

"MINIMAL DETERRENT" vs. SATURATION PARITY

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"Minimal Deterrent" vs. Saturation Parity

We are close to the point where America and Russia could destroy each other to any degree and, therefore, one would perhaps think that the arms race is about to come to an end. In fact, a new arms race might be just around the corner.

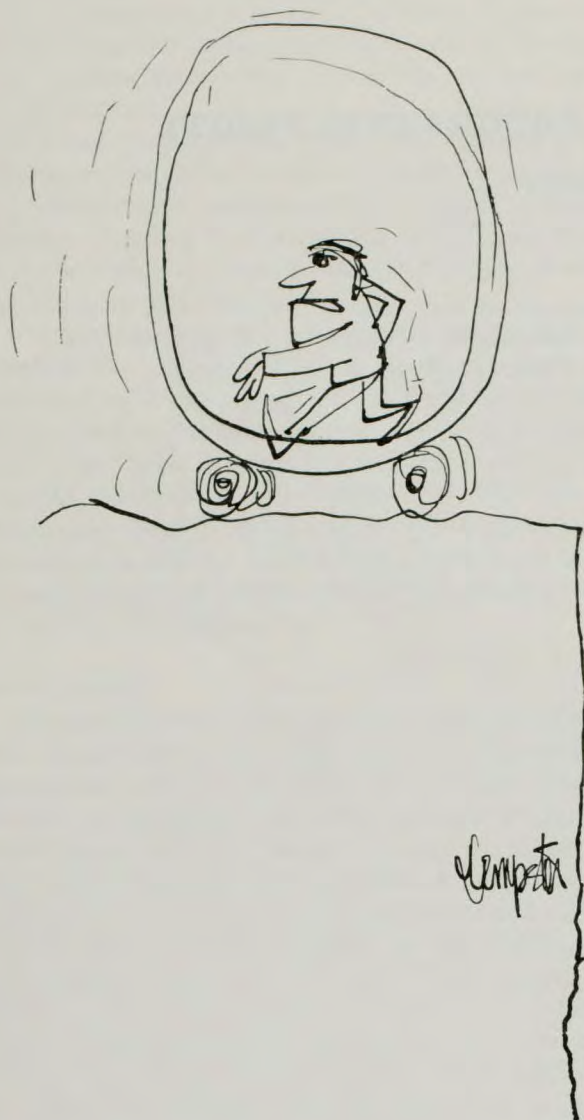
Russia might before long deploy antimissile-missiles in defense of her rocket-launching sites. For such a defense to be effective it is only necessary to prevent a ground burst of the incoming rockets and this is, quite possibly, an attainable goal. Thus, the administration might find itself under congressional pressure to double, or triple, the number of Minutemen scheduled to be built in order to overcome Russia's defense of her bases.

Russia might go further and might deploy antimissile-missiles also for the defense of some of her larger cities. If she does, we would be forced to do likewise. There is this difference however: Russia could deploy antimissile-missiles around a few of her largest cities and stop there, but if we deployed antimissile-missiles around any of our cities, the administration would be under pressure to deploy such missiles around every one of our cities.

Because fallout could kill most people in a city if Russia were to explode suitably constructed bombs at some distance from the city, it would make little sense for us to deploy antimissile-missiles around our cities without also embarking on a program of building fallout shelters for the protection of the population of these cities. The cost of an adequate fallout shelter program may be estimated at about \$50 billion.

Economic considerations might slow Russia's build-up of her antimissile defenses sufficiently to make it still possible for us to avoid such a new arms race by reaching an agreement with Russia on a cut-off in the production of bombs and rockets.

Russia would perhaps agree to such a cut-off—as a



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first step—if America and Russia were to reach a meeting of the minds on reducing their strategic striking forces, step by step, to a level *just sufficient* to inflict “unacceptable” damage in a counterblow in case of a strategic strike directed against their territory.

An agreement providing for a reduction of America's and Russia's strategic striking forces to such a “minimal” level would also have to provide for adequate measures of inspection. It would take very stringent measures of inspection indeed to make sure that no bombs and rockets whatever remain hidden in Russia, but as long as we retain a striking force large enough to inflict unacceptable damage on Russia in a counterblow, we could be satisfied with rather limited measures of inspection. In this case, we would need to have just enough inspection to make sure that Russia would not secretly retain a strategic striking force large enough to be capable of destroying a significant portion of the “minimal” striking forces which we retain. The same considerations also hold true, of course, in the reverse for Russia.

Many of those who joined the Kennedy administration in 1961 have come to believe that we would be much more secure in the years to come if we concluded with Russia an agreement based on the concept of the minimal deterrent. In the course of the last year, Russia has accepted the notion that America as well as Russia may retain a small strategic striking force until the “end of the third stage” of the “disarmament agreement,” and that inspection shall not be limited to equipment which is to be destroyed, but be extended also to equipment which is being retained.

We shall have to explore whether the Russians mean the same thing as we do when they appear to accept the principle of the “minimal deterrent.” We shall be able to discover this, however, only if we first find out what we mean ourselves when we speak of this principle.

We may as well start out by asking ourselves how large the strategic forces retained would need to be in order to fulfill their function.

If Russia retained twelve rockets and bombs of one to three megatons each which could reach their target, then Russia's counterblow could demolish twelve of our largest cities totaling over 25 million inhabitants. Clearly, this would be unacceptable damage, since in none of the conflicts which may be expected to arise in the foreseeable future would we be willing to pay such a price for the sake of attaining the political objectives involved.

Because Russia has fewer large cities, we might have to retain about forty bombs if our retaliatory counterblow is to demolish Russian cities housing over 25 million people.

Both America and Russia could maximize their immunity to undetected violations of the agreement by maintaining a certain balance between landbased long-range rockets and submarine-based rockets, within the

limitations set by the agreement.

The warheads carried by antimissile-missiles may have to be limited to perhaps twenty kilotons each and to a total of, say, three megatons for Russia and for America alike. The deployment of antimissile-missiles around cities may have to be prohibited.

It is my contention that we need to reduce the strategic striking forces down to the level of the “minimal deterrent” as soon as possible, because of the perils we face when we reach the end of the current transitional period.

Had a conflict between Russia and America led to an armed clash a few years ago and had, at some point along the line of escalation, Russia made a sudden attack against America's strategic air bases and rocket bases, then America's “residual striking capacity” would have been sufficient to demolish, in a counterblow, all of Russia's sizable cities. But if, conversely, America had made such an attack against Russia's air bases and rocket bases of *known location*, Russia's residual counterblow could not have caused any comparable destruction.

Today, America's strategic atomic striking forces are presumably still superior to those of Russia, by a factor of perhaps between three and ten, in the number of hydrogen bombs that they could deliver and, presumably, America could maintain this kind of numerical superiority in the years to come. She could not, however, by doing so, keep Russia from steadily increasing her “residual striking capacity.” In recent years, Russia has steadily proceeded with the hardening of her rocket-launching sites and the building of additional submarines capable of launching long-range rockets. Today, she has reached the point where her “residual counterblow” would be sufficient to demolish most of America's major cities on the eastern seaboard and some of her cities in the west. This is a higher price than America would be willing to pay for reaching her political objectives in any of the conflicts that might be expected to occur in the predictable future. In other words, today Russia's “residual striking capacity” would be sufficient to inflict “unacceptable damage” on America. Conversely, America's residual striking capacity would be sufficient today to *demolish all of Russia's cities of over 100,000*.

It might be true that today America would still be able to recover from an all-out atomic war, whereas Russia would lose all of her cities of over 100,000 and thus suffer a destruction of her society from which she would not recover.

In the situation in which we find ourselves at present we no longer try to “deter” Russia with threatening a massive strategic strike against her cities. We realize that today such a threat would come very close to being a threat of murder and suicide, and clearly a threat of this sort would not be believable in any con-

flict in which major American interests might be at stake, but not America's existence as a nation. Instead, we are currently maintaining a military posture which threatens to lead step by step to an escalation of the war and ultimately to our accepting "unacceptable" damage, in return for the virtually complete destruction of Russia's society. We maintain this military posture in order to discourage Russia from embarking on any military conquest.

Right after the second world war, the security of Western Europe was threatened by the combination of communist pressure from the inside and the possibility of a Russian military intervention from the outside. Today, the Russians would be exceedingly unlikely to embark on a conquest of Western Europe whether or not we maintained our current military posture, but—because of the military posture we maintain—if a war broke out, as the result of a border incident or an uprising in Eastern Germany, it would be likely to escalate and to end up with an exchange of strategic atomic strikes between America and Russia.

Presumably only conventional weapons would be used at the outset of such a war. At some point during the see-saw of fighting, Russia might be tempted, however, to send her troops in hot pursuit across the pre-war boundary, and they might penetrate deep into Western territory. In case of a deep penetration of Western Europe by Russian troops, our plans call for the use of tactical weapons, not only in combat against troops which have penetrated the pre-war boundary, but also against the lines of communications of the Russians in Eastern Germany, Poland, and Russia herself. If, conversely, certain NATO units were to penetrate into Eastern Germany, the Russians would presumably bomb communication lines in Western Europe, including the ports where American troops disembark. Because the size of tactical bombs ranges all the way from one kiloton to several hundred kilotons, there is no substantial gap between where tactical bombings end and where strategic bombings begin. Thus, a war that neither America nor Russia wanted could easily end up in an all-out atomic war between them.

The risk that such a war in Europe might end up in an all-out atomic war is the price we are paying for maintaining our present military posture. To my mind this is far too high a price to pay for deterring Russia from something that she wouldn't be likely to do anyway.

A meaningful agreement on arms control based on the concept of the minimal deterrent would limit not only the number of the strategic bombs retained, but also the number, as well as the size, of the tactical bombs retained. The size of these bombs might be limited to one kiloton and America, as well as Russia, might each be limited to perhaps 300 such bombs.

The total tonnage of the tactical bombs retained by either side would thus amount to only a few per cent of the total tonnage of the strategic bombs retained by them but still it would amount to about ten per cent of the tonnage of high explosives dropped during the last world war.

By establishing a wide gap between the size of the tactical bombs retained, one kiloton, and the size of the strategic bombs retained, presumably about one megaton or larger, one may establish a clear distinction between bombs which might be used against troops in combat and bombs which have been retained only to be used in a counterblow, in retaliation for a strategic strike.

America ought to resolve and to proclaim that she will not resort to the use of tactical bombs if there is a war in Europe, except in case of a 100-mile-deep penetration of Western Europe by Russian troops and would then use them only within the Western side of the pre-war boundary—as long as Russia imposes similar limitations upon herself. Then, if a war were to start in Europe which neither America nor Russia wanted, it would be less likely to end up with an exchange of strategic strikes between America and Russia.

Even the limited numbers of tactical bombs retained could have an important effect on the course of the war, if such a war were to break out in Europe, and their effect could be to slow down the war and stabilize a front across Europe, provided that America and Russia imposed upon themselves the restraints spelled out above. For if Russian troops were to cross in hot pursuit the pre-war boundary and were to penetrate one hundred miles deep into Western Europe, with America in possession of tactical bombs the Russians could not very well mass troops and conventional armor at any point in front of the American defense line in sufficient strength to break through that line. Conversely, Russia would gain the same advantage from her possession of tactical bombs if certain NATO units were to cross the pre-war boundary and were to penetrate one hundred miles deep into Eastern Europe. The fear that atomic bombs might be dropped on troops massed for a breakthrough would thus tend to stabilize a front across Europe, giving time for tempers to cool and for ending the war by a settlement. However, no agreement providing for arms control would be likely to withstand the strain of a *protracted* war in Europe.

● SATURATION PARITY

In the last few years, Russia has steadily proceeded with the building of submarines capable of launching rockets and with the hardening of her long-range rocket bases, located on Russian territory. It is clear that, in time, Russia must reach the point where her "residual striking capacity" would be large enough to demolish all of America's sizable cities. *At that point Russia will have achieved parity of saturation.* Russia may reach

saturation parity, at a modest economic sacrifice, within a very few years.

General LeMay said, in a major speech (reported in the *Washington Post* of December 18, 1963), that those who argue that the United States has an extensive overkill, favor cutting American strategic striking forces so they would only be capable of hitting cities. He said that such a reduced force would leave the United States too weak "to destroy the enemy's nuclear forces before they destroy us," and that America's maintenance of "superior counterforce strength" gives American policymakers the widest range of credible options for controlled responses to aggression at any level. According to General LeMay, this paid off during the Berlin and Cuban crises in which the United States forced Russia to back down, and won her political objectives because the Russians knew that the United States had a clear margin of strategic nuclear strength.

I do not propose to take issue with General LeMay at this point, except to say that the "deterrent effect" of America's margin of strategic nuclear strength obviously comes to an end when the striking forces of the Soviet Union reach saturation parity with those of the United States. If our "margin" was in fact responsible for Russia's yielding in the Berlin and Cuban crises, then if another similar crisis were to occur, after Russia reaches saturation parity, we would no longer have any reason to expect that Russia would yield always.

Had Russia not yielded in the Cuban crisis of October 1962, and had her ships continued on their course to Cuba in defiance of America's proclamation of a partial naval blockade of that island, American warships would have sunk Russian ships. No one can say how far escalation would have gone and whether Russia, being unable to resist America in the Caribbean, would have retaliated elsewhere, perhaps in Europe.

General LeMay believes that, if it had come to an armed clash in the Cuban crisis, the Russians would have put an end to escalation at some point along the line. But even if one were to accept this view, one could still not predict which of the two countries would take the first step to halt escalation if a similar clash were to occur a few years hence in the symmetrical situation of saturation parity. And, if it is no longer possible to say who would put an end to escalation, then also one cannot predict just how far escalation might go. In saturation parity, escalation might go to the point where all of America's and all of Russia's cities of over 100,000 get demolished.

Manifestly, saturation parity presents a threat to the survival of our society.

Let us now consider how saturation parity may be expected to affect our allies in general and Western Germany in particular.

Let us ask ourselves, for example, what would have happened if there had occurred a few years ago a major

uprising in Eastern Germany against the established government and if substantial units of armed West German volunteers had moved into East Germany to assist the insurgents. Presumably, at first one would not have known with certainty whether these volunteers were acting with the tacit approval and active participation of the West German government, or whether they were acting against its wishes and in disregard of its orders. Had such a contingency occurred a few years ago, the odds are that America would have extended protection to West Germany against the strategic striking forces of Russia, on the ground that America must prevent the destruction of West German military power. America would have been likely to extend such protection to West Germany whether Germany was or was not the aggressor, and if there had been any doubt on this score, Germany would have been given the benefit of the doubt.

If a contingency of this sort were to occur in the years to come, and if the Russians were to fear that the clash might escalate into an all-out atomic war, they might decide to knock West Germany out of the war by dropping, all at once, between five and ten hydrogen bombs on West German cities. Having done this, Russia would then be in position to speak to America as follows: "German aggression forced us to do what we did, lest the clash of arms escalate into an all-out atomic war, which neither Russia nor America wants. We realize that America could now respond by demolishing one Russian city after another, but for every Russian city that America may demolish, Russia would demolish one American city. Let's be rational about this. What has happened, has happened; let's see now where we go from here. Russia does not intend to occupy any West German territory and she is willing to put up a few per cent of her industrial output to help rebuild the cities of West Germany, provided her contribution is matched, dollar-for-dollar, by America."

The Russians would hardly assume that the Americans would respond in a rational fashion if they were to drop bombs on American cities but, in the contingency described above, they might, rightly or wrongly, expect a rational response if they demolished German cities only and refrained from extending their attack to America's own territory.

The nations of Europe are becoming gradually aware of the situation they will face in saturation parity and they are beginning to ask themselves whether each may not have to maintain a strategic striking force under its own control in order to safeguard its own security.

Few people contemplate with equanimity the possibility that Germany may acquire a substantial atomic striking force. There are those in America who believe that we might keep Germany from wanting to have such a striking force under her own control by setting up a strategic striking force under the joint control of America and Germany, with perhaps a few other nations

joining in. The multilateral strategic striking force under discussion would be equipped with two hundred Polaris missiles, enough to demolish two hundred cities if all of them were to reach their target, yet it would not give the Germans what they need in saturation parity as long as America can veto the use of this force. There is reason to believe that the Germans propose to participate in it only because they assume that it may be possible for them to get rid of the veto.

The creation of such a strategic striking force would make it possible to endow West Germany, by the mere stroke of a pen, with a striking force of her own, a force corresponding in size perhaps to the financial stake that Germany would have in the joint force. Those Americans who advocate the setting up of such a joint force in order to keep the Germans from having a force under their own control follow the principle of the lesser evil. Following this same principle could lead to transferring to Germany control of a part of the joint force later on if the Germans should proclaim that they would otherwise build a substantial striking force of their own.

It is doubtful whether control over atomic bombs can be kept from the Germans by a gadget like the multilateral nuclear striking force, or for that matter by any gadget, *and it is probably true that in the long run it would be impossible to prevent the proliferation of atomic bombs if saturation parity were to prevail.*

Under an agreement based on the concept of the "minimal deterrent" which would leave Russia in possession of, say, twelve bombs and rockets, Russia would put herself at a disadvantage if, in the contingency discussed above, she were to use up five to ten of her twelve bombs and rockets in a "first strike" against German cities. If she were to do this, she would have only two to seven bombs and rockets left in comparison to the forty bombs and rockets retained by America, and she would therefore put herself at a disadvantage in the crisis that would follow her attack. In this sense, an agreement limiting Russia to twelve bombs and rockets would provide protection to the cities of our allies in Western Europe, but this would be true only if we could be certain that Russia would not secretly retain, say, another twelve strategic bombs and rockets which are operational or could be made operational on short notice. The measures of inspection instituted at the outset of the agreement would not be likely to give any certainty in this regard, because initially we might have to be satisfied with measures of inspection which give us assurance that *Russia cannot secretly retain a striking force large enough to be capable of destroying a significant fraction of our minimal striking forces.*

It is therefore necessary to explore what additional measures of inspection would provide our allies with the protection they need, and whether such measures would be acceptable to Russia.

In an extended conversation I had with Chairman Khrushchev in October of 1960, I said that, even if Russia were willing to admit international inspectors in unlimited numbers, it would not be possible for us to be sure that there would not remain a few bombs and rockets hidden somewhere in Russia which are operational or could be made operational very quickly. I told Khrushchev that I believed that the Soviet government could reassure the world in this regard only if they were to create conditions in which we could rely on a Soviet citizen reporting secret violations of the agreement to an international authority. He got the point, got it fully, and his answer was very gratifying.

I would not attach as much significance to this as I do if I had not accidentally discovered in December of the same year, when I attended the Pugwash meeting in Moscow, that some of our colleagues of the Soviet Academy of Sciences scheduled to attend this meeting had been given a detailed report of my conversation with Chairman Khrushchev. In this report, Khrushchev was quoted to have said to me that, for the sake of making general disarmament acceptable to the United States, the Soviet government would give serious consideration to creating conditions which would make it possible for the world to rely on a Soviet citizen reporting violations of the disarmament agreement to an international authority.

After the Pugwash meeting, I stayed on in Moscow for about a month and had numerous private conversations with our Russian colleagues. I wanted to discover, most of all, whether the Soviet government could, if it wanted to, create conditions in which the world could rely on Russian citizens reporting violations of the disarmament agreement. I finally concluded that this would not be easy but that it would be done, provided the arms control agreement offered Russia a substantial increase in her security and permitted the Soviet government to divert substantial funds from armament to other uses.

I believe that it would be much easier to get the Soviet government to accept very far-reaching measures of inspection for the sake of obtaining an objective that makes sense to them than to get them to accept quite limited measures of inspection for the sake of any "first steps" which would not offer any major direct benefits to Russia.

Speaking before the Economic Club of New York on November 18, 1963, Secretary McNamara stated that we have now more than 500 operational long-range ballistic missiles and are planning to increase their number to over 1,700 by 1966. In addition, we have today over 500 bombers on quick-reaction ground alert. In his speech, McNamara refers to the "damage-limiting capability of our numerically superior forces," which I take to mean our capability of making massive attacks against Russia's strategic air bases and rocket bases.

It is my contention that we will not be able to negotiate a meaningful agreement on arms control until we are willing to give up what General LeMay calls our "capability to destroy the enemy's forces before they destroy us," and that by giving it up we would gain more than we would lose.

If I were given an opportunity to cross-examine General LeMay, I would ask him what contingencies he has in mind when he speaks of "destroying the enemy's nuclear forces before they destroy us." It would then turn out that, while we could invoke the "damage-finding capability of our numerically superior forces" by making a massive attack against Russia's strategic air fields and rocket-launching sites of known location in certain conceivable contingencies, these contingencies are very contrived and most unlikely to occur.

The "damage-limiting capability of our numerically superior forces" might have a certain marginal value in the least probable contingencies, but in the most probable contingency, if a war were to break out which neither Russia nor America wanted, then our capability of making a sudden massive attack against Russia's rocket-launching sites of known location would render an escalation of the war more likely than less likely. For if the superiority of our strategic striking forces is anywhere as great as General LeMay claims, the Russians might fear at some point that our next move in the pursuit of war would be the waging of a massive strike against their rocket bases of known location, and at that point they might be driven to launch rockets against our cities and the cities of our allies from all of their bases that are vulnerable to an attack.

There is no need to belabor this point, however, because the "superiority of our strategic striking forces" of which General LeMay speaks is at best a vanishing asset. Within a few years, we shall have saturation parity, and in that situation Russia will no longer have to fear a massive strike against her rocket bases of known location.

In saturation parity—as far as the strategic striking forces are concerned—America and Russia will find themselves in a fully symmetrical situation, and at this time the only meaningful choice before us is between the symmetrical situation of saturation parity, in which both America and Russia maintain strategic striking forces at a high level, and another symmetrical situation in which they both maintain strategic striking forces at a "minimal level."

More and more people within the administration realize that it would be futile and increasingly dangerous to continue to use our strategic striking forces as a deterrent the way we used them in the past, and that *these forces must be used only for the purpose of threatening a counterblow in case of an atomic attack directed against our territory.* Those who take this position inevitably arrive in time at realizing that both America and Russia would gain, rather than lose, in

security by reducing their strategic striking forces from the level of saturation parity to the level of the minimal deterrent.

We must ask ourselves at this point under what conditions would Russia want to have an agreement based on this concept, and want it strongly enough to be prepared to pay the price in terms of the measures of inspection needed.

I think that Russia would have no desire to enter into such an agreement unless she could be sure that it would not be necessary for her later on to abrogate the agreement and to rebuild her atomic striking forces, so to speak, from scratch. Thus, Russia would have to be convinced that Germany is not going to have under her own control an atomic striking force, and also that China would not build a substantial atomic striking force of her own.

I do not know what it would take to induce China to forego having atomic bombs, but it is conceivable that China might be willing to go along with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to resort to the use of either strategic or tactical atomic bombs in the Far East and Southeast Asia, and to set up an atom-free zone that would include these areas.

There are those who say that America could not agree to forego the use of atomic bombs in the Pacific because it might be necessary to use atomic bombs in the defense of Formosa.

Quite similar views were voiced at the Disarmament Conference of the League of Nations which was held in Geneva in the 1930s. At issue at this conference was the elimination of the bomber plane from the national arsenals and the outlawing of bombing from the air. At one point during the negotiations, Anthony Eden, who was at that time a civil servant, told the conference that His Majesty's government could not be a party to the outlawing of bombing from the air. He said that, from time to time, the Royal Air Force engaged in bombing the mud huts of the unruly tribes of the northern frontier of India and that this was the only effective way to keep these tribes from making periodic incursions into Indian territory. Some people have no sense of proportion.

It is probably true that we cannot have general disarmament without also having a far-reaching political settlement. The conclusion of an agreement providing for arms control based on the concept of the minimal deterrent need not, however, await a political settlement in Europe or elsewhere. Moreover, in view of our current estimates of Russia's military manpower and resources, we need no longer insist that the reduction of the number of bombs and rockets to a minimal level must be accompanied by the reduction

of the conventionally-armed forces. Rather, we may rely on economic considerations to limit the armies maintained by the nations of Europe, including Russia.

The reduction of the strategic striking forces to the "minimal" level spelled out above need not take place at the very outset of the agreement, all at once, but there would have to be substantial step-by-step reductions to intermediate levels soon after the agreement goes into force. What matters is not so much in what steps and just how fast a reduction of the strategic striking force takes place, but rather whether America and Russia are in full agreement on the level of the "minimal" striking forces which would be retained under the agreement.

In these circumstances, Russia and America could enter into conversations aimed at reaching a meeting of the minds on the reduction of the number of atomic bombs and rockets to a minimal level and could thereafter seek the concurrence of the other nations, including Germany and China.

If these conversations were carried far enough to convince the Russians that an agreement could be negotiated without running into any major hitches, then the Russians might accept a product cut-off in bombs and rockets even before an agreement based on the minimal deterrent is fully spelled out with the i's dotted and the t's crossed, and for the purposes of a production cut-off the United States would presumably be satisfied with inspection limited to production facilities of known locations.

● POSTSCRIPT

I do not know anyone in the Department of Defense who would not on the whole agree with the analysis, given above, of the perils of saturation parity and the security to be gained from the "minimal deterrent." Some people in the Defense Department might say that I am overstating my case, that it would not be sufficient for us to retain forty large bombs and rockets because only a certain fraction of the Polaris and Minutemen launched would reach their target, the rest being duds. They might say therefore that, instead of forty bombs and rockets, we ought to retain perhaps 100 or 150 of them. These are not essential differences because, as the reliability rating of our rockets increases, their numbers could be more or less automatically reduced.

Others in the Defense Department might say, not publicly but privately, that I am understating my case when I say that Russia may achieve saturation parity within a few years, and that Russia has achieved saturation parity already. This is not an essential difference either.

I should perhaps add that I am not personally acquainted with any of those in the Defense Department who are part of the "military-industrial complex" of which President Eisenhower spoke in his presidential

farewell address, and who have a vested interest, emotional or otherwise, in maintaining large strategic striking forces. Even though these people do not occupy top positions in the administration, they must be reckoned with because they have considerable influence in Congress.

While the "military-industrial complex" might well attempt to block any significant reduction of our strategic striking forces, when such a reduction becomes a "clear and present danger" our current failure to make any decisive progress on arms control must not be attributed to them. Rather, this failure is mainly due to our method of negotiating with the Russians.

We have not made, thus far, and are not likely to make in the predictable future, a formal proposal on arms control which the Russians could accept as it stands, for fear that the proposal would become the starting point of "horse trading" and that we would end up with an agreement that might endanger our security.

Each time we introduce a new feature into our proposals which we hope could create a basis for negotiations, it takes the Russians about six months to respond. This sluggishness of the Russian response is not surprising because there are few people concerned with the problem of arms control working within the Russian government who are capable of coping with the unprecedented problems involved. These few men have their hands full taking care of the day-to-day problems and cannot devote much time to long-term planning. This may well be the reason why the Russians take so long to respond, even if we propose something that clearly would be in their interest to accept.

The number of those working within our administration who can cope with these problems is larger, but it is not large. These men are plagued by being uncertain as to what the Russians would be likely to accept and also what Congress would be likely to accept.

What the Russians would accept and what Congress would accept depends on whether the administration can make them understand the need to avoid a new arms race, the perils which we face in the current situation, and the advantages that an agreement based on the concept of the minimal deterrent would hold for all concerned. Unless it becomes somehow possible to arrange for greatly improved communication between the administration and the Soviet government, on the one hand, and between the administration and Congress, on the other hand, no decisive progress toward a meaningful agreement on arms control is going to be made. Instead, we might be taking a number of little steps, like the test ban, for instance. These little steps improve the international climate, but if nothing decisive is done before long, the climate may keep on improving and improving until there is a new crisis, and then we shall be back where we started from. To make progress is not enough, for if the progress is not fast enough, something is going to overtake us.

"MINIMAL" DETERRENT VERSUS SATURATION PARITY

by

Leo Szilard

We are close to the point where America and Russia could destroy each other to any desired degree and therefore one would perhaps think that the arms race is about to come to an end. In fact a new arms race might be just around the corner.

Russia might before long deploy anti-missile missiles in defense of her rocket-launching sites. For such a defense to be effective it is only necessary to prevent a ground burst of the incoming rockets and this is, quite possibly, an attainable goal. Thus, the Administration might find itself under Congressional pressure to double, or triple, the number of Minutemen scheduled to be built in order to overcome Russia's defense of her bases.

Russia might go further and might deploy anti-missile missiles also for the defense of some of her larger cities. If she does, we would be forced to do likewise. There is this difference, however: Russia could deploy anti-missile missiles around a few of her largest cities and stop there, but if we deployed anti-missile missiles around any of our cities, the Administration would be under pressure to deploy such missiles around every one of our cities.

Fall-out could kill most people in a city if Russia were to explode suitably-constructed bombs at some distance from the city and it would make little sense for us to deploy anti-missile missiles around our cities without also embarking on a program of building fall-out shelters for the protection of the population of these cities. The cost of an adequate fall-out shelter program may be estimated at about \$50 billion.

Economic considerations might slow Russia's build-up of her anti-missile defenses sufficiently to make it possible for us as yet to avoid such a new arms race, by reaching an agreement with Russia on a cut-off in the production of bombs and rockets.

Russia would perhaps agree to such a cut-off — as a first step — if America and Russia were to reach a meeting of the minds on reducing their strategic striking forces, step by step, to a level just sufficient to inflict "unacceptable" damage in a counterblow, in case of a strategic strike directed against their territory.

An agreement providing for a reduction of America's and Russia's strategic striking forces to such a "minimal" level would also have to provide for adequate measures of inspection. It would take very stringent measures of inspection indeed to make sure that no bombs and rockets whatever remain hidden in Russia, but as long as we retain a striking force large enough to inflict unacceptable damage on Russia in a counterblow we could be satisfied with rather limited measures of inspection. In this case we would need to have just enough inspection to make sure that Russia would not secretly retain a strategic striking force large enough to be capable of destroying a significant portion of the "minimal" striking forces which we retain. The same considerations also hold true, of course, in the reverse for Russia.

Many of those who joined the Kennedy Administration in 1961 have come to believe that we would be much more secure in the years to come if we concluded with Russia an agreement based on the concept of the minimal deterrent. In the course of the last year Russia has accepted the notion that America as well as Russia may retain a small strategic striking force, until the "end of the third stage" of the "disarmament agreement" and that inspection shall not be limited to equipment which is to be destroyed, but be extended also to equipment which is being retained.

We shall have to explore whether the Russians mean the same thing as we do when they appear to accept the principle of the "minimal deterrent." We shall be able to discover this however only if we first find out what we mean ourselves when we speak of this principle.

* * *

We may as well start out by asking ourselves how large the strategic forces retained would need to be in order to fulfill their function.

If Russia retained twelve rockets and bombs, of one to three megatons each, which could reach their target, then Russia's counterblow could demolish twelve of our largest cities totaling over 25 million inhabitants. Clearly, this would be unacceptable damage, since in none of the

conflicts which may be expected to arise in the foreseeable future would we be willing to pay such a price for the sake of attaining the political objectives involved.

Because Russia has fewer large cities, we might have to retain about 40 bombs, if our retaliatory counterblow is to demolish Russian cities housing over 25 million people.

Both America and Russia could maximize their immunity to undetected violations of the agreement, by maintaining a certain balance between land-based long-range rockets and submarine-based rockets, within the limitations set by the agreement.

The warheads carried by anti-missile missiles may have to be limited to perhaps twenty kilotons each and to a total of say three megatons, for Russia and for America alike. The deployment of anti-missile missiles around cities may have to be prohibited.

* * *

It is my contention that we need to reduce the strategic striking forces down to the level of the "minimal deterrent", as soon as possible, because of the perils we face today and the even greater perils that we shall face when we reach the end of the current transitional period.

Had a conflict between Russia and America led to an armed clash a few years ago, and had at some point along the line of escalation, Russia made a sudden attack against America's strategic air bases and rocket bases, then America's "residual striking capacity" would have been sufficient to demolish, in a counterblow, all of Russia's sizeable cities. But, if conversely, America had made such an attack against Russia's air bases and rocket bases of known location, Russia's residual counterblow could not have caused any comparable destruction.

To-day, America's strategic atomic striking forces are presumably still superior to those of Russia, by a factor of perhaps between three and ten, in the number of hydrogen bombs that they could deliver and, presumably, America could maintain this kind of numerical superiority in the years to come. She could not however, by doing so, keep Russia from steadily increasing her "residual striking capacity." In recent years, Russia has steadily proceeded with the hardening of her rocket-launching sites and the building of additional submarines, capable of launching long-range rockets. To-day, she has reached the point where her "residual counterblow" would be sufficient to demolish most of America's major cities on the Eastern Seaboard and some of her cities in the West. This is a higher price than America would be willing to pay for reaching her political objectives, in any of the conflicts that might be expected to occur in the predictable future. In other words, to-day Russia's "residual striking capacity" would be sufficient to inflict "unacceptable damage" on America. Conversely, America's residual striking capacity would be sufficient to-day to demolish all of Russia's cities of over 100,000.

It might be true that to-day America would still be able to recover from an all-out atomic war, whereas Russia would lose all of her cities of over 100,000 and thus suffer a destruction of her society from which she would not recover.

In the situation in which we find ourselves at present we no longer try to "deter" Russia with threatening a massive strategic strike against her cities. We realize that to-day such a threat would come very close to being a threat of murder and suicide and clearly a threat of this sort would not be believable in any conflict in which major American interests might be at stake, but not America's existence as a nation. Instead, we are currently maintaining a military posture which threatens to lead step by step to an escalation of the war and ultimately to our accepting "unacceptable" damage, in return for the virtually complete destruction of Russia's society. We maintain this military posture in order to discourage Russia from embarking on any military conquest.

Right after the Second World War the security of Western Europe was threatened by the combination of communist pressure from the inside and the possibility of a Russian military intervention from the outside. To-day the Russians would be exceedingly unlikely to embark on a conquest of Western Europe whether or not we maintained our current military posture, but —because of the military posture we maintain— if a war broke out, as the result of a border incident or an uprising in Eastern Germany, it would be likely to escalate and to end up with an exchange of strategic atomic strikes between America and Russia.

Presumably only conventional weapons would be used at the outset of such a war. At some point during the see-saw of fighting Russia might be tempted however to send her troops in hot

pursuit across the pre-war boundary and they might penetrate deep into Western territory. In case of a deep penetration of Western Europe by Russian troops our plans call for the use of tactical weapons not only in combat against troops which have penetrated the pre-war boundary but also against the lines of communications of the Russians in Eastern Germany, Poland and Russia, herself. If, conversely, certain NATO units were to penetrate into Eastern Germany the Russians would presumably bomb communication lines in Western Europe including the ports where American troops disembark. Because the size of tactical bombs ranges all the way from one kiloton to several hundred kilotons, there is no substantial gap between where tactical bombings end and where strategic bombings begin. Thus, a war that neither America nor Russia wanted could easily end up in an all-out atomic war between them.

The risk that such a war in Europe might end up in an all-out atomic war is the price that we are paying for maintaining our present military posture. To my mind this is far too high a price to pay for deterring Russia from something that she wouldn't be likely to do anyway.

* * *

A meaningful agreement on arms control based on the concept of the minimal deterrent would limit not only the number of the strategic bombs retained, but also the number, as well as the size, of the tactical bombs retained. The size of these bombs might be limited to one kiloton and America, as well as Russia, might each be limited to perhaps 300 such bombs.

The total tonnage of the tactical bombs retained by either side would thus amount to only a few per cent of the total tonnage of the strategic bombs retained by them, still it would amount to about ten per cent of the tonnage of high explosives dropped during the last world war.

By establishing a wide gap between the size of the tactical bombs retained, one kiloton, and the size of the strategic bombs retained, presumably about one megaton or larger, one may establish a clear distinction between bombs which might be used against troops in combat and bombs which have been retained only to be used in a counterblow, in retaliation for a strategic strike.

America ought to resolve and to proclaim that she will not resort to the use of tactical bombs if there is a war in Europe, except in case of a 100 mile deep penetration of Western Europe by Russian troops and would then use them only within the Western side of the pre-war boundary —as long as Russia imposes similar limitations upon herself. Then, if a war were to start in Europe which neither America nor Russia wanted it would be less likely to end up with an exchange of strategic strikes between America and Russia.

Even the limited numbers of tactical bombs retained could have an important effect on the course of the war, if such a war were to break out in Europe, and their effect could be to slow down the war and stabilize a front across Europe provided that America and Russia imposed upon themselves the restraints spelled out above. For if Russian troops were to cross in hot pursuit the pre-war boundary and were to penetrate one hundred miles deep into Western Europe, with America in possession of tactical bombs, the Russians could not very well mass troops and conventional armor at any point in front of the American defense line in sufficient strength to break through that line. Conversely, Russia would gain the same advantage from her possession of tactical bombs if certain NATO units were to cross the pre-war boundary and were to penetrate one hundred miles into Eastern Europe. The fear that atomic bombs might be dropped on troops, massed for a breakthrough, would thus tend to stabilize a front across Europe, giving time for tempers to cool and for ending the war by a settlement.

No agreement providing for arms control, would be likely to withstand the strain of a protracted war in Europe, however.

Saturation Parity

In the last few years, Russia has steadily proceeded with the building of submarines capable of launching rockets and with the hardening of her long-range rocket bases, located on Russian territory. It is clear that, in time, Russia must reach the point where her "residual striking capacity" would be large enough to demolish all of America's sizeable cities. AT THAT POINT RUSSIA WILL HAVE ACHIEVED PARITY OF SATURATION. Russia may reach saturation parity, at a modest economic sacrifice, within a very few years.

General Le May said, in a major speech, reported in the WASHINGTON POST of December 18, 1963, that those, who argue that the United States has an extensive over-kill, favor cutting

American strategic striking forces so they would only be capable of hitting cities. He said that such a reduced force, would leave the United States too weak "to destroy the enemy's nuclear forces before they destroy us," and that America's maintenance of "superior counterforce strength" gives American policy makers the widest range of credible options for controlled responses to aggression at any level. According to General Le May, this paid off during the Berlin and Cuban crises in which the United States forced Russia to back down and won her political objectives, because the Russians knew that the United States had a clear margin of strategic nuclear strength.

I do not propose to take issue with General Le May at this point, except to say that the "deterrent effect" of America's margin of strategic nuclear strength obviously comes to an end when the striking forces of the Soviet Union reach saturation parity with those of the United States. If our "margin" was in fact responsible for Russia's yielding in the Berlin and Cuban crises, then if another similar crisis were to occur, after Russia reaches saturation parity, we would no longer have any reason to expect that Russia would yield always.

Had Russia not yielded in the Cuban crisis of October 1962, and had her ships continued on their course to Cuba, in defiance of America's proclamation of a partial naval blockade of that island, American warships would have sunk Russian ships. No one can say how far escalation would have gone and whether Russia, being unable to resist America in the Caribbean, would have retaliated elsewhere, perhaps in Europe.

General Le May believes that if it had come to an armed clash in the Cuban crisis, because of the superiority of our strategic striking forces the Russians would have put an end to escalation, at some point along the line. But even if one were to accept this view one could still not predict which of the two countries would take the first step to halt escalation, if a similar clash were to occur a few years hence, in the symmetrical situation of saturation parity. And, if it is no longer possible to say who would put an end to escalation, then also one cannot predict just how far escalation might go. In saturation parity, escalation might go to the point where all of America's and all of Russia's cities of over 100,000 get demolished.

Manifestly, saturation parity presents a threat to the survival of our society.

* * *

Let us consider now how saturation parity may be expected to affect our allies, in general, and Western Germany, in particular:

Let us ask ourselves, for example, what would have happened if there had occurred a few years ago a major uprising in Eastern Germany against the established government and if substantial units of armed West German volunteers had moved into East Germany to assist the insurgents. Presumably at first one would not have known with certainty whether these volunteers were acting with the tacit approval, and active participation, of the West German Government, or whether they were acting against its wishes, and in disregard of its orders. Had such a contingency occurred a few years ago, the odds are that America would have extended protection to West Germany against the strategic striking forces of Russia, on the ground that America must prevent the destruction of West German military power. America would have been likely to extend such protection to West Germany whether Germany was, or was not, the aggressor, and if there had been any doubt of this score, Germany would have been given the benefit of the doubt.

If a contingency of this sort were to occur in the years to come, and if the Russians were to fear that the clash might escalate into an all-out atomic war, they might decide to knock West Germany out of the war by dropping, all at once, between five and ten hydrogen bombs, on West German cities. Having done this, Russia would then be in the position to speak to America as follows:

"German aggression forced us to do what we did, lest the clash of arms escalate into an all-out atomic war, which neither Russia nor America want. We realize that America could now respond by demolishing one Russian city after another, but for every Russian city that America may demolish Russia would demolish one American city. Let's be rational about this. What has happened, has happened; let's see now where we go from here. Russia does not intend to occupy any West German territory and she is willing to put up a few percent of her industrial output to help rebuild the cities of West Germany, provided her contribution is matched, dollar-for-dollar, by America."

The Russians would hardly assume that the Americans would respond in a rational fashion if they were to drop bombs on American cities but, in the contingency described above, they might, rightly or wrongly, expect a rational response, if they demolished German cities only and refrained from extending their attack to America's own territory.

The nations of Europe are becoming gradually aware of the situation they will face in saturation parity and they are beginning to ask themselves whether they may not have to maintain each a strategic striking force under its own control in order to safeguard their own security.

Few people contemplate with equanimity the possibility that Germany may acquire a substantial atomic striking force. There are those in America who believe that we might keep Germany from wanting to have such a striking force under her own control, by setting up a strategic striking force under the joint control of America and Germany, with perhaps a few other nations joining in. The multilateral strategic striking force under discussion would be equipped with two hundred Polaris missiles, enough to demolish two hundred cities, if all of them were to reach their target, yet it would not give the Germans what they need in saturation parity, as long as America can veto the use of this force. There is reason to believe that the Germans propose to participate in it only because they assume that it may be possible for them to get rid of the veto.

The creation of such a strategic striking force would make it possible to endow West Germany, by the mere stroke of a pen, with a striking force of her own, a force corresponding in size perhaps to the financial stake that Germany would have in the joint force. Those Americans who advocate the setting up of such a joint force, in order to keep the Germans from having a force under their own control, follow the principle of the lesser evil. Following this same principle could lead to transferring to Germany control of a part of the joint force later on, if Germany should proclaim that they would otherwise build a substantial striking force of their own.

It is doubtful whether control over atomic bombs can be kept from the Germans by a gadget like the multilateral nuclear striking force, or for that matter by any gadget, AND IT IS PROBABLY TRUE THAT IN THE LONG RUN IT WOULD BE IMPOSSIBLE TO PREVENT THE PROLIFERATION OF ATOMIC BOMBS IF SATURATION PARITY WERE TO PREVAIL.

* * *

Under an agreement based on the concept of the "minimal deterrent" which would leave Russia in possession of say, twelve bombs and rockets, Russia would put herself at a disadvantage if, in the contingency discussed above, she were to use up five to ten of her twelve bombs and rockets in a "first strike" against German cities. If she were to do this, she would have only two to seven bombs and rockets left, in comparison to the forty bombs and rockets retained by America and she would therefore put herself to a disadvantage in the crisis that would follow her attack. In this sense an agreement limiting Russia to twelve bombs and rockets would provide protection to the cities of our allies in Western Europe, but this would be true only if we could be certain that Russia would not secretly retain say another twelve strategic bombs and rockets which are operational, or could be made operational on short notice. The measures of inspection instituted at the outset of the agreement would not be likely to give us any certainty in this regard because initially we might have to be satisfied with measures of inspection which give us assurance that Russia cannot secretly retain a striking force large enough to be capable of destroying a significant fraction of our minimal striking forces.

It is therefore necessary to explore what additional measures of inspection would provide our allies with the protection they need and whether such measures would be acceptable to Russia.

In an extended conversation which I had with Chairman Khrushchev in October of 1960, I said that even if Russia were willing to admit international inspectors in unlimited numbers it would not be possible for us to be sure that there would not remain a few bombs and rockets hidden somewhere in Russia which are operational, or could be made operational very quickly. I told Khrushchev that I believed that the Soviet Government could reassure the world in this regard only if they were to create conditions in which we could rely on a Soviet citizen reporting secret violations of the agreement to an international authority. He got the point, got it fully and his answer was gratifying.

I would not attach as much significance to this as I do, if I had not accidentally discovered in December of the same year when I attended the Pugwash meeting in Moscow that some of our colleagues of the Soviet Academy of Sciences, scheduled to attend this meeting, had been given a detailed report of my conversation with Chairman Khrushchev. In this report, Khrushchev was

quoted to have said to me that, for the sake of making general disarmament acceptable to the United States, the Soviet Government would give serious consideration to creating conditions which would make it possible for the world to rely on a Soviet citizen reporting violations of the disarmament agreement to an international authority.

After the Pugwash meeting, I stayed on in Moscow for about a month and had numerous private conversations with our Russian colleagues. I wanted to discover most of all whether the Soviet Government could, if it wanted to, create conditions in which the world could rely on Russian citizens reporting violations of the disarmament agreement. I finally concluded that this would not be easy but that it would be done, provided the arms control agreement offered Russia a substantial increase in her security and permitted the Soviet Government to divert substantial funds from armament to other uses.

I believe that it would be much easier to get the Soviet Government to accept very far-reaching measures of inspection for the sake of obtaining an objective that makes sense to them, than to get them to accept quite limited measures of inspection for the sake of any "first steps" which would not offer any major direct benefits to Russia.

* * *

Speaking before the Economic Club of New York on November 18, 1963, Secretary McNamara stated that we have now more than 500 operational long-range ballistic missiles and are planning to increase their number to over 1700 by 1966. In addition, we have to-day over 500 bombers on quick-reaction ground alert. In his speech, McNamara refers to the "damage-limiting capability of our numerically superior forces", which I take to mean our capability of making massive attacks against Russia's strategic air bases and rocket bases of known location.

It is my contention that we will not be able to negotiate a meaningful agreement on arms control until we are willing to give up what General Le May calls our "capability to destroy the enemy's forces before they destroy us" and that by giving it up we would gain more than what we would lose.

If I were given an opportunity to cross-examine General Le May, I would ask him what contingencies he has in mind when he speaks of "destroying the enemy's nuclear forces before they destroy us." It would then turn out that while we could invoke the "damage-limiting capability of our numerically superior forces" by making a massive attack against Russia's strategic air fields and rocket launching sites of known location in certain conceivable contingencies, these contingencies are very contrived and are most unlikely to occur.

The "damage-limiting capability of our numerically superior forces" might have a certain marginal value in the least probable contingencies, but in the most probable contingency if a war were to break out which neither Russia nor America want our capability of making a sudden massive attack against Russia's rocket-launching sites of known location would render an escalation of the war more likely rather than less likely. For if the superiority of our strategic striking forces is anywhere as great as General Le May claims then, if war broke out, the Russians might fear at some point that our next move in the pursuit of war would be the waging of a massive strike against their rocket bases of known location and at that point they might be impelled to launch rockets against our cities and the cities of our allies from all of their bases which are vulnerable to an attack.

There is no need to belabor this point, however, because of "superiority of our strategic striking forces" of which General Le May speaks is at best a vanishing asset, which will not exist tomorrow. Within a few years now we shall have saturation parity and in that situation Russia will no longer have to fear a massive strike against her rocket bases of known location.

In saturation parity—as far as the strategic striking forces are concerned—America and Russia will find themselves in a fully symmetrical situation, and at this time the only meaningful choice before us is between the symmetrical situation of saturation parity, in which both America and Russia maintain strategic striking forces at a high level, and another symmetrical situation in which they both maintain strategic striking forces at a "minimal level."

More and more people within the Administration realize that it would be futile and increasingly dangerous to continue to use our strategic striking forces as a deterrent, the way we used them in the past, and that these forces must be used only for the purpose of threatening a counterblow in case of an atomic attack directed against our territory. Those who take this position inevitably arrive in time at realizing that both America and Russia would gain, rather than lose,

in security by reducing their strategic striking forces from the level of saturation parity to the level of the minimal deterrent.

* * *

We must ask ourselves at this point under what conditions would Russia want to have an agreement based on this concept, and want it strongly enough to be prepared to pay the price in terms of the measures of inspection needed.

I think that Russia would have no desire to enter into such an agreement unless she could be sure that it would not be necessary for her later on to abrogate the agreement and to rebuild her atomic striking forces so to speak from scratch. Thus, Russia would have to be convinced that Germany is not going to have under her own control an atomic striking force, and also that China would not build a substantial atomic striking force of her own.

I do not know what it would take to induce China to forego having atomic bombs, but it is conceivable that China might be willing to go along with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to resort to the use of either strategic, or tactical, atomic bombs in the Far East and Southeast Asia, and the setting up an atom-free zone that would include these areas.

There are those who say that America could not agree to forego the use of atomic bombs in the Pacific because it might be necessary to use atomic bombs in the defense of Formosa.

Quite similar views were voiced at the Disarmament Conference of the League of Nations which was held in Geneva in the 1930's. At issue at this conference was the elimination of the bomber plane from the national arsenals and the outlawing of bombing from the air. At one point during the negotiations, Anthony Eden, who was at that time a civil servant, told the Conference that His Majesty's Government could not be a party to the outlawing of bombing from the air. He said that, from time to time, the Royal Air Force engage in the bombing of the mud huts of the unruly tribes on the Northern frontier of India and that this was the only effective way to keep these tribes from making periodic incursions into Indian territory. Some people have no sense of proportions.

* * *

It is probably true that we cannot have general disarmament without also having a far-reaching political settlement. The conclusion of an agreement providing for arms control based on the concept of the minimal deterrent need not await however a political settlement in Europe, or elsewhere. Moreover, in view of our current estimates of Russia's military manpower and resources we need no longer insist that the reduction of the number of bombs and rockets to a minimal level must be accompanied by the reduction of the conventionally-armed forces. Rather, we may rely on economic considerations to limit the armies maintained by the nations of Europe, including Russia.

The reduction of the strategic striking forces to the "minimal" level spelled out above need not take place at the very outset of the agreement, all at once, but there would have to be substantial step-by-step reductions to intermediate levels soon after the agreement goes into force. What matters is not so much in what steps, and just how fast, a reduction of the strategic striking force takes place, but rather whether America and Russia are in full agreement on the level of the "minimal" striking forces which would be retained under the agreement.

In these circumstances, Russia and America could enter into conversations aimed at reaching a meeting of the minds on the reduction of the number of atomic bombs and rockets to a minimal level and could thereafter seek the concurrence of the other nations, including Germany and China.

If these conversations were carried far enough to convince the Russians that an agreement could be negotiated without running into any major hitches, then the Russians might accept a production cut-off in bombs and rockets, even before an agreement based on the minimal deterrent is fully spelled out, with the i's dotted and the t's crossed and for the purposes of a production cut-off the United States would be presumably satisfied with inspection limited to production facilities of known location.

* * *

Postscript

I do not know anyone in the Department of Defense who would not on the whole agree with the analysis, given above, of the perils of saturation parity and the security to be gained from the "minimal deterrent." Some people in the Defense Department might say that I am overstating my case, that it would not be sufficient for us to retain forty large bombs and rockets because only a certain fraction of the Polaris and Minutemen launched would reach their target, the rest being duds. They might say therefore that instead of forty bombs and rockets we ought to retain perhaps 100 or 150 of them. These are not essential differences, because as the reliability rating of our rockets increases their numbers could be more or less automatically reduced.

Others in the Defense Department might say, not publicly but privately, that I am understating my case when I say that Russia may achieve saturation parity within a few years and that Russia has achieved saturation parity already. This is not an essential difference either.

I should perhaps add that I am not personally acquainted with any of those in the Defense Department who are part of the "military-industrial complex" of which President Eisenhower spoke in his Presidential Farewell Address, and who have a vested interest, emotional or otherwise, in maintaining large strategic striking forces. Even though these people do not occupy top positions in the Administration they must be reckoned with because they have considerable influence in the Congress.

While the "military-industrial complex" might well attempt to block any significant reduction of our strategic striking forces, when such a reduction becomes a "clear and present danger", our current failure to make any decisive progress on arms control must not be attributed to them. Rather, this failure is mainly due to our method of negotiating with the Russians.

We have not made so far, and are not likely to make in the predictable future, a formal proposal on arms control which the Russians could accept, as it stands, for fear that the proposal would become the starting point of a "horse trading" and that we would end up with an agreement that might endanger our security.

Each time we introduce a new feature into our proposals, which we hope could create a basis for negotiations, it takes the Russians about six months to respond. This sluggishness of the Russian response is not surprising because there are few people concerned with the problem of arms control working within the Russian Government who are capable of coping with the unprecedented problems involved. These few men have their hands full, taking care of the day-to-day problems and cannot devote much time to long-term planning. This may well be the reason why the Russians take so long to respond, even if we propose something that clearly would be in their interest to accept.

The number of those working within our Administration who can cope with these problems is larger, but it is not large. These men are plagued by being uncertain as to what the Russians would be likely to accept and also what the Congress would be likely to accept.

Not knowing what the Russians might accept forces them to consider a large number of alternatives. "Selling" any of these alternatives to the rest of the Administration is arduous work and none of the alternatives can be broached to the Russians without first putting it through the mill in Washington. The handful of people who do this work are highly motivated but still they are only human, and the job that needs to be done is not going to be done unless they can be given a better idea of what the Russians would be likely to accept and what the Congress would be likely to accept.

What the Russians would accept and what the Congress would accept depends on whether the Administration can make them understand the need to avoid a new arms race, the perils which we face in the current situation and the advantages that an agreement based on the concept of the minimal deterrent would hold for all concerned. Unless it becomes somehow possible to arrange for greatly improved communications between the Administration and the Soviet Government, on the one hand, and between the Administration and the Congress, on the other hand, no decisive progress towards a meaningful agreement on arms control is going to be made. Instead, we might be taking a number of little steps, like the test ban, for instance. These little steps improve the international climate, but if nothing decisive is done before long, the climate may keep on improving and improving until there is a new crisis and, then we shall be back where we started from. To make progress is not enough, for if the progress is not fast enough, something is going to overtake us.

THE END

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"MINIMAL" DETERRENT VERSUS SATURATION PARITY

by
Leo Szilard

We are close to the point where America and Russia could destroy each other to any desired degree and therefore one would perhaps think that the arms race is about to come to an end. In fact a new arms race might be just around the corner.

X Russia might before long deploy anti-missile missiles in defense of her rocket-launching ^{sites} ~~bases~~. For such a defense to be effective it is only necessary to prevent a ground burst of the incoming rockets and this is, quite possibly, an X attainable goal. Thus, ~~before long~~, the Administration might find itself under Congressional pressure to double, or triple, the number of Minutemen scheduled to be built in order to overcome Russia's defense of her bases.

Russia might go further and might deploy anti-missile missiles also for the defense of some of her larger cities. If she does, we would be forced to do likewise. There is this difference however: Russia could deploy anti-missile missiles around a few of her largest cities and stop there, but if we deployed anti-missile missiles around any of our cities, the Administration would be under pressure to deploy such missiles around every one of our cities.

Fall-out could kill most people in a city if Russia were to explode suitably-constructed bombs at some distance from the city and it would make little sense for us to deploy anti-missile missiles around our cities without also embarking on a program of building fall-out shelters for the protection of the population of these cities. The cost of an adequate fall-out shelter program may be estimated at about \$50 billion.

Economic considerations might slow Russia's build up of her anti-missile defenses sufficiently to make it possible for us as yet to avoid such a new arms race, by reaching an agreement with Russia on a cut-off in the production of bombs

and rockets.

~~But~~ Russia would perhaps agree to such a cut-off - as a first step - if America and Russia were to reach a meeting of the minds on reducing their strategic striking forces, step by step, to a level just sufficient to inflict "unacceptable" damage in a counterblow, in case of a strategic strike directed against their territory.

An agreement providing for a reduction of America's and Russia's strategic striking forces to such a "minimal" level would also have to provide for adequate measures of inspection. It would take very stringent measures of inspection indeed to make sure that no bombs and rockets whatever remain hidden in Russia, but as long as we retain a striking force large enough to inflict unacceptable damage on Russia in a counterblow we could be satisfied with rather limited measures of inspection. In this case we would need to have just enough inspection to make sure that Russia would not secretly retain a strategic striking force large enough to be capable of destroying a significant portion of the "minimal" striking forces which we retain. The same considerations also hold true, of course, in the reverse for Russia.

Many of those who joined the Kennedy Administration in 1961 have come to believe that we would be much more secure in the years to come if we concluded with Russia an agreement based on the concept of the minimal deterrent. In the course of the last year Russia has accepted the notion that America as well as Russia may retain a small strategic striking force, until the "end of the third stage" of the "disarmament agreement" and that inspection shall not be limited to equipment which is to be destroyed, but be extended also to equipment which is being retained.

We shall have to explore whether the Russians mean the same thing as we do when they appear to accept the principle of the "minimal deterrent." We shall be able to discover this however only if we first find out what we mean ourselves when we speak of this principle.

We may as well start out by asking ourselves how large the strategic forces retained would need to be in order to fulfill their function.

If Russia retained twelve rockets and bombs, of one to three megatons each, which could reach their target, then Russia's counterblow could demolish twelve of our largest cities totaling over 25 million inhabitants. Clearly, this would be unacceptable damage, since in none of the conflicts which may be expected to arise in the foreseeable future would we be willing to pay such a price for the sake of attaining the political objectives involved.

Because Russia has fewer large cities, we might have to retain about 40 bombs, if our retaliatory counterblow is to demolish Russian cities housing over 25 million people.

Both America and Russia could maximize their immunity to undetected violations of the agreement, by maintaining a certain balance between land-based long-range rockets and submarine-based rockets, within the limitations set by the agreement.

The warheads carried by anti-missile missiles may have to be limited to perhaps twenty kilotons each and to a total of say three megatons, for Russia and for America alike. The deployment of anti-missile missiles around cities may have to be prohibited.

It is my contention that we need to reduce the strategic striking forces down to the level of the "minimal deterrent", as soon as possible, because of the perils we face to-day and the even greater perils that we shall face when we reach the end of the current transitional period.

Had a conflict between Russia and America led to an armed clash a few years ago, and had at some point along the line of escalation, Russia made a sudden attack against America's strategic air bases and rocket bases, then America's residual striking capacity would have been sufficient to demolish, in a counterblow, all of Russia's sizeable cities. But, if conversely, America had made such an attack against Russia's air bases and rocket bases of known location, Russia's

residual counterblow could not have caused any comparable destruction.

To-day, America's strategic atomic striking forces are presumably still superior to those of Russia, by a factor of perhaps between three and ten, in the number of hydrogen bombs that they could deliver and, presumably, America could maintain this kind of numerical superiority in the years to come. She could not however, by doing so, keep Russia from steadily increasing her "residual striking capacity." In recent years, Russia has steadily proceeded with the hardening of her rocket-launching sites and the building of additional submarines, capable of launching long-range rockets. To-day, she has reached the point where her "residual counterblow" would be sufficient to demolish most of America's major cities on the Eastern Seaboard and some of her cities in the West. This is a higher price than America would be willing to pay for reaching her political objectives, in any of the conflicts that might be expected to occur in the predictable future. In other words, to-day Russia's "residual striking capacity" would be sufficient to inflict "unacceptable damage" on America. Conversely, America's residual striking capacity would be sufficient to-day to demolish all of Russia's cities of over 100,000.

It might be true that to-day America would still be able to recover from an all-out atomic war, whereas Russia would lose all of her cities of over 100,000 and thus suffer a destruction of her society from which she would not recover.

In the situation in which we find ourselves at present we no longer try to "deter" Russia with threatening a massive strategic strike against her cities. We realize that to-day such a threat would come very close to being a threat of murder and suicide and clearly a threat of this sort would not be believable in any conflict in which major American interests might be at stake, but not America's existence as a nation. Instead, we are currently maintaining a military posture which threatens to lead step by step to an escalation of the war and ultimately to our accepting "unacceptable" damage, in return for the virtually complete

destruction of Russia's society. We maintain this military posture in order to discourage Russia from embarking on any military conquest.

Right after the Second World War the security of Western Europe was threatened by the combination of communist pressure from the inside and the possibility of a Russian military intervention from the outside. To-day the Russians would be exceedingly unlikely to embark on a conquest of Western Europe whether or not we maintained our current military posture, but - because of the military posture we maintain - if a war broke out, as the result of a border incident or an uprising in Eastern Germany, it would be likely to escalate and to end up with an exchange of strategic atomic strikes between America and Russia.

Presumably only conventional weapons would be used at the outset of such a war. At some point during the see-saw of fighting Russia might be tempted however to send her troops in hot pursuit across the pre-war boundary and they might penetrate deep into Western territory. In case of a deep penetration of Western Europe by Russian troops our plans call for the use of tactical weapons not only *in combat* against troops ~~in combat~~ which have penetrated the pre-war boundary, but also against the lines of communications of the Russians in Eastern Germany, Poland and Russia, herself. If, conversely, certain NATO units were to penetrate into Eastern Germany the Russians would presumably bomb communication lines in Western Europe including the ports where American troops disembark. Because the size of tactical bombs ranges all the way from one kiloton to several hundred kilotons, there is no substantial gap between where tactical bombings end and where strategic bombings begin. Thus, a war that neither America nor Russia wanted could easily end up in an all-out atomic war between them.

The risk that such a war in Europe might end up in an all-out atomic war is the price that we are paying for maintaining our present military posture. ~~†~~ To my mind this is far too high a price to pay for deterring Russia from something that she wouldn't be likely to do anyway.

A meaningful agreement on arms control based on the concept of the minimal deterrent would limit not only the number of the strategic bombs retained, but also the number, as well as the size, of the tactical bombs retained. The size of these bombs might be limited to one kiloton and America, as well as Russia, might each be limited to perhaps 300 such bombs.

The total tonnage of the tactical bombs retained by either side would thus amount to only a few percent of the total tonnage of the strategic bombs retained by them, still it would amount to about ten percent of the tonnage of high explosives dropped during the last world war.

By establishing a wide gap between the size of the tactical bombs retained, one kiloton, and the size of the strategic bombs retained, presumably about one megaton or larger, one may establish a clear distinction between bombs which might be used against troops in combat and bombs which have been retained only to be used in a counterblow, in retaliation for a strategic strike.

America ought to resolve and to proclaim that she will not resort to the use of tactical bombs if there is a war in Europe, except in case of a 100 mile deep penetration of Western Europe by Russian troops and ^{would} then use them only within the Western side of the pre-war boundary--as long as Russia imposes similar limitations upon herself. Then, if a war were to start in Europe which neither America nor Russia wanted it would ^{less} not be likely to end up with an exchange of strategic strikes between America and Russia.

Even the limited numbers of tactical bombs retained could have an important effect on the course of the war, if such a war were to break out in Europe, and their effect ^{could} might be to slow down the war and stabilize a front across Europe, provided that America and Russia imposed upon themselves the restraints spelled out above. ^{For if}

~~if~~ Russian troops were to cross in hot ^{pursuit} pursuit the pre-war boundary and were to penetrate one hundred miles deep into Western Europe, with America in possession

of tactical bombs, the Russians could not very well mass troops and conventional armor at any point in front of the American defense line in sufficient strength to break through ^{that} the line. Conversely, Russia ^{would} ~~could~~ gain the same advantage from her possession of tactical bombs if certain NATO units were to cross the pre-war boundary and ^{were to} penetrate one hundred ^m miles into Eastern Europe. The fear that atomic bombs might be dropped on troops, massed for a breakthrough, would ^{thus} tend to stabilize a front across Europe, giving time for tempers to cool and for ending the war by a settlement.

No agreement providing for arms control, would be likely to withstand the strain of a protracted war in Europe, however.

Saturation Parity

In the last few years, Russia has steadily proceeded with the building of submarines capable of launching rockets and with the hardening of her long-range rocket bases ~~which are~~, located on Russian territory. It is clear that, in time, Russia must reach the point where her "residual striking capacity" would be large enough to demolish all of America's sizeable cities. AT THAT POINT RUSSIA WILL HAVE ACHIEVED PARITY OF SATURATION. Russia ^{may} ~~can now~~ reach saturation parity, at a modest economic sacrifice, within a very few years.

General Le May said, in a major speech, reported in the WASHINGTON POST of December 18, 1963, that those, who argue that the United States has an extensive over-kill, favor cutting American strategic striking forces so they would only be capable of hitting cities. He said that such a reduced force, would leave the United States too weak "to destroy the enemy's nuclear forces before they destroy us," and that America's maintainence of "superior counterforce strength" gives American policy makers the widest range of credible options for controlled responses to aggression at any level. According to General Le May, this paid off during the Berlin and Cuban crises ^{in which} ~~where~~ the United States forced Russia to back down and won her political objectives, because the Russians knew that the United States had

a clear margin of strategic nuclear strength.

X I do not propose to take issue with General Le May at this point, except to say that the "deterrent effect" of America's margin of strategic nuclear strength obviously comes to an end when the striking forces of the Soviet Union reach saturation parity with those of the United States. If our "margin" was in fact responsible for Russia's yielding in the Berlin and Cuban crises, then if another similar crisis were to occur, after Russia reaches saturation parity, we would no longer have any reason to expect that Russia would yield always.

Had Russia not yielded in the Cuban crisis of October 1962, and had her ships continued on their course to Cuba, in defiance of America's proclamation of a partial naval blockade of that island, American warships would have sunk Russian ships. No one can say how far escalation would have gone and whether Russia, being unable to resist America in the Caribbean, would have retaliated elsewhere, perhaps in Europe.

General Le May believes that if it had come to an armed clash in the Cuban crisis, because of the superiority of our strategic striking forces the Russians would have put an end to escalation, at some point along the line.

X But even if one were to accept this view one could still not predict which of the two countries would take the first step to halt escalation, if a similar clash were to occur a few years hence, in the symmetrical situation of saturation parity. And, if it is no longer possible to say who would put an end to escalation, then also one cannot predict just how far escalation might go. In saturation parity, escalation might go to the point where all of America's and all of Russia's cities of over 100,000 get demolished. Manifestly, saturation parity presents a threat to the survival of our society.

* * *

X Let us consider now how saturation parity may be expected to affect our allies, in general, and Western Germany, in particular:

Let us ask ourselves, for example, what would have happened if there had occurred a few years ago a major uprising in Eastern Germany against the established government and if substantial units of armed West German volunteers had moved into East Germany to assist the insurgents. Presumably at first one would not have known with certainty whether these volunteers were acting with the tacit approval, and active participation, of the West German Government, or whether they were acting against its wishes, and in disregard of its orders. Had such a contingency occurred a few years ago, the odds are that America would have extended protection to West Germany against the strategic striking forces of Russia, on the ground that America must prevent the destruction of West German military power. America would have been likely to extend such protection to West Germany whether Germany was, or was not, the aggressor, and if there had been any doubt on ^{this} ~~that~~ score, Germany would have been given the benefit of the doubt.

If a contingency of this sort were to occur in the years to come, and if the Russians were to fear that the clash might escalate into an all-out atomic war, they might decide to knock West Germany out of the war by dropping, all at once, between five and ten hydrogen bombs, on West German cities. Having done this, Russia would then be in the position to speak to America as follows:

"German aggression forced us to do what we did, lest the clash of arms escalate into an all-out atomic war, which neither Russia nor America want. We realize that America could now respond by demolishing one Russian city after another, but for every Russian city that America may demolish Russia would demolish one America city. Let's be rational about this. What has happened, has happened; let's see now where we go from here. Russia does not intend to occupy any West German territory and she is willing to put up a few percent of her industrial output to help rebuild the cities of West Germany, provided her contribution is matched, dollar-for-dollar, by America."

The Russians would hardly assume that the Americans would respond in a rational fashion if they were to drop bombs on American cities but, in the contingency described above, they might, rightly or wrongly, expect a rational response, if they demolished German cities only and refrained from extending their attack to America's own territory.

The nations of Europe are becoming gradually aware of the situation they will face in saturation parity and they are beginning to ask themselves whether they may not have to maintain each a strategic striking force under its own control in order to safeguard their own security.

Few people contemplate with equanimity the possibility that Germany may acquire a substantial atomic striking force. There are those in America who believe that we might keep Germany from wanting to have such a striking force under her own control, by setting up a strategic striking force under the joint control of America and Germany, with perhaps a few other nations joining in. The ~~muti~~^llateral strategic striking force under discussion would be equipped with two hundred Polaris missiles, enough to demolish two hundred cities, if all of them were to reach their target, yet it would not give the German^s what they need in saturation parity, as long as America can veto the use of this force. There is reason to believe that the Germans propose to participate in it only because they assume that it may be possible for them to get rid of the veto.

The creation of such a strategic striking force would make it possible to endow West Germany, by the mere stroke of a pen, with a striking force of her own, a force corresponding ~~perhaps~~^{perhaps} in size to the financial stake that Germany would have in the joint force. Those Americans who advocate the setting up of such a joint force, in order to keep the Germans from having a force under their ~~control~~^{own}, follow the principle of the lesser evil. Following this same principle could lead to transferring to Germany control of a part of the joint force later on, if ~~the~~ German^y should proclaim that they would otherwise build a substantial striking force of their own.

It is doubtful whether control over atomic bombs can be kept from the Germans by a gadget like the multilateral nuclear striking force, or for that matter by any gadget, AND IT IS PROBABLY TRUE THAT IN THE LONG RUN IT WOULD BE IMPOSSIBLE TO PREVENT THE PROLIFERATION OF ATOMIC BOMBS IF SATURATION PARITY WERE TO PREVAIL.

Under an agreement based on the concept of the "minimal deterrent" which would leave Russia in possession of say, twelve bombs and rockets, Russia would put herself at a disadvantage if, in the contingency discussed above, she were to use up five to ten of her twelve bombs and rockets in a "first strike" against German cities. If she were to do this, she would have only two to seven bombs and rockets left, in comparison to the forty bombs and rockets retained by America and she would therefore put herself to a disadvantage in the crisis that would follow her attack. In this sense an agreement limiting Russia to twelve bombs and rockets would provide protection to the cities of our allies in Western Europe, but this would be true only if we could be certain that Russia would not secretly retain say another twelve strategic bombs and rockets which are operational, or could be made operational on short notice. The measures of inspection instituted at the outset of the agreement would not be likely to give us any certainty in this regard because

~~initially~~ we might have to be satisfied with ~~limited~~ measures of ~~enough~~ inspection *which* ~~to~~ give us assurance that Russia cannot secretly retain a striking force large enough to be capable of destroying a significant fraction of our minimal striking forces.

It is therefore necessary to explore what *additional* measures of inspection would ~~be~~ ~~acceptable to Russia, and whether such measures would~~ provide our allies with the protection they need. *and whether such measures would be acceptable to Russia.*

In an extended conversation which I had with Chairman Khrushchev in October of 1960, I said that even if Russia were willing to admit international inspectors in unlimited numbers it would not be possible for us to be sure that there would not remain a few bombs and rockets hidden somewhere in Russia which are operational, or could be made operational very quickly. I told Khrushchev that I believed that the Soviet Government could reassure the world in this regard only if they were to create conditions in which we could rely on a Soviet citizen reporting secret violations of the agreement to an international authority. *He* ~~Khrushchev~~ got the point, got it fully and his answer was gratifying. *P* I would not attach as much significance

to this as I do, if I had not accidentally discovered in December of the same year when I attended the Pugwash meeting in Moscow ~~in December~~, that some of our colleagues of the Soviet Academy of Sciences, scheduled to attend this meeting, had been given a detailed report of my conversation with Chairman Khrushchev. In this report, Khrushchev was quoted to have said to me that, for the sake of making general disarmament acceptable to the United States, the Soviet Government would give serious consideration to creating conditions which would make it possible for the ~~Western countries~~ ^{World} to rely on a Soviet citizen reporting violations of the disarmament agreement to an international authority.

After the Pugwash meeting, I stayed on in Moscow for about a month and had numerous private conversations with our Russian colleagues. I wanted to discover most of all whether the Soviet Government could, if it wanted to, create conditions in which the world could rely on Russian citizens reporting violations of the disarmament agreement. I finally concluded that this would not be easy but that it would be done, provided the arms control agreement offered Russia a substantial increase in her security and permitted the Soviet Government to divert substantial funds from armament to other uses.

I believe that it would be much easier to get the Soviet Government to accept very far-reaching measures of inspection for the sake of obtaining an objective that makes sense to them, than to get them to accept quite limited measures of inspection for the sake of any "first steps" which would not offer any major direct benefits to Russia.

* * *

Speaking before the Economic Club of New York on November 18, 1963, Secretary McNamara stated that we have now more than 500 operational long-range ballistic missiles and are planning to increase their number to over 1700 by 1966. In addition, we have to-day over 500 bombers on quick-reaction ground alert. In his speech, McNamara refers to the "damage-limiting capability of our numerically superior forces", which I take to mean our capability of making massive attacks

against Russia's strategic air bases and rocket bases of known location.

It is my contention that we will not be able to negotiate a meaningful agreement on arms control until we are willing to give up what General Le May calls our "capability to destroy the enemy's forces before they destroy us" and that by giving it up we would gain more than what we would lose.

X
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X
If I were given an opportunity to cross-examine General Le May, I would ask him ~~in~~ what contingencies he has in mind when he speaks of "destroying the enemy's nuclear forces before they destroy us." It would then turn out that while we could invoke the "damage-limiting capability of our numerically superior forces" by making a massive attack against Russia's strategic air fields and rocket launching sites of known location in certain conceivable contingencies, these contingencies are very contrived and are most unlikely to occur.

X
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The "damage-limiting capability of our numerically superior forces" might have a certain marginal value in the least probable contingencies, but, ^{in the most probable contingency} if a war were to ^{break} ~~break~~ out which neither Russia nor America wanted ~~then~~ our capability of making a sudden massive attack against Russia's rocket-launching sites of known location would render an escalation of the war more likely rather than less likely. For if the superiority of our strategic striking forces is anywhere as great as General Le May claims then, ^{in the pursuit of the war} ~~if war broke out~~, the Russians might fear at some point that our next move would be the waging of a massive strike against their rocket bases of known location and at that point they might be impelled to launch rockets from all of their bases which are vulnerable to ~~an~~ attack, against our cities and the cities of our allies.

X
There is no need to belabor this point, however, because the ~~kind of~~ superiority of our strategic striking forces of which General Le May speaks is at best a vanishing asset, which will not exist tomorrow. Within a few years now we shall have saturation parity and in that situation Russia will no longer have to fear a massive strike against her rocket bases of known location.

X In saturation parity - as far as the strategic striking forces are concerned - America and Russia will find themselves in a fully symmetrical situation, and at this ^{time} ~~point~~ the only meaningful choice before us is between the symmetrical situation of saturation parity, in which both America and Russia maintain strategic striking forces at a high level, and another symmetrical situation in which they both maintain strategic striking forces at a "minimal level."

X More and more people within the Administration realize that it would be futile and increasingly dangerous to continue to use our strategic striking forces as a deterrent, the way we used them in the past, and that these forces must be used only for the purpose of threatening a counterblow in case of an atomic attack directed against our territory. Those who take this position inevitably arrive X in time at realizing that both America and Russia would gain, rather than X lose, in security by reducing their strategic striking forces from the level of saturation parity to the level of the minimal deterrent.

* * *

X We must ask ourselves at this point under what conditions would Russia want X to have an agreement based on this concept, and want it strongly enough to be prepared to pay the price in terms of the measures of inspection needed.

X I think that Russia would have no ~~great~~ desire to enter into such an agreement unless she could be sure that it would not be necessary for her later on to abrogate the agreement and to rebuild her atomic striking forces so to speak from scratch. Thus, Russia would have to be convinced that Germany is not going to have under her own control an atomic striking force, and also that China would not build a substantial atomic striking force of her own.

I do not know what it would take to induce China to forego having atomic bombs, but it is conceivable that China might be willing to go along with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to resort to the use of either strategic, or tactical, atomic bombs in the

X Far East and Southeast Asia, and to ~~set~~ up an atom-free zone that would include these areas.

There are those who say that America could not agree to forego the use of atomic bombs in the Pacific because it might be necessary to use atomic bombs in the defense of Formosa.

X Quite similar views were voiced at the Disarmament Conference of the League of Nations which was held in Geneva in the 1930's. At issue at this conference was the elimination of the bomber plane from the national arsenals and the outlawing of bombing from the air. At one point during the negotiations, Anthony Eden, who was at that time a civil servant, told the Conference that His Majesty's Government could not be a party to the outlawing of bombing from the air. He said that, from time to time, the Royal Air Force ~~is~~ engaged in the bombing of the mud huts of the unruly tribes on the Northern frontier of India and that this was the only effective way to keep these tribes from making periodic incursions into Indian territory. Some people have no sense of proportions.

* * *

It is probably true that we cannot have general disarmament without also having a far-reaching political settlement. The conclusion of an agreement providing for arms control based on the concept of the minimal deterrent need not await however a political settlement in Europe, or elsewhere. Moreover, in view of our current estimates of Russia's military manpower and resources we need no longer insist that the reduction of the number of bombs and rockets to a minimal level must be accompanied by the reduction of the conventionally-armed forces. Rather, we may rely on economic considerations to limit the armies maintained by the nations of Europe, including Russia.

"minimal"

X The reduction of the strategic striking forces to the level ~~spelled out above~~ need not take place at the very outset of the agreement, all at once, but there would have to be substantial step-by-step reductions to intermediate levels soon after the agreement goes into force. What matters is not so much in what steps,

and just how fast, a reduction of the strategic striking force takes place, but rather whether America and Russia are in full agreement on the level of the "minimal" striking forces which would be retained under the agreement.

In these circumstances, Russia and America could enter into conversations aimed at reaching a meeting of the minds on the reduction of the number of atomic bombs and rockets to a minimal level and could thereafter seek the concurrence of the other nations, including Germany and China.

If these conversations were carried far enough to convince the Russians that an agreement could be negotiated without running into any major hitches, then the Russians might accept a production cut-off in bombs and rockets, even before an agreement based on the minimal deterrent is fully spelled out, with the i's dotted and the t's crossed. ^{and} For the purposes of a production cut-off the United States would be presumably satisfied with inspection limited to production facilities of known location.

* * *

Postscript

I do not know anyone in the Department of Defense who would not on the whole agree with the analysis, given above, of the perils of saturation parity and the security to be gained from the "minimal deterrent." Some people in the Defense Department might say that I am overstating my case, that it would not be sufficient for us to retain forty large bombs and rockets because only a certain fraction of the Polaris and Minutemen launched would reach their target, the rest being duds. They might say therefore that instead of forty bombs and rockets we ought to retain perhaps 100 or 150 of them. These are not essential differences, because as the reliability rating of our rockets increases their numbers could be more or less automatically reduced.

Others in the Defense Department ~~I know~~ might say, not publicly but privately, that I am understating my case when I say that Russia may achieve saturation parity within a few years and that Russia has achieved saturation parity already. This is not an essential difference either.

I should perhaps add that I am not personally acquainted with any of those in the Defense Department who are part of the "military - industrial complex" of which President Eisenhower spoke in his Presidential Farewell Address, and who have a vested interest, emotional or otherwise, in maintaining large strategic striking forces. Even though these people do not occupy top positions in the Administration they must be reckoned with because they have considerable influence in the Congress.

While the "military-industrial complex" might well attempt to block any significant reduction of our strategic striking forces, when such a reduction becomes a "clear and present danger", our current failure to make any decisive progress on arms control must not be attributed to them. Rather, this failure is mainly due to our method of negotiating with the Russians.

X We have not made so far, and are not likely to make in the ^{predictable} future, a formal proposal on arms control which the Russians could accept, as it stands, for fear ^{that} that the proposal would become the starting point of a "horse trading" and we would end up with an agreement that might endanger our security.

X Each time we introduce a new feature into our proposals, which we hope could ^{create a} ~~serve as the~~ basis for negotiations, it takes the Russians about six months to respond. This sluggishness of the Russian response is not surprising because there are few people concerned with the problem of arms control working within the Russian Government who are capable of coping with the unprecedented problems involved. These few men have their hands full, taking care of the day-to-day problems and cannot devote much time to long-term planning. This may well be the reason why the Russians take so long to respond, even if we propose something that clearly would be in their interest to accept.

X The number of those working within our Administration who can cope with these problems is larger, but it is not large. These men may be ~~short handed also, but~~ ~~mainly they~~ are plagued by being uncertain as to what the Russians would be likely to accept and also what the Congress would be likely to accept.

What the Russians would accept and what the Congress would accept depends on whether the Administration can make them understand the need to avoid a new arms race, the perils which we face in the current situation and the advantages that an agreement based on the concept of the minimal deterrent would hold for all concerned. Unless it becomes somehow possible to arrange for greatly improved communications between the Administration and the Soviet Government, on the one hand, and between the Administration and the Congress, on the other hand, no decisive progress towards a meaningful agreement on arms control is going to be made. Instead, we might be taking a number of little steps, like the test ban, for instance. These little steps improve the international climate, but if nothing decisive is done before long, the climate may keep on improving and improving until there is a new crisis and, then we shall be back where we started from. To make progress is not enough, for if the progress is not fast enough, something is going to overtake us.

THE END

Karr

January 2, 1964

"Minimal Deterrent" versus Saturation parity.

Saturation Parity or "minimal" deterrent

By
Leo Szilard

We are close to the point where America and Russia could destroy each other to any desired degree and therefore one would perhaps think that the arms race is about to come to an end. In fact a new arms race might be just around the corner.

Russia might ^{before long} ~~1/4~~ deploy anti-missile missiles in defense of her rocket-launching ^{sites} ~~bases~~. For such a defense to be effective it is only necessary to prevent a ground burst of the incoming rockets and this is, quite possibly, an attainable goal. Thus, ~~before long~~ the Administration might find itself under Congressional pressure to double, or triple, the number of Minutemen scheduled to be built in order to overcome Russia's defense of her bases.

Russia might go further and might deploy anti-missile missiles also for the defense of some of her larger cities. If she does, we would be forced to do likewise. There is this difference however: Russia could deploy anti-missile missiles around a few of her largest cities and stop there, but if we deployed anti-missile missiles around any of our cities, the Administration would be under pressure to deploy such missiles around every one of our cities.

Fall-out could kill most people in a city if Russia were to explode suitably-constructed bombs at some distance from the city and it would make little sense for us to deploy anti-missile missiles around our cities without also embarking on a program of building fall-out shelters for the protection of the population of these cities. The cost of an adequate fall-out shelter program may be estimated at about \$50 billion.

Economic considerations might slow Russia's build up of her anti-

missile defenses sufficiently to make it possible for us as yet to avoid such a new arms race, by reaching an agreement with ^{Russia} ~~the Soviet~~ ~~Union~~ on a cut-off in the production of bombs and rockets.

~~Russia could hardly be expected to agree to such a production cut-off if it were to perpetuate the current "superiority" of America's strategic striking forces.~~ ~~the Soviet~~ ^{she Russia} would perhaps agree to such a cut-off - as a first step - if America and Russia were to reach a meeting of the minds on reducing their strategic striking forces, step by step, to a level just sufficient to inflict "unacceptable" damage in a counterblow, in case of a strategic strike directed against their territory.

An agreement providing for a reduction of America's and Russia's strategic striking forces to such a "minimal" level would also have to provide for adequate measures of inspection. It would take very stringent measures of inspection indeed to make sure that no bombs and rockets whatever ^{remain hidden} ~~secretly/retained~~ in Russia, but as long as we retain a striking force large enough to inflict unacceptable damage on Russia in a counterblow we could be satisfied with rather limited measures of inspection. In this case we would need to have just enough inspection to make sure that Russia would not secretly retain a strategic striking force large enough to be capable of destroying a significant portion of the "minimal" striking forces which we retain. The same considerations also hold true, of course, in the reverse for Russia.

Many of those who joined the Kennedy Administration in 1961 have come to believe that we would be much more secure in the years to come if we concluded with Russia an agreement based on the concept of the minimal deterrent. In the course of the last year ^{Russia} ~~the Soviet~~ ~~Union~~ has accepted the notion that America as well as Russia may retain a

small strategic striking force, until the "end of the third stage" of the "disarmament agreement" and that inspection shall not be limited to equipment which is to be destroyed, but be extended also to equipment which is being retained.

We shall have to explore whether the Russians mean the same thing as we do when they appear to accept the principles of the "minimal deterrent." We shall be able to discover this however only if we first find out what we mean ourselves when we ~~invoke~~ ^{speak of} this principle.

* * *

We may as well start out by asking ourselves how large the strategic forces retained would need to be in order to fulfill their function.

If Russia retained twelve rockets and bombs, ^{of one} ~~up~~ to three megatons each, which could reach their target, then Russia's counterblow could demolish twelve of our largest cities totaling over 25 million inhabitants. Clearly, this would be unacceptable damage, since in none of the conflicts which may be expected to arise in the foreseeable future would we be willing to pay such a price for the sake of attaining the political objectives involved.

Because Russia has fewer large cities, we might have to retain about 40 bombs, if our retaliatory counterblow is to demolish Russian cities housing over 25 million people.

Both America and Russia could maximize their ~~residual striking~~ ^{immunity} ~~capacity~~ ^{to undetected violations of the agreement} by maintaining a certain balance between land-based long-range rockets and submarine-based rockets, within the limitations set by the agreement.

The warheads carried by anti-missile missiles may have to be limited to perhaps twenty kilotons each and to a total of say three megatons, for Russia and for America alike. The deployment of anti-missile missiles around cities may have to be prohibited.

* * *

It is my contention that ⁻⁴⁻ ~~we need~~

In order to see why we need to reduce ~~the level of~~ the strategic striking forces down to the level of the "minimal deterrent", ~~we must~~ *examine* ^{as soon as possible} the perils we face to-day and the even greater perils that we shall face when we reach the end of the current transitional period.

Had a conflict between Russia and America led to an armed clash a few years ago, and had at some point along the line of escalation, Russia made a sudden attack against America's strategic air bases and rocket bases, then America's "residual striking capacity" would have been sufficient to demolish, in a counterblow, all of Russia's sizeable cities. But, if conversely, America had made such an attack against Russia's air bases and rocket bases of known location, Russia's residual counterblow could not have caused any comparable destruction.

To-day, America's strategic atomic striking forces are presumably still superior to those of Russia, by a factor of perhaps between three and ten, in the number of hydrogen bombs that they could deliver and, presumably, America could maintain this kind of numerical superiority in the years to come. She could not however, by doing so, keep Russia from steadily increasing her "residual striking capacity." In recent years, Russia has steadily proceeded with the hardening of her rocket-launching sites and the building of additional submarines, capable of launching long-range rockets. To-day, she has reached the point where her "residual counterblow" would be sufficient to demolish most of America's major cities on the Eastern Seaboard and some of her cities in the West. This is a higher price than America would be willing to pay for reaching ~~any~~ of her political objectives, in ^{any of} the conflicts that might be expected to occur in the predictable future. In other words, to-day Russia's "residual striking capacity" would be sufficient to inflict "unacceptable damage" on America. ^{Conversely,} America's residual striking capacity would be sufficient to-day to demolish all of Russia's cities of over 100,000.

It might be true that to-day America would still be able to recover from an all-out atomic war, whereas Russia would lose all of her cities of over 100,000 and thus suffer a destruction of her society from which she would not recover. ~~Conversely,~~ ~~/Russia could demolish all of America's cities of over 100,000 to-day only if she were to resort to a massive first strike against our cities.~~

In the situation in which we find ourselves at present we no longer try to "deter" Russia with threatening a massive strategic strike against her cities. We realize that to-day such a threat would come very close to being a threat of murder and suicide and clearly a threat of this sort would not be believable in any conflict in which major American interests might be at stake, but not America's existence as a nation. Instead, we are currently maintaining a military posture which threatens to lead step by step to an escalation of the war and ultimately to our accepting "unacceptable" damage, in return for the virtually complete destruction of Russia's society. We maintain this military posture in order to discourage Russia from embarking on any military conquest.

Right after the Second World War the security of Western Europe was threatened by the combination of communist pressure from the inside and the possibility of a Russian military intervention from the outside. To-day the Russians would be exceedingly unlikely to embark on a conquest of Western Europe whether or not we maintained our current military posture, but - because of the military posture we maintain - if a war broke out, as the result of a border incident or an uprising in Eastern Germany, it would be likely to escalate and to end up with an exchange of strategic atomic strikes between America and Russia.

Presumably only conventional weapons would be used at the outset of such a war. At some point during the see-saw of fighting Russia might

be tempted however to send her troops in hot pursuit across the pre-war boundary and they might penetrate deep into Western territory. In case of a deep penetration of Western Europe by Russian troops our plans call for the use of tactical weapons not only against troops in combat which have penetrated the pre-war boundary but also against the lines of communications of the Russians in Eastern Germany, Poland and Russia, herself. If, conversely, certain NATO units were to penetrate into Eastern Germany the Russians would presumably bomb communication lines in Western Europe including the ports where American troops disembark. Because the size of tactical bombs ranges all the way from one kiloton to several hundred kilotons, there is no substantial gap between where tactical bombings end and where strategic bombings begin. Thus, a war that neither America nor Russia wanted could easily end up in an all-out atomic war between them.

The risk that such a war in Europe might end up in an all-out atomic war is the price that we are paying for maintaining our present military posture. *To my mind this is far too high a* ~~a rather high~~ price to pay for deterring Russia from something that she wouldn't be likely to do anyway.

* * *

A meaningful agreement on arms control based on the concept of the minimal deterrent would limit not only the number of the strategic bombs retained, but also the number, as well as the size, of the tactical bombs retained. The size of these bombs might be limited to one kiloton and America, as well as Russia, might each be limited to perhaps 300 such bombs.

The total tonnage of the tactical bombs retained by either side would thus amount to only a few percent of the total tonnage of the strategic bombs retained by them, still it would amount to about ten percent of the tonnage of high explosives dropped during the last world war.

By establishing a wide gap between the size of the tactical bombs

retained, one kiloton, and the size of the strategic bombs retained, presumably about one megaton or larger, one may establish a clear distinction between bombs which might be used against troops in combat and bombs which have been retained only to be used in a counterblow, in retaliation for a strategic strike.

America ought to resolve ~~not~~ ^{and by proclamation that we will not resort} to use tactical bombs if there is a war in Europe except in case of a 100 mile deep penetration of Western Europe by Russian troops and ^{the lot} ~~then to~~ ^{wanted} use them only within the Western side of the pre-war boundary - as long as Russia imposes similar limitations upon herself. Then, if a war were to start in Europe which neither America nor Russia wanted it would not be likely to end up with an exchange of strategic strikes between America and Russia.

Even the limited numbers of tactical bombs retained could have an important effect on the course of the war, if such a war were to break out in Europe, and their effect might be to slow down the war and stabilize a front across Europe ^{provided that} ~~/i/f/~~ America and Russia imposed upon themselves ~~/t/a/c/t/i/c/a/l/ /a/t/o/m/i/c/ /b/o/m/b/s/ /t/c/~~ the restraints spelled out above.

If Russian troops were to cross in hot ^{pursuit} ~~pursuit~~ the pre-war boundary and were to penetrate one hundred miles deep into Western Europe, with America in possession of tactical bombs, the Russians could not very well mass troops and conventional armor at any point in front of the American defense line in sufficient strength to break through that line. Conversely, Russia could gain the same advantage from her possession of tactical bombs if certain NATO units were to cross the pre-war boundary and penetrate one hundred miles deep into Eastern Europe. The fear that atomic bombs might be dropped on troops, massed for a breakthrough, would tend to stabilize a front across Europe, giving time for tempers to cool and for ending the war by a settlement.

be likely to

No agreement providing for arms control, would/withstand the strain of a protracted war in Europe, however.

Saturation Parity

In the last few years, Russia has steadily proceeded with the building of submarines capable of launching rockets and with the hardening of her long-range rocket bases which are located on Russian territory. It is clear that, in time, Russia must reach the point where her "residual striking capacity" would be large enough to demolish all of America's sizeable cities. At that point Russia will have achieved parity of saturation. Russia can now reach saturation parity, at a modest economic sacrifice, within a very few years.

General Le May said, in a major speech, reported in the WASHINGTON POST of December 18, 1963, that those, who argue that the United States has an extensive over-kill, favor cutting American strategic striking forces so they would only be capable of hitting cities. He said that such a reduced force, would leave the United States too weak "to destroy the enemy's nuclear forces before they destroy us," and that America's maintainence of "superior counterforce strength" gives American policy makers the widest range of credible options for controlled responses to aggression at any level.)

According to General Le May, this paid off during the Berlin and Cuban crises where the United States forced Russia to back down and won her political objectives, because the Russians knew that the United States had a clear margin of strategic nuclear strength.

I do not propose to take issue with General Le May at this point, except to say that the "deterrent effect" of America's margin of

of strategic nuclear strength obviously comes to an end when the striking forces of the Soviet Union reach saturation parity with those of the United States. If our "margin" was in fact responsible for Russia's yielding in the Berlin and Cuban crises, then if another similar crisis were to occur, after Russia reaches saturation parity, we would no longer have any reason to expect that Russia would yield always.

Had Russia not yielded in the Cuban crisis of October, 1962, and had her ships continued on their course to Cuba, in defiance of America's proclamation of a partial naval blockade of that island, American warships would have sunk Russian ships. No one can say how far escalation would have gone and whether Russia, being unable to resist America in the Caribbean, would have retaliated elsewhere, perhaps in Europe.

General Le May believes that if it had come to an armed clash in the Cuban crisis, because of the superiority of our strategic striking forces the Russians would have put an end to escalation, at some point along the line.

But even if one were to accept this view one could still not predict which of the two countries would take the first step to halt escalation, if a similar clash were to occur a few years hence, in the symmetrical situation of saturation parity. And, if it is no longer possible to say who would put an end to escalation, then also one cannot predict just how far escalation might go. In saturation parity, escalation might go to the point where all of America's and all of Russia's cities of over 100,000 get demolished.

*Manifestly, saturation parity presents a ~~grave~~ threat to the survival of our society. **

Let us consider now how saturation parity may be expected to affect our allies in general and Western Germany, in particular:

Let us ask ourselves, for example, what would have happened if there had occurred a few years ago a major uprising in Eastern Germany

against the established government and if substantial units of armed West German volunteers had moved into East Germany to assist the insurgents. Presumably at first one would not have known with certainty whether these volunteers were acting with the tacit approval, and active participation, of the West German Government, or whether they were acting against its wishes, and in disregard of its orders. Had such a contingency occurred a few years ago, the odds are that America would have extended protection to West Germany against the strategic striking forces of Russia, on the ground that America must prevent the destruction of West German military power. America would have been likely to extend such protection to West Germany whether Germany was, or was not, the aggressor, and if there had been any doubt on that score, Germany would have been given the benefit of the doubt.

If a contingency of this sort were to occur in the years to come, and if the Russians were to fear that the clash might escalate into an all-out atomic war, they might decide to knock West Germany out of the war by dropping, all at once, between five and ten hydrogen bombs, on West German cities. Having done this, Russia would then be in the position to speak to America as follows:

"German aggression forced us to do what we did, lest the clash of arms escalate into an all-out atomic war, which neither Russia nor America want. We realize that America could now respond by demolishing one Russian city after another, but for every Russian city that America may demolish Russia would demolish one American city. Let's be rational about this. What has happened, has happened; let's see now where we go from here. Russia does not intend to occupy any West German territory and she is willing to put up a few percent of her industrial output to help rebuild the cities of West Germany provided her contribution is matched, dollar-for-dollar, by America."

The Russians would hardly assume that the Americans would respond in a rational fashion if they were to drop bombs on American cities but, in the contingency described above, they might, rightly or wrongly, expect a rational response, if they ~~were to~~ demolish^{ed} German cities^{only} and

~~Wet/e/ t/d~~ ed refrain/ from extending their attack to America's own territory.

The nations of Europe are becoming gradually aware of the situation they will face in saturation parity and they are beginning to ask themselves whether they may not have to maintain each a strategic striking force under its own control in order to safeguard ^{their} ~~i/t/s~~ own security.

Few people contemplate with equanimity the possibility that Germany may acquire a substantial atomic striking force. There are those in America who believe that we might keep Germany from wanting to have such a striking force under her own control, by setting up a strategic striking force under the joint control of America and Germany, with perhaps a few other nations joining in. The mutilateral strategic striking force under discussion would be equipped with two hundred Polaris missiles enough to demolish two hundred cities, if all of them were to reach their target, yet it would not give the Germans what they need in saturation parity, as long as America can veto the use of this force. There is reason to believe that the Germans propose to participate in it only because they assume that it may be possible for them to get rid of the veto.

The creation of such a strategic striking force would make it possible to endow West Germany, by the mere stroke of a pen, with a striking force of her own, a force corresponding perhaps in size to the financial stake that Germany would have in the joint force. ^{Americans} Those/who advocate the setting up of such a joint force, in order to keep the Germans from having a force under their control, follow the principle of the lesser evil. Following this same principle could lead to transferring to Germany control of a part of the joint force later on, if the Germans ^{should} ~~Wet/e/ t/b/~~ proclaim that they would otherwise build a substantial striking force of their own.

It is doubtful ^{whether} ~~that~~ control over atomic bombs can be kept from the Germans by a gadget like the multilateral nuclear striking force, or for that matter by any gadget, and it is probably true that in the long run it would be impossible to prevent the proliferation of atomic bombs if saturation parity were to prevail.

Under an agreement based on the concept of the "minimal deterrent" which would leave Russia in possession of say, twelve bombs and rockets.) Russia would put herself at a disadvantage if, in the contingency discussed above, she were to use up, five to ten of her twelve bombs and rockets in a "first strike" against German cities. If she were to do this, she would have only two to seven bombs and rockets left, in comparison to the ~~thirty~~ ^{forty} bombs and rockets retained by America and she would therefore put herself to a disadvantage in the crisis that would follow her attack. In this sense an agreement limiting Russia to twelve bombs and rockets would provide protection to the cities of our allies in Western Europe, but this would be true only if we could be ~~reasonably~~ ^{would} certain that Russia ~~did~~ not secretly retain say another twelve strategic bombs and rockets which are operational, or could be made operational on short notice. The measures of inspection instituted at the outset of the agreement would not be likely to give us any certainty in this regard because, ^{initially} ~~at the outset~~ we ~~would~~ ^{might} have to be satisfied with limited measures ^{not enough to} of inspection, ~~which would give us~~ ^{giving us} ~~reasonable~~ assurance that Russia cannot secretly retain a striking force large enough to be capable of destroying a significant fraction of our minimal striking forces.

It is therefore necessary to explore ^{what} ~~whether~~ measures of inspection ~~of the kind which~~ would provide our allies with the protection they need ~~and whether such measures~~ would be acceptable to Russia.

In an extended conversation which I had with Chairman Khrushchev in October of 1960, I said that even if Russia were willing to admit international inspectors in unlimited numbers it would not be possible for us to be sure that there would not remain a few bombs and rockets hidden somewhere in Russia which are operational, or could be made operational very quickly. I told Khrushchev that I believed that the Soviet Government could reassure the world in this regard only if they were to create conditions in which we could rely on a Soviet citizen reporting secret violations of the agreement to an international authority.)

~~Khrushchev~~ ^{He} got the point, ~~he~~ got it fully and his answer was gratifying. ^P I would not attach as much significance to this as I do, if I had not accidentally discovered in December of the same year when I attended the Pugwash meeting in Moscow in December, that some of our colleagues of the Soviet Academy of Sciences, scheduled to attend this meeting, had been given a detailed report of my conversation with Chairman Khrushchev. In this report, Khrushchev was quoted to have said to me that, for the sake of making general disarmament acceptable to the United States, the Soviet Government would give serious consideration to creating conditions which would make it possible for the Western countries to rely on a Soviet citizen reporting violations of the disarmament agreement to an international authority.

After the Pugwash meeting, I stayed on in Moscow for about a month and had numerous private conversations with our Russian colleagues. I wanted to discover most of all whether the Soviet Government could, if it wanted to, create conditions in which the world could rely on Russian citizens reporting violations of the disarmament agreement. I finally concluded that this would not be easy but that it would be done, provided the arms control agreement offered Russia a substantial increase

in her security and permitted the Soviet Government to divert substantial funds from armament to other uses.

I believe that it would be much easier to get the Soviet Government to accept very far-reaching measures of inspection for the sake of obtaining an objective that ~~they/they'll/they~~ makes sense to them ~~accept~~ ~~of~~ ~~quite~~ ~~limited~~ measures of inspection for the sake of any "first steps" which would not offer any major ~~immediate~~ ^{direct} benefits to Russia.

* * *

Speaking before the Economic Club of New York on November 18, 1963, Secretary McNamara stated that we have now more than 500 operational long-range ballistic missiles and are planning to increase their number to over 1700 by 1966. In addition, we have to-day over 500 bombers on quick-reaction ground alert. In his speech, McNamara refers to the "damage-limiting capability of our numerically superior forces", which I take to mean our capability of making massive attacks against Russia's strategic air bases and rocket bases of known location.

It is my contention that we will not be able to negotiate a meaningful agreement on arms control until we are willing to give up what General Le May calls our "capability to destroy the enemy's forces before they destroy us" and that by giving it up we would gain more than what we would lose.

If I were given an opportunity to cross-examine General Le May, I would ask him in what contingencies he has in mind when he speaks of "destroying the enemy's nuclear forces before they destroy us." It would then turn out that while we could invoke the "damage-limiting capability of our numerically superior forces" by making a ~~subtle~~ ^{massive} attack against Russia's strategic air fields and rocket sites of known location in certain conceivable contingencies, these contingencies are ~~are~~ ^{very} contrived and ~~are very~~ ^{most} unlikely to occur.

The "damage-limiting capability of our numerically superior forces" might have a certain marginal value in the least probable contingencies, but if a war broke out which neither Russia nor America wanted then our capability of making a sudden massive attack against Russia's rocket-launching sites of known location would render an escalation of the war more likely rather than less likely. For if the superiority of our strategic striking forces is anywhere as great as General Le May claims then, if war broke out, the Russians might fear at some point that our next move would be the waging of a massive strike against their rocket bases of known location and/they ~~might~~ ^{at that point} ~~launch~~ ^{be impelled to} ~~rockets~~ ^{launch} from all of their bases which are vulnerable to an attack ~~against~~ ^{impelled} against our cities and the cities of our allies.

There is no need to belabor this point, ^{however} because the kind of superiority of our strategic striking forces of which General Le May speaks is at best a vanishing asset, which will not exist tomorrow. Within a few years now we shall have saturation parity and in that situation Russia will no longer have to fear a massive strike against her rocket bases of known location. ^{PP} In saturation parity - as far as the strategic striking forces are concerned - America and Russia will find themselves in a fully symmetrical situation. ^{and at this point} ~~Therefore,~~ the only meaningful choice before us is between the symmetrical situation of saturation parity, in which both America and Russia maintain strategic striking forces at a high level, and another symmetrical situation in which they both maintain strategic striking forces at a "minimal level."

More and more people within the Administration realize that it would be futile and increasingly dangerous to continue to use our strategic striking forces as a deterrent, the way we used them in the past, and that these forces must be ^{used} only for the purpose of

threatening a counterblow in case of an atomic attack directed against our territory. Those who take this position ~~are~~ inevitably ^{arrive, in time,} at realizing ~~that~~ that both America and Russia would gain rather than lose in security by reducing their strategic striking forces from the level of saturation parity to the level of the minimal deterrent.

We must ask ourselves at this point ~~would Russia be willing to undertake a reduction of her strategic striking forces to a "minimal level" and~~ ^{Russia} under what conditions would ~~she~~ ^{and want it,} want to have an agreement based on this concept, strongly enough to be prepared to pay the price in terms of the measures of inspection needed.

I think that Russia would have no ~~great~~ desire to enter into such an agreement unless she could be sure that it would not be necessary for her later on to abrogate the agreement and to rebuild her atomic striking forces so to speak from scratch. Thus, Russia would have to be convinced that Germany is not going to have under her own control an atomic striking force, and, also that China ^{would not build} ~~is not going to have~~ a substantial atomic striking force of her own.

I do not know what it would take to induce China to forego having atomic bombs ^{is} ~~is~~, but it ~~is~~ ^{is} conceivable that China might be willing to go along with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to resort to the use of either strategic, or tactical, atomic bombs in the Far East and Southeast Asia, and to set up an atom-free zone that would include these areas.

There are those who say that America could not agree to forego the use of atomic bombs in the Pacific because it might be necessary to use atomic bombs in the defense of Formosa.

Quite similar views were voiced at the Disarmament Conference of the League of Nations which was held in Geneva in the 1930's. At issue at this conference was the elimination of the bomber plane from the national arsenals and the outlawing of bombing from the air. At one point during the negotiations, Anthony Eden, who was at that time a civil servant, told the Conference that His Majesty's Government could not be a party to the outlawing of bombing from the air. He said that, from time to time, the Royal Air Force is engaged in the bombing of the mud huts of the unruly tribes on the Northern frontier of India and that this was the only effective way to keep these tribes from making periodic incursions into Indian territory. Some people have no sense of proportions.

* * *

It is probably true that we cannot have general disarmament without also having a far-reaching political settlement. The conclusion of an agreement providing for arms control based on the concept of the minimal deterrent need not await however a political settlement in Europe, or elsewhere. Moreover, in view of our current estimates of Russia's military manpower and resources we need no longer insist that the reduction of the number of ~~aircraft~~ bombs and rockets to a minimal level must be accompanied by the reduction of the conventionally-armed forces. Rather, we may rely on economic considerations to limit the armies maintained by the nations of Europe, including Russia.

The reduction of the strategic striking forces to the level spelled out above need not take place at the very outset of the agreement, all at once, but there would have to be substantial step-by-step reductions to intermediate levels soon after the agreement goes into force. What matters is not so much in what steps, and just how fast, a reduction of

the strategic striking force takes place, but rather whether America and Russia are in full agreement on the level of the "minimal" striking forces which would be retained under the agreement.

In these circumstances, Russia and America could enter into conversations aimed at reaching a meeting of the minds on the reduction of the number of atomic bombs and rockets to a minimal level and could thereafter seek the concurrence of the other nations, including Germany and China.

If these conversations were carried far enough to convince the Russians that an agreement could be negotiated without running into any major hitches, then the Russians might accept a production cut-off in bombs and rockets, even before an agreement based on the minimal deterrent is fully spelled out, with the i's dotted and the t's crossed.

* * *

Postscript

I do not know anyone in the Department of Defense who would not on the whole agree with the analysis, given above, of the perils of saturation parity and the security to be gained from the "minimal deterrent." Some people in the Defense Department might say that I am overstating my case, that it would not be sufficient for us to retain forty large bombs and rockets because only a certain fraction of the Polaris and Minutemen launched would reach their target, the rest being duds. They might say therefore that instead of forty bombs and rockets we ought to retain perhaps 100 or 150 of them. These are not essential differences, because as the reliability rating of our rockets increases their numbers could be more or less automatically reduced.

Others in the Defense Department I know might say, not publicly but privately, that I am understating my case when I say that Russia may achieve saturation parity within a few years and that Russia has achieved saturation parity already. This is not an essential difference either.

I should perhaps add that I am not personally acquainted with any of those in the Defense Department who are part of the "military - industrial complex" of which President Eisenhower spoke in his Presidential Farewell Address, and who have a vested interest, emotional or otherwise, in maintaining large strategic striking forces. Even though these people do not occupy top positions in the ~~Department~~ ^{Administration} they must be reckoned with because they have considerable influence in the Congress.

While the "military-industrial complex" might well attempt to block any significant reduction of our strategic striking forces, when such a reduction becomes a "clear and present danger," our current failure to make any decisive progress on arms control must not be attributed to them. Rather, this failure is mainly due to our ~~inadequate~~ methods of negotiating with the Russians.

We have not made so far, and are not likely to make in the future, a formal proposal on arms control which the Russians could accept, as it stands, for fear that the proposal would become the starting point of the a "horse trading" and we would end up with an agreement that might endanger our security. Each time we introduce a new feature into our proposals, which we hope could serve as the basis for negotiations, it takes the Russians about six months to respond. This sluggishness of the Russian response is not surprising because there are few people concerned with the problem of arms control working within the Russian Government who

for instance. These little steps improve the international climate, but if nothing decisive is done before long, the climate may keep on improving and improving until there is a new crisis and, then we shall be back where we started from. To make progress is not enough, for if the progress is not fast enough, something is going to overtake us..

THE END

Let us put up, or shut up.

~~FAREWELL TO ARMS CONTROL~~

Lykes Sealand

December 16, 1963

At the time of when President Kennedy took office it was generally believed that America would make a serious attempt to reach an agreement with Russia on arms control. A Further, it was believed that ~~the agreement would be based on the concept of the "minimal deterrent,"~~ *such an* ~~agreement~~ *may* ~~which means that~~ *of the retention of a* ~~both America and Russia would~~ *retain type* ~~for a certain~~ *But* ~~period of time~~ *These* ~~strategic atomic striking forces in being.~~ ~~These striking forces would be retained for the sole purpose of enabling America and Russia to threaten each other with a counterblow in case an atomic attack were extended to their territory, and there would be main-
tained .. and the~~ *their* ~~size would be just sufficient to enable them~~ *to inflict* ~~unacceptable damage~~ *in a counterblow.*

Most ~~Many~~ of those who moved with President Kennedy to Washington in 1962 realize that America cannot be made secure by trying to keep ahead in the arms race and *many of them think* ~~that an agreement on arms control which is based on the concept of the minimal deterrent~~ *could make us* ~~much more secure~~ *very much* ~~then we are at the present time.~~ *]* The main reason why so far they have not prevailed in Washington is their *own* ~~uncertainty~~ as to how far the Soviet Union would be likely to go towards accepting this principle and towards accepting the measures of inspection which the implementation of such an agreement would require. *It is this uncertainty which*

has kept them from settling in Washington.
Russia recently accepted the notion that America as well as Russia may retain a small strategic striking force until the third stage of the disarmament agreement, and that inspection shall not be limited to equipment to be retained. *The Am and R Governments* ~~There are, however, no conversations in~~ *progress between the American and the Russian Governments which would* ~~elucidate whether they both mean the same thing when they appear to be~~ *in agreement on the general concept of the minimal deterrent and therefore* ~~one cannot predict whether they would be prepared~~ *and able to* ~~conclude~~ *into* ~~a meaningful agreement on arms control.~~

Because at the present time the Administration itself is divided on the merits of concluding such an agreement with Russia, it would be difficult or impossible for the Administration itself to explore ~~how~~ how far the Russians' Government might be willing to go and what price in terms of inspection they would be willing to pay in return for our willingness to maintain our atomic striking forces at the minimal level.

~~As far as the bomb is concerned to day,~~ ^{to day} America and Russia find themselves in the same predicament and ~~their~~ ^{to day} inability to adequately communicate with each other on this issue ~~represents a strategic failure on the moral rather than on the intellectual level.~~ ^{represents} means that they are ~~(failing the people whom they are supposed to represent..)~~ ^{their} ~~To my mind this failure ..~~ ^{failure} to my mind this defect results from a moral defect rather than ~~lack of intellectual insight.~~ ^{of arms}

~~I realized in October 1962 that~~ ^{To day I know that} those inside of the Administration who know that we shall be in serious trouble unless we can have an agreement on arms control, ~~based on the concept of the minimal deterrent,~~ ^{can not make an all out} ~~were frustrated in their efforts to convince the rest of the Administration~~ ^{and the Congress} They were ~~frustrated mainly~~ ^{frustrated} because they had ~~no way of knowing whether~~ ^{no} the key people in the Soviet Government share their concern and could be expected to prevail, were the U.S. formally to propose an agreement along these lines.

~~I realized~~ ^{I realized} ~~When I realized this~~ ^{When I realized this} ~~in order to overcome this hurdle,~~ ^{and Khrushchev I went} I wrote to Chairman Khrushchev.

~~I explained to him the frustration of those who work within the Administration on the problem of arms control and who are, so to speak, on the side of the angels because they realize that the virtues of the principle of the minimal deterrent.~~ ^{I proposed to} I wrote that I would be prepared to

~~arrange for a meeting with the Russian counterparts of the angels - junior-grade - who may be advisors of the Government or employees of the Government but who are not in decision-making positions.~~ ^{of some of these persons} ~~In my~~ ^{in the first round of talks} ~~letter~~ ^{part} I pointed out the Americans and Russians who would be invited to participate in such a meeting

~~could deliberately be chosen to be~~ ^{might be} ~~chosen to be~~ ^{chosen to be}

contribute

biased, rather than a representative, sample of the ~~diverse~~ opinions prevailing within the United States and the Soviet ~~Union~~ ^{Government}. The purpose of the meeting would be to find out to what extent two such "biased" groups would be able to reach a meeting of the minds. If they were, this would not mean that the two governments would also be able to reach an agreement, but it would mean that it would be worthwhile for them to begin conversations with each other ^{in order} to examine ~~whether or not they~~ ^I might ~~re~~. whether or not they could reach an agreement.

My letter to Chairman Khrushchev was written shortly before the Cuban crisis of October, 1962 and his answer was written shortly after ~~the Cuban crisis.~~ ^{the} ~~Chairman~~ ^{was over} Khrushchev's answer which took the form of a warm personal letter, gave me the green light to proceed, except that there was one point in his letter which had to be clarified before I could be certain that my letter had not been misunderstood. ~~It was therefore necessary for me to reply ... I therefore sent a reply to his letter in which I elaborated that this point~~ ^{and} ~~and in~~ ^{which} I made it clear that if he ~~was~~ ^{were} in agreement with my interpretation ^{of it} I would be prepared to go to Moscow to ~~explore~~ ^{discuss} how my proposal could be best implemented. ⁱⁿ ~~the answer to this was~~ ^{I received} an invitation ^{to} ~~from Chairman Khrushchev~~ to come and see him in Moscow.

X

December 17, 1963

in the projected conversations

I would have gone at once except that in the meantime I received a communication from Washington indicating that it ~~might~~ ^{would} be very difficult to get the United States Government to permit anyone who is on the Governments payroll, no matter how junior-grade his position may be, to participate in the project. Thereupon I advised Chairman Khrushchev of this hitch ^(of course) and returned to Washington ^{to try and} ~~win it out there~~ ^{by Kennedy's hand.}

It is easy ~~to~~ ^{enough} to see that ~~involving~~ ^{as participants} employees of the Government, even though they may occupy a junior position, ~~entailed~~ ^{entailing} certain risks: ~~it might be sufficient for us~~ ^{would have} to convince the Russians that these conversations ~~would in no way be~~ ^{do not represent} negotiations and ~~also~~ ^{also} ~~because it might evoke~~ ^{the risk that their might be} attacks against the Administration on the part

of some members of the Congress. / It was necessary To weigh these risks against what might be gained if the project were implemented. Those within the Administration with ~~whom~~ ^{whom} I had contact in this matter were divided on this issue and ~~after~~ ^{primarily} many months of discussion, the Administration decided not to permit any one ~~of~~ on the payroll of the Government to participate in the project.

People within the Administration distrust - not without some justification - both the Russians and the Congress. ~~Both of~~ But some of them seem to fear the Congress more than they fear the Russians and this offends my sense of proportions.

I advised ~~Chairman~~ ^{Chairman} Khrushchev that the decision had gone against me and put it up to ~~him~~ ^{the Soviet Govt} to decide whether ~~in these circumstances the Soviet Government would want to proceed with the project on a~~ ^{thus} ~~basis,~~ ~~or the project ought to be dropped,~~ and ~~they~~ ^{it} was their decision that the project be dropped.

This project is dead, but the problem remains very much alive. ~~It~~ ^{and it will be} will now be necessary to find some other way to discover whether the Soviet Government understands, at its highest level, the issues involved in the concept of a minimal deterrent and to explore the likelihood that an agreement on the basis of this concept could be negotiated with

the Soviet Government ^{Quise} provided that the Administration were ~~able~~ to make up its mind ^{hint} whether it prefers the minimal deterrent to the atomic arms race in which Russia and America are currently caught.

I share the view of those within the Administration that today both Russia and we would be better off if we ~~decided not~~. if we decided to forego threatening the use of our strategic striking forces against the territory of each other except ^{in case} if the country's own territory is subjected to an atomic attack.

~~Once one reaches ... From this point ..~~ ^{here} From there on it is ~~then~~ easy to see that both Russia and America would be better off if they could somehow get rid of these strategic striking forces. ^B Because it is difficult to predict how well inspection may work even if under an agreement in which both Russia and the United States would agree to far-reaching measures of inspection, ^{it} is not possible for America and Russia to eliminate their strategic striking forces. ^R Rather they would both want to retain a striking force which is sufficiently large to be capable of inflicting unacceptable damage in retaliation for an atomic attack extended to ^{the} country's own territory. ~~It is not necessary at this point to clarify our own minds on asking what would constitute unacceptable damage.~~

~~Once this point is reached it is essential to be specific and to say explicitly to expect and to say just what would constitute unacceptable damage for the United States and for Russia.~~

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against the Administration
invokes attacks on the part of the same members of Congress
 United States Government to attacks in Congress. The issue, therefore, *It was necessary to weigh*
 came to balance these risks, against what might be gained if the project were implemented! Those within the Administration with whom I had contacted on this matter were *provided an issue and* polite...but the final decision went *after many months of discussion the Administration decided not to permit* against permitting the participation of any employees of the Government to participate in the project. This left me no choice but to advise *I therefore had* Khrushchev *and left it* of the limitations under which the project would have to be *set up with a view to whether* carried out and thereupon the Soviet Government decided not to proceed *me to proceed in these circumstances* with the project. *The answer may be the Soviet Govt with the project that they in the negative.*

Because it is likely that if I were to try to set up a similar project it would run into the same kind of difficulties in Washington, I regard this project as dead. *They is* The problem however remains *now* and some other way will have to be found to carry out conversations with the Russians and at the highest level, in order to discover whether the Soviet Government understands the issues involved in the concept of the minimal deterrent and whether an agreement based on this concept could be negotiated with the Soviet Government provided that we, ourselves, are able to make up our mind whether we prefer the minimal deterrent to the atomic arms race in which we are currently caught.

That we must decide in our
 The crucial issue we must clarify in our own minds is whether we wouldn't be better off if both Russia and ourselves adopted the view that in the prevailing circumstances we would be more secure if there were no attempt to ... if we refrained from threatening to carry out a strategic strike against the territory of the other, except as a retaliatory counter-blow in case the country is attacked by the strategic striking forces of the other. Once one comes to the conclusion that this decision is correct, then it becomes clear that we would both be safer if the strategic striking forces were deduced to the minimal level at which t...in which they still could inflict unacceptable damage in retaliation for a strategic strike effected against our territory. What is unacceptable damage? If Russia retained twelve rockets and bombs which could reach

Ans. -
Agree with above

the target and if Russia's ability to launch these twelve rockets against our territory could not be destroyed by a massive attack which America might conduct against ~~the rockets-~~ ^{their} rocket bases of known location, then Russia's counterblow directed against twelve of ~~her~~ ^{our} largest cities would kill over 25 million Americans inhabitants. ~~I submit that~~ this would be an acceptable damage ~~because~~ ^{in the sense that} in none of the foreseeable contingencies which might arise in the foreseeable future would we be willing to pay this price for the sake of attaining ~~the~~ ^{our} political objective which ~~is~~ ^{are} ~~at the core~~ ^{is valued in the} of the conflict.

Because Russia has fewer large cities than we have, we would have to retain about three times as many rockets if we ~~wish our retaliatory counterblow to be capable of killing 25 million Russians...~~ rockets which could ~~reach their target if we wish to retaliate..~~ wish our retaliatory counterblow to be capable of killing 25 million Russians. ~~The amount of inspection which we would need... if~~ The amount of inspection which we would need ~~to make sure that Russia could not maintain a~~ strategic striking force that would be capable of destroying a substantial number of the rockets which we have retained under the arms control agreement based on the concept of the minimal deterrent would be substantial but it would not be exorbitant. ~~We could not enter into an agreement providing for arms control unless we were satisfied that in advance that the measures of inspection which the Russians accept is sufficient to give us adequate assurance in this regard. We could not be certain, however, until the agreement goes into effect whether the measures of inspection work sufficiently well in order to be reasonable sure that Russia may not have instead of twelve rockets and bombs which she will... retain, say another twelve rockets and bombs which have been retained in secret and which are operational. If Russia were to retain about ~~12~~ twelve rockets and bombs in secret which are operational this would not substantially reduce... this would not diminish our security because Russia could not use such a small number of rockets~~

to appreciably ~~diminish~~ ^{reduce} our retaliatory counterblow but it would affect our ability to ~~safeguard~~ ^{protect} our allies ~~against an atomic attack~~ ^{from a conceivable} against their cities ~~that might conceivably be waged~~ ^{on the part of} by the Soviet Union. Whether or not inspection works sufficiently well to ~~safeguard our allies~~ ^{protect}. To extend protection in this regard, ~~but~~ our allies will in my mind not be known until the agreement has been in operation for a few years. This is regrettable but it is unavoidable and I believe that this is a risk which ~~we must take~~ and which we can take ^{for the simple reason} because our allies would not be worse off under such an agreement than they are to-day. In an extended conversation which I had with Khrushchev in October of 1962, I told him that I ~~didn't believe~~ ^{doubted} that general disarmament ^{would be} acceptable to America unless it ^{is} (accompanied by adequate measures of inspection and that I personally doubted that even if Russia were willing to admit international inspectors in unlimited numbers it would be possible for us to be sure that there are not ^{a large number of} ~~ten or twenty~~ bombs or rockets hidden somewhere in Russia which ^{are} ~~are~~ operational or ^{would be made} ~~would be~~ made operations ~~in~~ very quickly. I told Khrushchev ~~that the only thing that would~~ ^{could} reassure me in this regard.. I told Khrushchev that I ~~thought~~ ^{believed} that the Soviet Union ~~would~~ ^{in this regard} reassure the world ^{only if they} created ^{more for} conditions in which we could rely on a Soviet citizen reporting secret violations of the agreement to an international authority.

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It was my impression that Chairman Khrushchev got the point and that he got it fully, ^{and that} ~~and~~ his reaction was favorable. I would not attach to this as much significance as I do if it were not for the fact that when I attended the Pugwash meeting in Moscow in November of the same year, I discovered by accident that ~~those of our~~ ... that some of our colleagues of the Soviet Academy of Science who ^{were introduced by} ~~attended~~ the meeting ^{were given} a detailed report of my conversation with Chairman Khrushchev. In this report, Khrushchev was quoted to have said to me that for the sake of making general disarmament acceptable to the United States, the Soviet Government would give serious considerations to the possibility of creating conditions which will make it possible for the Western countries to rely on a Soviet citizen reporting violations of a disarmament agreement ϕ to an international authority. ϕ After the Pugwash meeting ~~was over~~ I stayed for about a month in Moscow for the purpose of engaging private conversations with our Russian colleagues. What I wanted to discover most of all was whether the Soviet Government could, if it wanted to, create ~~the~~ conditions in which the world could rely on a Russian citizen reporting violations of a disarmament agreement. ~~The~~ ^{one} ~~conclusion at which I came as the result of these~~ ~~private~~ ~~conversations was~~ that this would not be easy but it ~~could~~ be done provided the arms control agreement offered ~~the Soviet Government~~ substantial ^a ~~...~~ offered Russia/substantial increase in her security and permitted the Soviet Government to divert substantial funds from an arms build-up to other uses. ϕ ^{I have become} ~~I am~~ ^{would} convinced that it will be much easier to get the Soviet Government to accept very far-reaching measures of inspection for the sake of ~~another~~ obtaining an objective that they really want than to get them to agree to a very limited measures of inspection in order to enable us to ^{make} ~~place~~ certain first steps towards an arms control agreement which ^{might} ~~may~~ open the way ^{steps} (for further progress) towards arms control, but ^{the third} ~~does not~~ ^{by} itself offer any great benefits to Russia. ϕ It ^{agreements} ~~does not~~ ^{provide} any great benefits to Russia. ϕ

ourselves

is therefore necessary to ask under what conditions would the Russians regard an agreement providing for a minimal deterrent ^{desirable} ~~so desirable~~ ~~that they would be willing to pay~~ ^{enough to be prepared} ~~the~~ the price in terms of adopting unprecedented measures of inspection. It would be very important to know the answer to this question, but all I can do is to make a few guesses and my guesses might be wrong. To me, it would seem that Russia would have no ~~great~~ desire of entering into such an agreement unless ~~she would be ...~~ she could be reasonably sure that it would not be necessary for her later on to ~~be~~ abrogate an agreement and to ~~begin anew~~ to build up her atomic striking forces. ~~This would then mean that~~ ^{from scratch} ~~Russia~~ Russia would have to be reasonably sure that Germany will not have under her own control an atomic striking force, ~~and~~ ^{and}, also that China ~~would~~ ^{could be induced to} remain from building an atomic striking force of her own. I do not know what it would take ~~to~~ to induce China to agree to forego having a strategic atomic striking force but it seems conceivable that (to-day) China might be willing to go along with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to station and not to ~~use~~ ^{resort to the use of} either strategic or tactical atomic bombs in the Far East and Southeast Asia.

There are those within the Administration who say that America would not agree to forego the use of atomic bombs in the Pacific because ~~the use of~~ ..it might be necessary to use atomic bombs in the defense of Formosa. Whenever I hear this argument I am reminded of what happened at ~~the~~ ^{the} in the negotiations of disarmament ^{conferences} ~~that were~~ conducted ^{by} ~~within~~ the League of Nations in Geneva in 1930. ^{think} At issue was the elimination of the bomber plane ^{from the arsenals of the nations} and the outlawing of bombing from the air. At ^{any} ~~some~~ point during the negotiations Anthony Eden, who was at that time a civil servant, told the Conference that His Majesty's Government could not be a party to ^{the} ~~an~~ outlawing of bombing from the air. He said that ~~at times~~

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the Royal Air Force was ^{engaged} ~~engaged~~ in the ^{no} ~~bombing~~ of mud huts of the unruly tribes on the Northern frontier of India and that this was the only effective way to keep these tribes from ~~making~~ periodic incursions into Indian~~a~~ territory. Some people have no sense of proportions.

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Assumming ~~then~~ ^{cannot be reassured on} that Russia can obtain such assurances that neither Germany ^{and} ~~nor the~~ Chinese will acquire a strategic striking force that would compel her to abrogate an agreement which limits Russia to the maintaining of a small strategic striking force and that Russia would be willing enter into such an agreement ^{based on the concept of the minimal deterrent} ~~would~~ America want to ^{be willing to} enter into such an agreement ~~also?~~ It is necessary then at this point to try to understand ... at this point to examine ~~at~~ just how stable is our present situation. There are two kinds of instability ... how stable will be our present situation if there is no agreement providing for arms control based on the concept of the minimal deterrent. The stability of our present situation in the next few years.. our present is unstable two different ways.

It is unstable first of all because ~~we're~~ ^{we} given the hardware which is in our possession and which we propose to build in the next few years against the hardware which we ~~suppose~~ ^{suppose} Russia to possess, a war which neither Russia nor America has wanted might break out and might escalate into an all-out atomic war. I would propose to discuss further below in greater detail this clear and present danger with which we are now faced ~~by~~ but in the absence of an agreement based on the concept of the minimal deterrent, our situation is unstable also in the sense that it might lead into a new kind of arms race which seems to be just around the corner. ~~X~~ Both America and Russia may be expected soon to deploy anti-missile missiles in defense of their rocket-launching bases. For such a defense to be successful it is only necessary to prevent a ground burst from the incoming rocket and this is quite ^a possible and attainable goal. If America and Russia didn't go any further ^{they} would increase rather than decrease the danger that in case of an escalation at some point along the line ^{one of them} ~~either America or Russia~~ might be tempted to wage a massive strike against the rocket-launching bases of the other. But America and Russia might go further ^{they might soon begin to} and deploy anti-missile missiles for the defense of their cities also. If Russia deployed anti-missile

missiles for the defense of ^{her} ~~their~~ cities, America could hardly resist the pressure to do likewise even though the Administration may have serious doubts ~~on~~ as to the effectiveness of defending ^{our} cities by these means. Moreover, the Administration ~~would~~ ^{might then} find it very difficult to resist the demand of doubling and tripling the number of Minuteman, ~~which are~~ at present scheduled to be built, in order to overcome ~~the assumed~~ effectiveness of Russia's anti-missile missile defense and finally if America were to deploy anti-missile missiles around her cities she could hardly stop... ^{could} Russia ~~might~~ deploy anti-missile missiles around a few of her largest cities and stop there, ~~but the political pressure on the Administration would almost certainly force the...~~ because of the political ~~pressure that would be exerted on the Administration,~~ ^{lent because of the political} pressure that would be exerted on the Administration, America could not do likewise rather if ~~she~~ ^(me) deployed anti-missile missiles around ~~her~~ ^{our} cities at all ~~she~~ ^(me) would have to deploy them around every one of ^(or cities) over 100,000. ~~It would make little sense~~ ^{for us} to deploy anti-missile missiles around ~~cities~~ ^{our} even if this type of defense were effective to prevent a direct hit on the city, ~~without embarking on a program of building fall-out shelters for the population of the cities.~~ ^{also} Otherwise Russia could nullify the protection afforded to ~~the~~ ^{our} cities by anti-missile missiles, ~~merely~~ ^{missiles} by detonating ~~large and dirty~~ ^{mutually constructed} hydrogen bombs 50 or 100 miles ~~away~~ ^{which are defended} from the cities ~~protected~~ by anti-missile missiles. The cost of such a fall-out shelters program may be estimated to be about \$50 billion.

✓ Moreover it

Let Us Put Up, or Shut Up.

by Leo Boardman

and

We are now close to the point where America ~~or~~ Russia could destroy each other to any desired degree and ~~...neither of them would have any reason for increasing their strategic striking forces beyond this point in the future and one might think that the arms race is about to come to an end.~~ ^{therefore} ~~it is more likely that~~ ^{should we not perhaps} a new arms race ~~is~~ ^{might be} just around the corner.

~~Both America and Russia may be expected soon to deploy anti-missile missiles in defense of their rocket launching bases. For such a defense to be successful it is only necessary to prevent a ground burst of the incoming rockets and this is, quite possibly, and attainable goal. If Russia were to deploy anti-missile missiles for the defense of her rocket launching bases our Government would find it very difficult to resist the demand that the number of Minutemen scheduled to be built be doubled or tripled in order to overcome Russia's defense of her bases. Russia might go further and deploy anti-missile missiles for the defense of some of her largest cities. Russia could deploy anti-missile missiles around a few of her largest cities and stop there, but if she does we will be forced to deploy anti-missile missiles...stop there, but America could not do likewise.~~

does this,
 If Russia deploys anti-missile missiles for the defense of her cities we ~~shall~~ ^{may} be forced to do likewise, but there is this difference: Russia could deploy anti-missile missiles around a few of her largest cities and stop there. If we deploy ^{all} anti-missile missiles around ^{any of} our cities, ~~our~~ ^{the} Government ~~will~~ ^{the Administration would} be under pressure to deploy such missiles around ~~all~~ ^{all} ~~our~~ ^{sizeable} every one of our cities. ~~Moreover, it would make little sense for us to deploy anti-missile missiles around any of our cities, on the assumption that this type of defense could effectively prevent~~ ~~a strategic hit on the city, without also embarking on a program of~~

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building fall-out shelters for the population of all of our ^{protection of the House} cities ~~thus~~ defended. ~~Otherwise,~~ ^{however} Russia could nullify the protection afforded to our cities by anti-missile missiles simply by exploding suitably-constructed hydrogen bombs at 50 or 100 miles ~~from the cities which are thus~~ ^{the city} defended. The cost of an adequate fall-out shelter program of this sort may be estimated at about \$50 billion.

This ~~kind of an~~ ^{new} arms race could be avoided if America and Russia were to reach an agreement that would provide for a cut off in the production of both bombs and rockets. Verification would not take an exorbitant amount of inspection and America would probably be satisfied with a reliable inspection of the known production facilities. I doubt, however, that Russia would accept such a production cut-off if she had to fear that by doing so she would ~~permit~~ perpetuate the much-advertised current superiority of America's strategic striking forces. ^{To my mind} Russia ~~would~~ be likely ^{expected} to agree to a production cut-off only if it were instituted as a first step toward the dismantling of the current "balance of terror."

Most of those ~~who~~ moved with President Kennedy to Washington in 1961 know that America cannot be made secure by trying to keep ahead in the arms race and many of them ^{think} ~~thought~~ that an agreement to arms control which is based on the concept of the "minimal deterrent" could make us very much more secure than we would otherwise be.

In the course of the last year the Soviet Union has accepted the notion that America as well as Russia may retain ~~a minimal deterrent in~~ ^{a minimal deterrent} ~~the form of~~ a small strategic striking force, until the end of the third stage of the disarmament agreement and that inspection shall not be limited to equipment which is to be destroyed but be extended also to equipment which is being retained.

At the present time, it is not clear, however, whether Americans and Russians both mean the same thing when superficially they appear to be in agreement on the concept of the minimal deterrent. ^{RP} An agreement based on ~~the concept of the minimal deterrent~~ would provide for far-reaching

measures of inspection, ~~but not until the agreement has been in operation~~
 for a number of years could one ~~/of/any/~~ have any reasonable assurance
~~this/~~ that no bombs and rockets have been secretly retained. Therefore,
 America and Russia would want to retain a striking force that would be
 capable of inflicting unacceptable damage in a counterblow in case ~~there~~
 their own territory were subjected to an atomic attack with bombs which
 were either with the bombs....

But not until the agreement has been in operation for a number of
 years could ~~one/of/~~ ^{we} have any reasonable assurance that no bombs and rockets
 have been secretly retained ^{by Russia} which could be used for ^{an} a substantial atomic
 attack against their ^{only} territory. ^{the same holds for Russia in the reverse.} Therefore, in order to deter such an
 attack ~~and for no other purpose~~ - America and Russia would want to
 retain a small strategic striking force that would be large enough to be
 capable of inflicting unacceptable damage in a counterblow if their ~~own~~
 territory were attacked with bombs. Inspection would have to be reliable
 enough to give adequate assurance that whatever striking forces ^{might} may have
 been secretly retained they would not be sufficiently ~~large~~ ^{a big unit} to destroy in
 sudden a/massive attack an appreciable fraction of the minimal striking forces
 which have been legitimately retained.

slight here

I believe that the time has come to ^{face the issue} ~~clarify our own thinking~~ on this
~~subject~~ ^{and} therefore it is essential ^{to examine} to be explicit at this juncture and
~~to say~~ how large ~~the/~~ a strategic striking force would be that America
 and Russia would need to retain, ~~in order to be able to inflict unaccep-~~
~~table damage in case her territory were subjected to an atomic attack.~~

If Russia retained twelve rockets and bombs which could reach the
 target and if Russia's ability to launch these twelve rockets against our
 territory could not be destroyed by a massive attack which America might
 conduct against ~~twelve/of/~~ her rocket bases of known location, then Russia's
 counterblow ^{could demolish} directed against twelve of our largest cities would ^{take long} kill over
 25 million ~~American inhabitants~~. Clearly, this would be ^{un-} acceptable damage,

Reviewing

since in none of the foreseeable contingencies which might arise in the foreseeable future would we be willing to pay such a price for the sake of attaining our political objectives involved in the conflict.

Because Russia has fewer large cities, we would have to retain about three times as many rockets ^{if} for our retaliatory counterblow ^{has to} to be ^{is} capable of killing ^{to demolish Russian cities} 25 million Russians. ~~The amount of inspection which we~~

Gene
2/2/61

would need ^{to have to be} to make sure that Russia could not maintain a strategic striking force in secret, ^{longer} substantial enough to be capable of destroying an appreciable ³⁶⁾ number of the rockets which we have/retained/~~under~~ would be substantial but it would not be ^{not} exorbitant. We would want to enter in to $\frac{1}{2}$

an agreement providing for arms control ^{unless} only if we were satisfied in advance that the measures of inspection would be adequate to give us reliable assurance in this regard. We ~~could not~~ be certain, however, until the agreement has been in operation for a few years whether the measures of

inspection give us reasonable assurance that Russia ^{might} may not have instead ^{in addition} of the twelve rockets and bombs which she may legally retain, say, another ^{perhaps another} twelve rockets and bombs retained in secret. ^{also retained} If Russia were to retain about twelve rockets and bombs in secret which are operational this would not substantially diminish our security because Russia would not use such a small number of rockets to appreciably reduce our retaliatory counterblow.

~~but as we shall discuss later,~~ as we shall discuss later, it may affect our ability to protect our allies. ^{might} ~~but it would affect us~~ ^{it would have same relevance}

In an extended conversation which I had with Chairman Khrushchev in October of 1960, I said that I personally doubted that even if Russia were willing to admit international inspectors in unlimited numbers it would be possible for us to be sure that there would not remain a number of bombs or rockets hidden somewhere in Russia which are operational or could be made operational very quickly. I told Khrushchev that I believed that the Soviet Union could reassure the world in this regard only if they were to create conditions in which we could rely on a Soviet citizen reporting secret

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violations of the agreement to an international authority.

It was my impression that Khrushchev got the point, that he got it fully, and ^{that} this reaction was favorable. I would not attach ~~to this~~ as much significance ^{to this} as I do if ~~it were not for the fact that~~ ^{I had not accidentally discovered} when I attended the Pugwash meeting in Moscow in November of the same year, ~~I discovered by accident~~ that some of our colleagues of the Soviet Academy of Science who were scheduled to attend this meeting had been given a detailed report of my conversation with Chairman Khrushchev. In this ^{report} respect, Khrushchev was quoted to have said to me that for the sake of making general disarmament acceptable to the United States, the Soviet Government would give serious considerations to the possibility of creating conditions which will make it possible for the Western countries to rely on a Soviet citizen reporting violations of the disarmament agreement to an international authority.

After the Pugwash meeting, I stayed for about a month in Moscow for the purpose of engaging in private conversations with our Russian colleagues. I wanted to discover most of all whether the Soviet Government could, if it wanted to, create conditions in which the world could rely on Russian citizens reporting violations of a disarmament agreement. I was led to conclude that this would not be easy but that it ^{might} ~~could~~ be done, provided the arms control agreement offered Russia a substantial increase in her security and permitted the Soviet Government to divert substantial funds from armament to other ⁺uses.

I believe that it would be very much easier to get the Soviet Government to accept very far-reaching measures of inspection for the sake of obtaining an objective that they really want than to get them to agree to ^{quite} ~~very~~ limited measures of inspection for the sake of any "first steps" towards an arms control agreement which might ~~open the door for~~ ^{open the door to} further progress towards ~~..open the door to~~ further progress but would not offer any major immediate benefits to Russia.

We must above all ask ^{ourselves}

*Assuming
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~~It is therefore necessary to find out~~ under what conditions would the Russians regard an agreement based on the principle of the minimal deterrent desirable enough to be prepared to pay the price in terms of adopting unprecedented measures of inspection. ~~Important as this~~

~~would be to discover the answer to this question, all ^{we} I myself can do ~~is~~ at the moment is to make a few guesses and ~~my~~ ^{our} guesses might be wrong.~~

, To me, it would seem that Russia would ~~not~~ ^{not} have no great desire ~~of~~ ^{to} entering into such an agreement unless she could be reasonably sure that it would not be necessary for her later on to abrogate ~~an~~ ^{the} agreement and to rebuild her atomic striking forces so to speak from scratch. Thus, Russia, would have to be ~~reasonably sure~~ ^{convinced} that Germany is not going to have under her own control an atomic striking force, and, also that China could be induced to refrain from building an atomic striking force of her own.

shifts

I do not know what it would take to induce China to forego having ~~a~~ strategic atomic striking force but it seems conceivable that China might be willing to go along to-day with an agreement on arms control that would leave America and Russia in possession of minimal strategic striking forces, provided that in return America would agree not to resort to the use of, either strategic or tactical atomic bombs in the Far East and South Asia, and to set up an atom free zone that would include these areas.

There are those within the Administration who say that America could not agree to forego the use of atomic bombs in the Pacific because it might be necessary to use atomic bombs in the defense of Formosa. ~~They remind me~~ ^{I heard}

~~of similar view~~ ^{more} which were voiced at the Disarmament Conference of the League of Nations which was held in Geneva in the 30's. At issue ~~was~~ ^{the} at this conference was the elimination of the bomber planes from the ~~arsenals of the nations~~ ^{substantial} and the outlawing of bombing from the air. At one point during the negotiations, Anthony Eden, who was at that time a civil servant, told the Conference that His Majesty's ~~Government~~ could

not be a party to the outlawing of bombing from the air. He said that, at times, the Royal Air Force was engaging in the bombing of the mud huts of the unruly tribes on the Northern frontier of India and that this was the only effective way to keep these tribes from making periodic insursions into Indian territory. Some people have no sense of proportions.

Assuming that Russia ~~could be reassured~~ ^{more reassured} on Germany and China and would be willing to enter into an agreement based on the concept of the minimal deterrent ^{and providing for adequate inspection} should America be willing to enter into such an agreement also?

A disturbingly large number of the decisions which America had made at the end of the last war and in the post-war period were based on ~~the~~ a false premise. Perhaps it is too much to hope that the decision which America now faces will be made on any other basis but it would be tragic if it were not.

^{What we must do is to}
~~At this juncture, it is imperative that we~~ compare the kind of security which we ~~at~~ have at present as well as the perils that may confront us a few years hence ~~if the arms race is permitted to continue~~ with the security that we could have under an agreement based on the concept of the minimal deterrent.

^{The present.}
 Right now we find ourselves close to the end of a transitional period:

Had a conflict between Russia and America led to an armed clash a few years ago, and had at some point along the line of escalation, Russia made a sudden attack against America's strategic air bases and rocket bases, then America's residual striking capacity would have been sufficient to demolish, in a counterblow, all of Russia's sizeable cities. But, if conversely, America had made such an attack against Russia's air bases and rocket bases of known location, Russia's residual counterblow could not have caused any comparable destruction.

To-day, America's strategic atomic striking forces are presumably still superior to those of Russia, by a factor of perhaps between three and

ten, in the number of hydrogen bombs that they could deliver and, presumably, America could maintain this kind of numerical superiority in the years to come. She could not, however, by doing so, keep Russia from steadily increasing her "residual striking capacity", In recent years, Russia has steadily proceeded with the hardening of her rocket-launching sites and the building of additional submarines, capable of launching long-range rockets, To-day she has reached ^{the} a point where her "residual counterblow" would be sufficient to demolish ^{most of} America's ~~cities~~ major cities on the Eastern Seaboard and some of her cities in the West. This is a higher price than America would be willing to pay for reaching her political objectives, ^{1/2} in any conflicts that might be expected to occur in the predictable future. In other words, to-day [✓] Russia's "residual striking capacity" would be sufficient to ~~o~~ inflict "unacceptable damage" on America.

Conversely, America's residual striking capacity would be sufficient to demolish all of Russia's cities of over 100,000. It is probably true that to-day America would still be able to recover from an all-out war whereas Russia might lose all of her cities of over 100,000 and thus suffer a destruction of her society from which she would not recover. To-day, Russia could demolish all of America's cities of over 100,000 only if she were to resort to a massive first strike against our cities.

In the situation which we find ourselves to-day we no longer try to deter Russia with threatening a massive strategic strike against her cities. We realize that to-day such a threat would come close to being a threat of murder and suicide and clearly a threat of this sort would not be believable in any conflict in which major American interests might be at stake but not America's existence as a nation. Instead we are maintaining at present a military posture aimed at trying to keep wars which might break out, limited by maintaining the threat that the war might ^{create and} end up with our accepting unacceptable damage, in return for the virtually complete destruction of Russia's society.

A border incident in Europe or an uprising in East Germany might lead to a war ~~wh~~at neither Russia nor America want. Presumably only conventional weapons would be used at the outset of such a war. But at some point during the see-saw of fighting Russia might be tempted to send her troops in hot pursuit across the pre-war boundary and they might penetrate deep into Western territory or conversely, ~~cont~~ain NATO units might penetrate deep into Eastern territory. In case of a deep ~~o~~ penetration of Western Europe by Russian troops our plans call for the use of ~~T~~tactical weapons against troops in combat and also against communication~~s~~ lines of the Russians in Eastern Germany, Poland and Russia, itself. Because the size of tactical bombs ranges all the way from one kiloton to several hundred kiloton and the vehicles available to the tactical command have a range that would permit them to reach Russia'~~s~~ own ~~y~~territory, there is no substantial gap between the point where tactical bombing ends and strategic bombing begins. Therefore, a war in Europe which neither America nor Russia want could easily end up in an all-out atomic war between these two countries. The risk that this might happen is the price that we are paying for maintaining our present military posture and the question is whether we are not paying a very high price in order to deter Russia from something that she wouldn'~~t~~ do anyway.

Right after the Second World War the security of Western Europe was threatened by the combination of communist pressure from the inside and the possibility of Russian military intervention from the outside. At that time, many people ~~p~~believed, rightly or wrongly, that only America's possession of the atomic bomb saved Western Europe from falling under the domination of the Soviet Union. There is no such internal threat to the security of Western Europe to-day and were the Soviet Union to invade Western Europe she would find herself at war with the United States whether or not America'~~s~~ maintains her present military posture and her present formal ~~co~~mmittments to the defense of Western Europe.

To me, it seems that by maintaining our present militar posture in Europe, we are running the risk that a minor incident might lead to an all-out atomic war and that we are taking this risk for the sake of deterring the Russians from doing something that we do not believe they would be likely to do in any case.

might
~~The fact that a present in case of war we would be in a position to make a massive strike against Russia's strategic air bases and rocket-launching bases of known location makes our present situation less stable rather than more stable, For, at the point when the Russians had reason to fear that A~~

An agreement on arms control based on the concept of the minimal deterrent would limit not only the number of strategic bombs retained but it would limit also ~~both~~ both the size and the number of bombs which might be used against troops in combat. Such an agreement ~~which~~ might limit the size of the tactical bombs retained to one kiloton and Russia and America each might be limited to between three hundred and one thousand of such bombs.

The total tonnage of the tactical bombs retained by each America and Russia would thus amount to perhaps ten percent of the tonnage of the strategic bombs retained by Russia and to perhaps three percent of the tonnage of the strategic bombs retained by America. Nevertheless, the tactical bombs thus retained could have an important effect on the course of the war if a war were to break out in Europe that neither Russia nor America want.

If Russian troops were to cross in hot pursuit the pre-war boundary and penetrate deep into Western Europe the possession of tactical bombs by America might make it possible to hold a line in West Europe, because with America in possession of tactical bombs, the Russians could not mass conventional armor at any point in front of the West European line ~~of~~ in sufficient strength to break through that line. Russia would derive the

same advantage from her possession of a minimal tactical atomic force if certain NATO units were to cross the pre-war boundary and penetrate deep into Eastern Europe. The threat of this type of use of tactical bombs could lead to a stabilization of a front across Europe, giving time for the tempers to cool and for the reaching of a settlement..

By establishing a gap between the size of tactical bombs limited to one kiloton each and the size ~~that~~^{at?} the strategic bombs retained, presumably all of them one megaton or larger, one would establish a clear demarkation line between bombs which may be used against troops in combat and bombs which have been retained only to be used in a counterblow if the other party were to resort to a strategic strike against one's own territory. If America were reduced to use the small tactical bombs, retained in limited numbers, only in case of a deep penetration of Russian troops in Europe and then only within the Western side of the pre-war boundary and if Russia were determined to impose the same limitations upon herself, then neither America nor Russia would have to fear any longer that of a war were to start in Europe which neither of them wanted it might escalate to a point where it would end up with an exchange of strategic strikes between America and Russia.

Saturation Parity

In the last few years, Russia has steadily proceeded with the ~~hardening~~/ building of submarines capable of launching rockets and with the hardening of her long-range rocket bases which are located on Russian territory. It is clear that in time Russia must reach the point where her residual striking capacity would be large enough to demolish all of America's sizeable cities. At that point Russia will have achieved parity of saturation. Russia can have saturation parity now for the asking, within a very few years.

Because in case of a war Russia would ~~then~~ no longer have to fear an American first strike conducted against her strategic air bases and long-

range rocket bases of known location , the situation of saturation parity would be somewhat more stable than is our situation to-day. This does not mean, however, that saturation parity is an inherently stable situation.

General Le May said, in a major speech reported in the WASHINGTON POST of December 18th that those who argue that the United States has an extensive over-kill favor cutting American strategic striking forces so they would only be capable of hitting cities. Such a reduced force, Le May ~~argued~~^{argued}, would leave the United States too weak to destroy the enemy's nuclear forces before they destroy us. America's maintenance of superior counterforce strength gives American policy makers the widest range of credible options for controlled responses to aggression at any level.

Accordingly to General Le May, this paid off during the Berlin and Cuban crises where the United States forced Russia to back down and won its political objectives, because the Russians knew that the United States had a clear margin of strategic nuclear strength.

I do not propose to take issue with General Le May on this occasion except to say that the deterrent effect of America's margin of strategic nuclear strength obviously comes to an end with when the striking forces of the Soviet Union reach saturation parity with those of the United States. Further, if our "margin" was responsible for Russia's yielding in the Berlin and Cuban crises then if another similar crisis were to occur after Russia reaches saturation parity, we would no longer have any right to expect that Russia will yield again and again.

Had Russia not yielded in the Cuban crisis of October, 1962, and had her ships continued on their course to Cuba in defiance of America's proclamation of the partial naval blockade of that island, American warships would have sunk Russian ships. No one can say how far escalation would have gone and whether Russia, being unable to resist America in the Caribbean, would have retaliated elsewhere, perhaps in Europe. General Le May believes that because of the superiority of our strategic striking forces at some point along the line the Russians would have put an end to escalation.

X had ~~it~~ it come to an armed clash in the Cuban crisis. But even if ~~we~~ ^{one} were to accept this view ~~one~~ ^{we} could still not predict which of the two countries would take the first step to halt escalation, if a similar clash were to occur a few years hence in the fully symmetrical situation of saturation parity. And, ~~it is~~ ^{it is} no longer possible to say who would put an end to escalation, then ~~one~~ ^{one} (also) cannot predict ~~it~~ just how far escalation might go. In saturation parity, escalation might go to the point where all of America's and all of Russia's cities of over 100,000 would be demolished.

* * *

Let us consider now how saturation parity may be expected to affect our allies in general and Western Germany, in particular.

Let us ask ourselves for example, what would have happened if there had occurred a few years ago a major uprising in Eastern Germany against the established government and if substantial units of armed West German volunteers had moved into East Germany to assist the insurgents. Presumably at first one would not have known with certainty whether these volunteers were acting with the tacit approval, and active participation, of the West Germany Government, or whether they were acting against its wishes, and in disregard of its orders. Had such a contingency occurred a few years ago, the odds are that America would have extended protection to West Germany against the strategic striking ~~forces~~ ^{forces} of Russia, on the ground that America must prevent the destruction of West German military power. America would have been likely to extend such protection $\frac{1}{2}$ to West Germany whether Germany was, or was not, the aggressor, and if there had been any doubt on that score, Germany would have been given the benefit of the doubt.

If a contingency of this sort were to occur in the years to come, and if the Russians were to fear that the clash might escalate into an all-out atomic war, they might decide to knock West Germany out of the war by dropping, all at once, between ~~1/2~~ five and ten hydrogen bombs, on West German cities. Having done this, Russia would then be in the position to speak to America as follows:

"German aggression forced us to do what we did, lest the clash of arms escalate into an all-out atomic war, which neither Russia nor America want. We realize that America could now respond by demolishing one Russian city after another, but for every Russian city that America may demolish Russia would demolish one American city. Let's be rational about this. What has happened, has happened; let's see now where we go from here. Russia does not intend to occupy any West German territory and she is willing to put up a few percent of her industrial output to help rebuild the cities of West Germany provided her contribution is matched, dollar-for-dollar, by America."

The Russians would hardly assume that the Americans ~~would~~ would respond in a rational fashion if they were to drop bombs on American cities but, in the contingency described above, they might, rightly or wrongly, expect a rational response, if they were to demolish German cities and were to refrain from extending their attack to America's own territory.

The nations of Europe are becoming gradually aware of the situation that they will face in saturation parity and they are beginning to ask themselves whether they may not have to maintain ~~each~~ ^{its} a strategic striking force under ~~their~~ ^{its} own control in order to safeguard ~~their~~ ^{its} own security.

Few people contemplate with equanimity the possibility that Germany may acquire a substantial atomic striking force, and there are those in America who believe that ~~Germany~~ ^{me} might be kept from wanting to have such a striking force under her own control, by setting up a strategic striking force under the joint control of America and Germany, with perhaps a few other nations joining in. The multilateral strategic striking force under discussion would be equipped with two hundred Polaris missiles enough to demolish two hundred cities, if ~~each~~ ^{all} of them ~~could~~ ^{were} to reach ~~its~~

them get
 target. It would not give, however, *MM* the Germans what they need in saturation parity, as long as America can veto the use of this force, and ~~there is~~ *there is* ~~no~~ reason to believe that the Germans propose to participate in it only because they assume that it may be possible for them to get rid of the veto.

The creation of such a strategic striking force would make it possible to endow West Germany by the mere stroke of a pen with a striking force of her own, ~~a force corresponding~~ *a force corresponding* in size to the financial stake that Germany would have in the joint force. Those who advocate the setting up of such a joint force in order to keep the Germans from having a force under her own control follow the principle of the ~~lessterevil~~ *lessterevil*. Following this same principle might lead later on to transferring to Germany control a part of the joint force, if the Germans were to proclaim that they would otherwise build a substantial striking force of their own.

It is doubtful that control over atomic bombs can be kept from the Germans by a gadget like the multilateral nuclear striking force, or for that matter any gadget, and it is probably true that in the long run it will be impossible to prevent the proliferation of atomic striking forces, if saturation parity prevails.

Under an agreement based on the concept of the ["]minimal deterrent["] which would leave Russia in possession of ~~only~~ *say*, twelve bombs and rockets. Russia would put herself at a disadvantage if in the contingency discussed ~~above~~ *above* ~~she~~ *would use up*, say, six of her twelve bombs and rockets in a first strike against German cities. If she were to do this, she would have only six bombs and rockets left, in comparison to the thirty-six bombs and rockets retained by America and ~~would~~ *she* therefore put herself to a disadvantage in the crisis ~~provoked~~ *that would be provoked* by her attack. In this sense an agreement limiting Russia to twelve bombs and rockets would provide protection to our allies in Western Europe, but this would be true only if one could be reasonably certain that Russia has not secretly retained say another twelve

bombs and rockets which are operational, or could be made operational on short notice. Even if the agreement provided for adequate measures of inspection on e could not exclude with certainty the possibility of such a secret violation until after the agreement has been in operation for a few years. This is a ^{temporary} risk which Western Europe would have to take and the reason that it could take such a risk is that ^(even if worse comes to worse) ~~even if worse comes to worse~~ Western Europe would not be any worse off under the agreement, as it would be in saturation parity.

* * *

An agreement based on the current of the minimal deterrent will be acceptable to
~~Before any significant progress towards arms control can be made~~

of that it is
Our Government will have to make up its mind ~~whether or not it is~~ *at these points* willing to give up ~~our~~ *our* capability, real or imaginary, to destroy the enemy's nuclear forces before they destroy us - to use the words of General Le May.

~~I could not believe that those who advocate & maintaining a very large strategic ... Even to-day, there are those who advocate the building the strategic striking forces scheduled. I do not believe that those who argue in favor of building the very large strategic striking force which is scheduled could stand up to a cross-examination by the able men who have no vested interest either emotionally or financially in the building of such a striking force. They are very careful, however, not to expose themselves to such a cross-examination but even if they did and were forced to concede that they have no real case they would still revert the next day to their old positions. For what is primary here is the decision to build a large strategic striking force and try/ to find the justification for it is secondary.~~

that they had stated he looks to desire
I believe that it is true ~~even today that our~~ *of making* ~~abilities to provide~~ massive ^(a) sudden attack against Russia's rocket launching sites of known location ~~makes us less secure than rather than more secure.... then having rendered our situation less stable rather than more stable.~~

~~For if the strategic superiority of the atomic striking forces were anywhere as great as General Le May claims.....if it came to war.....~~ then in case of war, there might come a time when the Russians would ~~fear~~ *have* that America's next move ~~might~~ *be* might be the waging of a massive strike against ~~the~~ *their* Russian ~~rocket bases~~ *base of Russian rocket bases* and they might be then ~~inclined~~ *be tempted* to launch from those of their bases which are vulnerable to an ~~an~~ *an* attack, an all-out attack directed against our cities and the cities of our allies. ~~But,~~ *But,* ~~however that may be~~ *this might* it is obvious that this kind of superiority of our strategic striking forces which General Le May

is/ ~~is~~ ~~is~~ a
speaks, if it exists to-day, ~~is~~ a vanishing asset, which will not exist
tomorrow. When we have saturation parity. As far as there strategic
striking forces are concerned, America and Russia's situation will be
perfectly symmetrical, ~~and~~ the only ^{real} issue ^{to be decided} is whether we would be more
secure if these ~~striking~~ ^{Russia and America} forces were maintained at a high level or
whether we would be more secure if they were ^{kept} maintained at a minimal
level. Insert Questions. There are many people within this Administration who fully under-
stand this issue but before they can prevail, they would ~~have to~~ first
convince the rest of the Administration: ^{in order to} ~~have to~~ first
convince the rest of the Administration: ^{not only that we need} ~~an~~ agreement based on the con-
cept of the minimal deterrent ^{for the sake of our security to have} ~~is~~ a necessity for our security but also
that ^{knowing such an agreement} ~~it~~ would be worth the political price that the Administration ^{has} would
have to pay. These men within the Administration who are, so to speak,
on the side of the angels, can hardly be expected to put up the fight
that is needed unless they have some reason to believe that if they
are successful in waging this fight and if the Government puts ...and
if the Government formally proposes an agreement based on the concept
of the minimal deterrent they will not be confronted with a Russian "Nyet."
Thus, the question arises how can those within the Government who are so
to speak on the side of the angels convince themselves that a reasonable
proposal will not be rejected by the Soviet Government to the point
where they would be willing to make the required effort which will be
required of them if they are to prevail. In October 1962 I thought
that I found a way that would give these ~~angels~~ ^{angels} within the Government
an opportunity to explore whether there is a fair chance of reaching a
meeting of the minds with the Russians ~~and~~ ^{and} I on the issue of the mini-
mal deterrent.

quotes

* * *

The political price that the Government would have to pay in the process of overcoming the opposition of ^{the} military - industrial complex to a ^{no} far-reaching reduction of our strategic striking forces ^{that is needed might} would be considerable. ^{and} Those within the Administration who regard the concept of the minimal deterrent as ^{no} a key to the problem of arms control would have to make a major effort in order to convince the rest of the Government that our gain in th/~~ere~~/ security of the nation would be worth paying this price. They are not likely to make such a major effort unless they can be given some assurance ^{that} they will not be confronted with a Russian fight in ^{real} Nyet. Washington and ^{got} the Government formally to propose to the Soviet Union an agreement based on the concept of the minimal deterrent. It seems that we are caught ⁱⁿ here in something like a vicious circle. Because the Government is divided it ~~is~~ they cannot find out what the Soviet Government would accept and because no one knows what the Soviet Government would accept, those who are on the side of the angels within the Administration are kept from making the effort that it would take to arrive at a consensus within our Government.

YAS

In October/1962, I wrote Chairman Khrushchev ~~that/those~~ and told him that those who work within the Administration on the problem of arms control and who are, so to speak, on the side of the angels, are put to a serious disadvantage ~~by being the the dark~~ by having to guess whether or not the Soviet Government would accept any reasonable proposals aimed at adequate measures of arms control. I proposed to arrange for a meeting ~~with some~~ ^{some of} of these American angels - junior -grade - who may be advisors of the Government or employees of the Government but who are not in decision-making positions, with their Russian counterparts. I pointed out the Americans and Russians who would be invited to participate in such a meeting ought deliberately ~~to~~ be chosen to ^{constitute a} ~~be~~ biased, rather than a

representative, sample of the opinions prevailing within the United States and the Soviet Government. The purpose of the meeting would be to find out to what extent two such "biased" groups would be able to reach a meeting of the minds. If they were, this would not mean that the two governments would also be able to reach an agreement, but it would mean that it would be worthwhile for them to begin conversations with each other ~~in order~~ ^{and} to examine whether or not they could reach an agreement.

My letter to Chairman Khrushchev was ~~written~~ ^{sent} shortly before the Cuban crisis and his ~~answer~~ ^{rather unorthodox} was written shortly after the crisis was over. Khrushchev's answer ~~which took the form of a warm personal letter~~ ^{was rather heartening} gave me the green light to proceed. ~~except that~~ ^{however} there was one point in his letter which had to be clarified before I could be certain that my letter had not been misunderstood. ~~I therefore sent a reply to his letter in which I elaborated this point and I made it clear that if he were in agreement with my interpretation of it I would be prepared to go to Moscow to discuss how my proposal could be best implemented. In answer, I received an invitation to come to Moscow.~~ ^{and} I therefore ~~sent a reply to his letter in which I elaborated this point and I made it clear that if he were in~~ ^{wrote back to other to see} agreement with my interpretation of it I would be prepared to go to Moscow to discuss how my proposal could be best implemented. In answer, I received an invitation to come to Moscow.

I would ~~have~~ gone at once except that in the meantime I received a communication from Washington indicating that it would be difficult to get the United States Government to permit anyone who is on the Government's payroll, no matter how junior-grade his position may be, to participate in the project. I advised Chairman Khrushchev of this hitch ~~at once~~ ^{at once} and returned to Washington ~~to try and work out the difficulties there~~ ^{to try and overcome this ~~hitch~~ at once}.

It is easy enough to see that ~~employees~~ ^{project} of the Government as participants in the proposed ~~conversations~~ ^{project} would have entailed ~~the risks~~ ^{certain}, that ~~we~~ ^{not possible} might ~~have~~ ^{not possible} to convince the Russians that these conversations do not represent "negotiations", and also ~~the risks~~ ^{also if news of these conversations} that there might be attacks ~~against~~ ^{hazard} the Administration on the part of some members of the Congress. It was necessary to weigh these risks against what might be gained if the project were implemented. Those within the Administration with whom

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I had ~~contact in~~ this matter were divided on this issue, and finally, after many months of discussion, the Administration decided ~~not to~~ ^{against} permit any one on ~~in~~ the payroll of the Government to participate in the project.

People within the Administration distrust - not without some justification - both the Russians and the Congress. But some of them seem to fear the Congress more than they fear the Russians, ~~and this offends my sense of proportions.~~

I advised Chairman Khrushchev that the decision had gone against me and put it up to the Soviet Government to decide in these circumstances whether ~~they~~ would want to proceed with the project, ~~and~~ ^{it} was their decision that the project be dropped.