

**Weapons and Hope** by Freeman Dyson, Harper & Row 1984.

Nuclear war is like cancer. It's very bad, but none of the recipes for prevention inspire confidence. Maybe there are a few actions that will reduce the risk, but mostly one just hopes. At least with cancer there are statistics, but one can't even know the odds of getting into nuclear war or of surviving it.

Freeman Dyson is a well known theoretical physicist. In the forties, he helped found quantum electrodynamics, a theory whose numerical answers agree with experiment to eleven decimals. Dyson has written extensively, sensibly and imaginatively on human expansion into the universe and other futurist topics.

Dyson discusses seven approaches to reducing the danger of nuclear war. He doesn't guarantee any, but he has something new to say. His main goal is that the adherents of the two main tendencies — rearmament and unilateral disarmament — should understand one another. He classifies attitudes into those of *warriors* and of *victims*. His characterizes warriors as valuing coolness, accurate analysis and as fascinated with the tools of war. He has many illustrations from World Wars I and II.

However, his characterization of the ideology of victims, even apart from the tendentiousness of the term, is murky. The only example given is Helen Caldicott, characterized by moral force accompanied by fuzzy numbers. She has always struck me as a kind of warrior.

An important merit is his emphasis on irreducible uncertainties. We can't know how much of our society could survive nuclear war. We can't know how effective various weapons would be.

The seven strategies are

1. Unilateral disarmament. Dyson was a pacifist until World War II began in England. He inclines to believe that unilateral disarmament would be good if everyone were a Gandhi, but reluctantly gives it up, because nowhere near enough people are.

He thinks the Soviets couldn't occupy us successfully even if we were disarmed, but he doesn't discuss how a disarmed U.S. might deal with methods the Soviets have actually used when needed to get in control of recalcitrant populations — massive forced exchanges of population, the taking and killing of large numbers of hostages and the destruction of villages where resistance was strong. He also neglects the fact that surrender wouldn't assure even peace, since communists are just as quarrelsome among themselves as with others. We might finish as expendable cannon fodder in a nuclear war among

communist powers.

2. Mutually assured destruction (MAD). Peace is to be assured by each side being able to inflict “unacceptable damage” on the other, i.e. destroy the other’s society. MAD advocates consider defense capability and ability to destroy the other side’s military capability as irrelevant and even harmful, because destabilizing. MAD has been a major component of American policy since the 1960s.

MAD appeals to the mathematical game theorist, because it treats the West and the Soviet Union symmetrically and requires no analysis of the actual characteristics of either society.

Dyson points out that the Soviets don’t accept MAD. Their doctrine is that if war is inevitable, they will attack the opposing military capability in order to protect themselves. He considers this more conventional military attitude to be morally less evil. Our own military men also seem to prefer counterforce, and our actual posture has always included some counterforce capability.

3. Nuclear war fighting. This is the view that nuclear war is like other war only worse. If one has to fight, one strives to knock out the enemy armed forces, minimize damage to one’s own forces and society and force a surrender. It is the Soviet doctrine. Dyson points out the enormous uncertainty involved in a major war with weapons that have never been used. For this reason any doctrine that holds nuclear war to be survivable is unrealistic. However, he doesn’t advance the common “peace movement” argument that the doctrine makes nuclear war more likely by encouraging the U.S. leaders to start one.

Emphasizing the uncertainty, Dyson suggest that civil defense measures would be good but can’t be counted on. He admires the Swiss nuclear civil defense measures but suggests that they would be unacceptable in the U.S., because if we prepar to survive nuclear war, the Europeans will feel left out.

4. Limited nuclear war. This deals with the Soviet conventional superiority in Europe and the unwillingness of Western Europe to use its greater population and industry to match it. NATO therefore plans to meet a Soviet tank led assault with tactical nuclear weapons. It has been part of Western preparations since the 1950s, but the Soviets have often able to deter preparations by their threat that any use of nuclear weapons would be met by a massive nuclear attack on all their enemies including the U.S. Their ability to make good on this threat has greatly increased in recent years. Dyson considers limited nuclear war unrealistic because of this Soviet doctrine.

5. Non-nuclear resistance. Dyson hopes that conventional weapons, “pre-

cision guided munitions” might be developed that would make it possible for us to unilaterally give up nuclear weapons. He ignores the possibility that a further technological developments might restore the advantage to the nuclear side.

6. Defense unlimited. This doctrine would build shelters as the Swiss have done and develop means for shooting down missiles including spaceborne and nuclear ABMs. Its opponents claim it is expensive, ineffective and destabilizing. Their worst case scenario is that the Russians suddenly decide that the defense is just about to become so effective that we would be able to destroy them with impunity and therefore attack us. In fact neither we nor they would ever be sure about how effective defensive measures would be, and this would dilute any impulse towards desperate measures. In so far as it turns out to be likely to work at an affordable cost (ten percent of GNP?), it seems like a good option.

7. Live-and-let-live. Dyson ascribes this concept to the late Donald Brennan, who called it “parity plus damage-limiting” and put it in opposition to MAD with the slogan “We prefer live Americans to dead Russians”. Dyson summarises it as “We maintain the ability to damage you as badly as you can damage us, but we prefer our own protection to your destruction”. He likes it. Put this way, it’s the motherhood of concepts. It will be endorsed by the Reagan Administration even with the corollary that in so far as we develop the ability to protect ourselves, we can forego ability to damage the Soviet Union.

Dyson ignores some important questions.

1. What is the present military situation? The Reagan defense build-up is based on the opinion that recent years have seen the Soviets acquire a large military advantage and that re-armament is required to avoid tempting them. Is that right? I have no independent opinion, but I think the people, e.g. Edward Teller, who persuasively advocated that position, are thinking about the important question.

2. What characteristics of communism are relevant to living in the same world with nuclear-armed communist powers? Dyson doesn’t mention communism in his index, and I could find only one peripheral reference to it in the whole book. His chapter on the Russians attributes their aggressiveness and suspicion to their occupation by the Mongols from the 12th through the 16th centuries, a theory he got from his Institute for Advanced Study colleague George Kennan. A Russian exile to whom I mentioned this jeered, “What? Did he forget to mention swaddling clothes”? But then Dyson

quotes Kennan approvingly as saying that we pay too much attention to exiles and dissidents.

Since World War II a number of communist powers have appeared, many not under Soviet control. They share its unpleasant characteristics — aggressiveness, secretiveness, suppression of independent opinion, no orderly way of transferring power, economic inefficiency, and a low threshold for committing genocide. It wasn't the Russians who killed a quarter of the population of Cambodia. This suggests that it's not the Mongols, it's communism.

Ignoring such facts leads to error in dealing with the nuclear war problem. For example, Dyson thinks that we missed an opportunity for an agreement with the Russians about nuclear weapons in the late forties that might have established some measure of trust. He doesn't even mention Stalin and deal with the evidence that Stalin never trusted even his fellow communists and always strove to get them under his thumb. Communist doctrine as well as the personal characteristics of the leaders of these dictatorial regimes plays an important role in limiting the agreements that are possible. Most likely we cannot achieve substantial mutual trust with communist countries until their societies evolve into more humane forms. Indeed maybe some of them will evolve into even more aggressive forms. Here Dyson should apply his own doctrine of living with uncertainty.

A final opinion: We have avoided nuclear war for forty years with a wide variety of policies. We should not let anyone stampede us into desperate measures of either military action or unilateral disarmament. Most likely nuclear peace will continue, but we will not soon achieve a world in which we will really feel safe. Dyson's book contributes to the moderation needed to live in this uncertain world.

It's better to be safe than sorry, and we should be willing to take a lot of trouble and go to a lot of expense if this will make us safe. We should even be willing to change long held attitudes. However, what constitutes safety?

One way of looking at the matter involves noting that we are 38 years into the nuclear weapons age and no-one has been bombed after the beginning. Therefore, if we can preserve the present situation with regard to the forces tendencies toward and away from war, this might be considered as safe as we can get in the absence of a convincing proposal for reducing the danger. In that case we should look for danger in whatever is new.

One major novelty is the Soviet preponderance in land based missiles. Some say this puts us in enormous danger, and others say it is unimportant. Finding the arguments inconclusive, I tend to favor the proposals for coun-

tering the Soviet preponderance on the grounds that this minimizes novelty.

Dyson outlines the various points of view rather well, but he doesn't attempt to outline the beliefs that underly each of them. Perhaps this would be untactful.