

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.~~ ~~But Russia~~ ^{she Russia} would perhaps agree to such a ^{production} 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} ~~are~~ 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 up} this principle.

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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~~ ^{security 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.

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This is my ~~the~~ ~~the~~ contention that we

~~In order to see why we need to reduce the strategic striking forces down to the level of the "minimal deterrent", we must examine 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.~~
as soon as possible because

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. / 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. ~~They are not to be~~ 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~~ ^{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.

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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 • ~~a rather high price to pay for deterring Russia from something that she wouldn't be likely to do anyway.~~ ^{This is for how long a}

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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 permit} ~~not~~ 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 last} ~~then~~ ^{month} to 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} ~~if~~ 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/o/~~ the restraints spelled out above.

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 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.

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 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 ~~is~~ ^{prevents a grave} a threat to our security. * * *

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 German cities ^{ed} /and

~~Wetck/ 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} ~~Wetck/ 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 ^{forty} ~~thirty~~ 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 certain that Russia ^{would} ~~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 have to be satisfied with limited measures ^{just enough to} ~~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.)

^{2 He} Khrushchev got the point, ~~he~~ got it fully and his answer was gratifying. ^R 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 ^{am convinced} 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} ~~they really want~~, then to get them to ~~agree~~ ^{accept} to quite limited measures of inspection for the sake of any "first steps" which would not offer any major ^{direct} ~~immediate~~ benefits to Russia.

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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 ^{massive} ~~sudden~~ attack against Russia's strategic air fields and rocket sites of known location in certain conceivable contingencies, these contingencies are ^{very} ~~contrived~~ and ^{most} ~~are very~~ unlikely to occur.

The "damage-limiting capability of our numerically superior forces" might ~~have~~ 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 ^{at that point} ~~they might~~ ^{would be tempted to} launch ~~their~~ rockets from all of their bases which are vulnerable to an attack ~~and~~ ~~against~~ against our cities and the cities of our allies.

There is no need to belabor this point, ^{because} 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. ^{In} In saturation parity - as far as the strategic striking forces are concerned - America and Russia will find themselves in a fully symmetrical situation. ^{and} ~~Therefore,~~ ^{at this 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."

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} ~~retained~~ 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~~ 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 under what conditions would she~~ ^{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 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~~ 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 ^{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.

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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 ~~possibly~~ 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.

~~Such a production cut-off if it came early enough could presumably avert a new arms race.~~

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Postscript,