

February 24, 1962

Professor Robert Gomer
The Research Institutions of the
University of Chicago
Chicago 37, Illinois

Dear Gomer:

Would you be good enough to read the attached "speech" and let me know whether you are sufficiently interested to be willing to be part of this operation.

I am enclosing some indication of the responses, and if you are interested I shall mail you a set of press clippings and photocopies of a sample of my mail.

Please let me know as soon as you can what you think about all this by writing to me at my Washington address given below.

Sincerely,

Leo Szilard

Hotel Dupont Plaza
Washington 6, D. C.
Telephone: HUDson 3-6000

Enclosures

Current

INSTITUTE FOR THE STUDY OF METALS

THE UNIVERSITY OF CHICAGO

5640 ELLIS AVENUE
CHICAGO 37 • ILLINOIS

February 28, 1962

1-listed

Mr. Leo Szilard
Hotel Dupont Plaza
Washington 6, D.C.

Dear Leo:

Thank you for your letter of February 24. I had already read your speech and been thinking about it for some time. By and large my reaction is this: I am in, and have been in agreement with most of the substantive points, but was highly dubious whether the climate of opinion was ripe for a movement of this kind. To my pleasant surprise I seem to have been wrong on this point. I would therefore be very interested in participating.

With kindest regards,

Sincerely,

Bob Gomer

RG:ss

Robert Gomer

P.S. I am enclosing three notes which indicate more or less how I feel about some of the issues discussed in your speech. You may note particularly in the last one that I feel strongly about public opinion and about the need to counteract its inertia.

Washington, D. C.
March 3, 1962

Professor Robert Gomer
Institute of Metals
University of Chicago
Chicago 37, Illinois

Dear Gomer:

The attached letter is meant for you and those others whose names are listed in the memo "The Next Step". I should be very grateful to you for reading the attached letter and the enclosures, and for advising me as soon as possible whether you are willing to serve as an Associate.

I hope

Sincerely,

Leo Szilard

Hotel Dupont Plaza
Washington 6, D. C.
Telephone: HUDson 3-6000

Enclosures:

P.S. I am enclosing the revised and final version of my speech, which will be printed in the April issue of the Bulletin of the Atomic Scientists.

LS

VOX POPULI...

Government by delegated authority, responsible and responsive to the popular will, has become the basic tenet of democracy as we understand the term. It stems from and reinforces the concept of personal freedom in the Anglo-Saxon tradition - the cornerstone of our society in whose defense we are willing to stake our lives. We are presently engaged in a life and death struggle with Communism and few would dispute that American democracy is now facing its severest test. However, this struggle differs from all previously recorded conflicts in that both contestants can make sure only of total defeat but not of comparable victory. This peculiar aspect brings into prominence a defect latent in all democracies, but of particular importance in ours, namely the inertia and consequent overshoot of public opinion, which at times narrows our freedom of action to the point of paralysis.

Before discussing this phenomenon it may be worthwhile to indicate its origins. While direct democracy in the sense of equally shared authority and responsibility has probably never existed even in the simplest of societies, American democracy comes as close to it as is possible in a modern state. This is largely the result of two related historical causes. The first is the way in which the U.S. came into being, and is reflected in the Constitution, specifically designed to provide - in a somewhat mechanical manner - strong checks and balances on the executive by what was then a small, select, basically aristocratic body politic. When the latter was expanded to include virtually the entire adult population, the base of American democracy was expanded beyond the wildest dreams of the Founding Fathers, without corresponding changes in the Constitution. The

second cause is America's image as the refuge from tyranny and the land of the open frontier, where men were free to shape their own destinies, unsheltered by authority. As this reality faded into myth, the traditions it had inspired became intensified in form, if not always in substance.

In consequence public opinion is far and away the most important single political entity in the United States, without whose assent no act of government or private interest is conceivable. On the other hand, a modern state is so complex and the problems confronting it so intricate that the direct or spontaneous application of popular will or initiative to their solution is plainly impossible. Consequently, the function of the electorate, and of public opinion in general, is limited to the delegation of authority and the ratification of its acts. In practice this means that government, political party, or private interest must seek to influence public opinion actively and forcefully if it is to achieve its ends. One may thus think of public opinion as the medium through which forces in America act on each other and on the outside world.

Unfortunately, this medium is dense in every sense of the word and hence has considerable inertia. The term is used here to designate the individual and collective emotional quality which resists change. Thus, the public accepts a new idea, or more accurately emotion, only with difficulty, but once having accepted it, is even more loath to relinquish it. It is tempting to pursue the consequences of this fact in terms of physical analogies, to speak of feedback, time constants, oscillations, damping, reinforcement, and cooperative effects. For present purposes it suffices that this inertia necessitates initial

efforts to set public opinion in motion quite out of proportion to the desired objective, and that this results almost invariably in a considerable overshoot beyond the desired equilibrium position.

The situation is complicated and worsened by the fact that the coupling^s between the price movers and the public, namely the mass communications media, are not inert but have interests and motives of their own. Motivated to some extent by the innate conservatism of large investment, these consist primarily of the desire to make money in the form of advertising revenues by selling as much of their product as possible. It is perhaps not a tribute to the public that this is seemingly best accomplished through over-simplification, and appeals to primitive emotion, particularly the creation and exploitation of villains. Thus, the media not only provide the immediate impetus on public opinion, but tend to reinforce it for their own ends and to keep on doing so long after the original purpose has been achieved. The natural inertia of public opinion is thus reinforced rather than counteracted with the result that it frequently gets out of hand. After a while its course becomes fixed on the subject in question, and no one, including of course the media, dares to attempt to change it. The situation is somewhat reminiscent of the sorcerer's apprentice; it will be illuminating to examine some specific examples.

Perhaps the most flagrant and ultimately perhaps the most important example concerns our relations with Red China. I wonder how many people recall today that these have their origins largely in a Congressional election of the late Forties when the Republican

strategists decided to create a campaign issue out of the fall of the Chiang Kai-shek regime and proceeded to accuse the Democrats of knavery if not treason for not having prevented the unpreventable. The Democrats responded with comparable wisdom by vying with their opponents in the vilification of the Chinese Communists. As a result, the unification of China behind the new regime was greatly aided and there were lit flames of hatred and hysteria which are still being fanned today by the press. In consequence the public mood on China has become so fixed that no government or politician dares to speak or act rationally on the subject, further complicating problems which would be extremely difficult to solve even under optimal American response. We are thus forced, largely by public opinion, to commit ourselves almost irrevocably to a whole series of basically untenable positions: China's admission to the United Nations; Quemoy-Matsu; Formosa itself. This rigidity works to our disadvantage regardless of outcome. If we are eventually forced to yield under Sino-Soviet or world pressure, we shall lose more prestige and power than if we had been able to choose time and place of change. If, frightened by this fact and by the pressure of public opinion, we do not yield, we may risk a catastrophic war with the one country which does not fear it.

Our relations with Russia have followed a somewhat similar, although less irrational course, which makes it very difficult for an American government to reach necessary compromises or even to investigate fully if such exist. Much of this can again be traced to the pressure of public opinion created deliberately at the end

of the war, in part for the legitimate purpose of alerting the nation to Russian imperialism, but in part for less valid reasons. The point is that the public mood, actively reinforced by the press, has persisted into the postwar era, where it ceases to be useful and becomes dangerous instead.

In the case of Russia and China we are being recommitted daily by press, radio and television in the name of Union to an inflexibility which might make sense only if we had the unequivocal means of backing it up. It is becoming more and more obvious that we no longer have such unilateral strength and must therefore rely on mutual deterrence for maintaining the status quo. This is dangerous not only because it is of dubious and limited long term stability, but also because it leads to a Maginot mentality. It is doubtful of course whether our relations with Russia or China could be very different at this time even if we did not have to contend with the inertia of public opinion. It is clear, however, that we may have and may continue to miss opportunities for improvement and accommodation if we are being forced into excess ^{ive} rigidity.

There is another important area where the pressure of public opinion contributes substantially to shortsightedness, namely our attitudes toward underdeveloped and newly emerging countries. It does not take very deep insight to realize that American style democracy is a luxury beyond the means of an impoverished country trying to compress two hundred to two thousand years of Western political and economic development into decades. It is clear that a planned economy, redistribution of what wealth there is, mass

education, mass discipline, and the creation of simple national objectives - in other words many of the substantive features of pragmatic Communism - will seem indispensable to energetic and impatient leaders. Unless we can accept this fact and come to terms with it we shall drive such countries into the Soviet or Chinese orbit. Cuba is a painfully recent case in point, even though it is far from obvious what the result of wiser American policy might have been. What is important now is that continued anti-Castro hysteria is sure to strengthen him and to prevent future rapprochement. As long as we pose as the unbending opponent of Cuba, our attitude can be equated with telling effect by the Communists in South America with unbending hostility to economic and political emancipation, regardless of how much aid we pour into that continent or how many anti-Cuba resolutions are passed by U.S. influenced Pan-American conclaves.

A common pattern is discernible in all these examples. Public opinion is successfully mobilized in a given direction to enable the government to pursue its policy of the moment. This is largely done by the sort of emotional appeal which is grist to the mill of the communications media, who continue to exploit it long after the original end has been achieved. Consequently the natural inertia of public opinion is reinforced, public attitudes become frozen, stultify national intelligence and force a continuation of the original policy even if it has ceased to make sense. As already pointed out this amounts to an overshoot whose correction depends almost entirely on natural feedback. In cases where this

occure rapidly this is not a dangerous situation. In foreign policy matters however the effects of a course of action may not make themselves fully felt or appreciated for many years, so that the required correction may come much too late.

If this analysis is correct there would seem to be two approaches to a solution. The first consists of decreasing the intrinsic power of public opinion. It is not clear to what extent this can be done within the democratic framework, but conceivably means of stiffening the backbone of elected government could be found. The second main approach consists of attempting to reduce the overshoot of public opinion. Ideally this should be accomplished by reducing its inertia; this would require considerable increases in the general level of education, capacity for independent thought, and emotional maturity. Rapid progress along these lines therefore seems remote, although much can obviously be done, for instance in education.

Various less pervasive means can be envisaged. For example there appears to be an attempt to create for the head of state a personal loyalty based on his strong emotional appeal, which will enable him to carry the public along in matters of policy. While this may be a necessary tactic to some extent, one needs only to borrow the phrase "personality cult" from the Russians to see that it cannot provide the whole answer in a democracy. Another approach consists of trying to create a counterbalance to the inertia of public opinion. The recently proposed "Sailard Movement," an attempt to mobilize intellectuals, teachers and students into a lobby for sanity seems to fall into this category. It is not clear

whether such a movement can be sufficiently broad-based to avoid public suspicion and vilification by the press, sufficiently coherent for effective action, sufficiently unemotional to be realistic, and sufficiently emotional to be appealing. While efforts of this kind can be startlingly effective if the emotional climate for their success is already in existence, they can seldom do such to create it. Perhaps it would be most realistic to attempt persuading the moulders of public opinion and the controllers of the communications media to pursue their self-interest in a more enlightened manner. There is, after all, little point to greater advertising revenues if their recipients are too radioactive. It is not obvious how this education from the top down can be effected systematically, except by the pressure of external realities. Much as the detonation of 50 megaton bombs is to be deplored, the recent Russian tests may have had a beneficial side effect of this kind.

The inertia and overshoot of public opinion are inextricably linked with the essence of democracy and probably no complete solution to the problem can be found. There is little doubt that a partial one must be found if we are to weather the next fifty years. If we do not learn to lead without pushing ourselves and continue to follow paths of least resistance they will lead us to destruction.

Some Thoughts on Arms Control

ROBERT GOMER

THE last half-century has seen a radical change in the general attitude toward war. Most people take it for granted today that a peaceful solution of international conflicts is intrinsically desirable, and even aggressors pay at least lip service to this principle. The idea of some form of arms control as one of the requisites for maintaining peace has also been gaining ground.

While the desirability of arms control seems to be accepted in principle and as an abstract aim, like goodness, there is little unanimity on the possibility or even the desirability of achieving it now or soon. It is not enough to tell the world to disarm or face the consequences. It is necessary first of all to inquire whether arms control is really necessary for peace (there is a school which holds the opposite view) and if so to indicate how disarmament can be brought about. A clarification of what would be involved in disarmament should make it easier to see whether we really want arms control, and may provide a yardstick with which to measure present or future proposals.

It has become a commonplace to assume that a major war now or in the near future would be destructive beyond anything hitherto imagined, but it may be well to examine its technical aspects in more detail. The weapons available for use in a general war now consist of fission and fusion devices, large and small, and of biological and chemical agents in addition to conventional high explosives. Some idea of the power of nuclear weapons can be gained from the fact that the total bomb load dropped on Germany in the Second World War was considerably less than the explosive capacity that can be put into a single fusion bomb.

At present all the nuclear weapons can be delivered by manned aircraft and probably by intermediate range ballistic missiles; massive delivery by ICBMs is universally expected to be a reality within a few years. The present large missiles require liquid fuels and large installations. From published reports it appears that newer ones like the *Minuteman* and *Polaris* will be solid fuel devices, capable of being launched from mobile or hidden land or marine sites within minutes.

Defenses

The defensive means in a modern major war can be divided roughly into three categories: active defense, passive defense and counterforce. The first consists of destroying the enemy's offensive weapons after they have been launched, that is, shooting them down. The second consists of protecting oneself from their effects, and the third of destroying them at their source before they are fired. At present there does not seem to be any active defense against ballistic missiles and it does not seem likely, on general physical grounds, that an active defense is in sight, which cannot easily be saturated by sheer weight of numbers.

Counterforce depends on the ability to hit an enemy's offensive means before these can be put into action. Consequently speed is essential and it seems clear that only missiles with flight times of 15 to 30 minutes provide any possibility of it. If they can reach their target without warning, missiles can be effective against all immobile unprotected installations of known location, such as bomber bases or fixed missile launching sites. There are no physical reasons against potential increases in missile accuracy to the point where the missiles could provide counterforce even against hardened and dispersed sites, although direct hits and consequently a large number of missiles would be required.

At present there exists almost no large-scale passive defense against the direct effects of large nuclear weapons. It is probably impractical to protect more than small and isolated installations against blast, overpressure, and prompt radiation. Thus it seems unlikely that cities or present industrial complexes can or will be protected. On the other hand, it does seem feasible, at least in principle, to protect survivors of initial attacks against the radiation hazards of fallout. However, at least in the U.S., no such steps have been taken or seem imminent.

In summary, it seems likely that both the USSR and the U.S. will possess in the near future offensive means capable of massive destruction of cities, unprotected populations, livestock and crops. It seems unlikely that an active defense against these weapons will be devised in the foreseeable future, or that they can be destroyed at their sources before launching with a high degree of probability. Passive defense against primary effects of nuclear explosions seems possible only for very small installations and can be extended on a large scale only to protection from secondary effects.

In view of the above it must seem that a general war would or could result in the annihilation of a substan-

tial fraction of the wealth and population of the participants and probably of the close bystanders as well. Estimates of the consequences of an all-out nuclear exchange between the U.S. and Soviet Union involve casualties on the order of 50 to 100 million people on either side, not counting Europe, which might be almost completely destroyed in addition.

It might therefore be argued, as it has been, that the terrible consequences of an all-out nuclear war are adequate in themselves to prevent its occurrence if each side constitutes a sufficient threat to the other. Certainly this has been the case until now, but it is well to examine also the arguments against stability.

To begin with it is vitally necessary for both sides to keep up with each other in arms quality (and to some extent quantity) as long as the consequences of falling behind can be so lethal. Since technological developments are continually taking place, generally somewhat out of phase with planning, let alone production, temporary disparities in armaments are likely to occur cyclically. The first reaction of the lagging side is an increase in the quantity of its existing weapons until it can catch up with or surpass the other side in quality.

Since arms technology seems to be developing offensive or counterforce devices much more effectively than defensive ones, it may become increasingly hard to convince the other side of one's peaceful intentions. Weapons intended for deterrence and retaliation may look remarkably like the means of blackmail, surprise, or pre-emption. In fact, even purely defensive weapons, such as anti-ICBM devices, have definite offensive implications; if one is able, by active defense, to neutralize the opponent's deterrent threat, one can take the offensive.

Despite these facts it is often argued that these are the chances we must take and that the dangers of disarmament are even greater for the U.S. These arguments boil down to the assumption that we are weaker than the Communist world, and that the possession of nuclear weapons restores the balance.

It is implicit in this reasoning that the nuclear stand-off between us and the USSR, which will likely come about in a few years if it has not come already, will provide enough mutual deterrence to prevent Communist adventures on a large scale.

Flaws of Deterrence

Mutual deterrence may or may not be stable when only two powers possess modern weapons, but its stability is doubtful indeed when more than two can play at this game. It is quite conceivable that China would



be perfectly willing to involve the U.S. and USSR in a major war if she were able to do so. If no way can be found of imposing controls, the bi-nuclear power situation will certainly give way to a multi-nuclear situation.

It therefore seems reasonable to conclude that we have more to lose than to gain from a continuation of the arms race. It must be asked if this is also true of the Communist world, or at least of the Soviet Union. Much of the thinking in the U.S. has tended to regard the USSR solely in terms of our own fears, inevitably committed to an expansionist doctrine. We seem to regard the USSR as committed to world revolution, when her own interests may in fact be the opposite. She has entered the ranks of the "have" nations, abruptly and violently, but quite unequivocally. Her real problem, for many decades to come, is to cope with this change in status, to assimilate it and digest it. Thus, her strongest desire must be for peace. Even if she could "win" a war, the absolute gains of peace far exceed any relative gains of "victory." Despite bluster and threats, there is mounting evidence that Khrushchev is very much aware of this fact.

This is not to say of course that given the opportunities to enlarge its sphere of influence, for instance in Africa, the USSR, like most other nations, would not seize them. It is not even implied that the USSR is not doing its best to create such opportunities. However this is a far cry from the monomaniacal determination to enforce the triumph of communism everywhere, even at the risk of war and annihilation, which is frequently attributed to the Soviet Union.

The situation seems to be quite different with China. However, it is well worth noting that China today is making all the noises the USSR made when she was weak and afraid. Still, even if the Chinese mean every word they say now, increases in strength and security will have much the same effect as in the USSR. But this will take considerable time and there is a real danger that China will concentrate in the meantime on purely military strength. If she should succeed in acquiring, despite the USSR's quite obvious reluctance, nuclear weapons and long-range missiles while still belligerent, she might well involve us in a major war, even if the USSR stayed out of it.

Thus a strong case can be made that the USSR and America are continuing the arms race principally in fear of each other and that it would be to the advantage of both to come to an agreement before China becomes a nuclear power. If both sides were convinced of the desirability of arms control, it would still be impossible for them to disarm unilaterally, which is just what a power living up to any of the currently talked-about agreements would be doing as far as it could tell. The USSR is extremely reluctant to permit detailed inspection because she believes that one of her

principal strategic advantages consists of being *terra incognita*. Further, there are probably no ironclad inspection and detection systems even for the West. In any case, even if the USSR and America acted in good faith both would have to worry about nonsignatory nations.

A Control Proposal

It follows that both powers would have to retain strong safeguards for their security during and after disarmament before they could seriously consent to any control scheme. From the previous discussion it appears that the only reasonable safeguard is a strong deterrent threat. This paradox can be resolved if a third power can be found to whom both sides are willing to transfer the job of deterrence. Given this protection both sides could discard nuclear weapons, refrain from the race for more deadly weapons, and feel safe from residual sneak attacks.

To be effective the armed arbiter would have to meet the following requirements: He must command the trust of both sides, be capable of massive and prompt retaliation against any aggressor, be determined to retaliate, be impervious to surprise attack, be able to detect and identify aggression and have some inspection rights. It will prove illuminating to examine these points more carefully.

In order to have the trust of the USSR and U.S., the arbiter must be disinterested, free from ambitions and not subject to undue pressure or manipulation by either side. This excludes immediately a multi-nation group, including the representatives or allies of the opponents but there are a number of small countries with stable populations and relatively high economic standards whose principal interest is the prevention of a general war which would surely engulf them. The Scandinavian countries, Switzerland, and possibly some non-European countries fall into this category. I believe that neither nation would have real reasons to distrust these.

In order to be effective, the arbiter must be able to inflict speedy and severe damage on any aggressor. To this end, he must be equipped with ballistic missiles and nuclear and biological warheads. Railroad-based and fixed, hardened sites could be used for launching, in combination with sea-based weapons.

Since the possible arbiter nations do not now have weapons or delivery systems of their own, these would have to be supplied by the U.S. and USSR, along with technicians for their firing and maintenance. If it is understood that our weapons would point at the USSR and theirs at us, the crews would have every incentive for maintaining them at maximum efficiency. The effectiveness of the arbiter's deterrent threat depends to some extent on the assumption that neither side will discover an efficient active defense against ballistic

missiles. An attempt to circumvent the agreement in this way would have to be carried out on so large a scale that it would be discovered at an early stage and could be dealt with accordingly.

The arbiter must be impervious to surprise attack. This could be accomplished by mobility and dispersal of land-based missiles. If these are supplemented by a number of ship and submarine-based IRBMs there is little reason to suppose that any power would develop adequate means of knocking out this striking power. If the arbiter is granted even limited inspection rights the possibility of a surprise attack against him becomes even more remote.

In order to detect aggression the arbiter would require a warning network of some kind. This could be satellites (e.g. Midas), a radar network of the BMEWS variety and manned aircraft on surveillance missions. If the other conditions discussed here could be met, the aim of inspection would be reduced from detecting all violations to detecting those on a large scale only. Given the arbiter's protection, it is quite likely that both sides would agree to inspection schemes adequate for this purpose.



Quis Custodiet?

If one believes Lord Acton's dictum on the effects of power, the possibility of its misuse by the arbiter must be considered. In my opinion, it is technically feasible to arrange the command in such a way that both the arbiter and the U.S. or Soviet staff must be convinced that aggression has occurred before firing could be accomplished. It would then be rather difficult for the arbiter to convince both sides that they had been attacked. If arbiters included more than one country, the chances of misuse would be even slimmer.

The responsibility of acting as custodian of the world's peace under this scheme carries with it danger as well as inconvenience. Would the arbiters be willing to serve? Since the countries in question are liable to severe fallout hazard as well as to the dangers of epidemic and starvation in the case of an all-out war involving Europe, chances are good that they would be more than willing to do their share.

A cunning aggressor might agree to the plan and after its implementation reveal hidden strength with the threat to use it against the arbiter unless the latter submitted to blackmail. This eventuality could be circumvented only if the arbiter's strength were adequate to blanket possible hidden threats and if he were determined to risk its use.

One of the major dangers of a continuing arms race is the possibility of other powers, notably China, acquiring substantial nuclear ballistic missile strength.

China may well refuse to cooperate in ending the arms race. It is probable that China could be forced to submit to some inspection as long as she is substantially weaker than the USSR and the West; consequently there is added incentive for putting the proposal into effect as soon as possible.

This disarmament scheme would clearly be expensive. On the other hand an accelerating arms race is even more expensive, and it is by this criterion that costs must be measured. Since it involves mainly offensive and detection rather than defensive schemes, its cost would certainly be small relative to serious efforts at passive defense.

Why It Won't Work

In my opinion, this plan is technically feasible and logically sound. Nevertheless, I do not believe that it is likely to capture the imagination of statesmen or that it will be put into effect in the foreseeable future. The most frequently voiced objection—distrust of the altruism and determination of the arbiter—contains only a hint of what I consider the real obstacle: unwillingness to surrender the essence or even the symbols of national autonomy to the degree required by any effective scheme.

It is probably inescapable that any solutions of our conflict with the Communist world will have to deal not only with its symptoms (among them the arms race) but with its basic causes. It has been pointed out that the latter seem largely based on mutual fear and are by no means irresolvable. Consequently all steps which tend to diminish distrust should be welcomed and actively pursued. Unfortunately, and this has been traditionally hard for Americans to accept, this is not wholly up to us. But there is much we can do and the more clearly we recognize the limits of our power to shape events the more effectively we can act.

The things we can do may seem small at the moment: abstention from petty propaganda triumphs, particularly in the field of disarmament; a more sober acknowledgement of the difficulties confronting both sides in reaching any arms control agreement; a maximum of cooperation with the Soviets in non-military spheres; and a gradual understanding with them about our joint interests in preventing a major war.

In effecting this shift from mutual to joint deterrence, the United Nations may well play an important, if not always recognized role. The United Nations has become a useful device for compromising or at least airing conflicts too important to be ignored and not important enough for war. In fact, it may become a means, even for the large powers, of saving face and accepting with passing good grace inevitable but unpalatable facts.

It will probably be impossible to prevent China from

becoming a nuclear power by any means short of worldwide enforced disarmament. The uncertainties of a nuclear China constitute, in my opinion, the greatest and least predictable dangers of war. As long as the USSR and the U.S. see each other as dangerous enemies their hands are tied with respect to China; the USSR cannot then afford to relinquish so important an ally and could be dragged, against her better judgment, into a war with the U.S., much as Germany was so impelled by Austro-Hungary in 1914. America cannot deal rationally with the fact of a powerful Asian Communist entity as long as she feels already so threatened by the USSR.

Summary

This essay has advanced the following ideas: The conflict between the U.S. and the Soviet Union, appearances to the contrary, is not fundamental or irresolvable enough to make war inevitable. Despite this fact the stakes are so high and the dangers of defeat so enormous that a rapid, explicit termination of the

conflict by contract and agreement is impossible without a judge and a policeman. While these could be found and equipped to adjudicate and enforce, neither side considers war sufficiently imminent to make it willing to surrender the degree of national autonomy required for any effective control scheme.

In contrast to any other time in history, the dangers of war are being realistically understood by both sides, and probably do provide an adequate restraint, barring the real possibility of accidents. In order to minimize the latter, and to provide for more stable long term relations, a gradual understanding of their joint interests by the major powers is essential. In achieving this, and in making concomitant abridgments of national autonomy tolerable, a supra-national organization like the United Nations may come to play, not always very obviously, an increasingly important role. Such an organization also provides the large powers with the obvious means of dealing with the multi-nuclear problem. It is to be hoped very strongly that they will avail themselves of it.



Some Thoughts on China

ROBERT GOMER

THE day to day vagaries of the cold war sometimes obscure, but do not alter, the profound, if subtle, changes that are occurring in our relations with the USSR. There seems to be a growing awareness on both sides that there are limits beyond which the other must not be driven, and that all-out war is as little desired by the one side as by the other. While this last fact cuts two ways, in that it lessens the danger of desperate acts but increases that of reckless ones, it is still the most important and hope-inspiring development of the entire cold war period since it marks the Soviet Union's emergence as a "have" nation and the recognition of this fact by the Soviets as well as by ourselves.

Despite the fact that both the USSR and the U.S. have infinitely more to lose even by "winning" an all-out war than can be gained by avoiding it, there is very little real hope for effective arms control because the enormity of the stakes makes sufficient mutual trust virtually impossible, at least for the present. Consequently we shall have to accept the idea of a long period of armed tension, which will favor the Communists somewhat more than us. In such a world, China will undoubtedly constitute the most dangerous foreseeable problem, whose nature we must understand thoroughly if we are to make the most of what chance there is of dealing with it successfully.

In some respects the changes now taking place in China are reminiscent of the industrialization of Japan in the last century and of the metamorphosis of the Soviet Union in this. However, an essential feature is the fact that China represents a truly heroic effort to convert a feudal, agricultural society into a modern industrial one after, not before, China's dramatic reemer-

gence as a world power. The psychological significance of this rebirth after centuries of disunity, corruption and foreign oppression is enormous. Thus the need to measure up in technological substance to what has become political fact constitutes perhaps an even greater spur toward industrialization at all speed and at any cost than any real or imagined threats from the West or any rivalry with the Soviets. We are therefore witnessing a forced development on a scale and at a rate never even contemplated before. It is hardly surprising that the process should require enormous sacrifices, involve grotesque mistakes, and evoke a discipline that must seem to negate, in Western eyes, all those human values which make sacrifices worthwhile.

NO MATTER how distasteful the Chinese methods appear to us there can be little doubt that they are the only ones which can possibly make sense to her leaders. There can be even less doubt about their eventual results. With her inexhaustible human resources and her barely tapped natural wealth, China will most certainly accomplish the transformation she is seeking, and may eventually emerge as the foremost industrial power on Earth. From our point of view, the most immediately important aspect of this forecast is the probability that China will possess nuclear weapons and primitive delivery systems such as bombers or short range missiles in two to four years, and more sophisticated missiles in the next 10, although it is always unsafe to extrapolate technological advances from past developments, and equally unsafe to predict rates of catching up. The mere knowledge that a fusion weapon or a solid fuel missile or a reentrant nose cone can be made cuts years off its development, even if no other information whatsoever is available to the prospective builder. Add to this that almost everything about these devices is in fact common knowledge, that weapons seem, if anything, to be getting simpler, and there is little argument that China can soon have these devices in lieu of consumer goods if her leaders so choose.

In my opinion there can be almost no doubt that they will so choose, that in fact their view of China's "manifest destiny" leaves them no other choice, and that China

The participation of Communist China in the United Nations and disarmament negotiations was not discussed by contributors to the April issue on Disarmament and Arms Control. This difficult and important problem is the subject of the following article by Robert Gomer, Department of Chemistry, University of Chicago. The Bulletin welcomes comments from its readers.

will not acquire any real self-confidence until she possesses a measure of nuclear parity with the USSR and the West. In fact, as status symbols, bombs and missiles are a great deal easier and faster to come by than Western or Soviet living and educational standards. It is therefore probable that China will acquire considerable nuclear strength before her living standards have risen appreciably and before her hostility and aggressive pride (based on a profound lack of inner confidence) have given way to a more secure and tranquil posture. At this time the job of industrialization will still be far from complete, so that continued sacrifices will be demanded from China's people. Also, all-out war will still seem to China's leaders an event that China, and China alone, can withstand without endangering its national existence. The preceding has sketched the combination which makes the Chinese problem so dangerous: A resentful and basically unsure power in need of tangible successes to feed its self-esteem, of external enemies to goad its people to enormous efforts; able to inflict great damage and unafraid of the consequences.

IN COPING with this danger several alternatives deserve serious examination. First, one may consider meeting force with force or anticipating China in the use of force. In my opinion the first requisite of a rational China policy is the recognition that brute force methods will not work. Nothing less than the extermination of four fifths of the Chinese population would be sufficient along these lines; quite apart from the fact that such an action would rob our own society of its meaning and purpose, we could not hope to succeed in such a grisly enterprise without danger of suffering a similar fate at the hands of the Soviets. Whatever the differences and rivalries between China and the USSR, and however reluctant the latter may be to engage in war, an American attempt to decimate China would convince the USSR that we are too dangerous to be permitted to exist, regardless of cost.

We cannot hope to coerce China—even before she acquires nuclear weapons—by less drastic means. At a time when our relations with the USSR are still shaky, the latter could not afford to let us engage China in a war of political survival, even if we could wage and win such a war without destroying most of her people, which is doubtful. On the other hand, a war in which the survival of Chinese communism is not seriously at stake, (if such were possible) hardly makes sense, since it would not seriously deflect China from her present path. Finally, and most important, if in some miraculous way a regime of our choosing could be imposed on China, it would either quickly fall, soon become indistinguishable from the present one, or, worst of all, maintain itself long enough to be replaced eventually by rulers who would make the present Chinese Communists look tame.

If we cannot exert enough force to subdue China

effectively, an attempt to use insufficient force is infinitely worse than no action at all. History abounds in examples of this fact. The peace of Versailles which humiliated Germany without essentially weakening her was instrumental in the rise of Hitler. Inconceivable as it was, Clemenceau's plan for the extermination of 40 million Germans was undoubtedly more logical than the course adopted at Versailles and abandoned in the Rhineland.

IF THE premise is accepted that the direct use of force is out of the question, the conclusion seems inevitable that a catastrophic war can be avoided only if it is insufficiently attractive to China, even at the time when she first acquires nuclear strength. One must first consider the possibility that China's natural development will lead, by itself, to an amelioration like that now occurring in the USSR. There is certainly a striking resemblance between the current Chinese attitudes and those of the Soviets from the Thirties through the mid-Fifties. There is the same sense of isolation and insecurity (breaking out into a militant aggressiveness) and the same sense of destiny as spur and counterpoise to present hardships. Certainly, the deeper changes in the behavior of the Soviet Union which are beginning to result from her self-realization as a great power and from her increased living standard mark the most hopeful development of the bleak postwar decades. While this provides the cue to a sane approach to China, I do not think that a non-violent evolution, although possible, can be taken for granted. The USSR's most critical years occurred before nuclear weapons existed; and she acquired these at a time when she had already taken giant strides toward equality with the West and was in undisputed control of Eastern Europe. On the other hand, China will most probably acquire nuclear strength during a still critical, belligerent period and at a time when her general development will leave her still far behind the U.S. and the USSR in almost every respect. Our past and present attitudes to the Communist rule in China have consisted of open hostility, disapproval of its aspirations, and avowed (if not serious) intent of replacing it by an *ancien regime* increasingly out of touch with Chinese reality. It is therefore hardly more realistic to assume that a peaceful evolution can occur without drastic changes in our relations with China, for which the initiative must come from us, than it is to hope that China can be subdued by force.

A SUCCESSFUL China policy will therefore require very positive actions and attitudes on our part. In my opinion these must be based on the recognition that a long range solution is possible only if we are willing to accept the present China as a leading power in Asia and to treat her as such. We must further recognize that Chinese hostility and aggressiveness cannot be tempered by force but only by the slow processes of a waxing inner self-

confidence and an increased living standard, which we should do our utmost to foster by all the means at our command. Finally, we must recognize that such a policy will undoubtedly increase China's power and perhaps decrease our own. The former is inevitable in any case and to be feared only if it does not lead to a substantial increase in the self-confidence and well-being of China. The latter is the *smallest* price we may hope to pay for this.

In more concrete terms, we should encourage rather than attempt to prevent China's admission to the United Nations, should attempt to establish trade and diplomatic relations, and should attempt to initiate the subtle, but powerful, process of cultural exchange on the broadest possible basis. In return for relinquishing some of her isolation, China will undoubtedly demand major concessions. Thus there can be no question about the fate of Quemoy and Matsu; probably we shall also have to accept the self-determination and consequent neutralization of Formosa. While this would mean the loss of a major base, the usefulness of an establishment 150 miles from the Chinese mainland and of the military means it can support will become highly questionable in a very few years.

It may be argued that a flexible and accommodating policy amounts not only to appeasement but constitutes a betrayal of our commitments and would therefore weaken our position in the free world. I believe that these arguments are fallacious. To begin with there is an important difference between appeasement and the acceptance of facts. Nothing would be more fatal than to be frozen into immobility by the fear that any adjustment to reality constitutes appeasement. On the other hand, our fear of communism has frequently driven us into partnership with the most conservative, least progressive elements in many countries, particularly where there is no middle ground between a largely impoverished, illiterate mass and a small, privileged, Westernized, usually oppressive minority. These countries are very likely to fall in the Communist orbit if our present policies continue, not only because we facilitate this by supporting governments without popular base, but also because communism provides, as in China, the most obvious means of dragging these countries into the Twentieth Century. When we speak of our allies we must therefore be very careful to distinguish reality from wishful thinking. In my opinion our position vis-à-vis our real or potential allies will be strengthened by a rational China policy designed not only to avoid war, but to help the legitimate aspirations of a great people. Clearly, a realistic policy toward China neither prevents, nor disobligates us from doing our best to aid the progress of peoples everywhere. Furthermore, only a flexible China policy gives us that freedom to support viable regimes in Asia which we now lack because of our rigid attitude to Chinese communism. Our present relations with Poland

and Yugoslavia are an example of what a less rigid attitude can accomplish. Finally, it should be pointed out in support of such a policy that it is the only one which will enable the USSR to back us, and restrain China, during the many crises which will occur even in the optimal case.

The problem of executing a rational and consistent policy toward China will undoubtedly constitute the most difficult, as well as the most important, task ever faced by the United States since its inception. For a number of reasons, our past and present attitudes toward China contain many irrational elements. To a large extent these have resulted from our unwillingness, as a nation, or as individuals, to admit the existence of forces over which we have no control. Thus, American reaction to the victory of the Communists in China, which was probably inevitable, and quite certainly beyond our control, ranged from outright paranoia (cries of treason) to denial of reality (the still widespread desire to wish the Communists out of being by denying their official existence).

IT WOULD be hard enough to come to terms with these attitudes in ourselves, to find the courage to discard so much emotional ballast, and to cut so sharply through established, if false, dogma. Unfortunately, this is only a part of the difficulties, since the major portion, for some time to come, will be contributed by the Chinese themselves. The process of converting China into a modern industrial society will continue to require enormous sacrifices for many years; their exaction will continue to require a threat from without, a foreign dragon to instill fear and silence protest. Up to now we have filled this role admirably without any prompting. It is almost certain that the Chinese leaders will be reluctant to let us relinquish it and will attempt to provoke us into its resumption even if we should attempt to drop it. Thus, China is already evincing an unwillingness to join the United Nations, and may be equally likely to spurn for some time a reasonable agreement on Formosa, even if we were prepared to make one.

It will therefore require great wisdom, restraint, and firm patience to formulate and stick to a sane policy. There will be many ups and downs and at best our relations with China will follow a path not dissimilar from that of our relations with the USSR. It will be essential to keep our long range aims in sight at all times, to meet repeated Chinese provocations with constructive firmness, and to refrain from descending to their emotional plane. At times the path to our ultimate objective—a sane China with values worth preserving—will be torturous, and at all times it will test our maturity and responsibility as they have not been tested before. In carrying out this task we must remember that there are no acceptable alternatives to success. Let us hope that we will find the strength, judgment and courage to attain it.

Current



Disarmament or Arms Control—A Matter of Semantics

THE GROWING controversy in the U.S. between advocates of "disarmament" and of "arms control" is both surprising and unfortunate. The more extreme proponents of disarmament seem to imply that no partial measures, short of the negotiation with the USSR of an agreement providing for the rapid elimination of all weapons of mass destruction, are worth pursuing, even as temporary measures aimed at the stabilization of a somewhat uncertain truce. While on the other hand, the more doctrinaire advocates of arms control would have us believe that nothing can be done in the way of arms reduction by mutual agreement until the U.S. will have achieved a stabilization of the military situation; this will come about when we have developed an "invulnerable" retaliatory capacity (based on our reliance on appropriate missiles capable of delivering nuclear warheads, such as the Polaris submarine or the mobile Minuteman missile), with or without the achievement of a comparable military posture on the part of the USSR.

But the two points of view are certainly not mutually exclusive! On the contrary, they represent two approaches which are aimed at the achievement of the same end result—namely, the elimination of the prospect that modern weapons of mass destruction may be used as instruments for the settlement of international conflicts.

Furthermore, a dispassionate analysis indicates that the two approaches, if simultaneously applied, would reinforce each other. Thus, most arms control advocates recognize that the achievement of a military situation of stable "mutual deterrence" will be extremely difficult if both we and the Soviet Union continue to engage in an uncontrolled technological arms race. For the stability of a military strategy based on invulnerable retaliatory weapons of a "second strike" character would be upset by the attainment by one side of a significant technological breakthrough, either in the defense against missiles or in the improvement of means of missile delivery. Advocates of controlled disarmament, on the other hand, recognize that any significant agreement for arms reduction must provide that, at every stage, the military balance must be such that neither side could be in the position to force an unwanted political settlement on the other.

I am convinced that the current conflict between the two points of view is largely a matter of semantics; that the main differences arise not so much out of a matter of principle as from a legitimate difference of opinion involving the estimation, by the individuals involved, of the possibilities for

fruitful negotiations with the USSR in the present context of our international relations. This view is reinforced by the experience, last summer, of working closely with advocates of both points of view in a study of the technical problems of arms limitation carried out under the auspices of the American Academy of Arts and Sciences with the support of the Twentieth Century Fund. Despite many serious differences of opinion and background, most of the participants agreed on the need for drastic reevaluation of the current military reliance, on both sides, on nuclear weapons as the main means available for the settlement of international conflicts. It was as difficult to find a serious defender of the superiority of nuclear over conventional weapons in foreseeable military situations, including localized or limited wars, as it was to find serious advocates of the position that world disarmament may be brought about by the unilateral disarming of either side. Perhaps the most important progress achieved in our study was the realization of the intimate connections between the solution of the so called military problems of national security and the political-diplomatic problems of collective and mutual international security.

Leaving aside verbal differences, which seem to call forth the most heated arguments, advocates of arms control and of disarmament separate most sharply on the tactics required for the achievement of their common goal. Arms controllers tend to advocate a conservative, step by step approach, in which no agreement would be embarked upon whose consequences could not be clearly foreseen. They oppose arrangements which involve risks of an upset in the military balance, either as a result of miscalculation or of deliberate evasion by the other side. Disarmers, on the other hand, generally regard the present situation as one in which the dangers and instabilities are irremediable by any small steps. They would rely on the possibility that both sides may be willing to embark on a large and drastic step, despite unavoidable uncertainties in the resulting military and strategic balance, if the potential rewards are great enough. They find in the present situation sufficient danger to render reasonable the assumption that the USSR favors disarmament, and is willing to accept the necessary controls, as a matter of enlightened self-interest. Arms control advocates, on the contrary, scrutinize all Soviet proposals as devices for improving the relative military position of the USSR; the more a proposal seems to contain elements and motives other than those based on pure military-strategic considerations, the more they tend to dismiss it as propaganda or worse.

The most worrisome feature of the controversy now raging between the two camps is the apparent blindness of extremists on both sides to their own need for the other point of view. For example, arms control advocates favor the elimination of "weapons in space," which would require far-reaching controls over space activities. The simple fact is that until the possibilities for negotiation and accommodation have been much more thoroughly and honestly explored, we have really no clear idea of how far it may be possible to go along the path of international accord. On the other side, any disarmament plan will involve a transition period, during which the world will continue to be beset by tensions, dangers and conflicts whose solution will require, on both sides, the most sensible military posture and strategic doctrine—arms control—not to speak of the difficult and largely unexplored problems of maintaining the peace in a relatively disarmed world.

Fortunately, our new administration seems to be adopting a balanced approach, taking cognizance of the possibilities for action in both directions and avoiding extreme positions. It would be a major tragedy if, as a result of the adoption of one of the doctrinaire views, this balance were to be abandoned . . . or if the administration's efforts were rendered impotent as a result of bickering within the academic and intellectual communities on which the administration must continue to depend for ideas and support.

Nor can we afford to forget the hurdles which must be overcome if our country is to adopt the military policies advocated by arms control students; or if we should succeed in negotiating agreements with the Soviets on issues ranging from the nuclear test ban to appreciable arms reductions. The advocates of unadulterated military force, of deterrence through overwhelming might, of an accelerated arms race—both in Congress and out—are still numerous and strong. If and when we succeed in devising a desirable policy, it must still be adopted and implemented. The securing of a just and stable peace will require the united and unremitting efforts of all advocates of sense and moderation. If we dissipate our forces in futile arguments about what would be ideal, before we even know what is possible, we may forfeit the last chance to avert a nuclear catastrophe.

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