

[Contribution one for
Policy Studies].

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SOVIET ATTITUDES TO STRATEGIC DEFENCE

(Based on a speech to the Conference on Science and Technology in the Nuclear Age, in Lisbon, February 1986).

It is entirely comprehensible why many rational, averagely informed people, in the United States as well as in Europe, should be, to begin with, sceptical of President Reagan's programme of research on strategic defence, the Strategic Defence Initiative (SDI) known as "star wars". First, Americans should face the fact that the very effectiveness of President Reagan as a public communicator of old home truths and of American traditional values has made him suspect in Western Europe which, for all its military dependence on the United States since 1945, still has very different cultural values.

Secondly, the project seems to belong to the world of Jules Verne or make-believe: conflict 300 miles above the earth is not within the bounds of experience. Third, there is an understandable reluctance to contemplate the idea of conflict in space, because the attachment to the idea of primitive innocence in the stars responds, after the end of the notion of the noble savage or of the uncontaminated sea, to some deep human expectation that virgin territory of some sort must remain. If not in the Brazilian forests, where history and anthropology shows the existence of brutal magical monarchs of incredible cruelty, in comparison with the Portuguese bandeirantes or Spanish conquistadors, then in space. Fourth, a successful SDI programme would almost certainly stimulate alternative offensive programmes, such as not only micro-nuclear weapons delivered in the famous suitcases but further emphasis on chemical and biological weapons. Finally, there is the question of cost: the United States contribution of \$26 billion for the research stage of strategic defence is a sum high enough to confuse the public mind which can never take in figures so far above their own experience.

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Well, each of these points has some kind of reply: Reagan for Americans is the President who has nudged his people towards better defence but less government spending. Then whether one likes it or not over the last generation science fiction (of which I confess I know nothing) has proved a better source of prophecy than we could have expected. Third, though it is attractive to entertain the idea of a virgin universe it is frankly no more realistic than that of the forests so loved by, if so unknown to, Jean Jacques Rousseau when he talked of the noble savage. Fourth, these micro and chemical weapons are already being developed - the latter by the Russians on a big scale. Finally, the figure quoted for the SDI programme for three years is not large in terms of the defence budget of the United States - less than 20% of one year's usual expenditure. One must doubt whether the money saved would in fact be spent on hospitals and schools, if that is presented as the alternative; and there are certain perhaps vast spin-offs from the scientific programme.

There is one other aspect of this venture: this is that SDI is not really an innovation. It is a return to the considerations of technological defence of the 1960s and early 1970s in the light of Soviet continued interest in the subject; indeed apparently consistent with Soviet interest in it from the early 1960s (or even late 50s) despite the restrictions made on deployment of the effects of research in this field made by the antiballistic missile treaty of 1972 and its protocol of 1974. The US and the Soviet Union renounced these developments on the arguments deployed by Dr Kissinger and the

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Nixon administration that defensive installations would be "de-stabilising" and lead to another generation of offensive missiles, therefore causing great expense. Research was explicitly not banned.

The whole subject, however, did need reconsideration not only, as was suggested by President Reagan, since a move towards defence has obvious benefits to a president who might have, in certain circumstances, less than half an hour to make decisions which could hardly fail to ruin much of Western civilisation as well as most of Russia; but also because of Soviet progress in this field. The reason that President Reagan did not mention this was presumably that he did not want to create a sense of alarm such as did occur in the late 1950s, just after the Soviet Sputnik created the notion of "missile gap". All the same he probably should have mentioned this aspect of the affair since it is so important.

We should not be surprised if the Soviet Union takes the lead with, or keeps abreast of, the West in technology. It is true that Russia since 1917 has not fulfilled the promise of creativity evident in the country before that date. All the same Russians have been adept at gaining information and technology from the West and by painstaking labour, sacrifices of men and money on a large scale, have been able to carry through great innovations with success. Thus Soviet research on atomic energy began about the same time as that of the US in 1942, was given a great thrust after 1945 and achieved an atomic test in 1949 and a hydrogen bomb test in 1953 four years and one year respectively after the US had done the same. More significant still the Soviet rocket programme was till 1957 well in advance of anything done in the

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US which, between 1945 and 1951, had no rocket research to speak of. It is useful indeed to recall that the Soviet Union was the great innovator in this whole field: the US may have created the nuclear age, the Soviet Union made the rocket one. A modern equivalent is Soviet research in particle beams and how to convert them into weapons: a field in which the Soviet Union is ahead of the West and in which it has influenced the United States.

Another field in which the Soviet Union has been always ahead has been in its concern with defence. We have rightly over the last few years taken in the large Soviet investment in new offensive weapons. But there has been a vast defensive effort too - substantial investment in surface to air missiles, in radars for air defence, in interceptor aircraft, and in the hardening of ICBM silos and of command and control centres*. Refuges with similarly hardened protection have been procured for nearly 200,000 party and government leaders in both country and town. There are elaborate plans (eg by re-siting in the style of 1941/42) for the preservation in war of those parts of the Soviet economy which are considered essential in war, including the preservation of vital materials, and of the labour force. The Russians have also emphasised mobility: the SS-20, the SS-25, and the SS-x-24 are all mobile or may be expected to be soon, and control communication and command posts are perhaps capable of mobility. All Soviet defence

* 12,000 SAM launchers at 1000 sites; 10,000 air defence radars; over 12,000 interceptor aircraft dedicated only to defence; another 2,800 such could be so used.

arrangements whether research for strategic defence or all the above are significantly under the same command "National Air Defence" founded in 1959 at the time of Krushchev's general reorganisation of Soviet foreign policy in the light of his realisation of the undesirability of nuclear war (proclaimed ex-cathedra). Defensive spending is apparently on the same level as that of spending on offensive weapons.

This is the essential background to a consideration of Soviet interest in strategic defence. As important is the fact that in all these fields of defence the US has done practically nothing. The Nixon administration dismantled nearly all the US defences in their programme of "purposeful weakness" since, they argued, MAD rendered all such policies likely to be pointless and so, wasteful. A US defence analyst recently remarked that the US defence command seeing missiles overhead could do little more than pass the message "They came from over there, they are going that way, do what you can!".

The Soviet Union has already one element of an anti-ballistic missile defence - that established round Moscow and permitted under the ABM Treaty of 1972 (it will be recalled that that treaty allowed both the US and the Soviet Union either the protection of the national capital or of a complex of ICBMs. The Russians chose Moscow. The US chose North Dakota but never deployed because of the above mentioned policy of "purposeful weakness"). The Moscow ABM complex when complete, probably next year, will consist of the maximum permitted under the treaty, 100 static

/"Galosh" rockets

" Galosh rockets, which are "nuclear tipped" and are designed to destroy targets -missiles and satellites - outside the earth's atmosphere. There will also be "high acceleration vehicles" whose purpose is to destroy missiles after their re-entry into the atmosphere. These missiles are backed by a chain of early warning radars with centres for the tracking or targets and missile control radars all round Moscow. So those looking forward to a good co-existence walk through the Sparrow Hills which figure in XIXth century literature may be disappointed.

In addition, Russia has the world's only established anti-satellite system (ASAT), based on a satellite already in orbit which will be able to send off conventional warheads against enemy satellites where the two are in the same orbit. Finally, the Russians made it clear from the beginning that they would not allow the ABM treaty to restrict research which could lead to defence against missiles. Kosygin set the tone with a remark reported in Kissinger's memoirs: how do you expect me to tell the Russian people that they are not allowed to defend themselves. Marshal Grechko remarked in public after the ABM treaty that the document "placed no limitation whatsoever on the conduct of research and experimental work directed towards the problem of solving the problem of defending the country from nuclear missile strikes".

There is now ample evidence in the hands of the US government that the Soviet Union is conducting major research programmes in: (i) lasers; (ii) kinetic energy weapons; (iii) surveillance and target detection; (iv) pointing and tracking; (v) space programmes capable of military anti-ABM use; and (vi) computers. About all these programmes of research it can be said that most of them date back in origin to the

1960s or even the 1950s. In most of them the line between research for genuine peaceful purposes and for possible ABM use is difficult to draw (for example the large segmented mirror which the Soviet Union says is geared to astrophysics, but which could be useful for a space based laser weapon). It could therefore be that the Soviet Union has already broken the ABM treaty and perhaps the outer space treaty. The most frequent accusation here is in respect of the development of the important long range phased ~~array~~ ^{array} radar station at Krasnoyarsk. The Americans are convinced that it is to be used for a ballistic missile early warning system (the ABM treaty allowed radars on the periphery of the USSR and the USA -not in the middle of the countries concerned because that would enable an overall ABM defence). Krasnoyarsk is 500 miles from the nearest - Outer - Mongolian - border. Even in Russian geography that is quite a long way. It is also argued by the US Department of Defence that circumvention of the treaty as opposed to a breach of it may have occurred in respect of the SA-12, a system aimed at tactical nuclear weapons but which might be able to engage both Pershing missiles and submarine launched missiles. One analyst in Washington has indeed suggested that the Russians took a specific decision to "break out" from the treaty in 1979 at the time of Carter's "counter Vailing strategy" (PD-59 dealing with targeting missiles at Russian military centres).

I think I should say a word about Soviet progress in each of these fields. I don't at all find the language of science easy. But it is up to us men of arts to try and communicate the facts of science in a simple language. First, in respect of lasers the Russians are said to have 10,000 scientists and engineers at six places dealing with high

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energy lasers - principally at Sary Shagan. This includes research into most things preoccupying the US in SDI including chemical lasers of three main types, and the electron laser as well as the excimer. Further development could enable close range defence of ships at sea, of strategically significant targets in the Soviet Union, and of forces actually engaged in fighting. Airborne lasers, which could be used for air defence, have been tested, as has a ground based laser which could be used against satellites. Second, US specialists suggest that Soviet research into particle beam weapons could achieve a prototype for a space based system within ten years. Third, research into radio frequency will surely one day produce weapons which would be able to jam and confuse the electronics of US satellites. Fourth, the Russians have since the 1960s at least been experimenting with weapons based on kinetic energy - that is, the collision at high speed of a mass of objects with a target. Before 1970, the Soviet Union is known to have tested an experimental gun to shoot streams of tungsten or other heavy weapons at about 15 miles an hour in air or 40 miles an hour in a vacuum. Research has also begun in respect of electro magnetic railguns which perhaps one day could be space-based, though there is no sign of it yet. Fifthly, there is research into surveillance and target detection on a large scale. I mentioned Krasnoyarsk. Whatever the truth of that, there are eleven large early warning radars concentrated at six places on the periphery of the Soviet Union. Russia has in this department already an infra-red sensor on a satellite in orbit which can give a half hour warning of any launch of ICBMs by the US. As yet these methods are unable to detect missiles launched by submarines but naturally they are working on that. Sixthly, Russia has eight stations for launching objects into space. They are at work on three

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more such - first a medium lift launch, second a heavy lift, and, third, some kind of equivalent of the US shuttle. The "heavy lift" station could raise a 150 ton object into a fairly low orbit round the earth and that could be adequate for either a large manned space complex or for a system of space weapons. It should be said that the chief deficiency in the Soviet research programme is in the realm of the electronic mechanisms needed to manage operations in space; hence the great efforts made to get hold of US high technology, above all computers.

All these activities suggest that, in the long run, the Russians could try to achieve a strategic defence system based on ABM deployment throughout their territory; that, whatever the ABM treaty says, if they get it they will deploy it; and that in almost all departments of SDI the Russians are working on the same track as the Americans - in some respects in advance of them (e.g. particle beams certainly). Why then the Soviet attacks on President Reagan? First because their aim must be to slow down US technical capability, if necessary by treaty breaches which might be impossible to prove in Russia but might be easy to do so in the US. They know, after all, recalling the events in respect of missiles between 1957 and 1961 that, once US technology has been given a green light, its scientists will overhaul anything done in Russia. One can also speculate that, given apparent Western reluctance to appreciate the facts suggested here, the Russians are seeking a good propaganda cross-roads at which to denounce the US for breaking the ABM treaty and continue with their own deployment with their international reputation still unsullied.

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In general commentary on the above it is worth making ~~four~~ points

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in conclusion. First the ABM treaties are of course a part of the elaborate network of arms control built up in the 1960s and 1970s (Outer Space Treaty, SALT I, Anti Proliferation &c). But neither they nor the network are sacrosanct. They have indeed been most imperfect. If one could find a better system of guaranteeing world security it would be a very good thing. The Americans at the time of the signature of the ABM treaties stated plainly (in Unilateral Statement A) that if "further limitation of offensive forces were not achieved within five years" the US would "hold open the option of reconsidering their commitment". The Soviet offensive weapons have been built up greatly since 1974 but this US reconsideration has in fact not occurred. There is incidentally no reason why SDI and arms control should not be linked. If, for instance, there were successful reduction of launchers, verification against cheating would be even more important. Defence up till now has not been properly dealt with within the context of arms control. Perhaps it could and should be. [Second, it should be realised that Russia in the nuclear age is still, under Gorbachev, as under Brezhev, Khrushchev and Stalin, being run by men whose ideology is Marxism-Leninism. This is what gives the Soviet leaders their notion of legitimacy. Now Marxism is not only an exceptionally interesting if basically flawed view of history which has affected all of us at one time or another, but it does contain two consequences of importance. ~~First,~~ it enables the Soviet government to look on treaties as basically stepping stones to further ends not ends in themselves. It may be convenient to keep them. But it may be inconvenient if and when the "correlation of forces" decides. Any belief that a commitment is for good and all is a vulgar bourgeois survival. Communists have admitted it so often that they must suppose that those who oppose or study them must have taken this into account.

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Second, Communists look at peace as at war as different methods of obtaining the same thing. Until the achievement of the Communist society there can be no letting up of the struggle. Any consideration such as "the spirit of the treaty" - any treaty - is not likely to cut much ice.

It may also be recalled that Marx made a specific commitment to the role of technology in history - considered usually to the exclusion of the intellectual labour which makes technology possible. He also envisaged through the dialectic that every innovation invokes in the end its contrary - in military matters a successful defensive system (e.g. the barbed wire of World War I) produces a new offensive system (the tank). These ideological factors, combined with the inheritance that the Soviet system has received from old Russia - a concern for defence in depth - make it additionally likely that SDI normally attacked as a dream in the White House may turn out to be realised first by the realists in the Kremlin. The consequences of that - in a pure form enabling the Russians to contemplate offence with impunity - is not likely to be to our benefit.

The icy novelties of the nuclear age are such as to baffle most laymen. But laymen must grasp the language and facts of science as they have done those of economics.

