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THE MEDICAL METAPHOR FOR NUCLEAR WARFARE: A CRITIQUE

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I. *The Process*

"PHYSICIAN-PATIENT" INTERACTION

Reflections of an observer.—The clatter of coffee cups has ceased. The background buzz of private conversations has subsided. No impatient fidgeting betrays lapses of attention. All eyes are fixed, almost unblinkingly, on the slides. The group appears to breathe slowly and almost in unison. The Pima County Medical Society, usually an animated group, is transfixed as the representative of Physicians for Social Responsibility (PSR) illustrates the devastation of Hiroshima and Nagasaki. Next he shows a map of Tucson, with red concentric circles marking the range of various effects of a hydrogen bomb dropped on our city. Members of the audience try to imagine their skin charring and their eyeballs melting in the instant that the city is vaporized. Everything worth fighting for is being incinerated. Civilization is being annihilated, the human race extinguished. The cockroaches will inherit the earth. Silence prevails for many minutes after the speaker concludes.

The scene is reminiscent of many others, such as a special mission at church, in which the preacher told of hell fire and damnation, ready to seize one out of a parked car in lover's lane. Effective salesmen, orators, musicians, and actors all elicit similar responses, whether or not they are conscious of the technique they use. The group induction demonstrated at workshops of the American Society for Clinical Hypnosis differs only in that it is deliberate. The physiologic evidence of the trance state is the same: the steady gaze, the paucity of body movement, the slowed respiration [1].

Hypnotic induction technique.—The principles of hypnosis have been

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known for many years. One simple induction method, gaze fixation, is accomplished automatically by showing slides. Having individuals visualize scenes, especially familiar ones, is effective for either induction or deepening. Presenting statements which are obviously true prepares the subjects to accept juxtaposed ideas and suggestions. In the terminology of neuro-linguistic programming, an implied causal linkage is established [2]. One of the hypnotist's most powerful tools is metaphor [3]; storytelling was a mainstay of Milton Erickson's legendary psychotherapeutic repertoire. For overcoming resistance, negative suggestions may be employed. For example, "This is *not* an American guilt trip" or "Don't believe me, read." Confusion techniques may also succeed with difficult subjects, perhaps by overloading or distracting the dominant hemisphere, permitting access to the unconscious mind [2]. Contradictory ideas and overwhelming amounts of numerical data may accomplish this result, even unintentionally. Responsive members of the audience facilitate the induction of others [4]. The hypnotist's reputation contributes to his success. Physicians for Social Responsibility deliberately takes a professional approach [5, p. 237], taking advantage of the public credibility of physicians in matters of health.

DIAGNOSTIC SUGGESTIONS

The ideas presented in lectures and seminars for continuing medical education credit by PSR have been collected in book form [5] and are widely disseminated in the lay and the medical literatures. The frequently cited premise is that the discovery of nuclear energy marked a turning point in history, changing everything except human nature. A nuclear holocaust would mean the destruction of civilization (art, education, literature, capitalism, communism) and probably the extinction of the human species. This last epidemic is "unthinkable," though we must overcome our "psychic numbing" and think about it to realize that it must be prevented at all costs [5, p. 31]. The etiology of the disease is a "renaissance of militarism in the American population" [5, p. viii]. The symptoms are poverty and disease due to the diversion of resources into the arms race, and psychological illness from living in the shadow of the Bomb. There is no treatment, not even palliation, for nuclear war.

POSTHYPNOTIC SUGGESTIONS FOR PREVENTIVE THERAPY

Given the alleged uselessness of treatment, specific actions directed toward prevention are demanded. First, we must carry the message of the horrors of war to the people and their leaders. Second, we must campaign for the nuclear freeze. Third, we must block preparations to care for the potential casualties of war (such as the Civilian-Military Contingency Hospital System) and teach the futility of civil defense.

"PATIENCE COMPLIANCE"

These proposals have considerable support from organized medicine. The AMA House of Delegates recently defeated a resolution calling for civil defense and adopted one supporting efforts at prevention [6]. The American College of Physicians also endorses the view that prevention, which is taken to mean disarmament, is the only reasonable course [7].

Although generally unacknowledged, compliance with the PSR prescription has been excellent in the past. Only recently have we begun to consider a change in course. Shifting a portion of military spending into social programs has been tried, though a dent in poverty and disease has not been widely reported. Between 1960 and 1980, the budget of the Department of Health, Education, and Welfare was multiplied by 61. Spending increased from \$3.5 billion to \$207.8 billion. The former figure represents 4.4 percent of the federal budget and 0.67 percent of the gross national product, and the latter 35.8 and 7.9 percent, respectively. While the budget for the Department of Defense also increased, from \$43.7 billion to \$136.1 billion in the same time period, its share of the federal budget and the gross national product declined from 56.5 and 8.6 percent, respectively, to 23.5 and 5.2 percent [8, 9]. Expenditures for nuclear armaments would not be sufficient to win the war on poverty, since they constitute only about 3 percent of the federal budget [10]. The arsenal of the United States actually looks now very much the same as it did in 1967, except that the number of bombers has decreased by half [11].

Evidence for Soviet willingness to comply consists of Brezhnev's assurances of peaceful intentions. Similar expressions by patients have long been known to be unreliable.

II. *The Outcome*

RELIABILITY OF PROGNOSIS AND DIAGNOSIS

Is "omnicide" possible?—"Omnicide" is the term proposed for the ability of nuclear weapons, *now*, to kill all human beings and obliterate all human creations [12]. Belief in this possibility is presumably based on the science fiction film *On the Beach*. "Overkill" capacity is often cited, without describing the method of calculation, which probably multiplies the number of deaths per kiloton in Hiroshima by the number of kilotons in the world nuclear arsenal. The implicit assumption is that the world's population could be rounded up into crowds the density of downtown Hiroshima [13]. It is also glibly asserted that we could destroy "several Soviet Unions" after sustaining a first strike, even though no conceivable attack could eliminate all the weapons [14]. Given an American arsenal of 4,894 equivalent megatons [14], and assuming that a 1-megaton blast could level an area of 24 square miles [11], the explosion

of every single American bomb could obliterate 117,456 square miles, or 1.37 percent of the 8,599,776-square-mile land area of the Soviet Union [8]. Since many of our bombs yield less than 1 megaton, this calculation underestimates the destruction, because smaller bombs, which waste less energy in pulverizing the rubble, inflict more damage per kiloton. Nevertheless, omnicide would have to be brought about by some means other than blast effect.

Lethal fallout would cover much of the nation after an attack, but for a relatively short term. People would need to remain in fallout shelters for several weeks, a tolerable period if provision is made ahead of time for essential supplies [13]. Statements that the land would be irreparably poisoned, promulgated by PSR president Helen Caldicott [15], are easily refuted [16]. To date the world has experienced the atmospheric detonation of 650 equivalent megatons, before the enactment of the test-ban treaty, resulting in approximately 1 millirem per year increase [17] in the natural background radiation, which averages about 115 millirem per year at sea level.

To bomb civilization back into the Stone Age would require the destruction of all metal tools. If machine tools exist, other implements can be manufactured. The Soviet Union has the material and the plans available to protect its heavy industry, by methods proved effective in little-publicized experiments in the United States [18].

Although Feld worries that the world megatonnage has already reached one one-hundredth of the "one beach" level, the size of a nuclear conflagration that would "inevitably bequeath the Earth to the cockroaches" [5, p. 116], the trend is not toward a rapidly accelerating accumulation of bombs, at least not American ones. In fact, the yield of the American stockpile has declined significantly since the 1960s [19].

Omnicide is a myth. We do not now have the ability to destroy the Soviet Union, much less the Southern Hemisphere or China, although we could kill tens of millions of people and reduce much wealth to powder. The consequences of nuclear warfare would be grim indeed. But why should they be exaggerated?

Has the etiology been correctly identified?—The consensus appears to be that the etiology of the arms race is psychiatric: "nuclear madness" is the term coined by Caldicott for our predicament [15]. The metaphor is a mixed one, however; the "terminal illness" also involves lethal "macrobes," metastasizing wildly [5, p. 1].

Focusing first on the macrobes, presumably the bombs, as a public health problem, the epidemiologist must investigate their source. The water supply, insect vectors, air conditioning equipment, food handlers, and, of course, the patient's own body must be examined. The source of most of the nuclear pathogens that threaten the United States is obvious: they were made in the USSR and would be launched from there in the

event of warfare. The reason for their prolific production can be debated. Mack states that "in the nuclear arms race the United States and the Soviet Union in effect create one another" [5, p. 34]. The fact that the pace of Soviet development of new systems accelerated in the 1970s, despite U.S. restraint, can be interpreted to mean a purely defensive striving to catch up. However, it could signify a doctrinal imperative to improve war-winning ability [11]. If the latter explanation is the correct one, then "for many years our arms control physicians may have diagnosed falsely (and hence sought to cure inappropriately) the causes of the arms race disease" [20].

The growth of American-made macrobes is attributed to psychiatric derangement rather than to defensiveness. We are said to be able to contemplate the slaughter of millions of the adversary because we "dehumanize" them [5, p. 240]. At the same time, we engage in denial or "psychic numbing" to obliterate from consciousness the prospects of our own destruction.

Generally, the pathogenesis of a disease is thought to be similar in all its victims, regardless of their nationality. Arms competition is apparently an exception.

Are the symptoms a cause or an effect?—The arms race is said to be directly or indirectly responsible for many evils. Even the preparations for war are claimed to cause casualties because of money not spent on social programs. The psychiatric effects are dire. Our powerlessness in the face of potential extinction is thought to account for a sense of alienation and an inability of young people to form "serviceable ideals" or long-term commitments [5, p. 26].

Previously, reminders of mortality were considered salutary, as in the Christian Ash Wednesday ritual: "Remember, man, thou art but dust, and unto dust thou shalt return." Today, attempts to deny death permeate our culture; the emphasis on youth, the popularity of cosmetics and plastic surgery, and health food fads are a few manifestations. Physicians may in many cases be motivated to enter medicine by a death phobia. As Caldicott explained, "I was always frightened of death. Many doctors are, you know" [21].

All Four Horsemen of the Apocalypse would ride in the wake of a nuclear war (just as after all other wars), but their visage would be more dread than that of conventional warfare, revolution, famine, and pestilence. The death not just of individuals but of humankind is contemplated. In a study of the attitudes of people in their twenties and thirties toward death, Carey concluded that death was being equated with collective annihilation. Lifton calls this viewpoint the "fundamental deformation of the nuclear age" [5, p. 17]. Man apparently must believe in the physical immortality of the collective in order to be psychologically well. "We seek a sense of living on in our sons and daughters. That is the

biological mode of symbolizing immortality" [5, p. 15]. In Lown's words, "Something of the 'I' survives in the social germ plasm providing a symbolic continuity or immortality" [5, p. 239].

If the meaning of life depends on the permanence of the human species on planet earth, life is ultimately absurd. For if nuclear destruction is averted, a choice of catastrophes remains. If not the Day of Judgment, or the death of the sun, or a collision with a comet, then the heat death of the universe awaits us. Might the cause-effect sequence have been reversed? Perhaps the Bomb did not cause our spiritual malaise. Perhaps our reaction to the Bomb is a symptom of a fundamental spiritual disease, in which values other than physical existence and comfort have lost their meaning.

EFFICACY OF MANAGEMENT

Deterrence, a preventive strategy.—As a corollary to the belief that nuclear war has no treatment, physician antinuclear activists often enclose "defense" in quotation marks. For example, the index of *The Final Epidemic: Physicians and Scientists on Nuclear War* refers one from "defense budget" to "military expenditures." Activists generally evade the question whether the United States should be defended under any circumstances. Still, it is possibly true that the United States no longer has a defense strategy, having abandoned it, along with antiballistic missiles, in the SALT "process." Rather, our doctrine has become one of MAD (Mutual Assured Destruction), in which we rely on the threat of massive retaliation against the Soviet population to deter an attack.

The wholesale, indiscriminate slaughter of civilians is an aspect of modern war which is labeled "unprecedented." Presumably, to decimate young men in the prime of their youth is more civilized than to kill helpless, unarmed civilians. However, history provides few examples of the romantic style of warfare in which soldiers vie for prizes such as territory, as in a giant sporting event. The Old Testament abounds with tales of genocide. Genghis Khan, a modern military strategist, knew that an army could not survive in the field without support from noncombatants. He methodically destroyed cities, leaving the inhabitants just as dead from beheading and disemboweling as they would have been at Ground Zero [22]. Admittedly, he expended more human energy and used no "dehumanizing technology." Rome also demolished cities, so thoroughly that not one stone stood on another. The uniqueness of modern strategy lies not in the killing of civilians.

Although known in ancient times, the tactic of holding hostages became the foundation of national defense only recently. Ironically, with all our advanced technology, we have placed an unprecedented degree of reliance on a psychological weapon. The United States and the Soviet

Union hold each other's children as hostages for the actions of their leaders. Efforts to reduce the vulnerability of our citizens are called "destabilizing," though Soviet civil defense is dismissed as a useless exercise.

Any reader of O. Henry's story "The Ransom of Red Chief" knows that taking hostages is not always profitable. Kidnapping is a crime which, to a certain extent, requires the sanction of the victim. Some groups of people are unsuitable targets. The single reported attempt to hijack a Chinese airplane failed when 15 bare-handed passengers and crew members captured the five would-be terrorists [23]. Israelis are seldom chosen because their government refuses to pay ransom.

What are the qualifications of a good hostage? First, he must belong to a group that is sufficiently wealthy to pay tribute and which values his life over all other considerations, including the welfare of potential future hostages. Second, he must be unwilling or unable to resist capture. Kidnappers will not knowingly molest a victim who is determined to fight to the death or whose people will undertake successful rescue or retaliation. Even terrorists follow basic principles of human behavior. Rewarded actions tend to be repeated, and futile ones to be extinguished.

Although we have staked our security on the hostage concept, little thought has been given to the acceptance of that role by the Soviets. Certainly the lives of the citizens are not precious to their government, which has sent millions to death camps for imaginary or trivial offenses [24]. Soviet leaders appear to believe that the cost of a nuclear war to them might not exceed that of World War II, and they may not judge that price to be "unacceptable" [10]. The prospect of war is used to inspire support for the ruling class rather than to incite protest and civil disobedience as advocated by American physicians [12].

Americans, however, make excellent hostages. Our wealth is coveted, while our willingness to fight is doubted. Such statements as "that social fabric is ruptured, probably irreparably, by even a single nuclear weapon" [5, p. 179] are seldom challenged. Moral opprobrium is reserved for the manufacturers of weapons of revenge, not for those who have failed to carry out the constitutionally mandated function of providing for the common defense.

Defense, a rejected possibility.—Although resorting to toxic and expensive modes of treatment to extend cancer victims' lives by a few months, physicians have labeled as hopeless any conflict involving nuclear weapons. Their educational programs are devoted almost entirely to crepe hanging. Proposals to revive our civil defense, develop antiballistic missiles, or implement a satellite defense system—the High Frontier [25]—are either ignored or shouted down as "immoral," "destabilizing," or worthless (because not guaranteed safe and 100 percent effective, now and in the future). Frequently quoted is Hiatt's obvious statement

that "when treatment of a given disease is ineffective or where costs are insupportable, attention must be given to prevention" [5]. While no one would deny that prevention is always preferable, nuclear warfare is the only disease in which physicians, citing the bond of their Hippocratic Oath, say with moral fervor, "No response to medical needs should be expected from medicine" [5, p. 238]. Similarly, this is the only illness described to date in which prevention and treatment are mutually exclusive. Having penicillin in readiness does not doom to failure the rifampin prophylaxis of meningococcal meningitis. Having a fallout shelter stocked with food does not provoke an attack, but it does make one's children less than ideal hostages.

Conciliation, the prescription of Physicians for Social Responsibility.—Because it has become too dangerous to fight, some other method of resolving human differences must be invented. Jonathan Schell favors the perennial high school debate proposition, a world government [26]. Fisher, in an essay called "a model . . . of creative conciliatory thinking" [27], suggests a fresh approach to negotiations: "Look, you Russians have to understand . . . how it looks to us when you behave as you do. You must take some responsibility for helping us deal with our security problem" [5, p. 227]. He believes we need "to keep learning about human behavior, how to affect our own behavior and that of others, not just manipulate it" [5, p. 230]. Moore finds that this analysis is not sufficiently penetrating. A concerted effort must be made to discover the cause of human frailty. Medicine, with the aid of "pathologists of international disease" (lawyers, economists, historians), needs to diagnose and treat Hitlers and Khomeinis early [28].

When the loser of a dogfight presents his unprotected neck to the attacker, in a sudden attitude of submission, the winner performs the motions of shaking the vanquished one to death, but with a closed mouth [29]. Such reflexes for the inhibition of intraspecies aggression are not well developed in humankind, and displaying the jugular to an adversary is usually fatal. Human nature being notoriously resistant to change, the most likely effect of the PSR prescription is to improve America's image as a perfect hostage.

The meaning of survival.—In a situation in which the physical survival of the species is allegedly endangered, concern for survival of our liberty is coded as a "national chauvinistic commitment" or a "world hegemony struggle with Russia" [28]. Caldicott speaks of the larynx, not of words, as the weapon of democracy, even though the physical entity makes a better target than weapon. The technique she advocates is not to proclaim the blessings of liberty, as in Beilenson's proposed "Fourth of July weapon" [10], but to organize mass marches in which people are educated by signs that say "Nuclear Power Equals Cancer" [15].

Works of fiction often mirror the dilemmas of the real world. Facing

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the prospect of defeat with or without war in the distant future of Isaac Asimov's science fiction classic, the *Foundation Trilogy* (written in 1951), Salvor Hardin remarks, “Violence is the last refuge of the incompetent. But I certainly don't intend to lay down the welcome mat and brush off the best furniture for their use” [30]. The weapons of the Foundation, which was established to preserve the seeds of civilization through a galactic dark age, were its superiority in science and technology (including the peaceful uses of nuclear energy) and its faith in its destiny. Though shedding little blood, the Foundation appeared invincible until a mutant appeared who could bend men's thoughts and wills to his own designs. Sometimes he accomplished his purpose by playing the Visi-Sonor, a musical instrument that stimulated the visual and emotional centers of the brain directly, inducing panic and despair in the listeners [31].

Physicians for Social Responsibility has rightly characterized our illness as a psychiatric one. Our spiritual malaise is manifested by a death phobia, rooted in a loss of faith. Even though no mutant identifiable as Asimov's Mule has appeared, our resolve to survive as a free people is dissolving. As all physicians know, when the patient loses the will to live, he is doomed. The macrobes, our weapons, are but opportunistic agents, becoming virulent because of our underlying disease. In Solzhenitsyn's words, “Facing such a danger, with such historical values in your past, at such a high level of realization of freedom and apparently of devotion to freedom, how is it possible to lose to such an extent the will to defend oneself? . . . No weapons, no matter how powerful, can help the West until it overcomes its loss of will power. In a state of psychological weakness, weapons become a burden for the capitulating side” [32].

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