

THE ETHICAL JUSTIFICATION OF NUCLEAR DETERRENCE

DAVID CONWAY



Several philosophers¹ in recent years have argued that the policy of nuclear deterrence as currently practised by the Western nuclear powers is morally wrong and should accordingly be discontinued forthwith. Some of these philosophers prescribe unilateral nuclear disarmament for the West even if the adoption of such a policy were to result in domination of the West by a nuclear-armed Soviet Union that, in the absence of the Western nuclear deterrent, could impose its will on the West by threatening to use its nuclear weapons against Western targets should the West refuse to comply with any demands the Soviet Union cared to make.

The structure of the argument against nuclear deterrence that is employed by these philosophers can be set out very simply as follows:

Premise (1): Any use of nuclear weapons that resulted in substantial non-combatant fatalities would be morally wrong.

Premise (2): It is morally wrong to intend to do that which it would be morally wrong to do.

Therefore: It is morally wrong to intend to use nuclear weapons in a way that would result in substantial non-combatant fatalities.

Premise (3): Nuclear deterrence requires its practitioners to have the intention to use nuclear weapons in a way that would result in substantial non-combatant fatalities.

Conclusion: Nuclear deterrence is morally wrong.

THE ONLY WAY TO AVOID A VERY GREAT HARM

This argument has not gone unchallenged. Indeed, each of its three independent premises has been contested. Thus, against Premise (1), David Fisher² has argued that not all conceivable uses of nuclear weapons that resulted in substantial non-combatant fatalities would be morally wrong. Fisher accepts that any nuclear strike against cities, or against military targets near large centres of civilian population, would be morally wrong. No good that would be achieved by any such strike could ever justify the evil that would be done in bringing about the numbers of non-combatant fatalities such strikes would cause. However, so Fisher argues, certain uses of nuclear weapons are conceivable in which the good that could be achieved through them clearly and decisively outweighed the evil they would cause, despite their issuing in substantial non-combatant fatalities. Thus, for example, if the use of nuclear weapons by a country was necessary - and together with other measures was sufficient - to check an adversary intent upon aggression against that country (or its allies), then it might not be morally wrong for

the country threatened with aggression (or for its nuclear ally) to use nuclear weapons to stop its adversary continuing with its aggression, even if such use resulted in considerable numbers of non-combatant casualties. The general principle to which Fisher appeals in support of his claim is this:

Military action [which] would inevitably cause non-combatant deaths ... is permissible if and only if there is very good reason to believe that this is the only way to avoid a very great harm and ... the good thereby achieved would clearly and decisively outweigh the harm.³

Nuclear strikes against cities, or against military targets in or near cities which would result in similar numbers of non-combatant fatalities as strikes against cities would, could never be morally justified, according to Fisher. This is because whatever good was achieved by them could never clearly and decisively outweigh the harm they would cause in terms of non-combatant deaths. On the other hand, limited nuclear strikes against the combatants of one's adversary could be justified by the principle, even though these strikes resulted in substantial numbers of non-combatant fatalities. Fisher writes:

There is no reason why a limited damage plan could not be devised which, while eschewing counterpopulation strikes and concentrating primarily on military and related targets, particularly an adversary's conventional forces and their supporting infrastructure, was still prepared not to rule out damage levels sufficient to convince an aggressor that the costs of any aggression would amply outweigh the benefits.⁴

Such use of nuclear weapons would serve a joint purpose: first, it would weaken the forces of aggression; second, it would serve to issue the following warning to the adversary: 'Persist in your aggression and you can expect more of the same.' Although such use would result in substantial numbers of non-combatant fatalities, the harm that would be prevented by such use might clearly and decisively outweigh the harm they caused. Fisher offers as an instance where the use of nuclear weapons in this way might be justified the case where it is the only way to stop "a nuclear-armed Hitler bent on world domination and genocide."⁵

As has already been remarked, Fisher makes it clear that the consequentialist principle to which he appeals does not, in his opinion, morally license counter-population strikes. It follows, therefore, on Fisher's view, that a counter-city strike in retaliation for a strike against one or more of one's own cities could under no circumstances ever be morally sanctioned by the principle. However, the fact that, on Fisher's view, a country is morally precluded from ever using nuclear weapons against the cities of its adversary in retaliation for an attack on its own cities would undermine the effectiveness of any policy of nuclear deterrence that sought to remain in accordance with Fisher's principle. As John Finnis, Joseph Boyle Jr. and Germain Grisez point out in their recent book,⁶ a country, A, which was threatened with aggression by a nuclear-armed adversary, B, and which had restricted itself to a counter-combatant targeting policy of the kind advocated by Fisher, would, if rational, always be inhibited from actually carrying out its threatened retaliatory strike against the conventional forces of its adversary in retaliation for B's conventional aggression against A, if B should threaten to retaliate against the cities of A should A ever use nuclear weapons against B. If a nuclear-armed aggressor, B, could always successfully deter A from using nuclear weapons against B in retaliation for B's aggression against A, then A could not deter

Foreign Policy Perspectives No. 19

ISSN 0267-6761

ISBN 1 85637 004 6



An occasional publication of the Libertarian Alliance,
25 Chapter Chambers, Esterbrooke Street, London SW1P 4NN
www.libertarian.co.uk email: admin@libertarian.co.uk

© 1990: Libertarian Alliance; David Conway.

David Conway is Principal Lecturer in Philosophy at Middlesex Polytechnic. He has contributed to numerous academic journals, and is the author of *A Farewell To Marx* (1987).

The views expressed in this publication are those of its author, and not necessarily those of the Libertarian Alliance, its Committee, Advisory Council or subscribers.

Director: Dr Chris R. Tame

Editorial Director: Brian Micklethwait

Webmaster: Dr Sean Gabb

FOR LIFE, LIBERTY AND PROPERTY

B's aggression with its nuclear weapons. In other words, if we adopted the counter-combatant targeting policy advocated by Fisher, then, if the Soviet Union ever launched a conventional attack against the West, we could never actually *use* our nuclear weapons against the conventional forces of the Soviet Union, if the Soviet Union declared they would retaliate with nuclear weapons against our cities should we use nuclear weapons against Soviet conventional forces. The consequence is that, provided the Soviet Union is prepared to strike against Western cities should the West use nuclear weapons against Soviet conventional forces, the West could never risk suffering a nuclear strike against its own cities by using its nuclear weapons against Soviet conventional forces. Therefore the West's nuclear deterrent would have zero deterrent effect on the Soviet Union. In order to be a credible and effective deterrent, counter-combatant targeting policies are not enough. As the three authors make clear, "Western deterrent policies cannot do without the threat to city swap."⁷ The three authors explain why as follows:

The US and NATO deter Soviet incursions by threatening to use tactical nuclear weapons, and this threat's credibility requires that the Soviets be deterred from expanding a limited war by attacking the homeland of any Western nuclear power ... Western political and military leaders [will not] be willing to take the immense risks of tactical nuclear use unless they are at the same time confident that they can protect the cities of their homelands by threatening to retaliate against Soviet cities.⁸

Fisher's proposed counter-combatant targeting policy would not, therefore, issue in a credible deterrent however morally licit it succeeded in being. Fisher has, therefore, failed to show the falsity of the following proposition:

Any use of nuclear weapons in ways that have to be threatened and intended for a nuclear deterrent to be credible would be morally wrong.

It is this latter proposition which is more relevant than Premise (1) to the argument against nuclear deterrence, and Fisher has not succeeded in showing this more relevant proposition to be false.

PROBABILITIES AND DISUTILITIES

Premise (2) of the argument has been challenged by Gregory Kavka.⁹ He argues that, although the principle expressed by Premise (2) is *in general* true, the principle admits of several exceptions. The exceptions comprise those cases where the formation of the intention to do what it would be morally wrong to do is both necessary and very likely sufficient to prevent very great evil from happening, and where it is likely that the formation of the intention itself will bring it about that it is never acted upon. The intention to use nuclear weapons in retaliation against an attack is an instance of such an intention for the following reasons. First, the intention is necessary to prevent Soviet domination of the West. This is because, in the absence of a Western nuclear deterrent, the West would lack any means of preventing the Soviet Union from successfully employing nuclear blackmail to force the West to accede to any demands it chose to make of the West. Secondly, the Soviet Union subscribes - or, at least, without the Western deterrent cannot be trusted not opportunistically to revert - to an ideology which will dispose it to impose its own form of government upon other societies wherever it meets with no effective resistance. Therefore, if the West unilaterally disarmed, the Soviet Union would be able and disposed to use nuclear blackmail to impose its own form of government upon the West. Third, the intention on the part of the West to retaliate with nuclear weapons if attacked by the Soviet Union seems likely to be sufficient to deter the Soviet Union from carry-ing out aggression against the West. This is because the Western deterrent threatens the Soviets with damage that would outweigh any conceivable gains they could achieve through aggression against the West.

In different writings of his, Kavka has advanced different principles which, in the strategic situation in which the West finds itself vis-à-vis the Soviet Union, yield the conclusion that it is not morally

wrong for the West to have the intention to use nuclear weapons if attacked, despite the use of such weapons being morally wrong. In the earlier of the two articles, Kavka advanced, as a plausible assumption and without any supporting argument, the following principle which I shall call 'Principle (A)':

It is morally right to perform an act with the highest expected utility if: (i) a very great deal of negative utility is at stake; (ii) people will likely suffer serious injustices if the agent fails to perform the most useful act; and (iii) performing the most useful act involves, at most, a small *risk* of performing an inherently evil act.

Suppose, for example, we knew that the disutility of nuclear war was -100, and the disutility of Soviet domination of the West was -10. Suppose, also, the probability of nuclear war if the West retains the nuclear deterrent is 1%, and the probability of Soviet domination of the West if the latter disarms unilaterally is 75%. Then, setting aside all other factors, the expected utility of the West retaining the nuclear deterrent is $1\% \times -100 = -1$, and the expected utility of unilateral nuclear disarmament by the West is $75\% \times -10 = -7.5$. In these circumstances, Principle (A) would imply that it is morally right for the West to practise nuclear deterrence.

However, as Kavka points out in the later of the two articles,¹⁰ the precise probabilities and disutilities of nuclear war and Soviet domination of the West are unknown. Accordingly, Kavka replaces Principle (A) which, by employing expected utility relies for its application upon knowledge of precise probabilities and utilities of outcomes, with a principle which he calls the *Disaster Avoidance Principle* which does not. This principle states:

When choosing between courses of action which each involve a risk of issuing in some disaster, in ignorance of the precise disutility of each disaster and in ignorance of the precise risk of disaster relative to each course of action, it is morally right to select that course of action that minimises the probability of disaster occurrence.

In the strategic situation confronting the West, there exists ignorance of both the precise disutilities of Soviet domination of the West and of nuclear war, and ignorance of the precise probabilities of Soviet domination of the West if the West unilaterally disarms and of nuclear war if the West continues with nuclear deterrence. All that Kavka says we can safely claim to know is that (i) the disutility of nuclear war is greater than the disutility of Soviet domination, and that (ii) the probability of Soviet domination of the West if the latter disarms unilaterally is greater than the probability of nuclear war if the West retains the nuclear deterrent. Given these supposed facts, says Kavka, the Disaster Avoidance Principle implies that it is morally right for the West to practise nuclear deterrence. This is because in these circumstances nuclear deterrence maximises the chances that disaster will be avoided. Thus, says Kavka, nuclear deterrence is morally right even though it involves the intention to do what it would be morally wrong to do.

Both forms of the defence of the morality of nuclear deterrence proposed by Kavka are vulnerable to a similar objection: namely, they both underestimate the size of the difference in magnitude between the disutility of Soviet domination of the West and nuclear war. However more likely Soviet domination of the West is, if the latter unilaterally disarms, than nuclear war is, if the West continues to practise nuclear deterrence, the fact remains that nuclear war - or at least some possible nuclear wars - would be many orders of magnitude more disastrous than Soviet domination of the West. What is the loss of liberty in the West, etc., that Soviet domination of it would bring compared with the loss of hundreds of millions of human lives - indeed, possibly the end of life on this planet - that nuclear war could result in? Let the probability of nuclear war if the West retains the nuclear deterrent be as small as you like (provided it remain above zero), and let the probability of Soviet domination of the West if the latter disarms be as great as you like, the disutility of nuclear war is so much greater than the disutility of Soviet domination of the West that the expected utility of nuclear deterrence could never be greater than that of unilateral nuclear disarmament by the West. This means that, even if Prin-

ciple (A) is accepted, it is implausible to suppose that it licenses nuclear deterrence.

Even if one supposes only that we know that Soviet domination of the West, though a lesser disaster than nuclear war, is more probable, if the West unilaterally disarms, than nuclear war is if the West does not, the difference in order of magnitude between the two disasters is so large as to render inapplicable the Disaster Avoidance Principle. As Kavka himself concedes, the Disaster Avoidance Principle only has plausibility where “the disastrous outcomes are judged to be of roughly the same order of magnitude”.¹¹ Two disasters are of the same order of magnitude, says Kavka if neither is “hundreds of times worse”¹² than the other. However, nuclear war - or at least some nuclear wars that are possible if the West retains the deterrent - are easily hundreds of times more disastrous than Soviet domination of the West would be. Surely, the end of life on this planet is hundreds of times more disastrous than world-domination by the Soviet Union, however low one’s opinion of the Soviet Union is. Accordingly, although Kavka may have shown that it can sometimes be morally right to intend to do what it would be morally wrong to do, he has not shown that it can ever be morally right for the West to intend to use nuclear weapons in ways in which it would have to intend to use them in order for deterrence to stand a chance of being credible.

If the foregoing objection to Kavka’s defence of the morality of nuclear deterrence is sound, then the only way of resisting the conclusion of the argument against nuclear deterrence is by denying Premise (3). Premise (3) has, indeed, been denied by Anthony Kenny.¹³ Kenny accepts Premises (1) and (2) of the argument. Hence, he is opposed to the form of nuclear deterrence that is currently practised by the West. He, therefore, urges nuclear disarmament. However, Kenny has argued that, during disarmament negotiations with the Soviet Union, it would be possible to deter Soviet aggression for a brief period at least by the West’s retaining the *capacity* to launch nuclear weapons against the Soviet Union in retaliation for aggression, while at the same time the West sincerely declared that under no circumstances whatever would it ever be prepared to use the weapons even in retaliation if attacked. The Soviets would be deterred from attacking the West in such circumstances, argues Kenny, by the fear that the West might retaliate, given its capacity, despite its declaration that it would not use the weapons in retaliation. This is because the Soviet Union would not be able to be certain either that the West was sincere in its declaration or that the West would not change its mind in the event of Soviet aggression against it. By maintaining the capacity to retaliate with nuclear weapons if attacked, despite lacking the intent, the West could effectively deter the Soviet Union from aggression and provide the Soviet Union with an incentive for participating in multi-lateral nuclear disarmament. Kenny, therefore, denies that all nuclear deterrence requires its practitioners to have the wrongful intention to retaliate with nuclear weapons if attacked in order to be effective.

As Finnis, Boyle, and Grisez have pointed out,¹⁴ the trouble with Kenny’s proposed form of morally licit nuclear deterrence is that it would very quickly lose whatever effectiveness it initially possessed. All that it would be necessary for the Soviet Union to do in the face of such a form of deterrent policy is for it gradually to test the sincerity of the West’s declared intention never to use its nuclear capacity to retaliate against Soviet aggression. Once the Soviet Union became assured of the sincerity of the West’s declaration of intent never to use the weapons, the Soviet Union would then have every incentive to apply nuclear blackmail to force the West to submit to political domination. For gaining political domination of the West would allow the Soviet Union to effect the dismantlement of the Western nuclear capacity before there could be a change of mind on the part of the West.

IS IT ALWAYS WRONG TO INCREASE THE RISK OF DOING SOMETHING WRONG?

The conclusion of our initial survey of the argument against the morality of nuclear deterrence is that its premises can withstand all

the criticism of them we have so far considered. It seems, therefore, if there is no further way to challenge any of the three premises, we must accept that nuclear deterrence as currently practised by the West, and as it seems necessary for the West to practise it in order for the policy to be effective, is morally wrong.

For those, like the author, who believe that it is the nuclear deterrent that ultimately prevents Soviet domination of the West, and who believe it reasonable and right for the West to take any measure necessary to prevent Soviet domination of the West (short of committing mass suicide), provided that the measure was morally permissible, it is most depressing to become convinced that nuclear deterrence is morally wrong. For it seems that it is only by doing moral wrong that the West can avoid falling victim to Soviet domination. I think, therefore, that one should be willing to concede the soundness of the moral argument against nuclear deterrence only after one has become absolutely convinced of the truth of all its premises. I find Premises (1) and (3) absolutely unassailable. Consequently, the only hope there is of resisting the conclusion of the argument is by challenging Premise (2).

Now, as William Shaw¹⁵ has pointed out, there appear to be only two grounds for affirming Premise (2): consequentialist and deontological. The consequentialist ground for affirming Premise (2) can be put as follows:

- (i) Intending to do what it would be morally wrong to do is itself morally wrong by virtue of that intention’s increasing the likelihood of that wrong thing’s being done.¹⁶

The deontological ground for Premise (2) is this:

- (ii) Intending to do what it would be morally wrong to do is itself morally wrong by virtue of that intention’s involving a willingness on the part of the person(s) who has it to do moral wrong, which willingness is wrong in itself regardless of consequences.

I shall now consider each of these grounds in turn, and I shall argue that there is no reason to accept either statement in the unqualified form that is needed in order for the argument against nuclear deterrence to go through.

First, let us consider (i), the consequentialist ground for Premise (2). Is it *always* morally wrong to increase the likelihood of some wrong act being done? It is very much other than obvious that it is. Consider the following case. Suppose you have a child who is in urgent need of medical attention in order for his life to be saved. Suppose the only way of securing that medical attention is by your driving him to hospital at well above the speed limit. Driving well above the speed limit increases the likelihood of your injuring or killing innocent pedestrians, which act would be wrong to do. Would it be morally wrong to drive at well above the speed limit to save your child’s life, even though this increased the likelihood of your accidentally running over a pedestrian? It is not obvious - at least to me - that it would be wrong. After all, ambulances and police cars do this all the time in emergencies, and although they have sirens I suggest they still increase the risk of accidental injury more than driving at the speed limit does. I conclude that increasing the likelihood of doing a morally wrong act is not always morally wrong.

Of course, *sometimes* increasing the likelihood of doing a wrong thing is morally wrong. It is tempting to propose the following principle:

It is not morally wrong to increase the risk of doing something morally wrong if and only if: (i) taking that risk is the only way to prevent an otherwise certain evil; and (ii) the risk is undertaken solely to prevent that otherwise certain evil from happening.

I say this proposed principle is tempting, but I am not certain it is correct. Suppose you lived in an area which was plagued by burglary. Suppose the only way of preventing your house from being burgled was by booby-trapping it in such a way that anyone illicitly entering your house would automatically be killed and by publicising that you had installed such a device so that any potential burglar was aware that you had installed it. Let us assume that

it would be morally wrong to kill a burglar who had merely broken into your house and who had not exhibited any violent intention towards anyone in the house. Would it be morally wrong to install such a booby-trap? Of course, if you could be *certain* that the booby-trap would be 100% effective as a deterrent, and would never malfunction so as to go off and accidentally kill someone who was not attempting to break in, then it would be morally permissible to install the booby-trap. But in such circumstances, installing it would not be a case of increasing the likelihood of anything wrong being done. If, however, there were a real risk that either a potential burglar would not be deterred by the threat or that the device might malfunction and accidentally kill a non-burglar, then I suggest it might well be morally wrong to install such a device. It would *certainly* be morally wrong to install the device if installing it made it certain that either a burglar would be killed who had not intended violence against anyone in the house or that a non-burglar would be accidentally killed by it.

Installation of the booby-trap is morally permissible if there is no risk of wrong being done as a result of its installation. Installation of the booby-trap is morally wrong if it is certain that moral wrong will be done as a result of its installation. Is it morally wrong to install the device if its installation only creates some degree of risk that moral wrong will be done, and how much risk of wrong doing is it necessary that its installation create before its installation becomes morally wrong? These seem to me extremely difficult questions to answer. It is not obvious that it is morally wrong to install the device simply if the degree of risk of wrong-doing its installation creates is greater than zero. After all, every time anyone drives a car, he or she creates some degree of risk of accidentally running a pedestrian over. However, it is not obvious that driving a car is morally wrong. I submit that nuclear deterrence is not morally wrong, despite its creating some degree of risk that nuclear weapons will be used, if driving motor cars is not wrong despite this activity creating some degree of risk that pedestrians will be accidentally killed as a result.

It may be objected that the two cases of nuclear deterrence and killing pedestrians by accident while driving are not analogous. Nuclear deterrence involves having an intention to do something which one knows will lead to the deaths of many innocent people. Driving involves having no such intention. I would dispute the moral relevance of this latter claim. If you know for certain - as we all do - that innocent pedestrians will be accidentally killed by drivers despite the drivers having no intention to kill these pedestrians, then, if you decide to drive, you are manifesting a willingness to create a risk that you accidentally kill pedestrians. I submit that, as far as increasing the risks of wrong-doing are concerned, nuclear deterrence is no worse than driving is. Of course, killing millions of people is morally worse than killing only very few. Driving risks killing very few by comparison with the numbers whose lives are risked by the practice of nuclear deterrence. Yet, if the wrongness of deterrence is a function only of its increasing the risk of killing non-combatants and that alone, the two practices - driving and nuclear deterrence - are on a moral par. I submit that there is no real moral difference between driving and nuclear deterrence, despite nuclear deterrence risking something that is much worse than driving risks. In any case, it is certainly true, it seems to me, that the risk of innocent people dying if people drive is much higher than the risk of innocent people dying if nuclear deterrence is practised. For we know for certain that there will be accidental deaths on the roads if people drive. We do not know there will be any innocent deaths if nuclear deterrence is practised. For there is no certainty that nuclear deterrence will fail. I submit that the consequentialist ground for asserting Premise (2) does not hold good - or, at least, it has not been proved that it does hold good.

THE MOTIVATION AND THE CONSEQUENCES OF THAT WILLINGNESS

Let us turn finally to (ii), the deontological ground for Premise (2). Kenny has offered this ground for the moral wrongness of nuclear deterrence as follows:

The real reason why the way in which we maintain the power to destroy an enemy population is immoral is that in order for the nation to have the power, individuals in the nation must have the willingness to exercise the power. Everyone involved in the military chain of command from the top downwards must be prepared to give or execute the order to massacre millions of non-combatants if ever the government decides that this is what is to be done. It is true that this willingness is a conditional willingness: it is a willingness to massacre if ordered to do so. It is true that it is accompanied, in every member of the armed forces I have ever spoken to, by a profound hope that those orders will never be given. None-theless, it is a willingness which is required and insisted upon in all the relevant military personnel.

It is this which is really wrong with the deterrent strategy ... It is very horrible that we should be following a policy which makes it a mark of the good serviceman to be willing, in the appropriate circumstances, to commit murder on a gigantic scale.¹⁷

We can afford to be brief in considering thesis (ii). I concur with William Shaw entirely when he writes:

It begs the question at issue to assume that a conditional intention to retaliate immorally, when that intention is part of a threat that will (likely) guarantee that there is no initial immoral attack (and thus no need to retaliate) and when the threat is honourably motivated, is immoral.¹⁸

In other words, it begs the question to say that having a willingness to do what is morally wrong is always in itself morally wrong. It depends on what one's motivation in having that willingness is and on the consequences of having that willingness. If one's motivation in having that willingness is to prevent another evil from happening, and if that willingness is very unlikely to result in any actual wrong act being done, then the willingness to do moral wrong is not in itself morally wrong.

I conclude, therefore, that the moral case against nuclear deterrence has not been made out. Premise (2) remains unproven, and, while it does, nuclear deterrence may be practised by the Western nuclear powers in good conscience.

NOTES

1. These philosophers include most notably A. Kenny, 'Better Dead Than Red', in N. Blake and K. Pole (eds.) *Objections to Nuclear Defence*, Routledge and Kegan Paul, London, 1984; M. Dummett, 'The Morality of Deterrence', in D. Copp (ed.), *Nuclear Weapons, Deterrence, and Disarmament*, University of Calgary Press, Calgary, 1986; and J. Finnis, J. M. Boyle and G. Grisez, *Nuclear Deterrence, Morality and Realism*, Clarendon Press, Oxford, 1987.
2. David Fisher, *Morality and the Bomb*, Croom Helm, London, 1985.
3. *Ibid.*, p. 46.
4. *Ibid.*, p. 90.
5. *Ibid.*, p. 94.
6. *Nuclear Deterrence, Morality and Realism*, p. 138.
7. *Ibid.*, p. 138.
8. *Ibid.*, p. 138.
9. G. Kavka, 'Some Paradoxes of Deterrence', *Journal of Philosophy*, Vol. LXXV, no. 6, 1978, pp. 285-302.
10. G. Kavka, 'Deterrence, Utility, and Rational Choice', *Theory and Decision*, vol. 12, 1980, pp. 41-60.
11. *Ibid.*, p. 51.
12. *Ibid.*, p. 52.
13. A. Kenny, *The Logic of Deterrence*, Firethorn Press, London, 1985.
14. *Nuclear Deterrence, Morality and Realism*, pp. 105-10.
15. W. H. Shaw, 'On The Morality of Nuclear Deterrence', *Journal of Applied Philosophy*, vol. 2, no. 1, 1985, pp. 41-52.
16. This principle is advanced as the basis of an argument against the morality of nuclear deterrence in J. McMahan, 'Deterrence and Deontology', *Ethics*, vol. 95, no. 3, 1985, pp. 517-37.
17. *The Logic of Deterrence*, pp. 53-4.
18. Shaw, *op. cit.*, p. 46.