To the extent that Muffley administers the policies
that this paranoia dictates, he is responsible for the disaster.

In a way, Dr. Strangelove may be the most paranoid person
in the film. The whole system of strategic planning which he
represents is founded on paranoia—on attempting to imagine the
worst thing that the enemy can do. Moreover, it aims at arousing
and exploiting the enemy's fear. Strangelove admits as much when he explains the theory of the Doomsday Machine to Muffley:

Deterrence is the art of producing in the mind of the enemy the fear to attack. And so because of the automated and irrevocable decision-making process, which rules out human meddling, the Doomsday Machine is terrifying and simple to understand and completely credible and convincing.

Strangelove completes the deadly mix between paranoia and patriotism by expressing the most perverted sense of loyalty in the film. Despite a rather condescending attitude toward the Chief Executive, Strangelove seems devoted to his president. Unfortunately, the level of this devotion seems to be conditioned by memories of his Nazi past. He frequently forgets himself, calling Muffley "Mein Fuehrer." Evidently, his loyalty is more to an ideal of authoritarianism—an authoritarianism which relies heavily on his advice—than to the principles on which the United States is founded.

Kubrick suggests, moreover, that paranoia is not limited to the American side of the nuclear arms race. Near the end of the film, we see that, true to Buck Turgidson's fears, the Soviet ambassador does have a camera and is photographing the big board. The fact that he does so after it is clear that Major Kong's plane will succeed in bombing its target underlines the uselessness and absurdity of the action. The implication is that the Soviet
ambassador has been so indoctrinated with distrust that he
instinctively gathers as much secret information as he can, even
though the world is on the verge of destruction while he does so.
The very existence of a Soviet Doomsday Machine indicates that
this paranoia is carried through to the highest levels of the Soviet
command.

A second important strategy that Kubrick uses to generate
scorn for his characters is the introduction of sexual elements in a
context that suggest cause-effect relationships between sex and
war. For example, Ripper reveals that he discovered the Russian
flouridation plot after the act of sexual intercourse:

I . . . I first became aware of it, Mandrake, during the
physical act of love. Yes, a profound sense of fatigue,
a feeling of emptiness followed. Luckily, I was able to
interpret these feelings correctly. Loss of essence. I
can assure you it has not recurred, Mandrake. Women
sense my power, and they seek the life essence. I do
not avoid women, Mandrake, but I . . . I do deny them
my essence.

The viewer realizes from this speech that Ripper is describing
sexual problems that any man, particularly a man of his age in a
high-pressure occupation, might feel--fatigue and, perhaps, the
onset of an episode of sexual impotence. Instead of recognizing his
human limitations, however, Ripper invents a Russian plot that
blends easily with the sort of paranoia he has been trained to
indulge as a member of the military establishment. And so he
reveals that, in order to defend his purity of essence, he has become celibate.

The effect of this confession on the audience is complex. First of all, we are amused by the realization that he is substituting the absurd Russian plot for a quite rational explanation of a personal problem. In this respect, our amusement is justified by the sort of self-deception involved in his denial mechanism. On a less noble, even a nasty level, we may also be amused by the nature of Ripper's problem. Any sort of physical disability or dysfunction is a potential source of amusement for others. This aspect of the human character may not be edifying, but we cannot completely ignore it. Moreover, any sexual disability or dysfunction is often seen as particularly funny. Thus, the very fact that Ripper is having some form of sexual problem is capable of amusing many members of the audience on a very basic, even base, level. This amusement may be increased by the fact that Ripper, as an Air Force general, is a representative of a particularly "manly" occupation. The viewer may justify his laughter by pointing to the fact that he is really amused by the hypocrisy of the virile posturing that hides the sexual problem, but that explanation does not disguise the fact that the humor the viewer feels in this instance would be cruel if Ripper were a real human being.
In any case, any cruelty that the humor might contain is probably offset by the fact that Ripper uses war as a substitute for sex, and, therefore, involves the rest of the world in his sexual problem. This connection between sex and war is communicated more or less subliminally in Ripper's case, but within the general context of the film the connection is clear. Ripper has two strategies for resisting the Soviet takeover of the United States. First, he resists sex, and thereby protects his own purity of essence. Secondly, he launches a preemptive strike against the Soviet Union, the force that is fluoridating the water and disturbing the essence of other Americans. Logically, of course, these two actions have no connection, but in Ripper's unbalanced mind, sexual maneuvering and nuclear strategy are parallel aspects of the same battle. Continuing this subliminal connection between war and sex is Ripper's reference to the soldiers under his command as his boys. At one point he tells Mandrake that they are like children to him. In fact, they seem to be the only children he has, the offspring of his marriage to the United States Air Force. When they finally surrender to their own troops, Ripper's sense of betrayal is that of a man abandoned to his enemies by his own sons. Kubrick may be providing a visual equivalent for Ripper's equating war with sex by having the character occasionally wield his machine gun at groin level as if it were a large phallus.
This phallic Imagery appears in both of the other main settings of the film. William Bayer has pointed out that when Major Kong takes his ride on the bomb at the end of the film, he sits astride it, and it stretches out from his groin like a giant penis (80). In the war room, the phallic symbol takes the form of Dr. Strangelove's recalcitrant arm. Throughout the film, whenever the ex-Nazi scientific advisor is under stress, his arm, apparently of its own volition, rises in a Nazi salute while the doctor tries to beat it back down. As the stress becomes greater, the arm becomes more unruly. While this bit of business is an obvious reminder that many of the scientists who helped develop nuclear weapons and the missile systems to deliver them had worked for the Nazis, it is also suggestive of the action of the penis during sexual arousal. Since Strangelove's arm rises more often as the crisis deepens, Kubrick may be suggesting that nuclear war is a kind of aphrodisiac for the doctor, or at least for that part of him that has learned to love the bomb.

Of course, talking about phallic symbols in any work is dangerous. One runs the risk of seeing veiled sexual images in any object that could even remotely suggest such an image. Indeed, I would be hesitant to suggest the symbols I have if the equation between war and sexuality were not suggested so constantly. For example, we first meet Buck Turgidson in his bedroom where he the news of Ripper's insubordination interrupts his liaison with his secretary. He then must replace sex with war by going to the
Pentagon instead of carrying through with his sexual encounter. In order to reinforce the substitution of war for sex, Kubrick has Turgidsen tell his secretary, "Begin your countdown and Old Bucky'll be back before you can say 'Blast off!'" In making this statement, Turgidsen is using the language of missile warfare to communicate a sexual message. In fact, we might see his desire to launch an all-out strike against the Soviet Union as a sublimated effort to find sexual release after being called away from his secretary.

Such sexual references pervade the film. While the sexual component of Major Kong's last ride is communicated subliminally, his first appearance is explicitly linked to sex. When we first see him, he is reading Playboy magazine, and the importance of this detail is argued by the fact that Kubrick lingers on it. He gives us an establishing shot of Kong holding the magazine, and then cuts to a shot from Kong's perspective showing that he is looking at the centerfold. Significantly, the girl in the centerfold is posed almost exactly as Turgidsen's secretary was when we first saw her. Also, if we look closely at a later scene, we can see that Turgidsen has the same magazine in the War Room. Kubrick seems to be making an effort to link the sexual interests of the two men, perhaps indicating that those who carry out Turgidsen's orders possess the same subliminal motivation that he does. We may find more evidence of this theory when Kong orders the men to check the contents of their survival packages. Included in the list he reads
off are silk stockings, lipstick, and prophylactics. While the audience may still be speculating on the usefulness of these items for strict survival purposes, Kong points out that "a fella could have a pretty good weekend in Vegas with all that stuff." He seems, here, to be sharing Turgidsen's perception of an underlying relationship between sex and war. Finally, even Colonel Bat Guano, a soldier's soldier who would not think of going into battle with loose change in his pockets, expresses an underlying obsession with sex. The best explanation he can think of for the battle over Burpelson Air Force Base is that Mandrake was leading a mutiny of "deviated perverts." In short, the military men in the film seem to be obsessed with sex.

As was true with the paranoid patriotism, this sexual obsession finds a home even in the highest level of civilian authority as well as in the military. Besides betraying vague clues to an unorthodox sexual chemistry with the involuntary erections of his arm, Strangelove expresses a more direct kind of sexual interest when it becomes clear that the Doomsday Machine really will go off. As a means of continuing civilization, he proposes that Americans be sent down mine shafts to breed a new generation of free people:

The computer could be set and programmed to accept factors from youth, health, sexual fertility, intelligence and a cross section of necessary skills. Of course, it would be absolutely vital that our top government and military men be included to foster and impart the
required principles of leadership and tradition. Naturally, they would breed prodigiously; there would be much time and little to do. But with the proper breeding techniques, and a ratio of, say, ten females to each male, I would guess that they could then work their way back to the present Gross National Product within, say, twenty years. . . . I hasten to add that since the men will be required to do prodigious service along these lines, the women will have to be selected for their sexual characteristics, which will have to be of a highly stimulating nature.

Clearly we have the makings of an adolescent boy's paradise: ten beautiful women to each man, and the only work a man has to do is to make love to them.

We might have suspected Strangelove's sexual interest. Given the symbolic equivalence between war and sex, his status as a nuclear-war analyst suggests that he is obsessed with sexual thoughts. The involuntary erections of his arm are a visual manifestation of this preoccupation. We may, however, be surprised at the readiness with which Merkin Muffley becomes intrigued by the idea. Muffley, who seems about as asexual a character as we are likely to meet, also lights up at the ten-to-one ratio. Even he, who seems to be the soul of dignity, yearns to run loose under a world devastated by nuclear destruction. Just as war is a substitute for a vanished potency for Ripper, an alternate means of sexual indulgence for Turgidsen, and a means of escaping repression for Strangelove, it represents an awakening for Muffley who has been resisting it all along.
Again, as was true with paranoid patriotism, sexual obsession is not limited to the Americans in the film. When Muffley initially has difficulty contacting the Soviet Premier, the Soviet ambassador explains that "Our Premier is a man of the people, but he is also a man, if you follow my meaning," and gives Muffley another number to try. The loud music that Muffley complains about on the other end of the conversation, suggests that the Premier, like Turgidsen, has been caught in the middle of a liaison. Later, the ambassador praises Strangelove's mine shaft idea. The fact that this praise immediately follows the statement about choosing women for their highly stimulating sexual characteristics reveals what portion of the plan the ambassador is most taken with.

Partially, Kubrick introduces this sexual component to make the characters seem even more ridiculous than they already are—to heighten the *ad hominem* attack. Since certain references to sex, and certain kinds of sexual problems and activities, are seen as inherently funny, linking these references to the characters undercuts their ethical appeal and makes us tend to laugh at everything they say, including what they say about nuclear war. Since these comments, as we have seen in a previous chapter, parallel actual arguments of nuclear proponents, our scorn for the fictional characters and their attitudes may transfer to their real life counterparts and their statements.
On another level, however, Kubrick may be suggesting some underlying psychological causes for the arms race. There is a body of responsible opinion that would see an involvement in nuclear war—or any war—as a subconscious sexual expression. Certainly Helen Caldicott, who entitled one of her books *Missile Envy* in obvious reference to the psychological term "penis envy," accepts this view:

These hideous weapons of killing and mass genocide may be a symptom of several male emotions: inadequate sexuality and a need to continually prove their virility plus a primitive fascination with killing. I recently watched a filmed launching of an MX missile. It rose slowly out of the ground, surrounded by smoke and flames and elongated into the air—it was indeed a very sexual sight, and when armed with the ten warheads it will explode with the most almighty orgasm. The names the the military uses are laden with psychosexual overtones: missile erector, thrust-to-weight ratio, soft lay down, deep penetration, hard line and soft line. A McDonnell-Douglas advertisement for a new weapons system proudly proclaims that it can "shoot down whatever's up, and blow up whatever's down." Sexual inadequacy in a powerful leader is illustrated by the following example: Hitler once invited a young woman to his room. He stuck out his arm in a Nazi salute and in a booming voice said, "I can hold my arm like that for two solid hours. I never feel tired... My arm is like granite—rigid and unbending, but Goering can't stand it. He has to drop his arm after half an hour of this salute. He's flabby, but I am hard." (319)

Whether one chooses to accept this view of the dynamic of war or not, Kubrick does seem to be suggesting such a connection in *Dr. Strangelove*. It quickly becomes clear that everyone involved in the crisis is an overgrown adolescent, using war as a
substitute for sex. As our appreciation of this point grows, all the talk about keeping the world safe for democracy and the necessity of meeting threat with counter-threat, falls ever more hollowly on the ear. We realize that these noble expressions are mere smokescreens for a motive that, if expressed, would seem ridiculous.

The final major emotion that anti-nuclear fiction attempts to arouse--hope--may seem out of place in the company of the various negative emotions we have been discussing. The psychological makeup of mankind, however, makes it necessary for hope to walk hand in hand with fear, anger, and the rest. Helen Caldicott speaks of the phenomenon of psychic numbing in relation to nuclear war, pointing out that, faced with the extinction of the species, people deny the danger by ignoring it. The purpose of the anti-nuclear works that we have been discussing is to break through that strategy of denial and confront people with the dangers. We have seen some of the emotions fiction writers attempt to arouse in order to break through this inertia. However, the goal of creating opposition to nuclear war will be lost if, in breaking through this barrier of denial, the fiction creates a sense of hopelessness--a sense that nothing anyone does can avert the terrible destruction of nuclear war.

And so it seems necessary to leave the audience with some feeling of hope, some sense that effective action is possible. Frequently, this sense of hope is built into the work itself. Fail-
Safe ends on a strong statement of belief in man's ability to rid the world of the danger that he has brought into it. The Day After attempts to instill hope by showing a pregnant woman accepting the possibility of life by having her baby. Even works like A Canticle for Leibowitz and Riddley Walker, which suggest that the occurrence of a nuclear war would not finally end the nuclear threat, find some measure of hope. In Canticle, the monks never stop fighting the destructive tendencies of man, even following the remnants of the human race into space in order to preach their gospel. Although the end of Riddley Walker makes it clear that man will continue his search for destructive power, Riddley himself rejects the search and dedicates himself to a life as a story teller, warning his audience repeatedly about the dangers of "the Big I."

Some works are more problematical, however. At the end of the novel On the Beach, for example, all of the main characters either have died of radiation poisoning or have committed suicide. We seem to be left with an utterly hopeless view of the end of the human race in a nuclear war. The same is true of Level 7. And here the final days of mankind are unrelieved by any sense of beauty or romance; the human race dies like an animal trapped in a burrow. Even more stark is the end of Dr. Strangelove. The final images are of the Doomsday Machine bombs exploding while the tune "We'll Meet Again" plays on the soundtrack. We can either assume that everyone on Earth will die of radiation
poisoning, or, if some are lucky enough to find shelter, their descendants will emerge in ninety-three years to renew the conflict. Moreover, Kubrick robs us of any chance to feel sentimental about the demise of our species. He regards the destruction as a great cosmic joke—a bitter joke, perhaps, but a joke nonetheless. There seems to be little room in these works for hope.

The arousal of hope in these cases may be dependent, not on specific signals in the works themselves, but on mankind's natural instinct to demand survival. As we read X-127's final words, we may believe nuclear weapons actually will destroy civilization in the end. The montage of explosions at the end of _Strangelove_ may convince us that Kubrick, himself, sees little hope that the world can solve its nuclear problem. We may experience a moment of hopelessness, accepting these dire predictions for our future. But mankind's instinct for survival is persistent. Whatever our intellectual convictions, that instinct will force us to seek some sense of hope. We may take comfort in the fact that the destruction portrayed in these works has not yet occurred and, therefore, may be prevented. We may even react strongly to the apparently hopeless attitudes of the makers of the works—for example, grow angry with Kubrick for the glib fatalism that he seems to adopt in _Strangelove_. In such a case our anger may be transformed into a determination to prove him wrong. On the other hand, we may perceive that the creators of these works have
looked at the facts and have refused to abandon hope themselves; in the very act of making these rhetorical fictions, they have expressed some hope that something can still be done to prevent the end of civilization. We realize that they have helped us imagine the complete destruction of our world, not to frighten us into submission to the nuclear menace, but to give us a taste of the hopelessness that such war would certainly bring. In doing so, we realize, they intend to move us to positive action. And it is in this positive action that the real hope for mankind is generated.

The film made of On the Beach makes this concept explicit. The novel ends with Moira Davidson, the last principal character we see alive, taking her lethal pill. The book, therefore, ends on the apparently despairing note that we have been discussing. As readers, we must supply hope with our reactive drive for survival. The film, however, delivers the underlying message of all these works overtly. After a scene showing Moira taking her pill, the film cuts to shots of the deserted streets of Melbourne. Here, Stanley Kramer is simply providing a visual equivalent for the destruction of the human race. The last shot, however, makes the point that ultimately all anti-nuclear fiction makes by closing in on a banner that had graced a Salvation Army revival. Literally the sign refers to the possibility of human repentance from sin, but, in terms of nuclear war, it also speaks to us from an imagined future about the possibilities of our troubled present: "There is still time, brother!"
VIII. The Interaction of the Three Modes

Up to this point, I have been discussing the three modes of appeal in isolation from one another. While this method of development has been helpful in maintaining overall clarity as I examined the various manifestations of these modes in anti-nuclear fiction, it does not give an adequate view of how the modes interact with each other. In any actual rhetorical effort, all three modes will come into play. Aristotle makes this point in the Rhetoric:

Now Rhetoric finds its end in judgment--for the audience judges the counsels that are given, and the decision of the jury is a judgment; and hence the speaker must not merely see to it that his speech shall be convincing and persuasive, but he must give the right impression of himself, and get his judge into the right state of mind (Bk. II, Ch. 1).

True, in various works one or two of the modes may dominate, but the speaker or writer will always present some impression of character, will always make some kind of case for his proposition, and will always leave the audience with some emotion.
We can see this interaction of the modes of appeal in the British film *Threads*. Like *The Day After*, *Threads* is an attempt to portray the effect of nuclear war on a modern society. To do so, director Mick Jackson and writer Barry Hines concentrate on a single medium-sized city in the heart of Great Britain: Sheffield. While he adopts a semi-documentary approach, using a narrator and titles to give information about nuclear war and filming in such a way as to mimic news footage, Jackson does develop a compelling fictional story at the heart of the film by depicting the effects of nuclear war on two families, especially on a young pregnant woman who is the only member of the two families to survive the attrition of the war.

The documentary-style approach allows Jackson and Hines to communicate more or less directly to the audience, and they use this direct communication to establish their ethical appeal. As we have already seen, the complexity of the question of nuclear arms gives a clear advantage to someone who impresses the audience as knowledgeable about the subject. Unable to master the difficult subject themselves, they will be forced to place their trust in experts. This fact explains the large number of scientists and soldiers in the ranks of fictional heroes of anti-nuclear works. Hines is not himself a scientist or a military expert, nor does he employ such experts in key roles in his script. He does, however, communicate unequivocally his mastery of the facts of nuclear war.
by giving us specific statistics about it through the voice of the narrator and in the various titles that explain or comment on the action. He specifies, for example, the megatonnage of explosive power used in the war in general and how much of that megatonnage was dropped on Great Britain. He uses those facts to extrapolate specific projections of the level of damage such a strike would cause. All of this specific information gives us the impression that Hines has thoroughly researched his subject, an impression that is supported by the long list of scientific consultants in the final credits of the film.

Of course, while we are watching the film, we must have some way of judging that these facts are the result of research and not simply figures invented to make a case. The facts about nuclear war that the authors present and the conclusions they reach based on those facts, are often not self-evident, and the ordinary viewer will not have time to check them as the film progresses. If we suspect that these statistics are inaccurate, we may question the author's intelligence or honesty. One way that Jackson attempts to maintain our confidence in the intelligence and integrity of the film is by choosing a narrator who sounds reliably scholarly—who has the sort of voice that we might hear narrating an historical documentary on educational television. More importantly, Hines is careful to include verifiable facts in his script alongside the information that could be doubted. For
example, he develops his nuclear war out of a crisis between the Soviet Union and the United States involving Middle East oil fields that are crucial to the economic and political interests of both countries. In doing so he has chosen a flash point that, in its importance, could conceivably bring about the sort of stalemate that might spark nuclear war. Most of the potential audience would recognize these facts and would, therefore, be in a position to conclude that Hines had the intelligence and political sophistication to choose one of the most likely battlefields for the first maneuvers of a cataclysmic war. At the same time, he develops the crisis over a plausible length of time--more than two months--before allowing it to explode into nuclear war. In this respect, Threads will seem far more plausible to an audience than, for example, The Day After, which brings its crisis to a nuclear boil in less than a week. Our experience of international crises tells us that Hines displays greater attention to the pace of such crises than does Meyer in his film, and this fact, again, increases our sense of Hines and Jackson's intelligence.

As we have seen in our examination of the ethical appeal, the makers of Threads must also project a sense of his integrity and good will. Once again, the demeanor of the narrator aids him in this endeavor. At all times, the narrator remains calm and deliberate, never stooping to sensationalism. His description of the so-called nuclear winter exemplifies these qualities:
Hanging in the atmosphere, the clouds of debris shut out the sun's light. Across large areas of the northern hemisphere, it starts to get dark. It starts to get cold. In the centers of large land masses like America or Russia, the temperature drop may be severe, as much as twenty-five degrees centigrade. Even in Britain, within days of the attack, it could fall to freezing or below for long, dark periods.

He presents his facts simply without sensationalizing them. He is even careful to qualify those facts when qualification seems to be in order. The overriding impression of the narrator's--and, therefore, the film makers'--character is of someone who is forthright, accurate, and straightforward. All of these qualities, of course, help convince the audience of his integrity.

At the same time, the nature of the work implies Hines and Jackson's good will. We presume that they are making a film about the dangers of nuclear war because they care about the survival of society. Some of this concern is evident in the opening narration:

In an urban society, everything connects. Each person's needs are filled by the skills of many others. Our lives are woven together in a fabric. But the connections that make society strong, also make it vulnerable.

Here the sympathy for people is evident in an appreciation of their vulnerability, and we can assume that this sympathy is at least one of the motivating factors of the film. Hines increases our
confidence that the film is motivated by actual human concern rather than by pro-Soviet bias by making the Soviets the aggressors—they invade Iran, and they fire the first tactical nuclear weapon. While blame does ultimately seem to attach to both sides in the conflict, this detail may help win the allegiance of those British or American viewers who might otherwise mistrust Hines's political motives.

In addition to projecting a strong sense of his own ethical appeal, however, Hines also employs special ethical appeals through his choice of characters. To some extent, for example, he incorporates the ethical appeal of the authority into the fictional story by putting various facts and opinions about nuclear war in the mouths of the civilian authorities in charge of maintaining society during and after the nuclear attack. These authorities debate the hard choices that nuclear war introduces—whether or not food should be distributed to people who are unable to work, how social order can be maintained, how a growing number of homeless refugees can be sheltered—all the while expressing their rage against the events that have made such choices necessary. The ethical appeal of the youth also manifests itself in the fact that Ruth, Jimmy, and their friends are all young adults whose early deaths become a rebuke to the concept of total war. The most powerful and important of the created ethical appeals in Threads, however, is that of the nurturing woman. Jackson's main
character is Ruth Beckett, who survives the nuclear war only to face a desperate struggle for life in the post-apocalyptic world. Because she is pregnant through much of the film and must fight to maintain the life of her child both before and after it is born, she powerfully evokes humanity's drive to create and nourish life even in the face of overwhelming odds.

Hines emphasizes Ruth's role as the nourishing mother figure from the first scene in the film. He shows Ruth and Jimmy on a date which ends with their making love. We might conclude that their daughter is conceived in the scene, especially since we next see them a few weeks later discussing the pregnancy. And while her initial reaction to the pregnancy is understandably anxious, she does not seem to consider terminating it; when Jimmy's parents mention abortion, he says that neither he nor Ruth wants her to have one. Thus, her overriding urge is to nurture the life that she carries. Indeed, after Jimmy agrees to marry her, she enthusiastically indulges her domestic instincts. When he confesses his anxieties about marrying and becoming a parent, she airily dismisses his fears: "Don't be silly. It'll be lovely. I just know it will." On one level, of course, this statement is an ironic foreshadowing of the disaster that is to come. At the same time, however, it shows how eagerly Ruth embraces her maternal role.
Even the wholesale slaughter of nuclear war does not diminish Ruth's maternal instincts. True, at one point, out of panic and grief at the probable loss of her fiance, she says, "I wish I didn't have this baby," but this is a passing--and, again, humanly understandable--reaction. In the same scene she expresses anxiety at what the bomb's radiation is doing to her child, and we soon see that her concern for the baby's health supersedes her concern for her mother and father--she gulps down much of the family's milk supply, presumably in order to nourish her baby. The most obvious evidence of the triumph of Ruth's maternal instincts, however, occurs in the birth scene itself. Alone in a barn, Ruth delivers her child and, crying with pain and joy, she rips the umbilical cord with her teeth and clutches the little girl to her breast. The elemental nature of this scene increases our sense of the special connection between mother and child.

Hines relies heavily on the effect of these ethical appeals in making his rational case. An enthymemic statement of the film's point is delivered by a woman protester at an anti-nuclear rally early in the film:

This time they are playing with, at best, the destruction of life as we know it, and at worst, with total annihilation. You cannot win a nuclear war. Now just suppose the Russians win this war. What exactly would they be winning? What would they have conquered? Well, I'll tell you. All major centers of population and of industry would have been
destroyed. . . . Oil refineries would have been destroyed. All our water would have been polluted. The soil would have been irradiated. Farm stock would be dead, diseased, or dying. The Russians would have conquered a corpse of a country.

The plausibility of this statement is founded on the conception the film conveys that the structures of modern societies are complex and, therefore, fragile and that the capacity for nuclear war to disturb those structures exceeds the immediately apparent destructive potential of the weapons used. But a further implication of the woman’s speech that may not be immediately evident is that nuclear war threatens not only the lateral connections between various aspects of society, but also the vertical connections between present generations and future ones.

The facts Hines offers—and the dramatic exemplification of the impact of those facts on the characters in the film—present the case that even a small nuclear exchange can destroy a society by severing the lateral connections that support it. A title tells us that the total explosive power unleashed by the war is 3000 megatons, 210 of which fall on Great Britain. While this number may sound high, we can learn from other sources that it is about one-third the megatonnage of what would be described as a full-scale nuclear war. Schell, for example, posits a war in which 10,000 megatons are exploded in making his argument for the potential destruction of life on Earth in a nuclear war (54).
Freeman Dyson mentions the same figure in describing the stress of a full-scale nuclear war (23). Thus, while the level of nuclear explosions in Threads is greater than that portrayed in the novel Warday, Hines follows Strieber and Kunetka's strategy by demonstrating the effect of even a "limited" nuclear war on a modern industrial society. Because of the vulnerability of the "threads" that connect the parts of such a society, we discover that the effect would be devastating.

Hines tells us, for example, that the direct blast, heat, and radiation effects of a 210 megaton strike on Great Britain would kill 17-38 million people, roughly one-fourth to one-half of the population. As horrifying as such a statistic is, it represents only the beginning of the destructiveness of a nuclear war. Ultimately more devastating to the continuance of civilization than the immediate human casualties is the disruption of the fabric of modern society. To this end Hines points out the dangers of the EMP effect to electrical systems, and the consequent failure of other systems that depend on electricity--communications, plumbing, lighting, and so forth. He also makes it clear that insufficient stocks of food in the short run and the effects of radiation and "nuclear winter" in the long run would lead to famine. He adds to this secondary cause of death the threat of disease plagues spread by vermin feeding on unburied corpses. Ultimately, he gives us a title that makes his point: "3-8 years after attack population
reaches minimum UK numbers may decline to mediaeval levels. Possibly between 4 and 11 million." Jackson follows this statement with scenes of daily life in post-apocalyptic Great Britain designed to show that the quality of life has also been reduced to mediaeval levels. Thus, by the end of the film, the authors have effectively verified half of the enthymemic statement of the woman protester, that nuclear war would, indeed, destroy "life as we know it."

The second conclusion of the woman's enthymeme, that nuclear war could result in "total annihilation," is somewhat more problematical. When most people think of total annihilation in connection with nuclear war, they think of the human race being destroyed by the direct blast and radiation effects of the explosions themselves. The fact, then, that the direct loss of life from the war, while terrible, does not constitute the total annihilation of Great Britain, may seem to refute the woman protester's more devastating conclusion. In fact, however, the basic plot of the film exemplifies the power of nuclear war to disrupt not only the lateral connections of society but also the vertical connection: human reproduction. By citing the dangers of nuclear radiation to the reproductive system—a system in its own way as delicate as the technological network of society—the film makers call into doubt the ultimate capacity of the human species to survive the long-term effects of nuclear war. And because they make this case largely through the portrayal of the effects of war on a
pregnant woman and her daughter, it enjoys the weight of the woman's ethical appeal.

I have already noted that many see the drive to generate and nourish life as the core of the unique ethical appeal of women. In this view, the woman's capacity to bear children comes to represent the potential for the continuity of the human race. The unprecedented potential that nuclear weapons present to destroy that potential and interrupt that continuity would then seem to be directly at odds with the woman's character. This concept is at the heart of the views of Helen Caldicott—the principal spokesperson for the women's ethical appeal—when she speaks of the role of women in anti-nuclear activism:

The age of women has arrived. If we don't stand up and rapidly become elected to the highest offices in the country and change America's national policies from those of death to those of life, we will all be exterminated. I don't mean that in doing this women should abrogate their positive feminine principle of nurturing, loving, caring, and emotions. (Margaret Thatcher, Golda Meir, and Indira Gandhi became, in fact, men.) I mean they should tenaciously preserve these values but also learn to find and use their incredible power. The positive feminine principle must become the guiding moral principle in world politics (322).

while such statements, of course, can be disputed, the attitude it expresses—that women in their capacity as mothers have a special antipathy to nuclear war—seems implicit in Threads. The
fact of Ruth's pregnancy—and the determination with which Ruth brings the child to term and protects it—seems to serve as an unspoken rebuke to the carnage that nuclear war creates in the film. In this respect, a key scene occurs a week after the blast when Ruth abandons her family's basement fallout shelter to look for Jimmy. During a nightmarish walk through the still smouldering ruins, she encounters various sights ranging from the horrifying to the pitiable: charred and twisted bodies, wounded survivors waiting in vain for help, people sitting uncomprehendingly in the ruins of their homes. Almost half of the images pertain directly to family life, especially to the link between mothers and children. Ruth sees one woman stumbling through the rubble holding a child's coat and calling the name Mandy. A little boy wanders by looking for his mother. Most vivid of all is the sight of a woman clutching the charred body of a baby to her breast. The woman stares accusingly at Ruth as she wanders by, and that sense of accusation in her look provides the visual expression of the underlying opposition between the woman's ethical appeal and nuclear war. Of course, we cannot help reflecting on Ruth's own baby in the scene, and she, herself, recalls the image later in the film when thinking about her pregnancy.

As the film reaches its climax, of course, we see that the implied connection between Ruth and the woman in the ruins is prophetic. Ruth does manage to bring her baby to term, but the
child is born retarded. While Ruth is alive, she is able to care for her daughter and protect her—to provide the nourishing influence that the woman's ethical appeal implies. But after her premature death at about age thirty, the daughter is left to wander in a world that she does not understand. She finds herself pregnant after being raped by a boy about her own age who also seems to be retarded. When the baby is due, the daughter, lacking Ruth's emotional resources, must beg help from an overburdened hospital worker in delivering the child. When it is placed in her arms, she recoils from the bloody sight, reacting either to some deformity in the child or to a situation that she simply cannot understand. Instead of the cry of joy with which Ruth greeted her baby's birth, the film ends frozen on the daughter's look of anguished confusion and fear. The retardation of the daughter and her apparent rejection of her own child suggest a deterioration of the line of human continuity. Radiation from the bombs has attacked the most delicate thread that ties civilization together: the link between one generation and the next. Although the example we see here is too limited for us to conclude that Threads actually is portraying the beginning of the end for the human race, it is sufficient to raise the specter of the destruction of the species in our minds and make us confront the possibility.
We can see, then, that the clearest enthymemetic statements of Hines and Jackson's case are delivered by voices that embody the two strongest ethical appeals developed in the film. The danger of nuclear war is set out by the woman protester, and her importance as a representative of a specifically woman's appeal is emphasized by the fact that the chief focus of that appeal, Ruth, is seen repeatedly in the crowd listening to the woman's words. The explication of how nuclear war could achieve the level of destruction that the woman implies is given by the voice of the narrator in his prologue about the vulnerability of society. The extent to which the authors have succeeded in creating strong ethical appeals here, then, may influence the audience's tendency to accept these enthymemetic arguments.

At the same time that the use of the rational appeal in Threads depends on the ethical appeal for its full effect, it also helps to arouse the emotional appeal. On the most basic level, the images that Jackson uses to exemplify the facts he is communicating will arouse an immediate emotional reaction in the audience. It is difficult for an audience to remain emotionless at seeing people being hit with flying shards of glass, a child buried under a pile of rubble, or a woman holding the charred body of her baby. And, as the characters whose experiences illustrate the rational case against nuclear war become more familiar to us, our emotional reactions will increase. Hines tells us that two-thirds of
the houses in Britain are in possible fire zones and Jackson shows us Jimmy's parents trying to beat back a fire in their home. Rather than simply informing us of the symptoms of radiation sickness, they show us graphic scenes of Ruth's family vomiting. To illustrate the fact that there are ten to twenty million unburied corpses in Great Britain, they give us an image of dogs and rats gnawing on the body of Ruth's grandmother. To make the concept of post-war famine vivid, they treat us to the sight of Ruth putting four dead rats into a grocery bag. All these images seem calculated to have a strong emotional effect on the audience.

Much the same point can be made about Hines's use of situation and plot in the film. We have already seen that the basic situation in the film and the plot that grows out of it--Ruth's pregnancy at the time of a nuclear war and her efforts to maintain her own and her daughter's life through that war--develop the rational case that the vulnerability of society's vertical connections could threaten the survival of the human race in the event of nuclear war. The sight of Ruth, pregnant and alone, struggling to bring her pregnancy to term in the post-war wasteland inherently begs our pity. And the joy we might share with her when the baby is born is tempered by our realization that the child probably has been damaged in some way by the effects of radiation. Moreover, the image of Ruth's daughter--whom the radiation has left mentally retarded--recoiling in fear and revulsion
when her baby is born is bound to provoke our pity and dread as well.

On one level, the dynamic of our emotional reactions to plot and situation parallel that of our emotional reactions to the images: we respond directly to what we see on the screen, and our knowledge that what we see is the result of nuclear war should mobilize our emotions against nuclear weapons. Our realization of the theme of the piece, however, can also provoke an emotional reaction. It is frightening to witness a representation of the destructiveness of nuclear war, but it may be even more frightening to know that even a small war could exploit society's vulnerability to the extent that civilization would collapse. It is, of course, even more frightening to reflect that the effects of radiation on the even more vulnerable human reproductive system could spell the beginning of the end of the human race as we know it. Thus, the film arouses our emotions not only with the evidence that supports its rational points, but with the rational points themselves.

We can see, then, that Threads employs the ethical appeal of the authoritative source and that of the nurturing woman to present the argument that even a limited nuclear war would reduce the quality of human life severely if not destroy humanity completely. In making these points and in supporting and illustrating them, Jackson and Hines arouse the emotions of pity
and fear which may increase the viewers' acceptance of their point. Thus, the three modes do not really work independently, but rather support and influence each other.

*Threads* could be used to illustrate one further aspect of anti-nuclear fiction: the mutual value of the artistic and the rhetorical aspects of a persuasive fiction. Any artistic effort involves choice. An author will place characters with certain selected characteristics into selected situations to perform selected actions. The motives that influence his choices can be varied: emotional, biographical, historical, psychological, and so forth. As I have maintained throughout this study, those motives can also be rhetorical. The author's desire to make some particular point—whether that point is social, political, philosophical, or moral—may influence his choice of character, situation, plot, and imagery, and that influence can be as valid and as effective as another author's desire to explore his own psyche or chronicle his reaction to his world.

Without claiming any special insight into Hines's and Jackson's minds, I think we can speculate about how the rhetorical nature of the work might have interacted with its artistic aspects. Hines's desire to suggest the ultimate capacity of nuclear war to destroy the human race may have influenced his selection of Ruth, a pregnant woman, as the main character. It also, no doubt, urged the basic movement of the plot, since the need to deal with the
long-range effects of the war on the gene pool demanded not only that Ruth's daughter be born alive but that she be able to bear her own child. Fortunately, the time span that such a plot requires fits in well with Hines's parallel desire to demonstrate how devastating a nuclear war would be to the fabric of society. Even after the thirteen years required for Ruth's daughter to grow to puberty, the connections between the segments of society have not been repaired sufficiently to return civilization to its pre-war level.

On a more particular level, the facts of nuclear warfare dictate much of the imagery in the film. Jackson must find visual methods of depicting the various destructive forces of nuclear weapons: the EMP effect, the heat wave, the radiation from the blast and fallout, nuclear winter, dramatic increases in ultra-violet radiation, and so forth. And so we see power lines and telephone wires shorting out under the strain from the electromagnetic pulse. We see the face of Jimmy's mother horribly burned from the heat wave. We see people in the throes of radiation sickness vomiting bloody tissue. We see people starving while the able-bodied struggle to harvest shriveled crops. We see people wearing hoods and goggles to protect themselves from the cancer and cataracts that ultra-violet radiation causes. By the end of the film we see people grown old before their time in a fragile, primitive society. All of these images are mandated by Jackson's need to depict
essential aspects of nuclear war. At the same time, the need to explain these various facets of the war urges Jackson's use of the narration and the titles that clarify the action and, therefore, increase our understanding of the characters and the dramatic conflicts they face.

By the same token, many of the artistic choices, by reinforcing and illustrating the message, make it more persuasive. In presenting us with a fairly limited set of characters with whom to identify, Hines helps to focus our perceptions of the horrors of nuclear war. And the details we are given about these characters' lives--their occupations, their hobbies, their hopes, and their fears--insure that we will know them well enough to feel their pain intensely when the suffering comes. I have already mentioned how one of the fictional elements--the plot--serves to reveal one part of Hines's message. We can also detect efforts to communicate the message in subtler aspects of the film. The motif suggested in the title is a major example. It is introduced at the beginning of the film with the image of a spider spinning a thread of webbing while the narrator explains that society is so vulnerable because of the delicate links between its parts. Obviously the spider web is a metaphor for society, and the threads of the web--the Threads of the title--are the connections that make society both strong and vulnerable. After this opening, Jackson uses images of threads--or analogous filaments--throughout the film. During the attack itself,
we see electrical wires destroyed by the EMP effect. When Ruth delivers her daughter, she must chew the umbilical cord in two, an action that depicts the primitive level of her society as well as symbolizing the severing of the genetic connections between generations. Near the end of the film, we see Ruth's daughter and some other children removing threads from a piece of cloth, apparently in an effort to salvage them for use in a garment. The action exemplifies and symbolizes the efforts of the society as a whole to salvage what threads remain of the "garment" that was civilization in order to fashion a new, if more primitive world.

We can see, then, that the rhetorical and the artistic elements in Threads are not necessarily inimical to each other. In fact, Hines and Jackson are able to use the rhetorical elements to inform and guide their artistic vision and the artistic elements to embody and give force to their rhetorical message. In the final analysis, the two aspects of the work live or die together. Only if the film succeeds artistically--only if it moves the viewer--will it have a chance to succeed rhetorically. At the same time, the viewer who is determined to resist the rhetorical message will probably resist the aesthetic experience of the film as well. In this respect, Hines and Jackson share the burdens of all writers of rhetorical fiction. By creating a work in which rhetoric and art are both so crucial to the ultimate effect, they have multiplied the ways in which they can fail. Perhaps, the general critical hostility
toward what is called didactic fiction is a monument to the number of rhetorical artists who have tried and failed. We need look no further than the present study to find examples of works that have failed either as rhetoric or as art or both. Philip Wylie's *Triumph* and Nicholas Meyer's *The Day After* come most readily to mind.

And yet, despite the dangers, rhetorical art seems to be a constant of human experience. People continue to write fiction in which they hope to communicate some message. It may well be that this tendency is a monument to the ability of fiction to express rhetorical messages powerfully in the hands of the skilled artist. Once again, we can point to evidence of this power in works cited in this study: Kubrick's *Dr. Strangelove*, Hoban's *Riddley Walker*, Miller's *A Canticle for Leibowitz*, to name just three. Whether these artists ever read the *Rhetoric* or not, they all exploit the power of the ethical, rational, and emotional appeals and, thereby, increase the artistic and persuasive effects of their works. In doing so, they demonstrate a sometimes neglected fact that, as we have seen, even Aristotle mentions only in passing—that fiction itself is an available means of persuasion.
IX. Conclusion

In *Literary Theory: An Introduction*, Terry Eagleton begins his chapter on "Political Criticism" with an observation about the relationship between literary theory and political issues:

As I write, it is estimated that the world contains over 60,000 nuclear warheads, many with a capacity a thousand times greater than the bomb which destroyed Hiroshima. The possibility that these weapons will be used in our lifetime is steadily growing. . . . Anyone who believed that literary theory was more important than such matters would no doubt be considered somewhat eccentric, but perhaps only a little less eccentric than those who consider that the two topics might be somehow related. What has international politics to do with literary theory? Why this perverse insistence on dragging politics into the argument? (194)

While I was unaware of Eagleton's statement when I began this project, I have, apparently, been courting charges of eccentricity by using rhetorical methods to examine the fiction of precisely the issue he cites in his statement. In doing so, I have argued, explicitly in Chapter I and implicitly in the rest of the study, that there is, or, at least, can be, a direct relationship between literature and social and political issues. Moreover, I have attempted to demonstrate how the modes of appeal which
Aristotle identified in the Rhetoric work in fiction, specifically anti-nuclear fiction.

We have seen that, in terms of the ethical appeal, fiction offers certain advantages that the non-fiction writer does not enjoy. The ethical appeal of the non-fiction writer can stem from two sources: he can rely on the audience's prior opinion of his intelligence and good character, or he can attempt to infuse the speech with qualities that will lead the audience to perceive that he possesses these virtues. The fiction writer can employ these sources, but he can also create characters who will possess their own personalities, thereby compensating for what the audience may perceive as deficiencies in the writer's own ethical appeal.

Our examination in Chapter III of major types of created characters in anti-nuclear fiction demonstrated how the classifications of ethical appeal in these works sometimes support and sometimes depart from Aristotle's own views of the potency of various kinds of ethical appeal. The number of sympathetic fictional scientists and military men who oppose nuclear weapons, for example, grow naturally out of a view that people with expertise in a certain area will speak most knowledgeably and reliably about it. The fact that most of these characters are men at the height of their physical and emotional maturity is compatible with Aristotle's opinion that the strongest type of ethical appeal is that of the mature man. The heavy emphasis that other anti-nuclear works give to the ethical appeal of women,
however, is distant from the Aristotelian view that a woman's ethical appeal is the equivalent of a slave's, and the elevated status that many modern writers give to the young exceeds the level of appeal that Aristotle granted to that stage of life.

While, as Aristotle pointed out, the ethical appeal is often powerful enough to win the audience's allegiance alone, ideally it is used to give authority to the rational appeal. Of course, the non-fiction writer seems to have a definite advantage over the fiction writer in dealing with the rational appeal because he is able to state his case directly, clearly building his enthymemes and presenting his examples. We have seen, however, that the fiction writer can use narration and dialogue to develop enthymemes within his work and that, while the deft employment of enthymeme in fiction is a challenge, it can provide powerful statements of theme. Moreover, we have seen that the plots of rhetorical fiction are often used to provide examples to support the enthymeme, a procedure that Aristotle recommended in the Rhetoric.

Using this access to enthymeme and example, fiction has reflected the major issues of the debate over nuclear weapons virtually from its inception to the present day. Many early novels attacked the immorality of the use of nuclear weapons by focusing on the moral anguish the original nuclear scientists felt in the wake of the bombings of Hiroshima and Nagasaki. Other works have pointed out, however, the futility of hoping to remove the nuclear threat completely; even if nations were to rid themselves
of all their nuclear weapons, they could still redevelop them in the event of war. And so, the debate for much of the last thirty years has examined ways of dealing with the weapons. One solution, rejected early in the debate but revived periodically in both fiction and non-fiction, was the idea of world government. Another method of coping with the weapons was adopted as official policy by the United States and Soviet Union: Mutual Assured Destruction. Under this philosophy, the nuclear forces of each nation were kept in check by the threat that, if attacked, the other nation would launch a devastating counterattack. While many of the greatest anti-nuclear works specifically attacked this philosophy, its most viable alternative—nuclear war fighting—fared even worse; the fear that limited nuclear war would make nuclear war more acceptable and, therefore, more possible, generated a number of fictional works demonstrating the horror of even a limited war. Ironically, the seemingly benign Strategic Defense Initiative has also generated hot debate, with opponents of nuclear weapons denouncing it as another invitation to general nuclear war. Fiction has, of course, reflected this debate as well.

Following our survey of the treatment of the substance of the anti-nuclear debate in fiction, we examined the use of fiction to enlist the audience's emotions behind the rational case that anti-nuclear writers were making. Whereas non-fiction may have a slight advantage over fiction in presenting a rational case, fiction certainly has the advantage in enlisting emotions because emotions
are critical to the function of literature. By arousing emotions through its use of image, situation, plot, and theme, fiction is capable of mobilizing its audience's active support for the ideas it is presenting.

Our survey of the specific dominant emotions that various anti-nuclear works attempt to arouse highlights, once again, the close relationship between literature and rhetoric. The most dominant emotions in anti-nuclear fiction, pity and fear, are also, of course, the two emotions that Aristotle maintained were the objects of tragedy. Scorn—the principal emotion that *Dr. Strangelove* arouses—is the crucial emotion on which all satire depends. However, the other principal emotion that is important in anti-nuclear fiction—hope—has more of a rhetorical function than a literary one: it ensures that the deep feelings that the works provoke will be channelled into constructive action rather than into paralyzing despair.

Finally, in our examination of the British film *Threads*, we saw how the various modes of appeal work together in an individual work. In this film, the director uses the ethical appeal of the authority to make the point that nuclear war, by severing the connections in the delicate network that supports the modern world, would certainly destroy civilization as we know it. At the same time he uses the ethical appeal of women to suggest that such a war could threaten the survival of humanity by corrupting the reproductive processes of the species. Our apprehension of
these points—and the various visual examples that the director offers in support of his views—provoke pity and fear in an effort to rouse the audience to an opposition of nuclear weapons.

Of course, it would be naive to suggest that the authors we have studied here had Aristotle's *Rhetoric* consciously in mind when they wrote. Indeed, it is probable that most of them never even read the work. Rather, as I suggested in the first chapter, anyone who writes to persuade—whether in fiction or non-fiction—will naturally involve himself with one, two, or all three of the modes of appeal Aristotle talks about. It is inevitable, for example, that a person will give his audience some view of his character when he writes or speaks. If he is truly concerned with persuading that audience, he will do his best to insure that he will give a view of himself that that audience will approve. He will also make sure that his argument is sound and understandable and that the emotions he will almost inevitably arouse will in some way further the case he is arguing. Aristotle consciously recognized these facts and put them into a treatise. The writers we have studied here recognized them too, whether consciously or subconsciously, and put them into practice.

In the end we might ask how successful these persuasive efforts have been. The answer, unfortunately, is problematical. It is difficult enough to gauge internal movements of the human will, let alone to determine how much any given stimulus contributed to that movement. Too often, our statements about the effect of
individual efforts at persuasion will have to remain as disappointingly impressionistic as Stephen Farber's remarks about Stanley Kramer's production of *On the Beach*:

*On the Beach* was acclaimed in Moscow as well as New York, and some observers believed that it influenced the United States and the Soviet Union's decision to ban aboveground nuclear tests. True or not, a growing concern about nuclear weapons was reflected in subsequent movies (62).

Obviously, such statements are too vague and unsubstantiated to convince us of the effectiveness of any work of anti-nuclear fiction. True, we can point to evidence like Helen Caldicott's statement that the genesis of her opposition to nuclear weapons was her reading of Nevil Shute's *On the Beach*, but such individual testimony says nothing about the potential of fiction to persuade a mass audience.

The era of the national opinion poll does give us access to the accumulated individual testimonies of mass audiences. But, if we are to judge the effect of a single work on a mass audience, we would have to arrange for the members of that audience to experience the work more or less simultaneously so that we could be sure that extraneous factors had not entered into whatever shifts of opinion we might record. The single instance of such a nationwide phenomenon occurring in relation to the nuclear-weapons issue is, of course, the national broadcast of the ABC television
film *The Day After*. Unfortunately, the results of a Warner-Amex Qube cable network poll reported in the *New York Times* two days after the broadcast found no dramatic shift in the opinions of most people who viewed the film:

The poll suggested that the film had not changed most viewers' opinions. Forty-nine percent said they "still support" nuclear arms control, while 29 percent said they "still support" "strength through nuclear buildup." The survey found that 12 percent said they "now support" arms control, and 6 percent said they "now support" an arms buildup. Four percent were "confused" or "don't care" (McFadden).

The impact of the film on actually changing the American people's attitudes about nuclear weapons, then, was statistically negligible.

We probably make a mistake, however, in judging the worth of persuasive fiction in general on the ability of any one work to cause significant shifts in mass opinion. On matters of important policy, people will usually make up their minds slowly and deliberately. Significant shifts in attitude among the public at large may, depending on the issue involved, take a generation or more to manifest themselves. Given this state of affairs, it would be unreasonable to expect that any one work could change public attitudes about nuclear weapons to any measurable degree. Instead, we might better speculate about the cumulative effect on public opinion of the body of anti-nuclear work we have been studying. We might more profitably ask if the presence of these
various works in the national culture has contributed to some change in overall attitudes toward nuclear weapons during the last forty years. And, indeed, there is some evidence to suggest that American opinion in general has shifted increasingly in an anti-nuclear direction during that time period. In November of 1983, Newsweek cited two polls on public attitudes toward nuclear weapons. The first, a Gallup poll taken in 1946, revealed that 73 percent of Americans favored the continued development of nuclear weapons. A 1983 Roper poll indicated that 67 percent of Americans favored a bilateral freeze on such development (Waters, 72).

Of course, any number of factors may have contributed to this shift. Certainly the fact that the Soviet Union developed its own atomic bomb in 1949 might have caused at least part of the American public to reconsider its position. The development of the hydrogen bomb and of more rapid and more accurate delivery systems no doubt also increased the public's perception of the danger of nuclear weapons. At the same time, it is also likely that an ongoing stream of anti-nuclear messages has contributed to the general rejection of nuclear arms. Newsweek cited another Roper poll that examined public fears about nuclear weapons in 1974 and in 1983 and found that the number of people who feared that nuclear war would become a serious problem in the next half century increased from 47 percent to 71 percent (Waters 72). Significantly, this dramatic rise in concern about nuclear weapons
occurred during a decade in which no dramatic breakthroughs in nuclear technology occurred to pique public fears. Moreover, the Warner-Amex Qube poll cited above indicated that the single significant difference in the attitudes of people before and after watching *The Day After* was that afterward more people were concerned about the imminence of nuclear war:

Before seeing the film, only 26 percent of those polled said they regarded nuclear war as a real threat and worried about it a lot, while 58 percent said it was a real threat but "I put it out of my mind." After the program, 88 percent said they would worry about it a lot and only 10 percent said they would put it out of mind (McFadden).

The evidence suggests, then, that at least part of the shift in American attitudes toward nuclear weapons was provoked by works of anti-nuclear fiction. Once again, however, I would not maintain that significant changes result from the public's experience of any single work of anti-nuclear fiction, but rather from a general pattern of such experiences. Little by little such a pattern, by repeating and reinforcing the arguments against nuclear weapons, infiltrates the consciousness of a nation. Little by little people begin to accept attitudes that are inimical to the presence of such weapons. In a forty-year period, the American consciousness has undergone such a change, and we can be confident, if not empirically certain, that anti-nuclear fiction has helped to bring about that change.
At least in part as a result of anti-nuclear fiction, then, the American public has grown less naive about the potential consequences of nuclear weapons. We are no longer as inclined to see them as the convenient "big stick" with which we can walk softly through the world. We can now see their existence as a tragedy waiting to occur--a dilemma that must finally be resolved. The nature of that final resolution is ultimately up to us. Only we can decide whether we will lay down our weapons or destroy ourselves with them. This fact is the underlying source of both the horror and the hope of Miller's Canticle for Leibowitz and Hoban's Riddley Walker. For each of these novelists, the best--the only--hope for mankind's future lies in fundamental choices of the human heart.

It is, of course, to that same human heart that fiction addresses itself. Such being the case, anti-nuclear fiction may offer a uniquely effective method for teaching the vital lessons of this hazardous age. Hoban makes this point at the end of Riddley Walker when he sends his hero out into the world to preach the anti-nuclear message through the medium of a Punch and Judy show. And, ultimately, if modern man is like X-127--imprisoned in the nightmare of the nuclear age--he is also like Riddley--possessed of the power to escape that nightmare. Like Riddley, the people of the world can discover in fiction the horror of their technology of destruction. Like him, we can use fiction to persuade ourselves to reject that horror. Unlike him, we still have time.
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Dr. Strangelove, or How I Learned to Stop Worrying and Love the Bomb. Dir. Stanley Kubrick. Columbia, 1964. Copyright 1964 by Columbia Film Corporation.


