

Arms Control and Peace Research

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The juxtaposition of the two notions *arms control* and *peace research* may at first sight surprise the reader. The first notion implies theoretical and practical research into the ways first, of reducing the risk of war, and nuclear war in particular; second, of reducing devastation if in spite of everything war were to break out; and third, of reducing the cost of armaments and slowing down the arms race. The second notion encompasses all studies relating to the causes of wars and, in more general terms, all the situations and practices dangerous to peace.

The classical period of arms control, a conception of American origin, occurred during the later 1950's and the early 1960's. It developed in response to the strategic and technical studies carried out on nuclear arms and their impact on diplomacy and war. The peace research institutes which proliferated mainly during the 1960's were often in opposition to the American institutes, which concentrated chiefly on nuclear weapons and strategy. The research centres which use the word 'peace' in their titles do not limit their focus to the two European blocs, to American and Soviet strategy, or to nuclear weapons. The inequality among nations and the world economic order also come under their scrutiny insofar as they are causes of conflict, and at any event manifestations of violence — 'structural violence', as the adherents of this school choose to call it.

In other words, arms control specialists tend to be primarily interested in nuclear weapons and the dangers of war related to them. Peace research specialists, on the other hand, tend to broaden out their investigations to cover all forms of armaments and violence. Of the two schools, only the first has exercised any influence on statesmen and the course of events. Some of the ideas thrown out by academics and think-tank researchers have been

taken up and put into practice. The SALT I and SALT II agreements, for example, spring from the school of arms control. And the debate provoked by SALT II raises questions concerning the basis of arms control itself.

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The French term *maîtrise des armements* conveys the original intention of *arms control* rather better than the English expression. Arms control implies neither disarmament, verification, nor inspection, but a refusal to give in to the dynamic of the arms race. It implies the will to become again, as Descartes put it, both master and possessor of nature —or in this case, arms. Disarmament is not necessarily the aim, since its chief objective is to prevent war, and it has not been established that disarmament invariably helps to prevent it. For example, in retrospect, most people would admit that, faced with Hitler in 1935, rearmament would have been preferable to disarmament. The theoreticians of arms control do not adopt the thesis that wars are a result of the arms race. They study the means by which, in a given situation, the risk of war can be prevented from increasing through either an excess or an insufficiency of arms. The balance of terror is better safeguarded by a few hundred rather than by a few dozen intercontinental missiles.

The theory of arms control, almost self-evident in its principles, would not have been of any special interest in itself if the conjunction of superpower rivalry and the existence of nuclear weapons had not presented what might be a perfect example of ‘arms control’. The supporters of this theory take as a starting point that a genuine and fundamental political consensus between the United States and the Soviet Union is out of the question. They also hold that both rivals hope to avoid a nuclear conflict. Starting from these two premises, arms control consists in fixing the relationship of force between the two superpowers at a level compatible with both the *desire of each side to get the better of*

the other in confrontations if possible, and their common desire not to destroy each other. The stumbling block, and perhaps the contradiction, inherent in this theory lies in the clash between the obviously antagonistic goals of the two powers and their assumed common interest. Is it really possible to agree on a limitation of armaments favorable to the nonuse of nuclear weapons without, on another level, political or military, favouring one or other of the protagonists?

The first steps in arms control were expressions of *the common purpose*, which, by their nature, did not excite much controversy. The best example is the telephone hot line. It is important, in the heat of a crisis, that the two heads of state be able to communicate directly. Dialogue is not enough to guarantee a solution, but it offers a better chance for avoiding the worst. A second agreement attributable to arms control is the partial suspension of nuclear tests. Common human interest justifies the ban on tests within the atmosphere, so as not to pollute the air we breathe and to avoid radioactive fallout from which other populations would suffer. The comprehensive test ban would slow down or prevent the deployment of new or better weapons.

But the ban has also served another purpose of arms control: to hinder what is called the proliferation (or dissemination) of nuclear weapons and the enlargement of the atomic club. I don't propose to analyse the basis of this theory in detail here: I would simply like to make the point that the ban does embody certain political implications. The first powers to employ nuclear weapons are attempting to reserve this weapon, monstrous or decisive, for themselves — which invites the question, from a preoccupation with peace in general or from self-interest?

Other measures — the renunciation of chemical and biological weapons, and the nonmilitarisation of space and ocean bed — caused no stir. The agreement regarding the nonmilitarisation of space has been partially respected so far: no bombs have been put in space (it has not presented any apparent military advantage).

But it is widely known that the Soviets have carried out experiments in the destruction of satellites and that the Americans, in turn, are working on similar projects.

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The first arms limitation agreement was signed by Leonid Brezhnev and Richard Nixon in 1972, together with a declaration laying down the mode of conduct to which the two signatories subscribed. The two signing states committed themselves to restraint (the favorite word of the Secretary of State at the time). They would not try to take 'unilateral advantage' at each other's expense. The link between arms limitation and the diplomatic conduct of the two superstates did not bring about a visible change either in Moscow or in Washington. The same mixture of limited cooperation and permanent opposition still marks their intercourse. (The two superpowers, according to the theory, agree on the ceiling of strategic nuclear arms imposed on each of them in the hope of slowing down the arms race in this field and creating a stable situation that should reduce the risk of war and the actual use of these weapons.)

This treaty and a second, which has still not been ratified by the Senate, have only done away with or, rather, impeded the development of a single system of weapons: antiballistic missiles, or what the Americans call ABM. The Soviets had already installed an ABM system around Moscow which, according to the Americans, was of doubtful efficiency. Meanwhile, the Americans were in the process of setting up their own system which the military leaders hoped to deploy at least around Washington and to protect the silos of intercontinental missiles. According to Henry Kissinger, when Lyndon Johnson brought up the question of a common abandonment of ABM, Premier Kosygin replied that he had never heard such a stupid proposal. But a few months later the Soviets were eagerly underwriting that very proposal: the conscious and determined decision to give up all defence against

missiles, or, in other words, to *guarantee the vulnerability* of the territory of the two superpowers. Each of the two reserved the right to protect one site. The United States, at least, has not used that right.

The abandonment of ABM, whatever its accidental cause, had one lasting significance in that it revealed the inspiration behind arms control. What was the objective of the SALT negotiators? Stability: another word for equilibrium but with its own connotation. According to press commentators, the relationship between the two great nuclear powers would be stable on the day when neither of the two would be tempted to have recourse to these weapons, knowing that the reprisals would be equally destructive to themselves. This assurance of reciprocal destruction is reinforced by the *absence of defence* and by the *vulnerability of the cities*, but, at the same time, by the *invulnerability of the weapons of retaliation*. From here one passes from stability to the idea of *mutually assured destruction*, also known as MAD. Nuclear weapons, according to this doctrine, have no other function than to prevent their own military use.

The writers of the *New York Times*, for example, argued against the technology of the MIRV's (multiple independently-targetable re-entry vehicles). To the Soviets, the massive increase in the number of nuclear warheads would constitute a threat because it reinforced American counterforce capability. Without any doubt, the Soviets would go on to do the same, increasing the number of their launchers or their warheads. Either one of the two would ensure a substantive superiority for itself and put the opposing forces in danger; according to this hypothesis, stability would be compromised. Another possibility, far more probable, would be that the two camps would regain the same stability and the same strike capability, but on a higher level of both expenditure and number of weapons. Events confirmed the second alternative. But the academic strategists had never accepted such a simplistic interpretation of deterrence during the 1960's.

If it is demanded of the nuclear force of the United States only that it should be able to inflict enormous devastation on the aggressor at a second strike, the task of those in power is singularly simplified. The 41 submarines, each carrying 16 MIRV'ed missiles, alone can inflict untold damage on the Soviet Union (and not even that number is necessary). However, such an action against enemy resources would be more or less suicidal, because it would call down upon American cities an equivalent catastrophe.

In other words, the theory of arms control, in this form, implies a strategic doctrine. If one defines stability as the invulnerability of the main forces of the two superpowers, arms control should aim not only at stability, but at the elimination of all counterforce capability. For the counterforce capability of one camp presupposes the vulnerability, if only partial, of the enemy force. This explains why some statesmen of the United States, Robert MacNamara in particular, seemed both to want and to fear the counterforce capability that they still possessed by the early 1960's. MacNamara repeatedly advised the Soviets to protect their missiles better and to reinforce their silos. His reasoning was that the Soviets would be tempted to strike first if they thought they were at the mercy of an American first strike.

Via these arguments, arms control leads to what the strategists call the *minimum deterrent*, the capacity to deter the adversary from a nuclear attack against one's own territory. But with or without arms control both the United States and the Soviet Union already wield this minimal deterring power. Years of negotiation would not have been necessary to arrive at this kind of stability — a partial stability, limited to a single level of strategic nuclear weaponry. Is this kind of partial stability in conformity with the strategic doctrine of American diplomacy? Is the minimum deterrent sufficient to guarantee the security of the allies of the United States? Stability at one level, restricted to one type of weaponry,

does not, by itself, stabilise the overall relations between the two superstates.

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Beyond the abandonment of ABM, SALT I fixed a ceiling on the number of intercontinental missiles the two superpowers were allowed to own. The Soviets were allotted a ceiling around 40 per cent higher than the Americans, who, thanks to MIRV technology, owned a far higher number of nuclear warheads. The Senate ratified SALT I without much resistance. It did, however, demand that the subsequent treaty should re-establish equality in the number of the two superpowers' intercontinental missiles.

The intercontinental ballistic missile systems of the United States and the Soviet Union present such structural differences that trying to determine equality or parity or equivalence leads to endless discussion. The negotiators finally agreed on the total number of strategic nuclear missiles (2,400 and subsequently — from January 1, 1982—2,250), the total number of land-launched missiles equipped with MIRV's (820), the total number of MIRV'ed missiles (1,320), and the maximum number of nuclear warheads inserted in a single heavy missile (10).

In SALT I, there was one ceiling for land-based missiles, another for SLBM's. In SALT II, there remains a ceiling for all intercontinental missiles, but inside this total global number of launchers each one of the two signatories retains the right to determine the composition of the aggregates, the percentages of ICBM's, SLBM's, and bombers. On the Soviet side, the proportion of ICBM's is 62 percent, on the American side only 40 percent. SALT II attempts to slow down, if not to stop altogether, the renewal of arms and quantitative progress by specific measures. The original internal volume of an ICBM silo launcher should not be increased by more than 32 percent; there is the interdiction against increasing the launch-weight or the throw-weight of the heavy ICBM, flight testing or deploying new types of ICBM's

(with the exception of one light model), the interdiction against increasing the number of re-entry vehicles for the ICBM, SLBM, etc.

There is still today a passionate debate about SALT II, advantages and dangers. It is not my purpose to go into the details of the controversy in order to discuss the consequences of the treaty for Europe. I shall concentrate on the key objections of the adversaries of the treaty, leaving aside also the uncertainties of verification.

The Soviet heavy launcher, the SS-18, can carry up to ten nuclear warheads. The ceiling on the SS-18 is fixed at 308. If the nuclear warheads of these heavy launchers have the firing accuracy that the Americans think they do, they could destroy at a single blow almost the entire United States force of Minutemen, other land-launched missiles, and airfields. These are the most accurate missiles, the best adapted to counterforce. In response to a hypothetical destruction of the American land-launched missiles, the President of the United States could only use either the submarine-launched missiles or the bombers, equipped with cruise missiles or not, at the risk of triggering mutual destruction, the devastation of the industrial system, and a senseless orgy of violence.

SALT II's supporters do not deny that towards 1983 the Soviets will indeed have the capacity to destroy some 90 percent of the United States' land-launched missiles, whereas under the treaty the United States would not have the equivalent capacity to destroy the Soviet land-launched missiles. As of June 12, 1979, the United States had at its disposal, in addition to 1,054 land-launched missiles, 656 submarine-launched missiles (including 496 equipped with MIRV's), and 573 heavy bombers. Whatever the effectiveness of a Soviet first strike, it could not take away from the United States its capacity for massive reprisals. But having once destroyed the American land-launched missiles in a first strike, the Soviet Union would still have more than enough missiles to lay waste the territory of the United States.

In theory, this sort of stability at the level of strategic nuclear weaponry should weaken the deterrent effect of these weapons in relation to all acts of aggression, with the exception of the most serious of all those directed at the vital interests of the country and the integrity of its territory. In other words, the desired effect of the doctrine of mutually assured destruction is in the direction of a neutralisation of these weapons. And, at the same time, conflicts at a lower level, even armed ones, become less improbable.

Furthermore, has this so-called stability really been established at the level of intercontinental missiles? Is the unequal vulnerability of the Soviet and American land-launched missiles really compatible with stability? Once again, according to all the experts, whether for or against SALT II, the Soviets, with their heavy missiles, will in two or three years' time have the capacity to eliminate the system of American land-launched missiles at a first strike, whereas the Americans will not be able to do the same. In other words, the Soviets are supposed to have a first strike capacity superior to that of the Americans. Does this superiority have serious implications? Most people will hesitate here: the very idea of such a war is so repellent, the scenario so improbable, that it is difficult to take these macabre calculations entirely seriously. If one enters into these analyses, Soviet superiority depends on the inaccuracy of the SLBM. The next SLBM, the Trident, could be just as accurate as the ICBM and be fired at the remaining Soviet land-based launchers without aiming at the cities. (Even during the time of planned massive retaliation, the Americans did not target on the cities, but at military or economic objectives. Still, the collateral destruction would have been, and, in spite of improved firing accuracy, would still today be enormous.) Soviet superiority consists in launching-weight and throw-weight, the megatonnage which improves the counterforce capability.

What effect does the uncertain stability of the intercontinental nuclear forces have on the relationship between the two superpowers? Here also the reply is far from clear cut. Nuclear

weapons cannot fail to have an influence on those in power, on both sides, encouraging them to be prudent. But Henry Kissinger himself has gone back on the remark he made once to journalists during an interview: "In the name of God, what does superiority mean in this field?" Should genuine equality at the level of intercontinental weapons be established, the relative force in other areas, and in Europe in particular, takes on an increased significance. The West can no longer count on the threat of escalation. Nor can it count on its superiority on a higher level to compensate for its inferiority at the lower levels. Put more explicitly, it can neither count on tactical nuclear weapons to weigh against its inadequate number of divisions nor make up for the number of Soviet medium-range missiles through the number of its intercontinental missiles. For Europe, 'theatre' weaponry thus becomes an essential element of security.

The Americans have proposed what is in effect a prolongation of SALT I into SALT II, which will deal with so-called 'gray areas'. Without discussing the problem at length, I shall express my skepticism. The negotiations of SALT I and SALT II neither modified the programmes of the two signatories nor prevented the development of the offensive missiles the Soviet Union wanted to produce. By limiting the enlargement of launching silo volume, the American negotiators hoped to avoid the mass production of heavy missiles. They failed; the Soviet experts were able to insert heavy missiles into their launching silos without enlarging them. In the negotiations concerning Europe, what could the American-Europeans trade off against the tanks, the guns, the planes, the SS-20's of Soviet weaponry? Quantitatively, the Soviet side is superior in all fields. On what basis would stability be founded?

Beyond that, during the SALT negotiations discussion had already been complicated by distinctions made between the various types as well as numbers of missiles. As a result of the heterogeneous natures of the two different systems, the notion of equality has

been brought into question. And furthermore, inequality in first-strike capacity has finally been agreed upon, deriving from the technical and perhaps strategic choices of the two parties. In any negotiation on theatre weapons, it would be difficult to ignore the basic differences in the two sides' approach to strategy. NATO, a fragile coalition of democratic governments, is by nature incapable of taking initiatives. If war does break out in Europe, the offensive will necessarily come from the East. And in so narrow a theatre of operations, the offensive takes on a decisive importance, as shown by the wars in the Middle East. How important is the number of planes and even of tactical nuclear weapons if the nuclear warheads of the SS-20's can, at a blow, destroy a few hundred points crucial to the defence of the West?

The doctrine of arms control assumed a common wish on the part of the two great superpowers not to destroy each other — that they would not use nuclear weapons against each other. But, in the case of Europe, Soviet military treatises anticipate a lightning strike, with the simultaneous deployment of both conventional and nuclear weapons. The West does not know which kind of war it should be preparing for.

I arrive here at a conclusion that you will perhaps find too categorical: that the doctrine of arms control has been a failure so far.

1. First of all, it has not helped to reduce military expenditure, or even caused a reduction in the sums spent on nuclear weapons. The ceilings laid down leave margins for both the production of new launchers and their improvement. Since SALT I, the Soviets have deployed many new systems: ICBM, SS-16, -18, -19, SS.N.18 SLBM; the Americans have MIRV'ed their Minutemen II and III and Poseidon. Jimmy Carter had promised to produce 200 MX and the Trident after the ratification of SALT II. Ronald Reagan will probably do more.

2. The negotiators have been overtaken by the speed of technical progress. Counting launchers is a crude yardstick; the

diversity of missiles and their possibilities, the differences in strategic attitudes make stability a more complex matter than simply counting the number of weapons.

3. The Americans took as a starting point the hypothesis of a common desire on the part of the superpowers not to destroy each other. This hypothesis is indeed a highly probable one. But there are two ways of achieving the aim of avoiding war: parity or superiority. The Americans originally bet on superiority, and it may be that the Soviets are now wagering on superiority in turn. In their treatises, the Soviet strategists refute the Western theory that neither camp can win a nuclear war. They maintain that even nuclear war would not be an exception to Clausewitz's maxim that war is the continuation of state policy by other means. Nuclear war, they affirm, which could be avoided, would, if it were to break out, mark the final episode in the struggle between the two socioeconomic formations, socialism and capitalism. Do they really believe it? No one knows.

4. Even supposing that an approximate parity were to be established at the level of intercontinental missiles, the relative neutralization of those arms would not necessarily entail the same consequences for both camps. Everything would depend on the relative forces at lower levels and in other theatres of operation.

Some members of the arms control community will object that the arms race would have been worse without SALT. It is true that ABM has been prevented, but is this an achievement or a cardinal error? The idea was to stop first the defensive and then the offensive arms. The increase of offensive arms, the heavy missiles, numbers of warheads, continued. It is true that SALT II limits the freedom of the two sides on certain points, for example the mobile missiles. But, here again, with an exception: the Soviets have already produced, tested, and deployed the SS-20, an intermediate-range missile which threatens the entire NATO defense system. The cost of MX will be increased because mobile launchers have been excluded by SALT II (in order to make veri-

fication possible). Even without ratification of SALT II, the new administration will avoid systems which would make verification impossible.

Should we, in the opposite direction, place the responsibility for the degradation of the balance of power between the super-powers on arms control? I do not think so. At least, the responsibility of arms control is a limited one. In any event, the Soviet Union possessed the means necessary to reach some sort of parity with the United States: the financial resources, technicians, and industry. The leaders of the Communist party do not stint when it comes to armaments: neither money nor the best brains are spared in the pursuit of military absolutes. It may be that their obsession with arms control causes the American leaders to forget the balance of power and remain passive in the face of the Soviet accumulation of armament.

Henry Kissinger said recently that "rarely, in history, has a nation accepted so passively such a radical change in the military balance. It is not the consequence of SALT, it is the consequence of unilateral decisions extended over a decade and a half, of a strategic doctrine adopted during the sixties, of the bitter domestic divisions growing out of the war in Vietnam, and of the choices made by the present administration . . ." The doctrine of arms control did not dictate the clauses of SALT I, any more than it did the attitude adopted by the United States between 1973 and 1978, when the extent of Soviet military strength and the deployment of the SS-16, -18, -19, and -20 came to light. The leaders of the United States judged their nuclear force sufficient to remain an efficient deterrent. But as the negotiations drew to a close, the senators could not fail to appreciate the modification of the balance of power.

Arms control had assisted in the decline of American power and helped to conceal it. SALT II, all in all, enshrines and ratifies the decisions taken unilaterally by the two sides. The Soviet Union has spent and manufactured more. The United States has

contented itself with the land-launched MIRV'ed missiles of the 1960's and adhered to the 'triad' theory: the capacity for massive reprisals on a second strike and a reduced counterforce. The American strategists assumed that the first strike would come from the East, and in order to assure the invulnerability of the missiles put the majority of them to sea. The Soviets were not afraid to suffer a first strike.

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Arms control is inspired by a doctrine and defines its goals. The peace research institutes are of an altogether different nature. That is why the following observations on these institutes are of quite a different nature from those that I have developed in the preceding pages. The directives issuing from arms control, which are, in a certain sense, operational, are open to criticism because they have observable results which bring its very principles into question. Peace research, which is purely academic in essence, does not lead to any practical application, unless one considers it borne out by general propositions, which are always open to contestation.

The literature on peace and war is immense and has grown even faster since the last war. A plethora of different disciplines has been put to the test. Historians, sociologists, economists, psychologists, and psychiatrists have pooled their efforts. But the fact remains that we don't know much more than we did before. We have no basis from which to deduce principles for action.

Take one example: armament or the arms race. Are we in any position to state that the arms race necessarily ends in war? As long as one defines the term in a sufficiently broad and vague way, one could say that the great wars of modern times have been preceded by arms races. But whether the states increased their military budgets because they were preparing for war or whether war was brought on by the accumulation of arms is another matter. In the case of neither world war is the answer straight-forward.

As to the war of 1939, the most plausible reply is that the rearmament of the Third Reich was determined by Hitler's diplomatic projects. The West was slow to respond, but in the end did rearm, fearing the Führer's ambition.

The military budgets of the great European nations increased in the years immediately preceding 1914, during what is called the 'armed peace'. But these budgets remained relatively small in terms of gross national product. They did not weigh insupportably upon the finances of the different states or upon the standard of living of the populations. Diplomatic tensions raised fears of an armed conflict and politicians took precautions. France's 'loi de trois ans', the subject of furious polemic, was intended to diminish the inferiority of the French army in relation to that of the Germans, despite the difference in numbers between their two populations.

One can speak of an arms race today, but not without certain reservations. The United States devotes 5 percent of its GNP to the national defence budget. In western Europe the percentage hovers around 3.5. Estimates for the Soviet Union vary between 11 and 15 percent, equivalent, in percentage terms, to two or three times that of the United States. In absolute terms, military expenditure is considerable — more than \$100 billion in the United States. This expenditure arouses the imagination and also the indignation of people of good will who weigh the value in real wealth — food, education, industry, and health — that the money could be spent on rather than missiles, submarines, and tanks. But this expenditure does not crush whole peoples or give vogue to the sentiment that it would be better to have done with it all rather than endure this endless terror.

Leaving aside the futile questions: who is responsible? and who began it all? we should remember two facts, peculiar to their era, which contribute to the so-called qualitative arms race. Like all industrial products, arms can be improved. Because of this, all states feel more or less obliged to renew the machines

of war, obsolescent rather than worn out, before they have even used them. The SS-18 outclasses the Minuteman III. In countless ways the struggle between the armour and the sword continues on land and sea, in air and space.

A second historical fact explains the arms race today: the strategic groundplan that emerged from the last war. On one hand, the intercontinental missiles face each other over oceans and peoples; and on the other hand, the Soviet army, equipped for the offensive, is stationed right in the heart of Europe. This state of affairs makes it probable that in time of war there would be no time to mobilize. The decisive battle would be waged with active, not potential, forces. Even more than before 1914, the military consider the first battles to be decisive. The trend towards professional armies is partially explained by the conception of a probable war.

Peace research institutes more often than not deplore the wastage of resources devoted to armaments. But they haven't, to my knowledge, found either an original method of disarmament or an unknown cause for the arms race. Nor have they proved that the states which arm themselves the most, the Soviet Union and the United States, are dragged by their defence budgets towards an inevitable war.

Let us move on from the explanation of wars by the arms race to a theory which still carries weight in certain circles: that capitalism becomes imperialism and that this, in turn, provokes war. By definition, it runs, the capitalist countries are unable to agree upon the division of the planet and are animated by insatiable greed. But whatever the relationship between the so-called capitalist economy and war, experience does not in any way allow us to imagine that war will disappear with capitalism. The tension between the Soviet Union and the People's Republic of China, and between Vietnam and Cambodia, at the very least suggests the general proposition that ethnic rivalries and historical conflicts survive revolutions and remain equally alive even when govern-

ments profess the same ideology. Furthermore, the great wars of the century set against one another nations which belonged to the centre of the world market. It was they who had the most to fear and the least to hope for from struggles which pushed them to the extremes of their available resources.

Certain of the peace institutes have brought into vogue a particular representation of the capitalist world: at the centre the industrialised or wealthy nations, and on the periphery the nations of the third world, from which the states of the world obtain the raw materials necessary for their industries, and part of their surplus value, through the intermediary of the multinational companies. This distinction between the centre and the periphery is reproduced within each state. The centre of the central states levies the surplus value from its own internal periphery and leaves a part to it. In the same way the centre of the peripheral states profits from a share of the surplus value it takes from its internal periphery, while pleading integration in the world market — often to its own interest.

This interpretation does not seem to me to make an important contribution to the comprehension of war and peace. It helps to explain national wars of liberation, although the desire for liberation, in the sense of rejecting a foreign colonial power, is also fuelled by elemental sentiments. At any rate, in the twentieth century it is the war between the states of the centre which has devastated the planet: the claim that it is no more than a quarrel over booty is far from convincing. Since 1945, Japan and West Germany have proved that they did not need conquest to prosper, and that they could take for themselves a large part of the external surplus value without reducing the other central states to slavery.

The distinction between the centre and the periphery suggests a representation of the world of the states comparable to the Marxist representation of every collectivity. A minority of exploiters appropriates the surplus value, taken directly from the workers. In the states of periphery, a double exploitation is working at the

expense of the workers: the centre exploits its own periphery and lets the world centre exploit the entire peripheral collectivity. The privileged classes by definition take for themselves a part of the profits that agricultural and industrial enterprises have engendered. The multinational companies, insofar as they transfer their profits, cream off the periphery's surplus value to spend or invest elsewhere. Viewed from a neoclassical standpoint, the same facts would appear in a new light, with one main difference: are the profits of foreign investors always the fruit of exploitation? Are they always contrary to the interest of the developing country? Do the prices at which the industrialised states buy primary products from the peripheral states really represent a form of exploitation? It is not possible, in the context of a conference, to analyse the concept of exploitation, object of controversy between the neoclassical and Marxian schools. I will only make the problem explicit.

Before 1973 the price of oil stood at a level that is commonly thought of today as unjustified, despite the fact that the cost of extraction in Saudi Arabia was and is extremely low. Today, operating like a cartel, the producers can fix prices and manipulate production so that an on-the-spot market rise at Rotterdam can cause an increase in prices fixed on contract.

And if one considers market prices as a norm, the argument is the same: regarding raw materials, there is nothing to stop one of the producers from cutting back production or one of the consumers from abruptly releasing available stocks onto the market. Brazil, for example, acting despite the number of other producers, now knows how to manipulate the coffee market legally, without a cartel, by controlling the supply in order to control prices.

Such research, which has only a remote or indirect connection with peace, plays an important part in the studies of some peace research institutes. Whether or not the structure of the capitalist world market is unjust, it has not determined the great wars. It has perhaps accelerated the revolt of the colonised countries, and

it probably fuels diplomatic and commercial disputes between the governments of the third world and the wealthy nations. But it was not the source of the two great wars of the century, and it is not at the root of the rivalry between the two great powers, between Vietnam and Cambodia, between India and Pakistan.

The peace institutes, it must be admitted, are often anxious to single out or to define a real peace, as distinct from an 'absence of war'. In his treatise on politics, Spinoza made the distinction. Peace should be more than an absence of war. In the field of international relations, peace is often not more than the absence of war. The peace treaty imposed by the victorious state is tolerated by the defeated because of the lack of force to change it. There are many instances where the peace treaty is only an armistice. Regarding the so-called economic order, it is today commonly affirmed that it is unjust and imposed by the centre upon the periphery. From this view one deduces the concept of 'structural violence'; the world market appears as a manifestation of violence, more or less the equivalent of war.

This kind of analysis errs in the opposite direction from that of the arms control specialists who concentrate on a particular type of weapon, as if the nonutilisation of intercontinental missiles were the same as the nonutilisation of all kinds of arms. Those analysts who see structural violence in the world market imagine that in combating that kind of violence they are working for peace. Both parties are deceiving themselves: the theoreticians of arms control because they isolate a single kind of arms, and the peace research specialists because they extend the concept of war indefinitely.

The partisans of arms control start from an idea which is in fact justified: that nuclear weapons possess such a potential for destruction that it is not unreasonable to attempt to prevent their use, while resigning ourselves to non-nuclear wars. Some specialists in peace research start from the false premise that peace requires justice. In fact, peace has been imposed when and where

an imperial power has dictated it or when enemies, exhausted by their fighting, have either found a way to reconciliation or perceived the threat of a new common adversary. Periods of peace based on equilibrium often have been no more than prolonged armistices. The struggle for justice within nations or between them justified in and of itself, is not always a pacific action—it eventually leads to violence.

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I do not claim to judge the peace research institutes. I have wanted simply to recall that we know little about the causes of war when it comes to making practical use of such knowledge in order to maintain the peace. I have briefly isolated two theories still in vogue concerning first the arms race and second international economic ambitions.

I have neither condemned arms control, because there are many forms of it, nor have I suggested that SALT II should not be ratified. I have not wanted to enter into the debates of today. Any judgment for or against ratification should require a complete study of the text and analysis of the political as well as the military considerations. My purpose has been to make clear the paradoxes of the doctrine of arms control.

Some facts are obvious, irrefutable. We recall the official goals of arms control. Reduce the risk of war: I see no improvement. Reduce the destruction if, in spite of everything, a war should occur: the destruction would perhaps be even worse because the superpowers have eliminated their means of defence and increased the means of offence—the number of warheads and the throw-weight of the heavy missiles. Reduction of military spending: since SALT I, both sides have increased their budgets for strategic weapons, the Soviet Union much more than the United States. Jimmy Carter had promised a massive increase of spending on the MX and the Trident if SALT II were ratified. Ronald Reagan will do it with or without ratification.

Why the spectacular failure? I have exposed some reasons which I will summarize in different language.

Is real agreement regarding the balance of military forces possible between states which remain fundamentally hostile to each other? They could agree against nuclear proliferation, but each one of them is in search of a parity favorable to it.

Beyond this primitive reason, I would mention technical progress. The first yardstick is the number of launchers, but you may put many warheads in any missile. Then comes firing accuracy, which transforms the efficiency and function of the missiles. The missiles become more vulnerable and, at the same time, battle-field weapons (warheads of low yield), 'Equivalence' becomes more and more difficult to establish. One has to take into consideration the pay-load, the throw-weight, the accuracy of the missile, and the yield of the warhead.

The third argument, the most political, the most instructive, is the fallacy of partial stability. Partial stability might compromise global stability, especially because of the asymmetry between the two camps. I even distinguish three styles of asymmetry:

1. Nuclear weapons have not necessarily the same place in the defence systems of the two camps; the Soviet camp maintains its superiority in the domain of conventional weaponry. Equivalence at the highest level may bring about the inferiority of one side in the global balance.

2. The asymmetry of the two nuclear systems makes equivalence at least equivocal. The Soviet camp is superior in throw-weight, in megatonnage; the American in number of warheads. Which is more important? What are the consequences of the Soviet capability of destroying the land-based launchers, the ICBM's? How does the nuclear strategic balance influence the minds of the statesmen and the course of diplomacy?

3. The present accuracy of the missiles gives the camp which strikes first an enormous advantage. The political asymmetry between a fragile coalition of democracies and the unified control

of the Eastern armies determines, in advance, who will strike first. Are the Pershing II and the cruise missiles invulnerable enough to balance the SS-20?

There may be a fourth asymmetry. Do the Soviet military leaders consider the use of nuclear weapons in battle normal, inevitable? For what sorts of hostilities do they prepare their troops? And do the political leaders really adhere to the doctrine revealed in the books of their generals, according to which a nuclear war could be won like any war of the past?

Thirty years ago we tended to believe that the states would modify their behaviour in response to the threat of nuclear arms. Instead, these arms have been integrated into the course of ordinary international relations, with one new element, the fear of escalation to extremes and nuclear wars. The states, the cold monsters, have not changed, they have become more prudent. Scientific studies on war, conducted by institutes of polemics, peace, or strategy, have made no decisive contribution to the task of the statesmen. It is up to the statesmen to know whether the SALT negotiations are politically desirable, however modest their military results. And it is up to them also to know whether SALT is necessary for detente, or whether detente must lead to SALT, or whether detente is necessary to peace.

I have focussed on two questions: are states which are basically hostile to each other able to come to an essential agreement about the relationship between their forces? My reply is no. Have we learnt the causes of war and the means of preventing it? Here again, my reply is no. Since complex societies have existed, this has been the historical condition of mankind. So far technology has turned weaponry upside down, but not men. Should we be surprised? Should we despair? Neither surprised nor despairing. The human adventure, horrible and glorious, goes on.