

of financial support by the Department of Health and Human Services for in vitro fertilization studies. The Recombinant DNA Advisory Committee of the National Institutes of Health unanimously voted down a proposal to ban human germ-line modification. If the public in this country continues to accept a laissez-faire attitude toward human germ-line gene modification, in the space of a few years we may be confronted with human experimental products disavowed by their parents, partial successes whose characteristics are only approximately human, and unfortunate lineages susceptible to early cancers and exotic new genetic disorders. The timetable for embarking on this dubious program will depend, then, not on the state of scien-

tific understanding, but rather on how widely certain false notions of genetic perfectability come to be accepted, and how rapidly narrow commercial and professional interests can succeed in exploiting the resulting demands.

—Stuart A. Newman

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Does Nuclear Deterrence Work?

Does nuclear deterrence work? This is the central question in any examination of the fundamentals of nuclear weapons policy. If nuclear deterrence works well, there is strong prudential reason, in terms of national self-interest, to retain it, and if it does not, there is strong prudential reason to abandon it. But this question is central for a moral appraisal of nuclear deterrence as well, on any moral view that takes the consequences of our actions and policies seriously.

The question of whether nuclear deterrence works well can be taken in at least two different ways. The broader question is about the absolute deterrent value of nuclear threats, that is, their effectiveness in comparison with a policy of no military threats at all; the narrower question is about the marginal deterrent value of nuclear threats, that is, their effectiveness in comparison with nonnuclear military threats. The latter question is the one most of us care about in asking whether nuclear deterrence works.

How should this question be answered? Most commonly, an empirical answer is attempted, as in the argument that nuclear deterrence must work well because there has not been a war between the United States and the Soviet Union since 1945. But such an argument exhibits the error made by the person who is sure that the amulet she wears keeps elephants away because she has not seen any elephants since beginning to wear it. No effort is made to show any connection beyond mere concurrence between nuclear deterrence policy and the absence of war.

A comparison between nuclear deterrence and conventional military deterrence might better be made not empirically, but by a closer look at the nature of deterrence itself. After all, deterrence is a pervasive relation among persons and institutions at all levels of

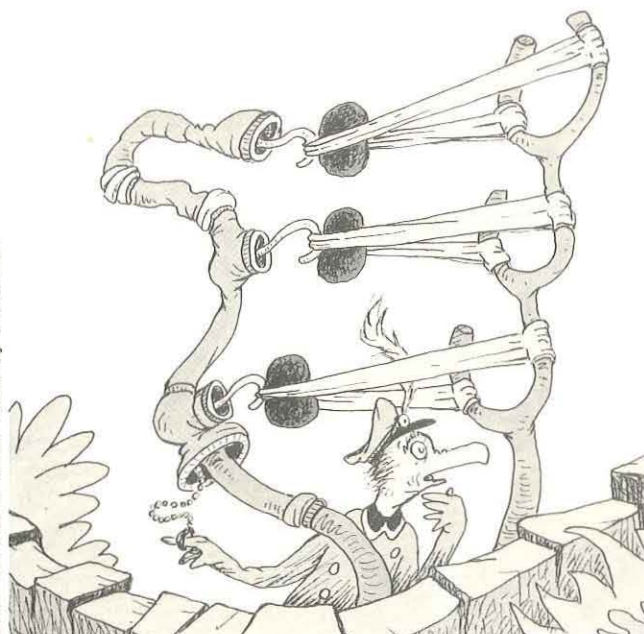
social groupings, from the family to the nation to the world order. If we try to analyze what conditions are necessary for deterrence threats in general to be effective, and then examine how these are satisfied in a paradigmatic case of effective deterrence, such as legal deterrence, this can help us understand how the comparison between general military deterrence and nuclear deterrence should be made.

Legal Deterrence

Effective deterrent threats satisfy two conditions. First, they create in the minds of the parties threatened the belief that should they fail to conform their behavior to the required standards it is likely that the threatened harm will be imposed upon them; that is to say, that the threatening party has the capability and the willingness to carry out the threats. Second, these beliefs result in the threatened parties conforming their behavior to the required standards.

How well do legal deterrent threats satisfy these conditions? For legal deterrent threats, the general ability of the state to carry out its threats is not in doubt, given the state's effective monopoly on the use of force. But there is some room for doubt about the state's ability to impose the threatened harm for particular cases of nonconforming behavior, since it is often difficult to detect who is responsible for such behavior. Thus, the grounds for the belief that the state is able to carry out its legal deterrent threats are not completely firm; particular potential violators may have some reason to doubt the state's ability to punish them.

What about the basis for the belief that the state is willing to carry out its legal threats? Mere declarations of an intention to carry out a threat are normally not a sufficient basis for a belief that the threat will be car-

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ried out. Thus the basis for the belief that the state is willing to carry out legal threats is to be found in the state's past behavior of legal threat executions. To create the belief that it is willing to carry out legal threats, the state must have a history of having done so. To put the point paradoxically, the general success of legal deterrence is dependent on its occasional failure. Legal deterrence does not merely tolerate failures, maintaining its overall success despite them, but it actually makes use of them, and even requires them, for its overall success.

Now, if the belief that the threatener is able and willing to carry out its threat is to lead the threatened parties to conform their behavior to the required standard, they must be assured that if they do so conform, the harm threatened for nonconformity will not be inflicted upon them; otherwise they would have no incentive to conform in order to avoid this harm. Moreover, the harm threatened must be sufficiently severe in relation to the expected gain from nonconforming behavior: nonconforming behavior must not pay. Our system of legal deterrence generally satisfies these conditions.

Finally, for a threat to work, the party threatened must know what behavior will avoid the infliction of the threatened harm, which means that the required standards of behavior, in addition to being public, must be sufficiently clear and precise. Legal systems make use of devices, in addition to careful legislative drafting, to minimize vagueness in the law, such as relying on precedent in judicial interpretation of laws. But vagueness in the standards, coupled with the fear of the threatened harm, may actually lead the threatened parties to restrict their behavior more than they would if the standards were clear and precise, to "err on the side of safety." Vagueness in the required standards of

behavior may then either undercut or enhance deterrence effectiveness.

Military Deterrence

General military deterrence differs from legal deterrence in several important respects bearing on its effectiveness.

For military deterrence, the belief that the threatener has the general ability to carry out its threat comes less easily. Military deterrence, in most cases, is mutual: each party is both the threatener and the threatened. As opposing states approach parity in military force levels, the ability of each to carry out its military threats against the other becomes more and more doubtful.

Military deterrence has important implications as well for the belief that the threatener is willing to carry out its threats. The history of particular nations executing their military threats is usually short and sometimes nonexistent. Engaging in military action, whether by challenging a threat or executing a threat, is usually very costly. In addition, whatever history of threat executions there is is likely to be ambiguous. The earlier threat executions may have been by a different regime, against a different state with different military capabilities and a different relation to the threatener, and in response to a different sort of challenge.

Since history is largely inadequate to provide a demonstration of a state's willingness to carry out its military threats, the alternative is to find a measure for attributing a presumption of willingness. In the absence of evidence to the contrary, it may be presumed that a state is willing to execute its threats if and only if it would be in its perceived self-interest to do so. The main reason for the execution of a military threat, and hence the main factor in assessing its rationality, is the military prospect for denying the opponent his objective in aggression, considered in conjunction with an appreciation of the importance of the interest compromised by the aggression.

The mutuality of military deterrence also undermines the assurance that the threatened party can avoid harm through conformity to the threatener's standards, since mutuality creates motivations for, and consequent fears of, preemption. The possibility of a preemptive attack means that neither side can be assured that conforming behavior on its part will make it immune from attack. But military deterrence is made more robust by the fact that if two states are at least close to parity in military capability, the harm that is threatened is certainly severe enough to outweigh whatever the aggressor might hope to gain. (States are notorious, however, for their lack of foresight about the cost of war.)

The threats and standards in military deterrence are, finally, more vague than in legal deterrence. The threatened party will be uncertain about what range of aggressive behavior on its part would lead to threat execution because this depends, in the context of military deterrence, on a highly speculative assessment of what responses the threatener would perceive to be

rational. While such uncertainty might lead the threatened party to be especially cautious, it may also weaken deterrence by fostering risk-taking behavior.

The purpose in comparing legal and military deterrence is not to show that military deterrence is not effective, but to show what factors are relevant to the assessment of its effectiveness. Military and legal deterrence are not alternatives to each other, since they operate in different realms, one at the domestic level and the other at the international level. To show that legal deterrence is more effective than military deterrence does not show that there is anything more effective than military deterrence at the international level (short of the domestic law of a world government). Our purpose is simply to set the stage for drawing some conclusions about a specific form of military deterrence, namely, nuclear deterrence.

Nuclear Deterrence

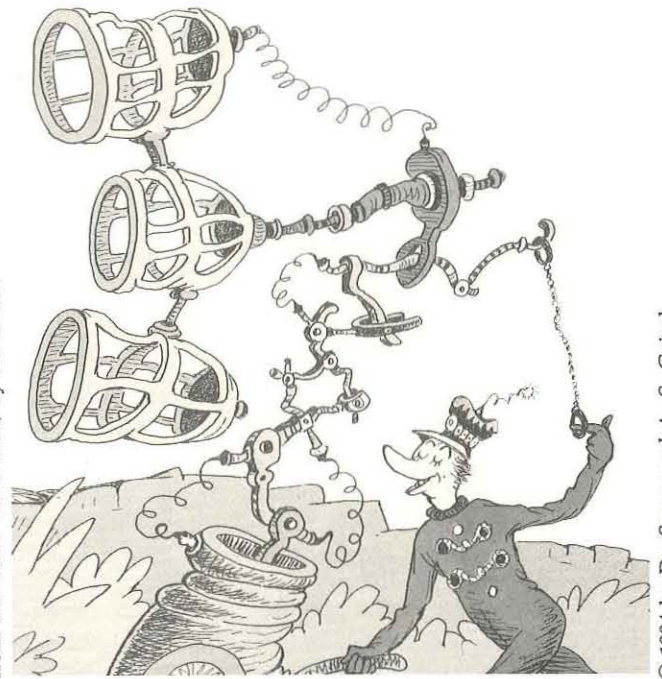
How does nuclear deterrence fare in comparison with general military deterrence in terms of the factors just discussed?

Nuclear deterrence, like general military deterrence, is mutual, but, as the label "mutual assured destruction" suggests, it is mutual in a stronger sense. The nuclear situation is one in which each side has the military ability to destroy the other side no matter who strikes first. Thus, it is a form of mutuality which should raise no doubts about the ability of the threatener to execute its threat, unlike the mutuality of other forms of military deterrence. The mutuality of nuclear deterrence thus should promote rather than undermine the effectiveness of deterrence. As a result, nuclear deterrence has the additional advantage of increasing assurances that the party threatened can avoid the threatened harm by conformity to the standards: motivations for preemption should be eliminated under nuclear deterrence, because with each side able to destroy the other no matter what, there would be nothing to gain and much to lose by striking first. (Doctrines of nuclear war fighting are, however, increasingly bringing this into question.)

Even more clearly for nuclear deterrence than for conventional military deterrence, the willingness of the threatener to execute its threats must be attributed presumptively; the history of nuclear deterrence provides no instances of threat executions. But such a presumption fails completely for nuclear deterrence. There are no reasons sufficient to make rational the execution of a nuclear threat between the superpowers in the context of the nuclear situation. There can be no interest of sufficient importance to outweigh the potential losses from military conflict when these losses carry a serious risk of amounting to the destruction of the society.

The severity of the threatened harm is a distinctive feature of nuclear threats that would seem to have a strong impact on their effectiveness. Combined with the certain ability each side has to carry out its threat, the severity of the threat creates what has been called

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"the crystal ball effect." Any leader of a superpower contemplating aggression against the other can foresee clearly, as if in a crystal ball, the likely outcome of total ruin. This may, as well, have an effect on whether the vagueness inherent in nuclear threats (as in other military threats) increases or decreases their deterrent effect. The crystal ball effect may lead to a decided tendency toward greater caution.

Our comparison shows that nuclear deterrence has both striking advantages and striking disadvantages when compared with general military deterrence. On the one hand, nuclear threats seem superior in deterrent value due to the distinctive character of the mutuality of nuclear threats and to the special restraining potential of the crystal ball effect. On the other hand, the deterrent value of nuclear threats seems to suffer considerably due to the failure of the presumption of willingness to execute nuclear threats. Focusing on the former set of factors would lead one to be very optimistic about the effectiveness of nuclear deterrence, while focusing on the latter set of factors would lead one to extreme pessimism. Attempting an overall comparative evaluation, taking into account both sets of factors, given their significance and the sharpness of the opposition between them, may well leave one in a great state of uncertainty.

There remains an argument, however, which may show that nuclear threats do *not* have marginal deterrent value. Threats cannot have marginal deterrent value, however much they may appear to do so, unless they have some absolute deterrent value. If there is some special feature of nuclear threats, in distinction from other military threats, that raises the possibility that they have *no* absolute deterrent value, then whatever marginal deterrent value they may seem to have would be illusory.

There is such a special feature of nuclear threats. The point is often made that nuclear deterrence can tolerate no failures, that is, no instances of nonconforming behavior (assuming that such an instance would be or would lead to nuclear war). If there was an instance of nonconforming behavior, the likely result of destruction of society would mean that the system of deterrence as a whole had failed. The system would have proved ineffective in an absolute sense, because, as one might put it, it would not have brought about fewer instances of nonconforming behavior than what is necessary to allow the social order to continue. (Likewise, a system of legal deterrence would have no absolute deterrent value if it did not succeed in avoiding complete social chaos.) For nuclear deterrence to have absolute deterrent value, we may say, the probability of its failing (say, per year) must be so low that it is very unlikely that a failure would occur over decades or even centuries. If nuclear deterrence cannot guarantee that it is very unlikely to fail over an extended number of years, it must be regarded as ineffective in an absolute sense. Unless nuclear deterrence can do a substantially better job at deterring aggression than history has

shown general military deterrence has been able to do, then nuclear deterrence is absolutely ineffective, because general military deterrence can tolerate a much higher rate of failure without social breakdown (or destruction) than nuclear deterrence can.

If nuclear deterrence is substantially more effective over the long haul than general military deterrence, it must have a substantial, not merely minimal, marginal deterrent value in comparison. But our argument does not support this: the advantages in effectiveness of nuclear deterrence over conventional military deterrence are matched by its disadvantages. As a result, there is reason to believe that nuclear deterrence has no absolute deterrent value and so no marginal deterrent value over conventional military deterrence. Having nuclear deterrence would then be worse than having no system of military deterrent threats at all.

—Steven Lee

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How Good a Person Do I Have to Be?

How good a person am I? This is a question most of us care about being able to answer, and most of us, I suspect, know what we would like the answer to be. I, for one, would like to think that I'm a pretty good person, not saintly, but as good as most and better than some of my colleagues and friends. I'd like to be able to pat myself on the back but also to point a finger at others; I want the requirements of morality to be lenient enough so I'll score high, but tough enough so that my high score still means something. It would be nice if it turned out that however good I am is just about exactly how good a person ought to be. Contemporary moral philosophers have given a good deal of attention to these questions. What kind of a moral report card would the rest of us get from them?

Being a Good Person

If my household's gross income last year was \$40,000 and I gave away \$2000 to charity, am I (a) a splendid person; (b) a good person; (c) an okay person; (d) a bad person? A 1984 Rockefeller Brothers Fund survey reports that the average family with an income in that range donated \$1,060, but while that lets me know that my level of giving is somewhat higher than average,

it doesn't tell me whether it is enough to satisfy the demands of morality. When I think of friends who probably gave less, I feel like leaving my income tax return casually lying around so they can see what a good person I am. But when I think about the amount of human suffering to be alleviated in the world, my contribution suddenly seems much less generous.

Most of us tend to decide what we owe others in part by seeing what's left over after we've secured a moderately comfortable—but not extravagant—standard of living for ourselves. We feel we shouldn't be faulted for aspiring to a middle class lifestyle; the wealthy, on the other hand, have a good deal to apologize for. Not surprisingly, surveys show that 95 percent of Americans consider themselves middle or working class. The rich—those who ought to be "soaked" to provide benefits for the rest of us—are invariably those who have \$10,000 a year more than we have.

I confess that I recently bought a \$1500 stereo system. That sum of money, as the UNICEF literature reminds me, can purchase a lot of vials of penicillin at 25 cents each. But, I hasten to explain, this is the first nice stereo I've ever bought in my whole entire life. And I know