

Superpower Strategy Magazine - MAD Issue

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### ***All Or Nothing***

With all the new technology available in nuclear weapons, it might be assumed that complexity is the best way to keep the peace. The Stealth bomber, Star Wars, and MARV promise great advances in American nuclear weaponry.

In reality, the best defense is the simplest one: Mutually-Assured Destruction. MAD states that in a nuclear war, there are only two strikes: the first, an offensive counter-city strike, and the second, a retaliatory counter-city strike. Both countries would be completely annihilated, left as smoking hulks of radioactive debris for decades. Faced with such a prospect, no reasonably sane world leader would push the button. Suicide itself is the deterrent.

There are several conditions that must be met for MAD to serve as an effective deterrent. Each side must be capable of inflicting UD on the other side. Both powers must be *incapable*, or at least unwilling, to launch a CF strike against the enemy. Neither power may have a credible, working defense system, whether it be Civil Defense, Star Wars, or Anti-Ballistic Missiles.

America's ability to inflict UD on the Soviet Union is a capability that has been around for decades. Existing weapons like the Minuteman ICBM, the B-52 bomber, and the Trident submarine are more than capable of leveling "soft" targets like cities.

The Soviets are also very well equipped to deal the United States a crushing blow, were the need to arise. Their bomber and submarine legs are not as strong as those of the United States, but the power of their ICBMs certainly makes them strong enough to destroy the U.S.

One of the most important points of a MAD strategy is that both sides must never believe that they are capable of launching a CF first strike. This possibility must be ruled out to maintain the stability of the all-or-nothing deterrent. If either side believed that it could successfully carry out the Nitze scenario, a state of crisis instability would occur.

A CF strike would require a huge amount of highly accurate warheads, which are now on the American agenda. America would need to cut and restructure its nuclear weapons to prevent its armory from looking like a first-strike stockpile to the Soviets. While cutting, the U.S. could use cuts as bargaining chips to help ensure that the Soviets wouldn't come close to a CF first strike capability either.

Making each side incapable of launching a CF first strike is only insurance, because even if each side had thousands of MARVed, super-accurate warheads, the willingness to strike first would still not exist. Bias error and other possible problems that can't be tested make the whole idea of a CF first strike too uncertain for a world leader to actually try it.

Defense systems that make either superpower believe in its own ability to withstand a nuclear strike would make MAD impossible. If it is not believable that both powers would be completely destroyed if any shot were fired, then the deterrent is worthless.

It is also important that both sides not attempt to develop this type of technology, for fear the other side will pre-empt before the defense is completed, while the "window of vulnerability" is still open.

The simplicity of a MAD deterrent is also its stability. For as long as the United States and the Soviet Union are capable of destroying each other, will not launch a CF first strike, and will not try to be invulnerable through defense, the peace will remain unbroken.

### ***The Safety Of Simplicity***

Simplicity is the safest way to go when it comes to nuclear strategy. Existing weapons technology without heavy emphasis on accuracy or reliability is the only thing that can really be counted on in a nuclear war.

With MAD, a strategy with such parameters is quite feasible both technically and as far as crisis stability is concerned. It calls for no new weapons or technology, no complicated command and control systems, and no hare-brained defense schemes.

The technology needed for MAD has been around for many years. All that is needed is enough warheads to inflict UD on the opposition. This capability has already been met by both superpowers. MAD targets are mainly large population centers and industrial areas. No new targeting technology is needed because these

targets are “soft” and easy to hit. Bias error is not a problem with MAD because even if a warhead lands 10 miles away from a city, the effects of the nuclear blast will still effectively destroy it. Long-term radiation and fallout will kill millions besides those killed immediately. The anomalies in the Earth’s magnetic and gravitational fields will have no adverse effects on the ability of MAD weaponry to do its job.

Command, control, and communications will also be rather easy to handle. Only one order would need to be sent, and the order itself would be simple. For land-based missiles and bombers, the order would be “fire”. For submarines the order would be the mere absence of a “don’t fire” signal.

In the event of a Soviet first strike, the United States would launch under attack while its C3 system was still intact. Estimates of the time the US’s C3 could survive range from 30 minutes to 6 hours. Within this time frame, it is technically possible to get the order out to ICBM’s and bombers, and the shattered remnants of the submarine communication system will ensure that all available missiles will be launched back at the Soviet Union.

Capping the accuracy of American weapons is no problem - the changes will save money and time. The difficulty lies in making sure that the Soviets do the same. Negotiations would have to be held and treaties drawn up to limit and regulate weapons tests as well as the weapons themselves. If realistic verification policies could be agreed upon, it is likely that such treaties could really keep accurate weapons from being produced.

In such negotiations, American programs such as SDI, the B-1 bomber, the Stealth bomber, the Midgetman, MARVing, and MIRVing could be used as bargaining chips. If the U.S. would agree to cut these programs, similar concessions could be won from the Soviets.

Unreliability would not be an obstacle for a MAD strategy. Even if only a small percentage of warheads reach their targets, the ones that do will cause enough destruction to inflict UD without them. The warheads need not all reach their targets for the strike to be successful.

Countercity warheads do not carry many inherent problems because the factors that affect them that are untestable (accuracy, bias error, reliability) are not seriously damaging to their effectiveness.

MAD’s ability to maintain crisis stability is certain. If any type of strike were leveled against a superpower, whether it be counterforce or countercity, the

attacked country would launch under attack before either its weapons or its C3 system was too damaged. If the weapons were targeted, the attacked country would face a "Use 'em or lose 'em" decision, and would fire its weapons as soon as it realized that it was under attack. If the cities were being blown up, the attacked country would certainly not want to be destroyed alone after so many lives had been lost, so in that situation as well, it would retaliate.

Knowing that an attacked country would surely retaliate keeps such an attack from taking place. In a crisis, the United States would be protected from destruction because the Soviet Union would lack the credible intent to launch a destructive first strike.

MAD's stability is based on the fact that there are only two choices: peace or suicide. Peace is the only sane choice.

MAD is a wise, simple choice that is technically feasible, can maintain crisis stability, and requires no new weapons or new tax money. If long-lasting peace is the goal, the safest strategy is the simplest one.

### ***Idle Threats***

There are several objections to a MAD-style deterrent. The USSR may develop a foolproof defense, blackmail the United States with nuclear winter, or stockpile highly accurate weapons capable of delivering a CF first strike.

It is not realistic that the Soviets would one day be able to develop an effective defense system. A Star Wars system has many drawbacks including high cost, technological problems, and uncertainty of effectiveness. Even if the Soviets perfected such a system, it would only work above the atmosphere, so ALCM's and bombs dropped from bombers would still be able to inflict UD.

A ground-based ABM defense is incapable of protecting large targets like cities, the major targets of an American MAD strike.

Soviet Civil Defense is not likely to succeed in the orderly evacuation of cities, as even some Soviet officials doubt its effectiveness. Pandemonium and panic are the more likely results of a nuclear warning.

Another threat to the American nuclear deterrent is the possibility of Soviet blackmail with nuclear winter. The theory of nuclear winter holds that at 5,000 megatons a threshold is reached at which thick clouds of nuclear fallout will block the sun, causing a massive drop in global temperature and the cessation of life on

Earth.

According to the blackmail theory, the Soviets could launch a first strike just below the threshold, and any American retaliation would break the threshold, bringing on nuclear winter. An American president, knowing this, would not retaliate for fear of destroying the entire world. Thus the Soviet Union could get away with a limited nuclear war and come out unscathed.

The theory of nuclear winter can never be tested, and it has many critics who believe that the idea of a “threshold” is ridiculous, that the Earth would at most be affected by nuclear winter in patches, and that the calculations are invalid because of the omission of such key factors such as wind, water, and rain.

Another problem with the blackmail theory is that an American President would retaliate anyway, not wanting to let the Soviets get away unharmed, regardless of the consequences for the rest of the planet. In such a stressful situation, a decision would be very difficult for the President to make, and no one can count on the fact that he will make one given decision or another. The Soviets could never be sure that the President would not fire back. This ambiguity in predicting a world leader’s actions makes a Soviet first strike under the threat of nuclear winter very unlikely.

Also dangerous to the MAD deterrent is the possibility that the Soviet Union could develop a CF first strike capability and be able to carry out the Nitze scenario.

The weapons themselves would be practically impossible for the USSR to acquire. Not only is high accuracy needed, but also great numbers of warheads.

Accuracy is a big obstacle to overcome because a silo must be hit at a much closer range than a city to be destroyed. Even with MIRV and MARV technology, perfect aim is impossible. TERCOM is only effective if the warhead is over a patch of terrain in its memory. If for some reason a warhead is knocked off target in the boost or coast phase, it is unlikely that it will be able to find its proper target.

There is a good possibility that such a change in trajectory could take place because of bias error, the built-in error in trajectory calculations caused by unknown anomalies in the Earth’s magnetic and gravitational fields over the poles. No full-scale test has ever been run with an actual warhead over the actual route that would be taken in a nuclear war, so unforeseen conditions could knock a warhead far off course. Even American tests aimed at Kwajalein Island have proven completely unsuccessful. The island is bigger than a silo and the route is over a part of the planet whose gravitational and magnetic fields can be tested, but

still not one of 8,000 warheads has been able to hit it.

Even if aim were perfect, no one can be sure that the atomic blast from a warhead is capable of leveling a hardened silo. The exact hardness of a silo and the yield of a warhead are both variables which are untestable.

There are also timing problems which make it impossible for both an attack on American ICBM's and bomber bases. The combination of unsure factors, known well by the Soviet Union, make a CF first strike very unlikely.

With the possibilities of a foolproof Soviet defense, blackmail with nuclear winter, and a Soviet first strike CF capability quite slim, a MAD deterrent would be quite effective at keeping the US from being destroyed by nuclear war.