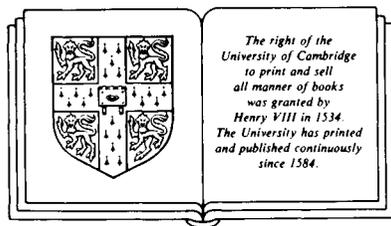


Nuclear deterrence and moral restraint

Critical choices for American strategy

Edited by
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Chapter 2

Finite counterforce

David Lewis

INTRODUCTION

When theoreticians like ourselves think about nuclear deterrence, often we focus on a nasty choice between two rival package deals. The two have gone by various names over the years, but let me take the paired epithets: It's MAD versus NUTS.¹ Each package is a bundle of policies: centrally, policies for the procurement of strategic nuclear forces, conditional intentions about how to use those forces in case of

Note: The up-to-date reader may wonder why I refer to the Soviet Union throughout as "the enemy." The reason is that my chapter was completed in February 1986, to meet a deadline of the University of Maryland Working Group on Nuclear Policy and Morality. I've mostly withstood temptation to tinker afterward.

Much has changed in the three years since. I applaud those changes, and do not at all mean to belittle them. It seems reasonable to hope, though foolhardy to assume, that the name "enemy" is no longer right – anyhow not today, 20 January 1989. As for tomorrow, who knows? The most important lesson we're learning is that the Soviet Union can change course unforeseeably. We can imagine all too many alternative future Soviet Unions – some benign, some not. The same goes for other powers that have the wherewithal to menace us. We cannot yet bid good riddance to nuclear deterrence and its moral dilemmas.

war, war plans, declaratory policy. Each package also carries implications about military research and development, arms control, conventional preparedness, relations with our allies, and foreign policy generally.

In a debate between MAD and NUTS, each side may say that the other's policies involve a twofold risk: a grave moral risk of committing massacres and a grave prudential risk of inviting and undergoing like massacres.² If they say so, they are right: Both MAD and NUTS are morally questionable, to put it mildly, and imprudent as well. (Imprudence is itself immoral, if it is the imprudence of a statesman who bungles the task of protecting his countrymen.) The contest between these two repugnant alternatives gives nuclear deterrence itself a bad name, and winds up making a strong case for a third package deal: nuclear pacifism, renunciation of all the risks and all the benefits of nuclear deterrence. Of course this third package carries its own grave moral and prudential risks.

No alternative looks good. How does the very idea of nuclear deterrence turn into the nasty choice between MAD and NUTS? Does it have to happen? Is there no way around it?

It happened for a reason, to be sure. The fundamental premise was that if we are to practice nuclear deterrence we have to solve the credibility problem. Not many solutions can be found. One leads to MAD. Another leads to NUTS. The rest – automated retaliation, in various forms – are worse still. The premise of the credibility problem is the adhesive that binds together the repugnant packages.

The solvent that dissolves the adhesive is the hypothesis of *existential deterrence* (for short, *existentialism*).³ Existentialism says that the credibility problem more or less solves itself – deterrence is easy. If that is true, then the packages fall apart. We can practice nuclear deterrence in a much safer way – safer both morally and prudentially. We can borrow ideas from the MADman and the NUT, and have the best of both.⁴ But we can leave behind the parts of their reasoning that require us to run grave risks in order to solve the credibility problem.

As a philosopher, my business is with the coherence of

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positions and the range of logical possibilities – not with the truth of empirical hypotheses. (I dare say many a strategist ought to say the same.) I had better leave it to others, far more expert than I about the details of current history, to determine how well the evidence supports existentialism. I see that some of these experts have become convinced existentialists.⁵ What they say has the ring of truth, but I myself cannot muster additional evidence. My task will not be to argue for existentialism, but to argue from it.

Caveat: the MADman and the NUT, as I shall portray them, are ideal types. Those real people who endorse deterrence but reject counterforce will seldom agree fully with my MADman. Likewise, the friends of counterforce will seldom go all the way with my ideal NUT. The importance of the ideal MADman and NUT is that they are logical in the derogatory sense – they follow the argument relentlessly wherever it may lead. All statesmen, and even most theoreticians, have better sense. The evils of pure MADness and NUTery are plain to see. When we face the nasty choice, we long for compromise. But the question is: Can compromise make sense?⁶ It's no good just hopping aboard a premise when it's going your way and hopping off again when you think it's gone too far. I mean that it's no good as honest theory – it may be safe enough. Or it may not. We must earn the right to compromise, by faulting the reasoning that drives us MAD or NUTS. We can do that, I say, if we embrace existentialism and don't fuss much about credibility.

MAD: IF YOU CAN'T BE CREDIBLE, BE DREADFUL

To trace the reasoning that drives us MAD, start with a simple conception of nuclear deterrence. We deter the enemy from doing x by threatening that if he does, then we will punish him by doing y ; y is bad enough to offset anything he might gain by doing x ; we hope he will reckon that doing x cannot be worthwhile, and so will not do it.

But the enemy might notice that if he does x , we will then have no good reason to do y . What's more, he may be able

to give us a reason not to: He may threaten that if we do y , then he will punish us by doing z . Just as we had hoped to deter him from doing x , so he might hope to deter us from retaliating if he does x . Then he might hope to do x and go unpunished. Of course we may threaten that if he does z then we will . . . but he might doubt that as well. In short, we have a credibility problem: Our deterrence is apt to fail because our threats are not believed.

How to solve it? One way is to make the threatened retaliation very, very severe. Then even if the enemy thinks we would have excellent reason not to retaliate, and even if he concludes that most likely we would not do what we have excellent reason not to do, still he would not dare to call our bluff. If he evaluates risks as he should, multiplying the magnitude of the harm by the probability, we can make up in the first factor for what is lacking in the second. We can threaten a vast nuclear massacre, on an altogether different scale from the ordinary horrors of war: "It seems reasonable to assume the destruction of, say, one-quarter to one-third of its population and about two-thirds of its industrial capacity . . . would certainly represent intolerable punishment to any industrialized nation and thus should serve as an effective deterrent."⁷ Destruction on this dreadful scale needn't be credible to deter. Although it could serve no good purpose to fulfill the threat, the risk that we might do so in blind anger suffices.

We can, at any rate, dispel any doubts about our ability to fulfill the threat, no matter what may have been done to try to stop us. For it takes only a small remnant of our many nuclear weapons, launched in ragged fashion by rudimentary surviving command and control, to assure the destruction of many of the enemy's cities and the murder of much of his urban population.

It is the same in reverse, of course; the enemy can rest assured that our cities also will remain vulnerable, and that it would take only some small remnant of his nuclear weapons to devastate them. The vulnerability is mutual. Nothing much can be done about it. Only the starry-eyed dreamer

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hopes to render the cities invulnerable, and even he doesn't hope to do it soon. It might be possible to limit damage to a limited extent by counterforce warfare or by defense, or to protect populations to a limited extent by teaching them how to shelter from fallout. Such measures might well save enough lives (or enough resources for recovery) to be worthwhile. Or they might instead turn out to accomplish very little. But even if they live up to our highest hopes, the cities remain subject to vast and intolerable destruction.

It has been rightly said that "mutual assured destruction exists as a fact, irrespective of policy."⁸ To be sure; but how to cope with this fact is a question of policy. The fact is that we can threaten the cities; the question is whether we should.

The MADman says we should. He sees the credibility problem as a fundamental difficulty for deterrence. He doubts that any threat can be made very credible, given that we too are deterred. To this predicament he knows one solution, and one only: We must make our threat so dreadful that it doesn't need to be credible. The most dreadful threat is the threat to destroy the cities. Therefore this threat must be the centerpiece of our nuclear deterrence.

It needn't be our only threat – that would be MADness in an especially pure form. But lesser threats have no life of their own; they serve mainly as a not-too-incredible way of bringing the ultimate threat to bear against less-than-ultimate provocations. "If you do x , we will do y , which might be enough to provoke you to do z , which might provoke us to destroy your cities." Dreadfulness is not enough to overcome any amount of incredibility; if x is a minor provocation, the threat to respond straightway by destroying cities might be just too incredible to work. But each of the steps of escalation might be somewhat credible, and together they amount to a somewhat credible threat to impose a risk: "If you do x , we start something that might end in the destruction of your cities."⁹

The MADman thinks it obvious that deterrence requires a solution to the credibility problem, and obvious that the only solution is to find a threat so dreadful that it needn't be cred-

ible; and he expects the enemy not to overlook the obvious. Therefore he thinks that for the enemy, as for us, an assured capacity to destroy cities will be seen as the sine qua non of nuclear deterrence. Further, he thinks it would take no great effort for the enemy to counteract any steps we might take to protect our cities. Therefore he thinks such steps would be, at best, costly and futile. We buy the means to reduce the enemy's strategic forces by counterforce warfare; the enemy buys enough more missiles to assure himself that enough of them will survive. We buy expensive defenses; the enemy buys more missiles to assure himself that enough of them will get through. We buy shelters, he buys bigger bombs and relies on fire. (Or he buys extra-dirty bombs, or he switches to groundburst even against cities.) We spend money, he spends money. Afterward, there are many more nuclear weapons in the world, and each of them is one more place where an accident could happen. In case of war, not only does the world get fallout and smoke from the destroyed cities, but also it gets fallout (and smoke and dust) from preliminary counterforce attacks and intercepted warheads. And still our cities are subject to vast and intolerable destruction. What have we gained? How much can we limit the damage? If the enemy agrees with the MADman that deterrence requires a certain standard of assured destruction – say, one-quarter to one-third of the population and two-thirds of the industrial capacity – then we can count on his having what it takes to meet that standard. The most we can do is to prevent him from exceeding it.

The MADman boasts that his goals for deterrence are “finite.”¹⁰ You might reply that even a finite quantity may be too big; but in fact he has a point. What the MADman thinks we need for deterrence is easily compatible with what he thinks the enemy needs. If each side can count on having enough surviving weapons to meet the standard of assured destruction, that is all that either side has reason to want. So long as they are well hardened, the strategic forces on either side could be small by present-day standards, and still they would suffice.¹¹ Further, there is no particular need for the

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forces to be even approximately equal, so long as each is sufficient. Given due attention to hardening, the balance of terror is by no means delicate. Neither side has an incentive to expand or improve its forces, for all that would happen is that the balance would be reestablished at increased cost, increased risk, and increased danger to the rest of the world.

Thus the MADman's policy for procurement of nuclear weapons is as moderate and benign as can be, short of renouncing nuclear deterrence altogether. But his policy for conduct of nuclear war is quite the opposite. What is the commander-in-chief – the president, or his successor *de jure* or *de facto* – supposed to do if deterrence fails? If deterrence is on the way to failing, he is supposed to attempt to restore it by frightening maneuvers on the lower rungs of the ladder of escalation, and that is all very well. But what is he supposed to do in the last resort, if deterrence fails decisively? He is not supposed to do anything to protect the country entrusted to his care; because he cannot, since it was thought futile to provide the means for limiting damage. Rather he is supposed to fulfill the threat to destroy enemy cities – a vast massacre, serving no good purpose whatever. There is nothing else he can do.

Then he ought to do nothing. The MADman may say, if he says it quietly among theoreticians, that it would be best if the ultimate threat were just an enormous bluff. But he cannot condone such remarks in public, least of all by the very men who might some day face the decision. For even if a threat is so dreadful that it needn't be very credible, still the MADman thinks it needs all the credibility it can get. What we need are demonstrations of resolve, not of reason and humanity.

If the commander-in-chief were a good man, he might do the right thing – nothing – despite all temptation. But the situation would do a lot to tempt him into wickedness. He would be angry, frightened, and rushed. He and those around him would be accustomed to talk as though it were a matter of course that the threat would be fulfilled. In peacetime, when it mattered less, he might have found it easy to take

retaliation for granted also in his secret thoughts. He might think of himself as retaliating against the enemy, and forget that most of his victims would be those who have the misfortune to live under the enemy's rule. Sophistries can be found which purport to show that it would be right after all to fulfill a threat of useless destruction, and he might find it comforting to recall or concoct one of them.¹² And, worst of all, he would have no honorable alternative to retaliation. Doing nothing would be tantamount to surrender, and surrender would be treason.

All this is as the MADman would wish it to be; for if credibility is badly needed and hard to get, then anything that can be seen to raise the chance of retaliation is all to the good. All to the good for deterrence, that is; but all to the bad if deterrence fails, for what is raised is the chance of the most wicked act that it is possible for anyone in our time to perform.

Thus, MADness carries a grave moral risk. It also carries grave prudential risks. One is that we decline to do what we can to protect our cities; and even imperfect protection might save tens of millions. Another is that if we burn cities, we and all the world may freeze in the dark beneath their smoke. (Maybe and maybe not – who knows?) A third is that we may teach the enemy to go MAD along with us, so that if deterrence failed his aim would be not to protect himself but to destroy us – let us hope he is a slow learner!

NUTS: THE CREDIBLE WARNING

To trace the reasoning that drives us NUTS, we start as before: The simple conception of nuclear deterrence encounters the credibility problem. The NUT agrees with the MADman that it is essential and difficult to solve the credibility problem, but he favors a different solution. His plan is to find some sort of nuclear attack that would not only be a retaliation, but also would serve some vital purpose. Our threat would be credible because we would have, and we

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would be seen to have, a compelling reason to fulfill it. In Schelling's terms, it would not be a threat at all, but rather a warning.¹³ "Be warned that by doing x , you would thereby give us reason to do y "; or perhaps "you would thereby take away the reason that now stops us from doing y ."

The response we could have compelling reason to deliver is counterforce warfare. The enemy's forces – especially, but not only, his strategic nuclear weapons – are his means of harming us and our allies. Of course we would prefer it if he had less of them. It is worthwhile to destroy weapons that could destroy our cities, and shorter-range weapons that could destroy our allies' cities. It is worthwhile to destroy weapons that could destroy our weapons, if those weapons continue to exert some sort of deterrence even during a war, or if they could be used beneficially in a second wave of counterforce warfare. It is worthwhile to destroy tanks and planes and troops that menace our allies, or to cripple them by destroying the transport and fuel and munitions on which they depend. It is worthwhile to destroy forces that hold captive the unwilling subjects of the enemy's empire, so that he must withdraw forces from foreign adventure to restore his internal security.¹⁴ All these are ways to reduce the risk to ourselves and our allies if war continues. They might also serve to persuade the enemy that whatever hopes he may have had for the war will be unfulfilled, and that he would do best to seek a cease-fire without delay.

The MADman argued that attempts to limit damage, by counterforce warfare or any other way, would be costly and futile. The NUT plainly disagrees. The reason is that he rejects the MADman's premise. The MADman said that since one can't be credible, one must be dreadful; the enemy understands this; therefore he will at all costs maintain an assured capacity to destroy our cities, that being the sine qua non of his deterrence; therefore he will counter all preparations we make to limit damage. The NUT replies that it is not so necessary after all to be dreadful, because credibility can be had after all. The enemy too might reasonably be a NUT.

If he is, he may take more interest in limiting the damage we can do to him than in making sure, at all costs, that we cannot reduce the damage that he could do us.

Of course, we must deplete our own forces to attack the enemy's. It's a bilateral force reduction, unilaterally imposed. But if the terms of trade are favorable, or not too unfavorable; and if we have weapons enough; and if there is no other good use for our weapons except for counterforce warfare (except perhaps for a small reserve to threaten cities, if our NUTtiness is not of the purest sort); then the bilateral reduction will seem advantageous. We can warn that we will find it so, if war makes force reductions seem more beneficial than they did in peacetime. Even when force reductions now seem beneficial, we do not pursue them by national technical means. We have an excellent reason not to, being well deterred from going to war. But we can warn that if war begins, or if it even seems imminent, that reason will disappear. Whatever assets we still have left to lose, the prospect of peace will no longer be one of them. There is still deterrence after deterrence fails, but it is a lesser deterrence. It relies on the uncertain hope that the enemy might reciprocate restraint in the way we fight, and that he might be willing and able to accept an early cease-fire. We can warn that this lesser deterrence will not seem to outweigh the benefits of counterforce warfare.

Thus we solve the credibility problem, and thereby we make it possible to succeed in nuclear deterrence – so says the NUT. But note a consequence of his argument: It has to be ambitious counterforce. If we want a highly credible warning that we would resort to counterforce warfare, there has to be little doubt that we expect its gains to be worth its risks. It wouldn't be much use to say (or to be seen to believe) something more like this: "We think counterforce warfare would have a moderately good probability of moderately reducing the vast damage that we and our allies may suffer. We acknowledge a grave risk that it might not work very well, or that it might invite further attacks on us, or that it might postpone or prevent a cease-fire. Still, we are inclined to think that on bal-

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ance it would be worthwhile." Whatever a halfhearted and modest counterforce warrior may be doing, he is certainly not providing that highly credible warning that was supposedly needed if deterrence was to succeed.

What the NUT requires to solve the credibility problem is an excellent counterforce capacity. We need a force that offers assured destruction of some very large part of the enemy's forces, so that using it will be obviously the inevitable choice. And at first sight that seems a fine thing, quite apart from its effect on the credibility of deterrence. For if force reduction is good, more of it is better. The more enemy missiles we hit, the fewer are left to hit us.

But we know the drawbacks. First, and worst, an excellent counterforce capability demands preemption. A former aide to McNamara, faulting his Ann Arbor no-cities speech, said "he should have known there could be no such thing as primary retaliation against military targets after an enemy attack. If you're going to shoot at missiles, you're talking first strike."¹⁵ I question this as it stands; but if you're going to shoot at missiles *and hope to get almost all of them*, you most certainly are talking first strike. If our excellent counterforce capacity has been attacked, it may still be some sort of counterforce capacity, but it will no longer be excellent. (Here I have in mind the loss not only of missiles but also of the softer parts of their command and control.)¹⁶ More simply, we cannot hit those birds that have flown; at best we can fight them with defenses, and that is one kind of counterforce warfare that does not double as retaliation. So *if* we are talking about the ambitious counterforce that solves the credibility problem by affording the highly credible warning, *then* we are talking first strike. The highly credible warning is, alas, not a warning of retaliation but of preemption. Further, it gives the enemy his own incentive to preempt. His forces are under the gun: Use them or lose them. Whatever use he may have in mind had better be done before it is too late. Beyond a certain point, prophecies of war become self-fulfilling.

If no prophecies could pass that point except those which would have come true without benefit of self-fulfillment, then incentives to preempt might be no bad thing – at least, for whichever side is quicker on the draw.¹⁷ But there is no reason to suppose anything of the kind. Rather we must fear the war that nobody wants, brought on by fears that would otherwise have proved groundless. And here the very success of deterrence – never mind just how it works – turns into a danger. Well-deterred people fear crisis, because they fear that somehow it could lead to war. So whenever someone gets just a little more daring than usual, even if everyone wants as much as ever to avoid war and even if things are still fairly well under control, well-deterred people start telling one another that they are on the brink of war.¹⁸ If that gives them reason to back out of crisis, well and good. If that gives them reason to preempt, not good.

This pressure to preempt is an excellent reason to shun ambitious counterforce. It is probably the gravest risk – prudential and moral both – that the NUT embraces in his quest for credibility.

But it is not the only one. Besides short-term instability in times of crisis, also there is a second, long-term instability. The MADman could boast that his goals for deterrence are finite, in the sense that what he thinks we need is easily compatible with what he thinks the enemy needs. Not so for the NUT. If we need enough capacity for counterforce warfare that we can credibly warn of our strong incentive to undertake it, then what is needed is an increasing function of what the enemy has. In fact, the increase is more than linear.¹⁹ We need superiority. If we and the enemy both pursue credibility by the NUT's method, one of us will be disappointed; and if credibility is desperately needed then it might be pursued by desperate means. If one side pursues credibility by the NUT's method, while the other side MADly pursues dreadfulness instead, then again their goals are incompatible. In this case MADland's goals are more easily fulfilled, and

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NUTland is likely to find itself permanently disappointed until such time as it changes its goals.

What's wrong with arms racing, so long as we can win? Is it that weapons exert some malign influence on the brain, turning those who spend time among them into lovers of death and destruction? Some of our dislike of arms races looks like mere superstition. But there are some good reasons to be found among the bad. The MADman has already listed three drawbacks of increased arsenals. There is cost; more weapons present more opportunities for accidents; more weapons used in war, even if for counterforce only, give the world more fallout (and smoke and dust). A fourth danger, if we race for ambitious counterforce, comes from the combination of long- and short-term instability. In races, it sometimes seems to one side that the other is overtaking. (It may seem that way to both sides at once.) If you already have some incentive to preempt, it will not help if you also think that war next year would go worse for you than war today. Nor will it help if the other side thinks you think that; or if you think they think so; or. . . . So for several reasons (even if not for all the reasons that have been offered) it seems that a risk of arms racing is indeed a grave risk, both moral and prudential.

The third grave risk, this one primarily a moral risk, concerns the collateral damage from ambitious counterforce warfare. Consider an example.²⁰ There are missile fields near Kozelsk, about 140 miles southwest of Moscow; Teykovo, about 135 miles northeast; Kostroma, about 190 miles northeast; and Yedrovo, about 215 miles northwest (and a similar distance southeast of Leningrad). Because these fields (with the possible exception of Yedrovo) fall in the protective range of Moscow's Galosh system of missile defense, a thorough attack on them might have to be more than usually redundant; then if the Galoshes leaked, or were saved to fight direct attacks on the city, the delivered attack also would be more than usually redundant. A thorough attack on a field of hardened missiles requires at least one groundburst per

silos, and spreads a many-times-lethal dose of local fallout for several hundred miles downwind.²¹ Unless the wind were just right, Moscow would be downwind from one or two of the four. An ambitious counterforce attack – ambitious enough that we could credibly warn of our strong incentive to undertake it – could not very well spare an entire missile field. (Or rather four fields, since it probably is not practical to vary the attack depending on the wind direction.) In short: If we go in for ambitious counterforce, it makes little difference whether we target the population of Moscow per se. To take credit for “sparing” them would be hypocrisy.^{22,23}

The NUT runs a grave moral risk of committing vast massacres, just as the MADman does. Not an equally grave risk: The MADman’s attack is useless, whereas the NUT’s is meant to destroy weapons that menace us. Further, the NUT’s attack kills many fewer people. Too many people live downwind from the enemy’s hardened missiles, but not as many as live in the enemy’s cities. The numbers do count; they are not infinite, and not incomparable. One vast massacre differs from five side by side more than none differs from one. The people who live in cities but not downwind from missiles matter no less than the people who are doomed in either case. Yet though the numbers do count, and though the numbers that measure the NUT’s moral risk are much better than those that measure the MADman’s, still even the better numbers are far from good.

(A fourth risk is the risk of failure. An ambitious counterforce attack, even as a first strike by an undamaged force, is a technically difficult and untried military operation. It could go wrong in ever so many expected or unexpected ways. But this is not to be counted as a flaw in the NUT’s position. He acknowledges the risk of failure. What he takes to be worthwhile, and so obviously worthwhile that it provides the highly credible warning, is the expected value: the gain properly discounted by the risk of failure, and also by the risk of provoking retaliation that might otherwise be avoided. And insofar as the NUT’s main goal is credible deterrence, with damage limitation a bonus, it matters not at all whether the

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counterforce attack would really work. What matters is that he can be seen to expect success.)

The MADman proposes to run grave moral and prudential risks so that a none-too-credible threat can be made very dreadful. The NUT proposes instead to run grave risks so that a somewhat less dreadful threat can be made very credible. His risks are different – most important, lesser massacres but more chance of inadvertent war – but no less grave overall.

EXISTENTIAL DETERRENCE

But what else can we do? How could the enemy be very powerfully deterred by a none-too-credible threat of a none-too-dreadful outcome? If he has really compelling reasons why he has to do x , why should he stop because we might then do y – when y is something he knows we know would mean uncertain and limited gains and serious risks for us, and something he could, in the last resort, survive? How can there possibly not be a serious credibility problem?

This is how. Let us suppose, first, that the enemy we seek to deter is – like many of us – averse to risk. His deliberations are skewed a bit away from ideal rationality. When faced with the prospect of an outcome that he takes to be very bad although very improbable, he discounts it by its improbability, but he doesn't discount it enough. Even if he gets the losses and probabilities right, he still shuns a one-in-a-thousand risk of losing 1,000 much more than he shuns a one-in-ten risk of losing 10.

Let us suppose, second, that he is pessimistic. He finds the world frightening, and if there are two contingencies that might seem equally probable to some disinterested bystander, he will assign higher probability to the one that would be worse for him.

Let us suppose, third, that he is skeptical. He tries as best he can to foresee the consequences of alternative actions, but never puts great confidence in his predictions. He mistrusts his experts, always thinking they have overlooked the weak

spots in their schemes. Even if he cannot spot any loopholes himself, that does not much reassure him that none are there. He is like those among us who say that Murphy was an optimist.

Let us suppose, fourth, that he is conservative. He thinks there is no substitute for experience. He much prefers the devil he knows to the devil he doesn't. He never has much faith that he can predict and control the course of events, but when it comes to the prospect of success by new and untried methods, then he is even more skeptical than usual.

Let us suppose, fifth, that he is not too doctrinaire. He is ready enough to mouth the party line, perhaps without conscious cynicism, but he will not let it do his thinking for him. If there are passages in scripture that counsel bold action and assure him that history is on his side, he will make sure to find also the passages that counsel prudence and patience.

Let us suppose, finally, that he is not too hard pressed. While he sees that adventure, if successful, might offer him gains – might even enhance his safety – he is not so pressed by danger that he finds himself forced to be daring. His back is not to the wall.

(What I do not suppose is that he is at all restrained by humanity or honor. If he were, that would be a bonus; but I am not relying on it. I only imagine him to have the low but useful virtues of a competent *mafioso*. And for somewhat the same reasons – those virtues help one to survive and rise amid ruthless competition.)

If the enemy is as I have portrayed him, then it matters little what we say we will do, whether we threaten or whether we warn. He can do his best to figure out our incentives to respond to his actions in one way or another, but he will put little faith in his best guess. He may conclude that we would have no good reason to retaliate – and still fear vividly that we might retaliate for no good reason, or for some reason that he had overlooked. He will not rely on us to do as we have threatened or warned, but he certainly will not neglect the risk that we might. Nor will he rely on us not to do as we have not threatened; so it will not matter much if we have

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neglected to threaten. And if he does not trust his predictions about how we will respond to one move of his, still less can he rely on any scenario for a chain of several moves and countermoves in crisis or in war.

What he can do, with some degree of confidence, is think about worst cases. The worst case is given by what we could do if we chose, regardless of all speculations about whether we would or wouldn't have sufficient reason to do it. It is our military capacities that matter, not our intentions or incentives or declarations. If we have the weapons, the worst case is that somehow – and never mind why – we use them in whatever way he likes least. Of course he is not at all sure that the worst case will come about. But he mistrusts arguments to the contrary, being skeptical; and he magnifies the probability of the worst case, being pessimistic; and he weighs it in deliberation out of proportion to the probability he gives it, being averse to risk.

Finding the worst case is not just a matter of supposing that we somehow choose to do our worst. There is plenty of room for skeptical pessimism about what the worst is that we could do. Doubtless he knows very well what we have in our arsenal. He may hope to reduce our forces by counterforce warfare and by defense, and he may hope to save people by sheltering them; but here he is hoping for success in a complex and untried technical task, and that is not the sort of hope he puts much faith in. He may hope that the delivered weapons will do the bulk of their destruction directly, by blast and fire and fallout; but he will have heard warnings that the indirect effects might be even worse, and he will not disregard these just because he knows they are somewhat speculative.

In short: He will be deterred by the *existence of* weapons that are *capable* of inflicting great destruction. He will not be much released from deterrence by the thought that maybe we will be deterred from using our weapons, and maybe we will have reason not to do our worst, and maybe he will succeed in blunting our attack, and maybe the more speculative horrors of war will not come true.

Compare two ways a burglar might be deterred from trying his luck at the house of a man who keeps a tiger.²⁴ The burglar might think: "I could do *this*, and then the tiger would do *that*, and then I could do *so-and-so*, and the tiger would do *such-and-such*, and then. . . ." If all such plans turn out too low in their expected payoff, then he will be deterred. But if he is a somewhat sensible burglar – or even a none-too-sensible burglar, but not downright daft – his thoughts will take a different turn. "*You don't tangle with tigers* – it's that simple. Especially when you've never tried it before. Not even if someone (someone you don't trust) claims that these tigers have somehow been tamed. Not even if you carry what the salesman claimed was a surefire tiger-stopper. You just never know what might happen." I suppose it to be through thoughts like these that our nuclear arsenal deters our somewhat sensible enemy.²⁵

That is the hypothesis of existential deterrence as it applies to the enemy. The other half of the hypothesis of existentialism, not so important for my present argument, is that we too are averse to risk, skeptical, conservative, not too doctrinaire, not too hard pressed; and so are thoroughly deterred just by the existence of weapons capable of inflicting great destruction on us. We may calculate that the enemy would have no good reason to do his worst. But such calculations do not make us any less deterred.²⁶

Existentialism is an empirical hypothesis, as I said; and so are the suppositions about the enemy's character (and ours) that underlie it. If they seem to "stand to reason," as I think they do, that does not mean that they hold *a priori*. Rather, it means that they cohere with our abundant but inchoate experience of human nature around us and of current events. Read current history, or live through it, imagining all the while that the enemy leadership (and ours) are averse to risk, pessimistic, . . . , and easily deterred by the prospect of worst cases; and it will all seem to fit. Seldom will we be too baffled by what is going on. That, I take it, is the sort of empirical investigation that has persuaded Bundy et al. that existentialism is true.

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The reason is inconclusive, I grant. Maybe current history, even seen close up, is a sort of Rorschach blot: Any of many organizing hypotheses could seem to fit, if not perfectly, at least well enough to impress and persuade. And certainly there is at least one rival hypothesis, an alarming one, that fits. If the enemy were a daring gambler, and farsighted and fiendishly clever, and knew very well how to lull us, then would we not see just what we are seeing? Would we not expect existentialists to come forward urging that the enemy is easily deterred? Would we not expect him to take great care not to upset their preconceptions? – As with other hypotheses that we are fooled by a demon no less powerful than deceitful, decisive counterevidence is impossible. We just have to decide what seems plausible and what seems absurd.

Three objections to existentialism demand replies. First, you may object that existentialism is all very well for the enemy of today, but Hitler might rise again. I reply mainly by granting the point, and saying that we may cross that bridge if we come to it. It would be splendid to find a morally acceptable method of nuclear deterrence that works against all manner of enemies, under all manner of circumstances, . . . But if we can find no such splendid thing – as very likely we can't – that does not mean that deterrence here and now is bankrupt. It is enough to solve the problem of deterrence we actually face. We are not required to solve hypothetical problems as well.

But also I doubt that there are as many potential new Hitlers around as meet the eye. If someone sees fit to rant and rave, that does not mean that he is a genuine new Hitler. He might be crazy like a fox. He might know that in a very well-deterred world, where everyone is afraid of crisis, making a little bit of crisis is an effective means of getting one's way. And he might know that in a well-deterred world it is not a very risky thing for him to do.

Second, you may object that existential deterrence is all very well for every day, but not good enough for a really

severe crisis. When the enemy's back is to the wall, when he has no choice but to be daring, then it takes more to deter him. That is when we have a credibility problem to solve.²⁷ I reply that I do not understand how the "really severe crisis" is supposed to undermine deterrence. It certainly doesn't make the dangers of nuclear war look less horrible or less unpredictable! I can see how the enemy might have his back to the wall, say by a chain of revolts in many parts of his empire at once. I see how he could imagine gains if he would dare to run the risk of nuclear war with us. What I don't see is the connection. He may fear that we will press him hard some day, but we will not – he has us too well deterred. If he finds his back to the wall it will not be we who put him there, and attacking us will not offer him any way out of his danger.

If striking first offers not only a great and obvious advantage, but also the prospect of getting off very lightly, then it is plain to see how a really severe crisis might undermine deterrence and lead to nuclear war. But only then. The case is relevant only if we and the enemy make it so – if one side pursues overambitious counterforce, and the other side allows him to succeed. It would be a pity if we were worried about the temptation to preempt, and therefore we doubted that existential deterrence would work in a severe crisis, and therefore we decided that we had to solve the credibility problem, and therefore we required a very credible warning, and therefore we bought an excellent counterforce capacity, and thereby we created the temptation to preempt!

Even without much temptation to preempt, we would still fear crisis. We think that somehow crisis can very easily lead to war. *Somehow* – but we have no clear notion how, no scenario that shows incentives for every step of escalation. We settle for loose talk of "brinks" or "powder kegs" or "war fever." We are pessimistic and skeptical. So even if we cannot figure out how existential deterrence might break down under the strain of severe crisis (absent the deadly temptation to preempt), still we do not put faith in reassuring predictions about the unknown.

This is exactly how we ought to think, if existentialism is

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true. We as theoreticians cannot help thinking somewhat as our statesmen do, and well-deterred statesmen should have an exaggerated fear of crisis. Existentialism itself predicts that we should find existentialism too good to be true!

Even if the statesmen's fear of crisis is unreasonably magnified, still it protects us well (absent the temptation to preempt) in times of crisis. We ought to cherish that fear, not undermine it just for the sake of better theory. But if this same fear also endangers us when we think about the buying and using of nuclear weapons, because it provides the crucial premise supporting MAD or NUTty policies, then we had better challenge it after all. Let's hope it is a very robust fear, so that by challenging it in one context we will not lose its benefits in another.

If you must live among tigers, not tangling with them is only the beginning. You also try not to startle or confuse or excite them. And you try not to cause anyone else to startle or confuse or excite them. Even if all you want to do is to pick on some friendless weakling, still you do it very carefully – because who knows what might somehow happen? The tigers are a generally calming influence. Likewise, if our fear of crisis is not so much fear of some predictable scenario of escalation as fear that things will get out of hand somehow, who knows how, then it is an unspecific fear. Any kind of crisis, anywhere, looks dangerous. To that extent, nuclear deterrence extends itself willy-nilly, whether or not we make any effort to extend it. It is not up to us to say who may shelter under our nuclear umbrella; nor is it up to those who accept or disdain to be sheltered. The calming effect of nuclear deterrence protects our friends and foes alike.

I do not mean that there is nothing at all we can do to enhance or to undermine extended deterrence; any potential crisis looks dangerous whatever we do, but we can make it look somewhat more dangerous or somewhat less. Unfortunately, the way we make a crisis *look* more dangerous is to make it *be* more dangerous. The art of extending deterrence is the art of increasing the seeming danger a lot by increasing the real danger only a little. We have many techniques at our

disposal: We can arrange a path for escalation in easy stages, we can pledge our credibility, we can put our troops or weapons in harm's way. The biggest thing we could do to make crises look more dangerous is to destabilize nuclear deterrence itself – if we create a temptation to preempt, that will make crises very dangerous indeed, and they will seem to be at least as dangerous as they really are, and that will enhance extended deterrence. This is a NUT's plan. The existentialist will disagree, thinking that even if we try to make crises as safe as we can they will still look quite dangerous enough. The enemy will not be calmed entirely, he may engage in cautious adventures, but he will not try any really daring mischief.

Here you may make a third objection against existentialism: You may insist that the enemy has in fact proved daring. He blockaded Berlin, he put missiles in Cuba, he invaded Afghanistan. . . . I reply by doubting that those adventures were as daring as they seemed. Again, if existentialism is true and we are well deterred, we will exaggerate the risk that crisis may somehow lead to war. Then adventures will seem more daring than they are, because we will exaggerate the risks that the adventurer chose to run. (And sometimes the adventurer also will come to see his risks as more serious than he first thought, and back down in great haste.) If there is some normal range of severity of crises, then some crises will fall at the top of that range. Those ones will be seen as very dangerous, just because they are worse than the rest. And he who creates them will seem daring. But this could happen almost *no matter where* the limits of the normal range might be. If, with no knowledge of the history of the nuclear era, someone tried to imagine possible provocations and rank them on a scale from less dangerous to more, I do not think anything that has actually been done, either by the enemy or by us, would have ranked very high.

Still, when all is said and done, I do concede that we run some risk if we rely on existential deterrence. If we neglect to provide a threat that is either very dreadful or very credi-

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ble, and if it turns out that the enemy is more daring than we thought, then he will not be well deterred. Then we'll be sorry. But we have yet to hear of any policy that is free of all risk. If existentialism is false, so that there really is a serious credibility problem then I think we're left with MAD versus NUTS – halfway houses make little sense, since they offer threats that are neither as dreadful nor as credible as the supposed problem demands. We have reviewed the risks the MADman runs to make his threat dreadful, and the risks the NUT runs to make his credible. The risks of pursuing credibility through automated retaliation and the risks of nuclear pacifism are still more obvious. The risks of relying on existential deterrence are, I submit, a very much better choice than these.

BUY LIKE A MADMAN, USE LIKE A NUT

The MADman's policy for procurement of nuclear weapons is as moderate and benign as can be. The forces he requires are comparatively small and cheap. He creates no temptation to preempt. His standards of adequacy are finite, in the sense that both sides at once can meet them. We could be well content – if it were not for his abominable policy about what to do in case of war. But if existentialism is true, the package deal comes apart. We can buy like a MADman, if we like, but that implies nothing about what we ought to do in case of war, or what we ought to intend beforehand. We needn't strive to give some credibility to our dreadful threat to destroy the enemy's cities. We needn't threaten it at all. We have weapons that give us the assured capacity to do it, and their very existence is deterrent enough.

So far, so good; but a big question remains. What if we buy the MADman's finite deterrent, but it lets us down? What if deterrence fails after all, and in a big way? In particular, suppose we come under a major nuclear attack. What ought we to do then? And what ought we to do beforehand? What intentions should we cultivate, and what should we habitually assume in discussions that include those who might be

in command after an attack? What war plans would we prepare? What should we declare publicly about our policy for fighting nuclear war?

The key question is the first: What ought we to do? Intentions and assumptions can simply fall into line. Whatever it is that would be right to do, *that* is what we should intend to do, and *that* is what we should habitually assume we would do. If existentialism is true, and it is not intentions but capacities that deter, then deterrence does not require us to cultivate intentions to do anything except what would at the time be right. The “paradox of deterrence”, in which supposedly it is intentions that deter, and intentions to do the right thing would deter inadequately, and therefore it is right to form intentions that it would be wrong to fulfill, does not arise.²⁸

A qualification. We should intend to do the right thing – *if* we can succeed in so intending, and firmly enough to withstand temptation. But if the right thing is repellent and the worst is tempting, then it may be safest to aim for second best. The worst, surely, is wicked destruction of the enemy’s cities. I shall argue below that the best is counterforce warfare; if I am right, then doubtless any potential commander-in-chief should have the strength of character to intend the best. But suppose I am wrong: Suppose instead that surrender is best, counterforce warfare is only second best. If so, what should a potential commander-in-chief aim for? If he is uncommonly strong-willed and has the courage to face dishonor, he may still intend the best. But if he is weaker he had better not try it, lest his good intentions give way when the time comes and leave him in confusion and panic. He needs an honorable alternative to surrender, or who knows what he might do. For him it is best to intend the second best.²⁹ Although in fact I favor intending counterforce warfare because I think it the best thing to do, I might still favor intending it even if I thought it only second best.

The question of war plans is harder. We should have two war plans, at least: one for whatever it would be right to do

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(or right to intend to do), and one for destroying the enemy's cities. Why the second? Because our war plans are part of our capacities, even when they are not part of our intentions.³⁰ If capacities are all it takes to deter, still we need genuine capacities, not sham. A genuine capacity to destroy the cities in retaliation takes one of two things: a plan prepared in advance, or else the capacity to improvise a plan and carry it out. A capacity to improvise takes several things. We would need an atlas of principal cities; we also would need time to work out which missiles to aim at which coordinates, channels to communicate this allocation to the centers that launch the missiles, further time to load the coordinates into the missiles. We might have the atlas; we are unlikely to have the rest, unless wartime command and control can be made much less vulnerable. So without the plan, the missiles probably can't work. They are little better than missiles with no warheads or fuel tanks inside, or plywood mock-ups. They are sham capacity, and it would not take much espionage to reveal the fact. So we need the plan for destroying cities. Of course we need not intend to carry out that plan – not so, we ought to fully intend to do something better, or nothing. But the plan must at least be there, just as the warheads and fuel tanks must be there.

(I set aside the question whether it is also a good idea to have advance plans for small nuclear attacks to rock the boat in times of severe crisis. If we make a crisis seem more dangerous than before, that should make all concerned want more than before to back out of it. Making crises seem dangerous is the way we extend deterrence. Existentialism predicts that it is easy to make a crisis seem very dangerous, but hard [absent the temptation to preempt] to make it be as dangerous as it seems. A small nuclear attack would provide some genuine danger and a great deal of seeming danger – you never know what might happen if you tangle with tigers – and, again, the advance plan is part of the capacity. But the capacity might tempt us to use it. So I don't know whether "limited nuclear options" are on balance a good idea. But in

any case, I am here concerned with our ultimate options: What options should we have for big attacks, and which of them, if any, would it ever be right to carry out?)

The question of declaratory policy also is not settled just by deciding what it would in fact be right to do in case of war. There seem to be three alternatives: lying, truth, and obfuscation. Suppose we had decided (as we should) that it would be wicked and useless to retaliate by destroying the cities; suppose our firm intention was to deliver some other sort of attack, or perhaps none. Then should we nevertheless threaten vigorously that we would destroy the cities? Or should we explain, clearly and truthfully, what we think we would do and why? Or should we simply boast of our flexibility, declining to say anything about which of our many options we might prefer?

So far as deterrence goes, it should scarcely matter.³¹ We deter by what we have, not by what we say. If we have the capacity to destroy cities, and we have evident reasons not to, and we say we will, the pessimistic and skeptical enemy will think we maybe will and maybe won't, and he will fear the worst. If we say we won't, but we keep the capacity, then too he will think we maybe will and maybe won't. The one thing we cannot do is keep him guessing by obfuscation – *we* cannot keep him guessing, because he is sure to keep guessing no matter what we say. If we threaten or if we decline to threaten, that might make some marginal difference to the enemy's expectations. But if existentialism is true, he is not at all sensitive to marginal differences in expectations.

The proposal to deter by lying is a staple of philosophical writing about the morality of deterrence.³² Scarcely anyone supports it; but critics of deterrence feel obliged to knock it down. The straw man proposes that if we threaten a wicked retaliation yet secretly intend to do nothing, our intentions are innocent and yet we deter. The critic's rejoinder is that the secret of the innocent intentions would soon leak out (which I take to be true) and deterrence would thereupon collapse (which I take to be false). But the critic has a point; it is that declaratory policy is mainly a question of politics. If

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the truth about our intentions is acceptable to those whose assent is required if our policies are to be legitimate and feasible – Congress, the voters, our allies – then it may be told plainly. If the truth would be disturbing, then we can count on some seeking political advantage by revealing it and others seeking advantage by denying it; the result will be obfuscation. The big lie is a bogus option; the choice is between the plain truth (if palatable) and obfuscation (otherwise).

Now back to the main question: What should we do? What is the right response if we have bought like a MADman, and then deterrence fails in a big way? In particular, what should be our ultimate response to a major nuclear attack? In that case, I say, we ought to use like a NUT. We ought to engage in counterforce warfare with what remains of our forces, hoping thereby to limit further damage to us and to our allies. We should not retaliate by destroying cities; on the contrary, we should compromise the efficacy of our attacks so as to reduce collateral death and destruction. We should be scrupulous in our targeting: Prevention of future harm should be our only goal; reciprocation of past harm should be no part of our goal.³³ We should proceed as if we valued the lives of the enemy's civilians and soldiers – simply because we *should* value those lives – but less than we value the lives of those on whose behalf we are fighting.

If we use like a NUT, but with nothing more than what remains of a MADman's forces, then our aims in counterforce warfare cannot be too ambitious. In particular, we cannot hope to reduce the enemy's remaining forces to the point where he no longer has the capacity to do dreadful damage to whatever remains of our population and our resources for recovery. But there is dreadful damage and there is dreadful damage; outcomes that deserve the same adjectives may nevertheless be unequal. The numbers count. If tens of millions are already dead, doubtless that is quite enough to exhaust our stock of adjectives and saturate our capacity to feel horror. But that is no reason why it is not worthwhile to save the lives of tens of millions more. To cease to care about the further tens of millions, just because the prospect of losing

them makes no impact on our overloaded emotions, would be self-centered and irresponsible and frivolous. A private person might be forgiven if he just gave up, overwhelmed and past all caring. But one who has accepted a high position in government, or a commission in the armed forces, is not allowed the same self-indulgence.

The MADman argued that attempts to limit damage would be futile. Thinking as he does that MADness is the way to go, he expects the enemy to go properly MAD; if the enemy sees a certain standard of assured destruction as the sine qua non of his deterrence, he will do whatever he must to meet that standard despite our efforts; therefore the most we can do is to prevent him from exceeding that standard; and if the MAD enemy attacks us, he will most likely fulfill his dreadful threat for lack of anything worthwhile to do instead. To this the NUT replied that MADness is not the way to go and so the enemy might well not go MAD. We existentialists can agree with that, and hope to accomplish something worthwhile in damage limitation in case the enemy does not see fit to do his worst. But that is not our only goal. Even if the MADman turns out exactly right, and the enemy does fulfill the dreadful threat he had thought essential for deterrence, it is still worthwhile to see to it that he does only that much harm and not even more. If we can limit the enemy to killing one-quarter to one-third of us, when otherwise he would have killed one-half to two-thirds, that is not a goal to inspire enthusiasm. Nevertheless it saves tens of millions. The MADman's indifference to those tens of millions is not the least of his moral failings.

It is worthwhile to limit damage. Counterforce warfare, even of a modest sort, is a way to limit damage. It is not as effective as we might wish, but it is somewhat effective and we have no better way. Therefore using our remaining nuclear weapons for counterforce warfare is the right thing to do. It is, of course, a better thing to do than destroying the enemy's cities. That alternative is easy to beat. But also, I say, it is a better choice than doing nothing and waiting to

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see what sort of follow-on attack we suffer from the enemy's remaining forces.

Several objections demand replies. First, you may object that there is a better way to limit damage: make no counter-attack of any kind, and propose an immediate cease-fire on acceptable terms. Even if the enemy imposed draconian terms, and even if the enemy's follow-on attacks could be blunted by our counterforce warfare, is it not clear that we would suffer less harm from the cease-fire than from the follow-on attacks?

I think, for one thing, that it is not *perfectly* clear. We can imagine a great variety of postwar conditions on terms acceptable to the enemy; we can imagine a great variety of follow-up nuclear attacks. Some of the former may well be worse than some of the latter. Which would you prefer: The fate of the Afghans? Or a few tens of warheads, airburst, against military targets far from our cities? This particular comparison, of course, is shamelessly rigged: an especially harsh cease-fire versus an especially mild follow-on attack, two extreme cases, neither one especially believable. We need some idea which cases, both of cease-fire and of war, are the believable ones. The trouble is that we are already supposing something unbelievable: that a nuclear war is under way. Suspend disbelief that far, and what premises do you have left? Which of our actual beliefs about the enemy do you hold fixed, which do you abandon? All is guesswork, whether about the cease-fire or about the continued war. For what it is worth, I join the objector in guessing that the cease-fire would do us far less harm than the enemy's follow-on nuclear attacks. So if we were given that choice, I too would choose the cease-fire.

But I insist that we would not be given that choice. Or rather, we might be, but we couldn't know it. It is indeed quite possible that the enemy might reciprocate our restraint, withholding his follow-on attacks if and only if we did not attack him. But there are other possibilities as well.

The enemy might be willing to accept a cease-fire if, but only if, we had disarmed him to the point where he could not complete his intended plan of attack against us. Or he might be unwilling to consider a cease-fire in any case. He might believe, as many among us do, that nuclear war would be destined to go on to the bitter end. He might think the cease-fire would last only as long as it took us to assess our damage, get our airborne command posts into position, and retarget our remaining missiles. Or his attack might have damaged communications to the point where he could not hear our offer, could not tell whether we were firing or not, or could not countermand his own firing orders for the second wave.³⁴

Counterforce warfare does give away all hope for an immediate cease-fire, and that must be counted among its costs. But it is not clear whether it is more likely to cause follow-on attacks or to prevent them; and it is likely that there will be follow-on attacks no matter what we do. Therefore it seems well worth doing what we can to blunt them.

Second, you may object that the best way to limit damage is to inflict limited countervalue retaliation, punishing the enemy a little at a time, and prove by demonstration that we will keep it up until the enemy stops attacking. At the same time, we offer generous terms for a cease-fire. We do harm, but we hope to prevent greater harm.³⁵

I reply that whether we succeed depends on what harm the enemy expected to suffer. When he decided to attack us, he surely did not expect to get away unscathed! If he is skeptical and pessimistic, and disinclined to put faith in untried theories about how to engage in nuclear war safely, he probably expected to suffer quite a lot of harm. Even so, he decided to attack us. He was willing to pay the price. Then if we prove to him that he must indeed pay the price, how is that going to change his mind? (If we show him that the price is less than he thought, we might even encourage him to continue. And if his main fear was that things might somehow get out of control in the end, it might not be a good

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idea to show him just how careful and restrained we can be.) To dissuade him, we must show him that he will suffer more harm than he expected. If he is skeptical and pessimistic, and therefore expected a lot of harm, that will be no easy thing to do. A demonstration shot against some economic target in the wilderness will not suffice. It will be necessary to shoot at cities – and not just one at a time, and not just the very smallest ones. If it takes some time to convince him that we will keep up the punishment, we may very soon exceed the amount of harm we would have done by scrupulous counterforce warfare. And if that is still not enough to dissuade, it is all in vain.

I take it the objector imagines a scenario something like this. The enemy calculates that if he attacks us in just the right way – as it might be, a “surgical” counterforce first strike, accompanied by threats of what he will do to us if we strike back – we will not dare to retaliate, and he will be in a safer position to cope with some desperate situation he is in. Trusting his calculation, he attacks. Our limited retaliation proves to him that he has miscalculated. The war ends there. – I say we shouldn’t believe the part of the story where the enemy trusts the calculation.

You may reply that it’s all very well to believe *now* that the enemy is skeptical and pessimistic, and not about to believe any calculation that says he could attack us and not suffer much harm. Existentialism fits our present evidence. But existentialism predicts that the enemy will be well deterred and not attack at all. Yet we are asking what to do if, nevertheless, he does attack. The attack will be strong evidence that the enemy was not so skeptical and pessimistic as we thought. Once attacked, we should change our mind about how the enemy thinks. We should infer that he did not after all expect to pay a high price, and therefore that it will be easy to show him that the price is more than he expected. – I agree that the attack should change our mind about the enemy. But it should not leave us thinking that he is a confident calculator who has calculated that the price will be low. Rather, it should leave us not knowing what to think. We should

learn that we did not understand the enemy as well as we thought we did; we should not abandon one hypothesis only to embrace another. We should modestly conclude that we have very little idea whether the price he is prepared to pay is high or low, and hence very little idea whether limited retaliation will have any effect.

Limited countervalue retaliation is a gambler's strategy. If it works to stop follow-on attacks altogether, and if it works quickly, and if the smoke from the cities we burn does not prove deadly, then it may protect us better than any blunting of follow-on attacks possibly could. If it fails, it accomplishes nothing at all. But whether it works or whether it fails, we kill vast numbers of people in the cities we attack. And the cities burn, and the smoke rises.

An additional problem is that if we are to inflict punishment a little at a time, we need to remain in control of our forces until we are done. If the enemy stops, we need to know it. If the enemy doesn't stop, we need to launch yet another limited attack, and for that we need to know which of our weapons are still there that could do the job. If we seek to avoid escalation by a policy of less-than-equal response,³⁶ then also we need to know in some detail what kind of attacks we are receiving. And if we want to explain to the enemy what we are doing and what we propose to continue doing, and what we are not doing, and what terms we propose for a cease-fire, then we need communication with him. All this may be a tall order. Partly, that depends on whether the enemy has chosen to target our command and control, as he well might. Partly, it depends on the severity of weapons effects whereby an attack might damage communications whether the enemy intended it or not.

You might counter this with a *tu quoque*: Damage limitation by counterforce warfare also would benefit from adequate post-attack command and control. It would help if we could adjust our targeting in the light of information about the state of our forces and the enemy's. It might help to break our attack into several waves, using information gained between one wave and the next. So how can the vulnerability of com-

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mand and control be a reason to favor counterforce warfare over limited countervalue retaliation? Rather, is it not a problem for both methods of damage limitation alike? – Yes, it is a problem for both alike, but not to the same degree. Without adequate command and control, counterforce warfare becomes less effective; but limited retaliation probably fails altogether and turns out to be worse than useless. If our countervalue attacks peter out before the enemy is persuaded to accept a cease-fire, the harm they do is all in vain. (And if they go on after the enemy does accept a cease-fire – say, because we have ordered submarine captains to fire until further notice and then cannot countermand our order – that is worse still.) Suppose the last words of the commander-in-chief before he is killed or communication collapses are “Execute option 4.” We will be better served if this option 4 is a large preplanned counterforce attack, badly executed though it would be, than if it is the first of a series of small countervalue attacks that we cannot then continue (or worse, cannot discontinue).

I have no difference of moral principle with the objector who advocates limited countervalue retaliation. He and I agree that we must weigh the harm done against the prospect of harm prevented. How the balance tilts is a difficult job of guesswork, and it is only there that we disagree. I think the harm done is disproportionate, given the slim chance of success. I think that counterforce warfare affords a somewhat more favorable balance.

(To avoid misunderstanding, we must remember which case we have in mind. My question was: What to do if deterrence fails in a big way? What should be our ultimate response to a major nuclear attack? There, I say, limited countervalue retaliation is out of place. But lesser crises and provocations are quite another story. There, if we resort to limited nuclear options of any kind, our aim is to enhance deterrence by making the crisis look dangerous. We raise the perceived risk of escalation, preferably without equally raising the genuine risk. We want to frighten; any punishment or any force reduction we actually inflict is of secondary im-

portance. There is a premium on drama. Further, in responding to lesser crises, we are not dealing with an enemy who ex hypothesi has already chosen to attack us and pay the price. And we still have peacetime command and control. Under these different conditions, the balance of advantages between countervalue and counterforce options may look very different. [Which is not to say that the balance tips the other way. But if some sort of counterforce is preferable in this case too, as I rather think it is, it will be for different reasons.] Also, some very limited options, altogether too mild to make sense as ultimate responses, may come into their own: countervalue against the economic target in the wilderness, counterforce directed exclusively against conventional forces, maybe even the harmless demonstration shot.)

Third, you may object that it is futile to limit further damage, because if we have suffered a major nuclear attack, all of us are doomed in any case. Those who survived the initial blast and fire will die over the next months from fallout, or they will freeze in the shadow of the smoke, or they will starve because the crops have been destroyed, or they will starve because the economy is destroyed, or they will die in epidemics, or they will die when desperate survivors fight over what little food is left. I reply that all of this may be so, or it may not. Nobody doubts that the indirect effects of nuclear war would be serious.³⁷ But nobody knows how serious. Fortunately we lack direct evidence, and the questions are far beyond our powers of analysis. Also, the indirect effects presumably depend on the direct effects. So even if, *per impossibile*, we understood them perfectly, still we could not tell whether we were doomed unless we knew what sort of attack we had suffered. But that would be a hard thing to know. Before the attack hit, we could see only roughly where the warheads were going; afterward, our means of gathering information would be badly damaged. The country might be doomed by indirect effects, but we could not know it at the time. In considering the costs and benefits of counterforce warfare, we must somewhat discount the benefits because

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we know they would vanish in case the indirect effects proved sufficiently deadly. But it would be the height of irresponsibility to assume this case and dismiss all others.

Further, the indirect effects count on both sides of the question. If our worst guesses about indirect effects are true, then indeed the initial attack dooms us all and damage limitation is futile. But if the next-to-worst guesses are true, it may rather be the indirect effects of the follow-on attack that doom us, unless we blunt it by counterforce warfare. Then the benefits of counterforce warfare turn out greater than we would have thought. Suppose, as now seems plausible, that far the most deadly indirect effect is shadow of smoke and dust; that the initial attack hits missile fields in open country; that the follow-on attack would burn cities; and that smoke from burning cities casts a darker shadow than dust from groundbursts.³⁸ Then whatever protects cities from fire saves lives far away from the cities themselves. Or suppose that economic and political chaos is indeed a very serious effect, but that it takes only a very few intact cities to alleviate it greatly.

Further, if the benefits of counterforce warfare are lost to indirect effects, the costs may also be lost. One cost is that we give away all hope for an immediate cease-fire; but if we are already doomed, no cease-fire could save us and the loss of it is no cost. Another cost is the collateral death and destruction that our counterattack would inflict. But at present, it is the shadow of smoke that seems most dangerous among all the indirect effects that have been suggested. If indeed we are doomed by some indirect effect of the enemy's attack, most likely that is how. And in that case, the enemy's subjects will very soon freeze along with us, for the smoke does not take long to spread around the hemisphere. Then it scarcely matters if we kill the doomed a little sooner.

Fourth, you may object that it is futile to limit further damage even if there are lives to be saved, because the survivors' lives will not be worth living. I reply that if so, they are free to kill themselves afterward. The decision that they would

be better off dead is not one that someone else should take for them, least of all someone who has undertaken a responsibility to protect them. Anyhow it seems – or it has seemed hitherto – that people who survive the worst that nature or malice can do to them can somehow find their way back into our lives that are far from worthless. It may be hard for the fortunate to imagine how they do it, but that is no reason to assume that they cannot.

Fifth, you may object that second-strike counterforce warfare is futile because the enemy's remaining weapons will be few and widely scattered. Our attack would mostly hit the empty holes where missiles used to be, doing no good and inflicting collateral death and destruction to no good purpose. Or, sixth, you may object that second-strike counterforce warfare is futile for the opposite reason: The enemy will have kept a reserve force that is much more than enough for a devastating follow-on attack against us. What is left of our MADman's arsenal might somewhat reduce the enemy's reserve force. But if that force is redundant, reducing it somewhat will do nothing much to limit the damage it can do. It is one or the other of these objections that McNamara's aide must have had in mind when he said that "if you're going to shoot at missiles, you're talking first strike."

I take both these objections very seriously, and it is small comfort that at least they cannot both be right. I reply, first, by repeating that damage limitation does not have to succeed extremely well to be worthwhile; and, second, by listing reasons why the enemy would hold back some of his weapons, not too few and not too many.

Here are some reasons why he would hold back not too few. First come four reasons why he would have a reserve force whether he wanted it or not. (1) Some of his weapons would not be in working order. Aircraft and missiles need maintenance; submarines need time in port. Unless he could wait until everything was ready – unlikely, and not just to the extent that any scenario for outbreak of nuclear war is

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unlikely – his unready weapons would be left out of the first attack, and when made ready would become part of the reserve force. (2) Missiles are imperfectly reliable. Substantial numbers would not launch when they were supposed to. Those that failed, but not beyond repair, would become part of the reserve force. (3) Safety precautions meant to prevent unauthorized firing tend also to impede authorized firing.³⁹ Missiles unlaunched because their safety devices work too well would become part of the reserve force. (4) For reasons best known to himself, the enemy has built more missiles than he has launchers. Some of his launchers are meant to be reloaded after use, and he keeps reload missiles available.⁴⁰ These reloads are part of the reserve force. So long as the enemy persists in his folly – which may not be long – his reloads make an ideal target for second-strike counterforce. We know where they are. They may even be unhardened, at least until he puts them into the holes.

I continue the list with four reasons why he might want a reserve force. (5) If the enemy has (or hopes he has) adequate command and control, he can do a more efficient job if he fires in several waves, with retargeting between.⁴¹ Whether the efficiency seems worthwhile will depend, of course, on how well he thinks we will be able to reduce the forces he keeps back; and on how important it is to hit the targets in question as soon as possible. (6) He may believe, as many of us do, that deterrence does not automatically end when war begins. He may keep a reserve force, and tell us so, to dissuade us from attacking his cities. Even if he once claimed to believe that restraint in nuclear war is absurd, imminent danger might give him reason to change his tune. (7) While he seems to appreciate the horrors of nuclear war as well as we could wish, he is not in the habit of telling himself that it would be the end of the world. He may think that after the war he will be weaker, he will still have enemies, he will still need nuclear deterrence, and he will not be able to rebuild his forces in a hurry. (8) He might possibly use some of his weapons as targets to draw our fire, so that we will

have fewer warheads left to shoot at other targets. We are not necessarily making a mistake if we shoot at the targets he wants us to shoot at.⁴²

The reasons why he would hold back not too many are simpler. (1) If he thinks we may respond to his attack by counterforce warfare, he will have more weapons to use if he uses them at once. Those he has not held back will not be caught on the ground. (2) To the extent that he is attacking our missiles (or bombers), his chances of catching them on the ground are best if he does not delay. If he is going to take the risk of a major nuclear attack on us he may as well accomplish all he can by it.

What about the enemy's invulnerable submarine-launched missiles? Are these enough of a reserve force, all by themselves, to guarantee that second-strike counterforce is futile? Possibly; but (1) just how invulnerable are they? We are prepared to hunt submarines. How good a job can we do? (2) Some possible futures include defenses (doubtless mediocre) and submarine-launched missiles may be comparatively easy to intercept. (3) We think of these missiles as an ideal reserve, but they also have an opposite role: as weapons for the most urgent targets in the first wave of an attack, taking advantage of the short flight time from a nearby submarine. In particular, they can hit fast enough to stop bombers from taking off after longer-range missiles have been seen launching. (4) If they are held in reserve, are they reserved for use late in the war? Or are they meant to be the enemy's postwar nuclear force? (5) I repeat, finally, that my goals for counterforce are modest. Even if we don't stop a final strike by the submarine-launched missiles, we may cut the damage enough to be worthwhile. A cut from 120 million to 80 million fatalities (to pick numbers out of thin air) would be nothing to rejoice about – still, 40 million lives are not to be ignored.

These considerations end in a standoff. If you claim that second-strike counterforce cannot succeed (even by unambitious standards of success) because the enemy would have too few or too many remaining weapons, I think I have shown

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that you have no easy way to prove your case. But neither do I have any easy way to prove the opposite: that the number of remaining weapons will be right, not too few and not too many. The question is a hard one. The answer must depend on matters of detail about the capacities of the opposing forces and about the enemy's strategic doctrines.

Then the answer depends partly on things that are not known to philosophers but are known to practical strategists. It would be worth knowing exactly what we have to assume about the opposing forces and the enemy's strategic doctrines in order to find cases in which second-strike counterforce can accomplish some moderately worthwhile limitation of damage. I hope that somebody well informed, and without an axe to grind, will work through some hypothetical wars in detail to find out what such cases look like, and how far they overlap with possible present or future realities. If it turns out that they are not at all realistic, then my position is untenable.

I think it much more likely that, despite our best investigations, the question will remain very hard. Although the answer depends partly on things we can know, it depends a lot on things we cannot. We know what the enemy says about his strategic doctrines, but that's a far cry from knowing what he'd really do. We know something about the realities and accuracies of weapons as tested under peacetime conditions, but it would be no surprise to find that we were seriously off. Most likely, the alleged futility of second-strike counterforce because of too few or too many remaining weapons will remain in the same boat as its alleged futility because we are already doomed. That is, it will be a possibility that we cannot dismiss and cannot assume; all we can do is to take it into account by somewhat discounting our hopes of success. But if we hope to destroy the weapons that might kill many tens of millions of us, those hopes can stand a lot of discounting before they fade away! Absent calculations more decisive than I expect to see, I still think the right response to a major nuclear attack is to try our luck at counterforce warfare.

Seventh, you may object that if it is our policy never to attack cities, then we have given the enemy an excellent way to protect his weapons from our attack: He has only to put them in his cities. Then what can we do?

I reply that if the enemy does such a peculiar and fool-hardy thing, then he is by no means the enemy I have assumed. If he relies on our declared policy to this extent, he is by no means skeptical; rather, he is gullible. If he chooses to risk losing his weapons and cities all at once, he is by no means risk-averse and pessimistic; rather, he is a go-for-broke gambler. If he stakes his safety on this one novel scheme, he is by no means conservative. He is a theoretician, in love with artificially clearcut cases. We may well wonder how he managed to leave his institute and reach a position of power.

My position on deterrence and nuclear use is not held *a priori*. It is premised on existentialism. If existentialism turns out false, my position is untenable. If the enemy puts his weapons in his cities, existentialism stands refuted. What I have to say about the case is not that we should do this or do that if it arises; rather, I say it will never arise.

Eighth, you may object that, try as we will to avoid it, our counterforce warfare would cause a lot of collateral death and destruction. We would kill great numbers of civilians who have the misfortune to live under the enemy's rule and near his weapons. What we do to limit damage to ourselves does too much damage to others. No effective nuclear counterattack could satisfy established standards of justice in warfare, because the harm done would be out of proportion to the expected benefits.⁴³

I reply that second-strike counterforce would indeed do a great deal of harm. But the harm done would not be out of proportion to the good purpose served – or not unless we had independent reasons to expect our efforts to prove futile.

Suppose that hijackers are holding 70 hostages, and we consider a rescue. Unfortunately a crowd has gathered. We

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estimate that about 7 bystanders, foolish and ghoulish but otherwise innocent, would be killed by the rescuers' stray bullets. We think it likely that the rescue will succeed; and that the hijackers may well kill the hostages soon if there is no rescue; and that no safer method of rescue or of settlement can succeed. But we are far from certain of any of these things. Should we try our luck? Yes. The harm done, though indeed it matters very much, is not out of proportion to the good purpose served, even when we discount it as we should to take account of the many uncertainties.

Now let it be 70 million hostages versus 7 million spectators. This comparison of dreadful alternatives exhausts our adjectives and saturates our emotions, but the proportion is the same as before. What is right once is right a million times over, and why should it matter that a million little cases are lumped into one big case?

If we are shooting at missiles that menace cities, and if we compromise the efficacy of our attack somewhat to reduce collateral damage, then the numbers just mentioned – 70 million versus 7 million – might fall somewhere within the range of reasonable guesses. Change each of them up or down by a factor of two and they might be no less reasonable. But even if it's 35 million versus 14 million, and even with the 35 million duly discounted, it still does not seem that the harm done is disproportionate to the good.

When we remember the missile fields at Kozelsk, Teykovo, Kostroma, and Yedrovo, it may seem hard to believe that collateral damage could possibly be limited to a few million deaths. (Moscow alone has a population well over eight million.) I said earlier, in berating the NUT, that a counterforce attack could not be very effective if it failed to do a thorough job on these four missile fields. But if our aims are not so ambitious as the NUT's – if we do not seek the very effective damage limitation that offers the compelling incentive that supports the credible warning, but if we only seek damage limitation for its own sake – then we can better afford to compromise the efficacy of our attack. We can better afford to limit groundburst yield against targets near cities,

to attack less redundantly than we might, or to pass up some targets altogether. Indeed, if we mount a modest counterforce attack with what remains of a MADman's forces, we may simply have too few warheads left for all the targets we'd like to hit. If we are forced to pass up some targets anyway, then it costs us little if the ones we choose to pass up are the ones near cities.

It's a bit less clear that the harm is proportionate if, instead of shooting at the enemy's missiles that menace our cities, we are shooting rather at his missiles that menace our missiles that menace his missiles that menace our cities. (Our cities have to enter into it in the end; if we were defending our missiles just for their own sakes, of course the harm done would be disproportionate.) This is a somewhat artificial distinction, since any missile he has can menace both, and we cannot tell with confidence how he will use them. But suppose our best guess is that, although he may attack cities in the end, what he will do next is carry on with counterforce warfare against us. So there will be missiles shooting at missiles. There will be bilateral force reductions, unilaterally imposed, whether we fire at his missiles or whether we wait for him to fire at ours. Our only choice is which way it will happen. That matters for two reasons. First, because the terms of trade depend on whether we fire or wait. (The terms if we fire are not necessarily better; they would not be, for instance, if the missiles on both sides were well hardened and unMIRVed.) Second, because it matters whether the explosions, with their fallout and other collateral damage, take place on the enemy's territory or on ours. Now it's a question of doing harm to avoid suffering roughly equal harm. Maybe the harm we would do if we fired is less than the harm we would suffer if we waited, either because of the characteristics and locations of the weapons or because we would take more trouble than the enemy would to avoid collateral damage. Then again the harm is proportionate, though less clearly so than in the previous case.

Alternatively, maybe the harm we would do if we fired is somewhat more than the harm we would suffer if we waited.

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I am inclined to think we should fire even then. My answer depends on the moral judgment that it would be right for a commander-in-chief to proceed as if he valued the lives of the enemy's subjects somewhat, but less than the lives of those on whose behalf he is fighting. That judgment has two parts: first, the judgment that it is permissible to undertake a responsibility to serve the interests of some people more than others; and second, the judgment that one who has done so is permitted, indeed required, to be partial toward those he has undertaken to serve. Whoever the commander-in-chief may be, he will have accepted either a high position in government or a commission in the armed forces. Either way, he has undertaken a special responsibility to his countrymen. (And to those they have taken on as allies.) He betrays his obligation if he chooses no longer to serve his country, but rather to become an impartial servant of mankind at large. When he deliberates between alternative courses of action, such as waging counterforce warfare or not, he is entitled and required to weigh the consequences – but with a finger on the scale.

Ninth, you may object that much of the collateral death and destruction from counterforce warfare would fall not on the enemy's soldiers but on his civilians. No effective nuclear counterattack could satisfy established standards of justice in warfare, because those standards require that noncombatants must be immune from attack.

I reply in two parts. First, I deny that it matters whether those who die in war are soldiers or civilians. Some say this because they doubt the innocence of civilians, claiming that all the populace is caught up in total war. (Infants too?) But I do not doubt the innocence of the enemy's civilians. They live as best they can under his iron rule, and his misdeeds are not of their making. It is too much to ask that they rise up in revolt when they have no hope of success. It is rather that I doubt the guilt of the enemy's conscript soldiers. It is absurd to say that they have chosen to wage war against us, if all that is true is that they would rather wage war than be

shot as mutineers. Most of them would be innocent not only in the everyday sense but also in the special usage of Just War theory: not *nocentes*, not engaged in harming us.⁴⁴ The question is what to do if we have come under a major nuclear attack. At that point, the *nocentes* are the soldiers who launch the enemy's strategic nuclear weapons. The rest, whatever fighting they may have done before and whatever their role might be in various possible futures, are for the moment bystanders.

But in the second place, it is not exactly true that counterforce warfare puts noncombatants under attack. The dubious principle that noncombatants must be immune keeps company with the dubious principle of double effect. The latter principle rests on a distinction between three kinds of foreseen effect of an action – as it might be, the foreseen death of victims of nuclear attack. The effect might be intended as an end: We want them dead because we hate them. Or the effect might be intended as a means to some other end: We want them dead because we think their death will weaken the enemy's resolve to continue attacking us. Or the effect might be foreseen but not intended either as an end or as a means: We want to destroy the enemy's missiles, and we know that a side effect will be the death from fallout of many victims who live downwind. But we do not want them dead, either as an end or as a means to some other end. We would prefer it if somehow they survived. Far from designing our attack to kill them, we design it to spare all we can, given our main goal of destroying the weapons. The principle of double effect says that harm done as a foreseen but unintended side effect of an action matters less than harm intended as an end or as a means. What matters is not so much the harm itself as the intending of it!

So the immunity of noncombatants turns out to mean immunity from attacks in which their death is intended either as an end or as a means. It does not extend to immunity from attacks in which their death is merely a foreseen consequence, intended neither as an end nor as a means. This

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standard of justice in warfare grants protection to noncombatants with one hand and takes much of it back with the other. And it is well for it that it does. Noncombatant immunity without the principle of double effect would face a *reductio ad absurdum*. It would tell us that an enemy who shelters his soldiers and weapons among unwilling civilians may not be fought in any feasible way, no matter how many lives would be saved by fighting him and no matter how much the lives saved might outnumber the lives lost!⁴⁵

The theory of justice in warfare is another package deal much in need of breaking up. One part is broadly consequentialist: It requires that warfare must be undertaken only in the service of good ends, and only if there is sufficient chance of success at achieving the good ends, and only if the harm done is not out of proportion to the good that is pursued. This part deserves our firm adherence. A second part is self-regarding: It has to do with the state of the warrior's heart and soul. To intend someone's death, whether as an end or as a means, and not because he has undertaken to attack you but for some more devious reason, is to have murder in your heart. We may doubt whether this is the correct way to delineate what it is to have a murderous heart; and we may ask whether some murderous hearts may not be preferable to the heart of one who cares more for the state of his own heart than he does for the lives of his countrymen. But the simplest thing to say (for those of us who do not accept the contrary as an article of faith) is that other things at stake in warfare are just much more important than the state of the warrior's heart and soul. The self-regarding part of the theory of justice in warfare deserves rejection.

But in the present case it makes no difference, because the dubious companion principles of incombatant immunity and of double effect cancel out. It is true, though I say it makes no difference, that those who live downwind from hardened missiles are for the most part civilians. It is also true, though again I say it makes no difference, that their death from fall-out would be a foreseen consequence of an attack on the

missiles, but in no way intended either as an end or as a means. They would therefore not be under attack in the sense that is relevant to their supposed immunity.

Tenth, you – doubtless not the same “you” who made the previous two objections – may object that I have understated the commander-in-chief’s obligation of loyalty. He should serve his countrymen (and allies) wholeheartedly. He betrays them if he does *anything* to protect the lives of the enemy’s subjects at their expense. If counterforce warfare protects those it is his duty to protect, he should wage it as effectively as he can. It would be wrong to compromise the efficacy of our attacks so as to reduce collateral damage. When weighed against damage to us, collateral damage should be a matter of indifference.

The objection is hard to answer, once I have granted that it is legitimate for the commander-in-chief to weigh consequences with a finger on the scale. I cannot stand on principle and insist that all lives have equal worth; therefore I am badly placed to resist the rival principle of wholehearted loyalty. Each of the two uncompromising principles appeals to our moral sensibilities; compromise does not. To see this more plainly, imagine that the terms of compromise are spelled out exactly: The right thing is to proceed as if one of them is worth 58 percent as much as one of us. This particular compromise is arbitrary. It has no appeal at all. An argument that 58 is exactly the right percentage would be a bit of black comedy. The same could be said, of course, if the percentage had been 59, 97, 23, or anything else. Only the extremes, 0 percent and 100 percent, are principled. The pure ideals of loyalty and of impartial benevolence are incommensurable. No attempt to compromise them can be right, whatever the terms. Compromise betrays both.

I reply that we must nevertheless strike a compromise, however unsatisfying and arbitrary any particular terms of compromise may be. For the claims of benevolence are compelling, unless we harden our hearts and close our minds; and so are the claims of loyalty. What must go is

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neither benevolence nor loyalty, but rather purity of principle.⁴⁶

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Finally, you may object that it seems senseless to build forces designed for one mission when all the while we intend to use them only for another. If we buy like a MADman, we buy a force that is just right for retaliating against cities; but if the time comes to use like a NUT, we will wish the forces had been made more suitable for their only truly intended use. To be sure, they had another use: They were supposed to sit there looking dangerous. But wouldn't they have done that perfectly well, even if they had been properly designed for counterforce warfare?

I do not reply to this objection; instead I endorse it. *If* we have bought like a MADman, and deterrence fails in a big way, *then* I say we ought to use like a NUT. But I agree that it would be better to buy forces especially suited for modest, second-strike counterforce warfare with avoidance of collateral damage.⁴⁷

Now it is the NUT's turn to have his package deal broken up. His policy about what to do in case of war – counterforce warfare meant to limit damage – is comparatively moderate and benign, at any rate compared to the MADman's. We could be well content – if it were not for his dangerous policy for procurement of weapons. Because he wants damage limitation not only for its own sake but for the sake of credibility, he requires weapons capable of meeting ambitious goals. Then the very same strength that supports the credible warning also makes dangerous incentives to preemption in the short term and arms racing in the long term. Should we not avoid these dangers as the MADman does, by shunning weapons that are well suited to counterforce?

No. We should indeed avoid those dangers. To do so, we must keep our capacity for counterforce warfare within modest limits. But not as the MADman does, by insisting on un-

suitable weapons. Rather, we should buy suitable weapons but limit their numbers. Counterforce capacity is accused of undermining stability. I say that *ambitious* counterforce capacity is guilty as charged. But *modest* counterforce capacity is innocent.

The modest counterforce capacity I have in mind is still supposed to be good enough to accomplish something worthwhile even in a second strike. Any counterforce capacity, modest or ambitious, will accomplish more if it is used in a preemptive first strike. Isn't that enough to tempt us into preemption and make prophecies of war fulfill themselves? – I think not. A cold-blooded gambler might be tempted into preemption just by the advantage of striking first; but for a real-life statesman, an effective lure would have to consist of two parts. There would have to be not only the first-strike advantage, but also the prospect of getting off very lightly. (Lightly compared to other possible nuclear wars – of course that would still be an immense catastrophe.) Ambitious counterforce capacity presents both parts of the temptation; modest capacity presents the first part, sure enough, but not the second.

Any counterforce capacity, modest or ambitious, will accomplish more if the enemy's forces are smaller. Success depends on the balance of forces. Isn't that enough to tempt us into arms racing to improve the balance? We do have some incentive to tilt the balance in our favor, so that we could do better at limiting damage in case of war. But this is not an urgent incentive. Damage limitation is not our primary goal in procurement – deterrence is. The NUT said that damage limitation and deterrence are linked: Deterrence requires the credible warning, which requires an excellent capacity for damage limitation, which requires superiority. If he were right, then we would indeed have an urgent incentive to race, lest we lose the sine qua non of deterrence. But if existentialism is right and credibility is not a problem, then deterrence and damage limitation are separate goals. Both are part of the protection we gain from our nuclear arsenal, but deterrence is by far the greater part. If we race and lose, or if we decline

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to race, we are not in a desperate predicament. We still have our existential deterrence; we still have some worthwhile capacity to limit damage by counterforce warfare, though perhaps not as much as we would prefer. Our goals of deterrence and damage limitation, *unlinked*, are finite, in the same sense that the MADman's goals for deterrence are finite and the NUT's are not. They can be satisfied, not perfectly but well enough, for both sides simultaneously. There is a balance of forces that both sides can live with, thinking it not ideal but good enough.

Even a MADman's finite deterrent gives some significant capacity for first-strike counterforce; indeed, it gives some worthwhile capacity even for second-strike counterforce, as I urged in the previous section. But all agree that the MADman's forces create little temptation to preemption or arms racing. They are not yet above the danger line. Then let them set a benchmark; let us have forces suited for counterforce warfare, but let us have only enough of them to match the first-strike counterforce capacity of the MADman's finite deterrent. In that case, they should be no more destabilizing. All who have agreed that finite deterrence is admirably stable ought to agree that this finite counterforce capacity is safe as well.

(Maybe this standard of safety is too conservative. I do not assert that if we exceed it, straightway there is a deadly temptation to preempt or to race. More likely, the danger becomes severe only at some much higher level. But for the sake of argument, I will rest content with a standard that seems to be uncontroversial.)

Within the safe limit on first-strike counterforce capacity, we want all the second-strike counterforce capacity we can get. Whatever enhances second-strike capacity without enhancing first-strike capacity is all to the good. If we buy more weapons, we enhance both together. Likewise if we improve our weapons so as to increase their chance of destroying their targets. So those are not wanted, at least not if we are near the safe limit and want to stay below it. But improvements in hardened command and control are another story. Second-

strike counterforce means putting together an effective attack out of what remains of our partly destroyed forces, against what remains of the enemy's partly expended forces. The more information we can gather about the state of our forces and his (the latter being the more difficult job), and the more we can retarget our weapons to make good use of whatever information can be had, the better we can do. Excellent post-attack command and control would be very advantageous. But it would not increase first-strike counterforce capacity in the least – because pre-attack command and control is already excellent. So one difference between the MADman's finite deterrence and my finite counterforce is that the latter includes going all out for hardened command and control.⁴⁸

Another difference arises because the intended mission is not counterforce warfare *simpliciter*; it is counterforce warfare that scrupulously avoids collateral death and destruction. For any given level of capacity, any improvement which holds the capacity fixed while reducing collateral damage is all to the good. Therefore we should pursue accuracy of aim. Not accuracy of aim by itself; that increases counterforce capacity, and so might take us above the safe limit. But if we aim our warheads more accurately and reduce their explosive yield (a trend that is already well under way), we hold capacity fixed while we reduce the fallout, both local and global. Likewise if improved accuracy means that we need fewer warheads altogether. And if very accurate aim makes it possible to attack hard targets in new ways, without digging craters and raising the dust that brings down local fallout, so much the better.⁴⁹ The MADman has no use for accuracy; cities are soft and large. But finite counterforce should go all out for accuracy if, but only if, it takes the place of yield or numbers.

If we trade yield or numbers for accuracy, that reduces our capacity to destroy cities. Of course we have no reason to want to destroy cities, but we do want the enemy to be deterred by the thought that somehow we might anyway. If the capacity is what deters, dare we reduce the capacity? I suggest that we can reduce it a lot without making existential deterrence any less robust. For remember our benchmark:

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the MADman's finite deterrent, capable on a second strike of assuring the destruction of, say, one-quarter to one-third of the enemy's population and about two-thirds of his industrial capacity. We used to think that much lower levels of destruction would do for deterrence. We would think so still if higher levels had proved unfeasible. The required level of assured destruction went up over the years because our capacity to destroy went up – not because the enemy turned out to be less easily deterred than we thought at first. Any second-strike force that could accomplish something worthwhile in counterforce warfare, even with lower yields than we use today, would *a fortiori* be capable of enormous destruction.

I suspend judgment about the question whether finite counterforce should include defense. The question is not what sort of weapons give us our capacity to limit damage; the question is how much of that capacity we have altogether. Overambition is bad, lest it tempt preemption; but within safe limits, the more the better. Defense is not destabilizing just because it is defense. It might, however, turn out to be destabilizing for special reasons. If a system of defense works badly against a first strike, but well against a ragged retaliation after our first strike, then it adds to the first-strike advantage and helps tempt preemption. If the defense works best when it's alert, but it can't stay alert for long, then it might pressure us into preemption in much the same way that an airborne bomber fleet could; we must use it or lose it. Even if defense does not pose these dangers, it might simply turn out to cost too much, compared with alternative methods of damage limitation. Probably it does cost too much compared with a modest civil defense program; but if civil defense is politically impossible, it is not a genuine alternative.

At any rate, defense had better not take over too much of the job of damage limitation – not unless we get the system of our dreams, so good that we can abandon deterrence. If existential deterrence requires it, some substantial part of our counterforce capacity must double as our deterrent capacity

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to attack cities. Missiles have the double capacity; defensive weapons have little or none of it. It would be bad to have different weapons for damage limitation and for deterrence. In that case the commander-in-chief would have to choose whether to use his city-destroying weapons or leave them idle. It is better if he must choose whether to use the same weapons one way or the other, knowing that if he destroys cities he wastes the ammunition he could use to blunt a follow-on attack. He is less likely to go wrong if he faces the second choice than if he faces the first.

TO CHANGE THE WORLD?
OR TO UNDERSTAND IT?

Doubtless it will seem that I have been advocating a changed way to conduct nuclear deterrence, more moral and more prudent than our present arrangements. Maybe to some extent that is right. But consider: What if we lived in a world where deterrence *was* conducted strictly according to the principles of finite counterforce? What would that world look like?

First, the weapons. They would provide an assured capacity to destroy cities, even after suffering attack. They would also have some capacity for second-strike counterforce, but a modest capacity. As a consequence, they would have some capacity for preemptive counterforce. But not an excellent capacity; not enough to give us too much hope of getting off lightly if we preempt, therefore not enough to make prophecies of war fulfill themselves.

Second, the intentions for use. These we could not see. We could only hope that they were right. If indeed we lived in a world of finite counterforce, they would be as we hoped.

Third, the declaratory policy. Many members of Congress, voters, and allies believe in a credibility problem; they would want to see threats of some retaliation more dreadful than mere counterforce warfare to limit damage. Therefore we would expect not clarity and truth, but rather obfuscation. We would expect much talk of flexibility and options. When

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government officials did say anything about which options should be preferred, we would expect different ones to say different things. We would expect empty phrases, and controversy even over those.

Fourth, the war plans. Whatever other options might turn up, we would expect at least two: the option of destroying cities (whether as population per se or as economic targets matters little) and the option of counterforce warfare, with avoidance of collateral damage.

That is what we would see; and it seems very like what we do see. Is it reasonable to think, then, that we really do live in just the sort of world I have been advocating? Surely not. The hypothesis that our present arrangements have been designed strictly according to the principles of finite counterforce conforms, more or less, to the direct evidence of weapons, declaratory policy, and war plans. But it conforms not at all to what we know about the politics of defense policy. Finite counterforce is mediocre counterforce, and who can rise in this world by advocating mediocrity? When mediocrity triumphs, it is as an unprincipled compromise between the advocates of too much and the advocates of none. What we see is the proverbial horse designed by a committee. It has been bodged together by many hands, guided by many different theories of deterrence, some coherent, some not. But what we should understand, I think, is that we have come out not too far away from where we should want to be.

If I am right about how we ought to be conducting our nuclear deterrence, what is needed is not a radical new start, but piecemeal change in the right directions. We want to make sure we have well-planned attack options for second-strike counterforce with avoidance. We want the command and control needed to carry out such options. We want lower yields and higher accuracies. We want the right size of arsenal – preferably not too small, but more urgently not too large. In all probability we want substantial force reductions, preferably bilateral. Maybe we want defense. Probably we want civil defense, but probably that is a lost cause.

We do *not* want too much counterforce capacity. Especially, we do not want counterforce capacity that is good only in a first strike – too many warheads in a single silo, or dependence on pre-attack command and control. We do not want defense if it works well only as part of a first strike.

As theoreticians, we want an understanding of nuclear deterrence that is neither MAD nor NUTS. We don't want to be committed to wickedness, and we don't want to invent specious reasons why retaliation against cities would be less wicked than it seems. We don't want to regard death and destruction as a "bonus" in counterforce warfare, or as a matter of indifference. We don't want to fuss over credibility. We don't want deterrence through damage limitation – we want damage limitation for its own sake, and deterrence can look after itself. We don't want to think that damage limitation is worthless unless it is wonderful. We don't want to put adjectives in place of numbers, shirking the responsibility to save tens of millions of lives just because the outcome is dreadful either way.⁵⁰

NOTES

1. See Spurgeon M. Keeny, Jr., and Wolfgang K. H. Panofsky, "MAD versus NUTS," *Foreign Affairs* 60 (Winter 1981–82), 287–304. "MAD" stands for "Mutual Assured Destruction"; "NUT" stands for "Nuclear Use Theorist," or "NUTS" for "Nuclear Utilization Target Selection."
2. In emphasizing the moral risk of doing wrong, rather than the unconditional corruption of holding wrongful conditional intentions, I follow the lead of Jeff McMahan, "Deterrence and Deontology," *Ethics* 95, no. 3 (April 1985), 517–36. The idea of moral risk is puzzling: Two of us are disposed alike to do wrong if put to a test; it happens by luck that one goes untested whereas the other is put to the test and does wrong; we fault the second far more than we fault the first, although the difference is entirely in their luck and not at all in their moral fiber. Puzzling or not, this discrimination is built into our ordinary moral thinking, and it would be rash to challenge it on philosophical grounds. For general discussion of

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- moral luck and moral risk, see Bernard Williams, "Moral Luck," and Thomas Nagel, "Moral Luck," both in *Proceedings of the Aristotelian Society*, Supplementary Volume 50 (1976), 115–51.
3. No relation to other doctrines of the same name. See Alvin Plantinga, "On Existentialism," *Philosophical Studies* 44 (1983), 1–20.
 4. *Pace* Henry Shue, "Having it Both Ways," Chapter 1 of this volume.
 5. McGeorge Bundy, "Existential Deterrence and Its Consequences," in Douglas MacLean, ed., *The Security Gamble: Deterrence Dilemmas in the Nuclear Age*, Maryland Studies in Public Philosophy (Totowa, N.J.: Rowman and Allanheld, 1984), pp. 3–13; Kenneth N. Waltz, "Will the Future Be Like the Past?" in Nissan Oren, ed., *When Patterns Change: Turning Points in International Politics* (New York: St. Martin's, and Jerusalem: Magnes, 1984), pp. 16–36; Robert Jervis, *The Illogic of American Nuclear Strategy*, Cornell Studies in Security Affairs (Ithaca and London: Cornell University Press, 1984).
 6. See Jervis, *The Illogic of American Nuclear Strategy*.
 7. From McNamara's budget statement for Fiscal Year 1966; cited in Desmond Ball, *Targeting for Strategic Deterrence*, Adelphi Paper No. 185 (London: International Institute for Strategic Studies, 1983), p. 14. In later budget statements, McNamara lowered the number somewhat. If the numbers already seem unexpectedly low, remember that they are meant to measure only the *assured* part of the destruction; that is, the prompt destruction by blast, that being the part that can be estimated with the greatest certainty.
 8. Jervis, *The Illogic of American Nuclear Strategy*, p. 146.
 9. See Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, Mass.: Harvard University Press, 1960) on "the threat that leaves something to chance"; Jervis, *The Illogic of American Nuclear Strategy*, pp. 130–46; and Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965).
 10. Terminology is elastic. Sometimes (especially, perhaps, by detractors) the term "finite deterrence" is used broadly, to mean the entire package deal that I call "MADness." But often it is used more narrowly to mean, simply, the doctrine that we would be wise to keep our strategic forces fairly small, and that (within limits) we need not match the size of the enemy's forces. Finite deterrence, in this narrow sense, has to do purely

with the procurement of weapons. It implies no particular hypothesis about how deterrence works and no particular doctrine about what to do if deterrence fails. I reject finite deterrence in the broad sense, that is MADness; I support some sort of fairly finite deterrence in the narrow sense. Just how finite? Just how many warheads should we ideally have? – On that question I have no very precise opinion.

11. As “present-day standards” rise with the years, the numbers proposed for finite deterrence also rise. Harold A. Feiveson, “Finite Deterrence,” Chapter 6 of this volume, proposes a finite deterrent force of 2,000 warheads on each side, small by present-day standards but large by the standards of, say, 1961. In 1961, however, some of Feiveson’s counterparts had in mind 500 warheads on each side in the first stage of a bilateral force reduction, to be reduced soon after to 300 and then below 200. See Louis B. Sohn and David H. Frisch, “Arms Reduction in the 1960’s,” in David H. Frisch, ed., *Arms Reduction: Programs and Issues* (New York: Twentieth Century Fund, 1961).
12. See for instance, David Gauthier, “Deterrence, Maximization, and Rationality,” in MacLean, *The Security Gamble*, pp. 101–22.
13. *The Strategy of Conflict*, pp. 123–34.
14. Whenever the enemy values his military forces, or values what they can do for him, an attack upon them counts both as counterforce and countervalue. Since the enemy values the cohesion of his empire and needs the means to suppress revolt, a counterforce attack against his internal security forces is a punishment to him, as well as a way to protect ourselves by drawing his forces away from elsewhere. If one fears that the enemy may find the NUT’s warning of counterforce warfare sufficiently credible, but not sufficiently dreadful, one might wish to play up this aspect of it. See Arthur Lee Burns, *Ethics and Deterrence: A Nuclear Balance Without Hostage Cities?* Adelphi Paper No. 69 (London: International Institute for Strategic Studies, 1970); Bruce Russett, “Assured Destruction of What? A Countercombatant Alternative to Nuclear MADness,” *Public Policy* 22 (1974), 121–38.

I myself think that punishment should be no part of our goal in responding to a major attack. However, if it proved possible to target the enemy’s means of ruling without disproportionate harm to those he rules, and to do so effectively, that would be a form of punishment less unsatisfactory than

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- any other. But here we must take care, for it would be all too easy to target the means of ruling in ways that *would* do disproportionate harm to the ruled. That is not to be condoned: 50 kilotons aimed at a city is an attack on the city – whether it is aimed at the KGB building or at an orphanage is of no importance whatsoever.
15. Henry L. Trewhitt, *McNamara* (New York: Harper & Row, 1971), p. 115.
 16. On the vulnerability of command and control, see Desmond Ball, *Can Nuclear War Be Controlled?* Adelphi Paper No. 169 (London: International Institute for Strategic Studies, 1981); Bruce G. Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington: Brookings Institution, 1985); and Paul Bracken, *The Command and Control of Nuclear Forces* (New Haven and London: Yale University Press, 1983).
 17. See Shue, Chapter 1 above.
 18. See Robert F. Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis* (New York: W. W. Norton, 1969); and Theodore Sorensen, *Kennedy* (New York: Harper & Row, 1965), p. 705: “the odds that the Soviets would go all the way to war, [Kennedy] later said, seemed to him then ‘somewhere between one out of three and even.’ ”
 19. See Schelling, *Strategy of Conflict*, pp. 236–37.
 20. Desmond Ball, “Research Note: Soviet ICBM Deployment,” *Survival* 22 (1980), 167–70. I have taken the distances from atlases. They are not to the missile fields themselves, which of course are not shown, but to the towns of Kozelsk, Teykovo, Kostroma, and Yedrovo.
 21. Compare the fallout patterns shown for attacks on American missile fields in William Daugherty, Barbara Levi, and Frank von Hippel, “The Consequences of ‘Limited’ Nuclear Attacks on the United States,” *International Security* 10, no. 4 (Spring 1986), 3–45. The cases aren’t perfectly comparable, since even a more than usually redundant attack on the missile fields around Moscow might involve fewer and smaller warheads than the 0.5-megaton groundburst (plus 0.5-megaton airburst) per silo and per launch control center assumed by Daugherty, Levi, and von Hippel. But since their pattern shows 3,500-rad contours many hundreds of miles long, adjustment for a somewhat lighter attack would not make much difference to the fate of someone within 135–215 miles. What might

- make a difference is excellent fallout protection, with food and water enough for many weeks.
22. See George H. Quester, "The Necessary Moral Hypocrisy of the Slide into Mutual Assured Destruction," Chapter 5 of this volume. However, I don't see why a friend of counterforce warfare must *necessarily* be hypocritical about collateral damage. Suppose his firm policy is to confine himself, come what may, to counterforce attacks meant to serve a good purpose in protecting us; suppose he acknowledges and warns that such attacks will cause a lot of collateral damage; suppose he acknowledges also that the prospect of collateral damage augments deterrence, and he doesn't mind if it does; but suppose he never compromises the efficacy of his attacks to increase the damage, or suppose he does the opposite. Whether this is a morally acceptable policy depends on how well it serves its purposes and what risks it imposes, and in particular on the likely level of collateral damage. But at least it is honest.
 23. Why not prove the moral risk of collateral damage more easily? There are 22,000 miscellaneous military targets listed in our war plan; see Ball, *Targeting for Strategic Deterrence*, pp. 25–29. Many of these must be in or near cities. For instance, a battery of anti-aircraft missiles defending a city from bomber attack is a military target in or near that city. So if counterforce warfare meant attacking all "military targets," that would well and truly destroy the cities. This argument, though dramatic, is specious. The war plan includes a vast gazetteer of "targets," more indeed than we have warheads. Ball suggests that ever since 1945 "target lists have been generated in order to provide an argument for larger strategic forces" (p. 40). Lists of military targets in cities also may be meant "to avoid moral guilt and thoughts of future war-crimes indictments," as Quester suggests in this volume. Be that as it may, what counts is not the long list of 22,000 military targets, but rather the short list of *important* military targets – for instance, missile silos – that would be hard to leave out of serious attack options for counterforce warfare. The long list is a red herring; the moral risk of collateral damage arises because targets on the short list are sometimes too near the cities.
 24. See Shue, Chapter 1 above.
 25. It is ironic when critics claim that theories of successful deterrence depend on unrealistic assumptions of hyperrationality.

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The opposite is true: Hyperrationality would make deterrence harder. The best theoreticians have always understood this. See, for instance, Herman Kahn, *On Thermonuclear War* (Princeton: Princeton University Press, 1960), pp. 198–99, for an imaginative sketch of a skeptical, pessimistic, and far-from-hyperrational Khrushchev.

26. Those of you who believe that the enemy poses a Present Danger may at least accept the second half of existentialism. My picture of the well-deterred enemy is your picture of *us*, at least during a Democratic presidency. But in that case, I ask you: What do you think causes us to be that way? Is it plausible that the principal causes of aversion to risk, pessimism, skepticism, and so forth should be factors that do their work only here? Why shouldn't the same causes work also on the enemy?
27. Herman Kahn takes this view in *Thinking about the Unthinkable* (New York: Horizon, 1962), pp. 55–56.
28. For discussion of the alleged paradox, see Gregory S. Kavka, "Some Paradoxes of Deterrence," *Journal of Philosophy* 75 (June 1978), 285–302, and Gauthier, "Deterrence, Maximization, and Rationality"; and for discussion of why it does not arise, see my "Devil's Bargains and the Real World," in MacLean, *The Security Gamble*, pp. 141–54.
29. On the general question of aiming for second best to allow for one's own weakness, see Frank Jackson and Robert Pargetter, "Oughts, Options, and Actualism," *The Philosophical Review* 95 (1986), 233–55.
30. The word "plan" is ambiguous. Imagine that I want to persuade you to spend more money on precautions against sabotage. I make a plan for sabotage, just to show you how easy it would be. I do not at all plan to commit the sabotage I have planned. It is even true to say it this way: I never planned to do what I planned to do. This ambiguity may cause some needless alarm among those who read of our "plans" for nuclear war – though genuine cause for alarm may be found there as well.
31. Gregory S. Kavka considers a "no-retaliation policy" in his "Nuclear Deterrence: Some Moral Perplexities" in MacLean, *The Security Gamble*, pp. 123–40. This would be a policy of promising never to retaliate, yet keeping our weapons. He judges that it would have "considerable deterrent value" but

- would make deterrence “considerably less reliable than it is now.” I disagree with the second part: When we promise no retaliation, why should the enemy heed our words at all? He sees that we keep the weapons! Kavka goes on to say that the no-retaliation policy “would be a domestic political impossibility,” and with that I agree completely.
32. See, for instance, Anthony Kenny, *The Logic of Deterrence* (London: Waterstone, 1985; Chicago: University of Chicago Press, 1985), pp. 45–56; and C. A. J. Coady, “Escaping from the Bomb: Immoral Deterrence and the Problem of Extrication,” Chapter 4 of this volume.
 33. Thus my position is something like the Scrupulous Retaliation policy considered (and rejected) in Gregory S. Kavka, *Moral Paradoxes of Nuclear Deterrence* (New York: Cambridge University Press, 1987), pp. 48–51. But not quite: Kavka’s scrupulous retaliator would respond to a nuclear attack by limited strikes against military and economic assets located far from population centers. I support the strikes against military assets; and I note that some economic assets, such as petroleum supplies and civilian airfields, are short-term military assets as well. But why the strikes against other economic assets? These reciprocate past harm, but they do nothing – anyway, nothing very direct and certain – to prevent future harm. Therefore I regard them as gratuitous harm, and also as a waste of weapons. The counterattack I would favor is “scrupulous,” sure enough; but not, strictly speaking, “retaliation.”
 34. Why should his attack damage his own communications? He may have little choice if he wants to damage ours. A thorough attack on our reconnaissance and communication satellites, for instance, might well require high explosions over his own territory.
 35. In considering this objection, I am indebted to discussion with Donald Baxter.
 36. See McGeorge Bundy’s remarks at an *Ad Hoc* Hearing on Nuclear Danger, House of Representatives, November 22, 1983: “Let me suggest, not as a binding rule but merely as an indicator of an approach that may avoid escalating to oblivion, that it should be a guideline for any second use of nuclear weapons that the response be clearly and substantially *smaller* than the original attack.”
 37. Some critics of nuclear deterrence keep pointing this out as

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- though it were controversial. This is not because they have met with doubters, I think. Rather, they say it in order to portray their opponents as fools and knaves.
38. See R. P. Turco, O. B. Toon, T. P. Ackerman, J. B. Pollack, and C. Sagan, "The Climatic Effects of Nuclear War," *Scientific American* 251 (1984), 33–43. However, these authors note that "nuclear explosions over forests and grasslands could also ignite large fires, but this situation is more difficult to evaluate." The question is not only how much smoke a counterforce attack would produce, but also whether it would go high enough to stay up for a long time. It just might turn out that the indirect effects of counterforce warfare are worse than we think, and would unavoidably produce death and destruction of the same order as direct attacks on cities. If so, my position becomes untenable.
 39. See Blair, *Strategic Command and Control*, pp. 216–18.
 40. *Soviet Military Power*, fifth edition (Washington: U.S. Government Printing Office, 1986), p. 24.
 41. Example. He wants to destroy fifty soft targets using missiles with 80 percent reliability. If he fires one big salvo of one hundred warheads, two on one, his expectation is that two of the targets survive. Whereas if he fires a first wave of fifty warheads, one on one, his expectation is that ten of the targets survive the first wave; and if he can then retarget and fire a second wave of ten warheads, one on one, his expectation is that two of the targets survive the second wave. So sixty warheads in two waves do as well as a hundred warheads in one wave. If he were shooting at hard targets with warheads that not only could fail to launch but also could miss, or if he were shooting through defenses, then retargeting becomes much more advantageous. But also it becomes much more difficult: He would need to know not only which of his warheads had departed but also which had arrived on target, so he would need excellent reconnaissance.
 42. Example. After a certain amount of counterforce warfare, the enemy has 150 warheads left and we have 250. Each side has 100 cities, so far undamaged; and each side still can't guess whether the other will end by shooting at cities. If we then destroy 100 of his warheads with 200 of ours, we have spent those warheads well – we have made sure that 50 of our cities will be spared. But also *he* has spent his 100 warheads well in

having them attacked – he has made sure that 50 of his cities will be spared. He might have held them back exactly to spend them in this way, knowing that he had no better way to use them. Had we not seized the opportunity, he might have done well to call it to our attention. Apart from collateral damage, the effect is as if the two sides had agreed to keep 50 warheads each and fire the rest into the sea, except that it takes no mutual trust to do the deal.

43. In Chapter 4 of this volume Coady writes: “No doubt there are some purely military targets that could be destroyed by an accurate nuclear weapon having virtually no disproportionate side effects . . . [but] it is fanciful to suppose that the present war plans of the Eastern and Western powers can find moral comfort in such a fact.” (“Virtually no disproportionate side effects” is an odd phrase. Surely the relevant proportionality is between total harm done and total good accomplished, and it makes no sense to ask whether some particular effect is proportionate.) I claim that a missile in a silo is a military target which could be destroyed, not without very harmful side effects, but without disproportionate side effects. Counterforce warfare of this kind has a great deal to do with the present war plans of both East and West. We put great emphasis on flexibility and options, including options for counterforce warfare, and we obfuscate about which option would be chosen. I think it fanciful to be confident, but not unreasonable to hope, that counterforce warfare would be our ultimate response to nuclear attack – the worst we would ever do, come what may. I think that it safely could be, and should be; and making it so, if it were a change in direction at all, would not be a radical step.
44. See Kenny, *The Logic of Deterrence*, p. 10.
45. A previous objection said that we should limit damage not by counterforce warfare, but rather by limited countervalue retaliation, a little at a time, to dissuade the enemy from persisting in his attack. This would be the present-day counterpart of terror bombing in World War II – surely the very thing that noncombatant immunity is meant to forbid! – But no. Here again a standard of justice in warfare that tempers immunity with double effect takes back with one hand the protection it grants with the other. However else we may fault it, the strategy of limited countervalue retaliation does not in-

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- volve intending evil as a means. For consider how the causal chain running from our launch of a missile to the dissuasion of the enemy commander is meant to work. How do we think the enemy will first get the dissuading news? Only when he gets reports of death and destruction? – Not likely! More likely he will track a warhead on course toward his city, and he will detect the fireball from a satellite sensor, and then already he will know that death and destruction must inevitably follow. If confirming reports follow later, they will tell him only what he already knew and so will make no relevant difference to his state of mind. The visible flight of the warhead and the visible fireball are means to our good end of dissuading the enemy, sure enough; but these things per se are not evil. The death and destruction are evil, sure enough; but these things are not intended as means to our end. The causal chain we intend is one in which the detection of the warhead and the fireball causes the enemy to infer the death and destruction, and thereby causes the enemy to stop attacking us. The death and destruction themselves are not links on that chain; they are merely foreseen and inevitable side effects – exactly on a par with the collateral death and destruction from counterforce warfare. In that case, we are back to the same old question: Is the harm done by limited countervalue retaliation disproportionate to the prospect of harm prevented? (And the same old answer: Probably yes.) Given double effect, plus reasonable assumptions about the flow of information, non-combatant immunity turns out to be irrelevant to the question whether we may attack noncombatants.
46. It is not only in desperate situations, but in everyday life, that we must strike unsatisfying compromises between incommensurable ideals. For a good discussion, see Susan Wolf, "Above and Below the Line of Duty," *Philosophical Topics* 14 (1986), 131–48.
 47. Even the policy of buying like a MADman and using like a NUT requires us to buy something extra. Even if we buy just like a MADman so far as the weapons themselves are concerned, we must at least buy an extra war plan for second-strike counterforce. Again, plans are as much part of a genuine capacity as warheads or fuel tanks.
 48. It is one thing to provide enough post-attack command and control to put together one big effective counterforce second

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- strike; it is a much more difficult thing to provide command and control that can last long enough to permit slow-motion counterforce warfare. I advocate the former; I suspend judgment about the latter. Slow motion has advantages and drawbacks. It allows time to try for a cease-fire, if communication and the enemy's frame of mind permit it. And as already noted, attacks can be more efficient if they come in several waves with retargeting between. On the other hand, slow motion means missed opportunities as both our weapons and their targets disappear. The restraint of slow motion is a different thing from the restraint I principally advocate, which consists of avoiding collateral damage and never attacking cities.
49. Given very precise aim, we might for instance be able to use warheads fused to explode underground, deep enough that the fission products would be largely contained and a hard target could be destroyed by shock waves in the earth. See T. B. Cochran, W. M. Arkin, and M. M. Hoenig, ed., *Nuclear Weapons Databook* (Cambridge, Mass.: Ballinger, 1984), vol. I, p. 311.
 50. I am grateful for comments from D. M. Armstrong, Donald Baxter, Michael Doyle, Mark Johnston, Gregory Kavka, and the members of the University of Maryland Working Group.