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a change in the climate of our diplomatic relations with the Soviet Union, or to the exhilaration engendered by the personal contacts of the leaders of the great powers and their visits to different countries of the world. We want to express in this move our belief that a new cohesive force has entered the interplay of forces shaping the fate of mankind, and is making the future of man a little less foreboding. . . .”

The Dawn of a New Decade

Three Revolutions of our Time

JANUARY 1, 1960, marked the end of a decade. Looking back on the ten years which are now history, one is seized by a breath-taking thought: perhaps we have lived through a great turning point in the affairs of mankind.

In the January 1955 issue of the *Bulletin*, the years 1945–55 were called “Ten Years That Shook the World.” Another five years have passed, and vague outlines of a new world have begun to emerge from the anguish and confusion spread over the old world by the blasts that levelled Hiroshima and Nagasaki.

In 1921 the Russian poet Alexander Blok said, as he lay dying, that he could hear “the stormwinds of history” blowing over his head. The stormwinds of history have been blowing ever since 1914; by now, they have risen to a hurricane.

Several major developments have reached their climax in our time: the revolution of underprivileged classes against societies which failed to soften their social in-

justices; the revolution of underprivileged nations against empires which did not transform themselves fast enough into commonwealths of free nations; and—lending terrible urgency to these two upheavals—the great scientific and technological revolution, which has endowed mankind with an unheard-of capacity to destroy itself—or to reach out for new heights of material welfare everywhere.

On the day when the existence of the atom bomb was made known to the world, Robert Hutchins, then chancellor of the University of Chicago, declared, “The atom bomb calls for world government,” and appointed a committee to write a world constitution.

The constitution, elaborated at Hutchins’ behest by Professor Borgese and his associates, is now all but forgotten; other elaborate plans for world reorganization (such as that described by Grenville Clark and Louis Sohn, to name but one among many) have left equally little imprint on world events. Even the much less ambitious “foot in the door” plan for international ownership and management of atomic energy, accepted in

1948 by all U. N. members, except the Soviet Union, now seems like a dream which only unworldly scientists could ever have taken seriously.

It seems that mankind is as far as ever from stable peace. The danger of war lurks around many corners. The dominant political passion of many peoples still is hatred for other peoples, desire for the fall of their political or economic systems, for the reduction of their territories, or for their outright destruction—desires which cannot be realized except by war.

Does this mean that “practical” men have been proved right—men who smugly asserted in 1945 (as some still assert now, although less smugly) that bomb or no bomb, human history will remain the history of contests for power; and that wars have always been, and will always remain, the inevitable climaxes of these contests?

Much contemporary evidence supports this skeptical view. The world scene is still ominously dark. Several countries of Eastern Europe remain under alien military rule, exercised through native ideological minorities, but no less abhorrent for that to the majorities of these peoples. The minority that lost the civil war in China is still supported by outside powers in its hope of regaining the control of the country, where another minority that won the civil war has successfully established its domination. Armistice, and not peace, still rules in divided Korea and Viet-Nam; and not even an official cease-fire exists in the sea around Taiwan. And yet, whenever one of these smoldering power conflicts has flamed up in the last decade, the eruption has been quenched and the original situation—however patently absurd—has been re-established. The world map has been frozen by the universal fear of a great war. The Suez expedition was called off after the fighting was well under way—in fact, when it was almost over—although vital interests of two great powers had to be sacrificed. The troops that landed in Lebanon re-embarked; the threatened assault on Quemoy never went beyond an artillery barrage; the showdown around Berlin is being delayed indefinitely, despite the obvious local military superiority of one side.

This repeated frustration illuminated the decadence, in our time, of a diplomatic technique which had been successfully used in the past when threats of war carried conviction. Now, war threats and counterthreats have become bluffs and counterbluffs. Even if this change is for the better, it is not without new dangers. A power, threatened with a loss of face, may resort to force if its bluff is called—even if it did not seriously intend to do so in the first place. However, in the past decade, major powers have shown considerable caution in keeping the paths of retreat open—for themselves and for their adversaries. We can hope that they will be even more cautious in the age of intercontinental missiles and missile-launching submarines—since these weapons make the possibility of a last-minute halt precarious and thus

call for abstention from all practice of “brinkmanship.”

These are signs of the changing world—evidences of the impotence, in our time, of the diplomacy of the mailed fist, of gunboat demonstrations and Marine landings, of the brandishing of ICBM's or atomic bomb-carrying airplanes. They are gratifying, but not too reassuring. After all, one can say, abortive conflicts also occurred before the first and the second world war.

Little more reassurance can be derived from the decade of coat-tail diplomacy—from the dreary bargaining in London, Warsaw, and Geneva, or from the easy triumphs (and occasional fiascos) of the peregrinations of VIP's—be it Premier Khrushchev and Mr. Bulganin (Remember these two garlanded with roses in India?), Vice-President Nixon, Premier Macmillan, or—most recently and most triumphantly—President Eisenhower. Nor are the evanescent exhilarations of the “spirits” of Geneva or Camp David to be taken seriously as signs of a new age. Equally dramatic was the encounter of Napoleon and Alexander I on a float on the Niemen, which was followed, a few years later, by Napoleon's invasion of Russia—not to stir up the painful memories of the “summit meetings” in Munich, Berchtesgaden, Yalta, and Potsdam. Relaxation of international tensions, softening of the long-rigid policies of Moscow and Washington—all this is for the good and should be eagerly fostered; but all these things have happened before, in past power conflicts—and never meant peace for more than a few years.

Where can we see, then, real signs of a new turn in human affairs? In the treaty for the demilitarization of the Antarctic and its permanent reservation for cooperative international research; in the resounding success of the International Geophysical Year, which pressed into service not only the full scientific resources of all nations, but also their warships and rockets; in plans for other cooperative scientific efforts, particularly first steps toward world-wide pooling of space exploration; in the International Atomic Energy Agency; in the vigor lately displayed by specialized agencies of the United Nations devoted to world-wide relief and reconstruction—WHO and WFA, UNESCO and UNICEF, and the new U. N. Special Fund; in the work of various agencies of the United States and of the British Commonwealth in the rehabilitation of underdeveloped areas in Asia and Africa; in conversations between world scientists on the problems of war and peace, such as the several “Pugwash” meetings; in the obvious urge of peoples, in all parts of the world, to work together irrespective of ideological antagonisms and power conflicts between their governments. A new world of international cooperation is beginning to take shape under the frozen crust of the old world of self-centered nations deadlocked in power conflicts.

If this new spirit is fanned by those aware of the stake mankind has in its preservation; if the governments of the world will permit it to grow; then the trend of history may truly take a new direction in our time. Future generations may then come to see, in the years which now appear as an era of darkness, confusion, desperation, and deadly danger, the time when a break was first made with the age-long divisive tradition of mankind; when world community began to become a reality.

Lost Beliefs in War and Rule of Force

Three broad changes in man's awareness of human relations are pushing us in this hopeful direction: a change in man's relation to war; a change in man's attitude toward the rule of force; and a growing feeling of personal and national responsibility for the security and prosperity of mankind as a whole, and not only of one's own country.

A generation ago, the belief in the naturalness of war, in the glory of victorious battles, in the rationality of the use of military power as tool of national policy, was universal. In a Russian "student calendar" which I used to buy every year before the First World War, there was a table showing the numbers of battles each country had fought in its history with the comment, "France, the most civilized of all countries, has also engaged in the greatest number of battles." This attitude toward war is now dead. What was once the faith of a few exalted religious leaders and the reasoned conclusion of a few humanist philosophers—that war is evil, and that the establishment of permanent peace must be the considered aim of mankind—has now become a common, everyday belief of men and women all over the world.

The same change has occurred in man's attitude toward the rule of force. The use of force in the maintenance of national strength was taken for granted as legitimate since the dawn of history. All empires have been founded on conquest; even now, while the historical empires of the European nations in Asia and Africa are crumbling, an attempt is being made in Eastern Europe to stabilize a new empire, intended to be held together by a bond of common ideology, but founded, like all empires before it, on military conquest. There is, however, a significant difference. In the past, no ideological justification was needed; the right of the stronger nations to rule over the weaker ones—England over Ireland or India, Russia over Poland, Austria over Italy, Japan over Manchuria, to take only the most recent examples—was not questioned and empires built on such conquest confidently hoped to last forever. Nobody believes now in the legitimacy or viability of the rule of powerful nations over weaker ones. If the Soviet rulers do not succeed soon in converting the East Germans, the Poles, the Hungarians, into loyal Communists, their domination of these countries will not last

long—and the same is true of France's hope of making North Africans into loyal members of the French Commonwealth. We cannot foretell, in every given case, how the rule of force will be broken, if it does not gain popular support; but we are now certain that no institution can survive for long if it is not accepted by men as natural and legitimate.

War and the rule of force always went together in the minds of men. Acquiescence in the recurrence of one and the permanence of the other has now disappeared from human minds—and this change has occurred in the short span of thirty years, between 1918 and 1948.

Awakening of World Community

Each war in history has had its special cause, its aggressors and its victims, its heroes and its villains. Yet, there has been one common underlying cause of all wars—the existence of groups of mankind within which individuals have abandoned some of their power for the benefit of the community, while no ethical or legal restraints were imposed on their relations to other, similar groups. The purpose of each community was to assure for its members the greatest possible share of the limited wealth available on earth. In this, its interests were naturally opposed to the interests of other communities. One nation could not be rich except by others being poor, powerful except by others being weak.

Mankind still largely exists in this traditional framework. It still consists of self-centered fractions, pursuing their fractional interest as the *summum bonum*; but behind the continuing reality of a world divided into contending factions, into mutually hating and distrusting national, religious, and ideological units, there has begun to grow another reality—that of a humanity conscious of mutual involvement and responsibility of everybody for everybody, one for all, all for one.

Much too slowly—and yet, how rapidly, if considered in the context of history—the realization is spreading in America that assistance to less fortunate nations is the moral obligation of an economically strong country. Americans are beginning to understand that no nation has either a moral right, or the objective possibility, of surviving indefinitely as an island of prosperity in a sea of want. What was once the opinion of small groups of peculiar people, such as the Quakers, or of idealistic individuals, such as Albert Schweitzer, whom nobody took seriously, is becoming, in our time, a common belief.

Vice-President Nixon suggests that the United States should accept the jurisdiction of a world court in its future international treaties. Mr. Khrushchev, as well as President Eisenhower and General DeGaulle, cautiously mentions the possibility of all advanced nations pooling their resources to assist the underdeveloped parts of the world. These words are not deeds, but they are portents. In the most cynical interpretation, the

words of politicians suggest what they believe the public wants to hear—and only a few years ago such utterances would have meant the death by ridicule of an unwary American politician. Remember how Henry Wallace was accused of wanting to provide milk for Hottentot children? Was it not on that occasion that Mrs. Luce coined the ignominious term “globaloney”; and is it not ten years later, a Republican president, elected to put an end to such nonsense, who proclaims in New Dehli a “world war against hunger?”

In recent months, the United States government has begun to exercise pressure on its European allies to make them accept their share of the responsibility to aid underdeveloped nations; and if many in Europe think that this is none of their business, they hesitate to say so, because this is not a proper thing to say in our time.

Ethical and Selfish Concerns

Of course, the abhorrence of war and the broadening feeling of responsibility for the well-being of all men are not due simply to the moral growth of the human race. As always in history, virtue is the child of necessity. In the past, devotion to one's people and country, renunciation of unlimited pursuit of selfish interests for the benefit of a racial or national community, could only become a general code of conduct when it was realized that by subjecting himself to this code, an individual would improve his own chances for survival and the safety of his progeny.

In our time, the survival and prosperity of any individual or group is becoming more and more obviously tied up with the well-being and security of mankind as a whole. The selfish interests of these groups now call for the recognition of new ethical principles, encompassing the whole of mankind. It is not a disparagement of the value of moral ideas in history to say that these ideas, always latent, and expressed, from the earliest ages, by exceptional individuals, become powerful influences in social life when their immanent virtue and justice find expression in their practical importance for the well-being of men.

Constructive vs. Destructive Competition

In the last year or two, while the arms race continued unabated, the contest between the West and the East has shifted to a new arena: to competition for the allegiance of the uncommitted parts of the world, gained by increasing production and by using this increase for world political aims. This is significant progress. Even if the immediate motive of political leadership in engaging in this new competition is the old quest for power, the idealistic ingredient in this effort (without which no national effort can succeed) is new. Competition in the development of military power is, by the nature of things, directed against somebody. The only aim of military power is to be able to destroy the military power of

others. Competition in bringing about improvements in the well-being of other nations has a common positive aim, and can easily become a step to cooperation. Three steel mills are being built in India, one by America, one by Germany, and one by the Soviet Union; in an even more drastic case, in one town in Central Asia, an electric power station has been built by one great power and a streetcar system by another one. The logic of the situation calls for these efforts to become cooperative; and the most hopeful sign of our time is that this logic is beginning to prevail against the traditionalist blindness of those in the East who refuse to see in Western assistance programs anything but a drive for the enslavement of new nations by capitalist exploitation, and of those in the West who see in Soviet assistance nothing but a particularly reprehensible technique of communist subversion.

The Vienna Declaration

When, sixteen months ago, at Vienna, a declaration was adopted by scientists of all countries calling not only for an end to wars, but also for the cooperation of all nations, irrespective of their political and economic structure, in technological assistance to the less well-developed nations, this may have seemed a quixotic idea which only men with no understanding of reality could cherish. Since then, this concept has started popping up in public discussions, including the pronouncements of responsible national leaders. It is not boundless optimism to hope that a few years from now, the concepts of world-wide cooperation in the technical advancement of the underdeveloped parts of the world will be widely accepted.

The development of science and technology is rapidly changing the realities of human existence; one does not need to be a Marxist to say that this change in existence must entail changes in consciousness. The progress of scientific technology has given to fractions of mankind the capacity to destroy each other utterly, and thus made the historical concepts of international struggle for power obsolete; but human consciousness needs time to adjust itself to this new state of affairs, in which no security exists for any one nation except in the security of all of them. The same progress in scientific technology is converting a world of limited wealth, in which each nation (and each class within a nation) could be prosperous only at the expense of other nations or other social classes, into a world in which prosperity is available for all, if science and technology are pressed into the service of creating wealth; but the past experience of strict limitation of wealth, and the struggle for this wealth between nations and classes, is but slowly forgotten. When Premier Khrushchev was in America, he admitted that “The slaves of capitalism live well;” in other words, that the capitalist system (which he believes to be inferior in effectiveness to a planned commu-

nist economy) can produce enough wealth to keep everybody fairly prosperous. This is the kind of enlightenment that may permit a softening of the power conflict between the Soviet Union and the West, now exacerbated by exaggerated belief on both sides in the decisive importance for prosperity of this or that system of production and distribution of wealth.

Setting the Minute Hand Back

These are the signs that a turning away from the path of traditional power policy is becoming psychologically possible. We do not doubt that, as of now, the mainstream of political events is still dominated by traditional thinking and by the inertia of established institutions. The outlines of a new world community are but vaguely discernible behind the traditional structure of divided humanity. Nevertheless, in recognition of these new hopeful elements in the world picture, we are moving the "clock of doom" on the *Bulletin's* cover a few minutes back from midnight. In doing so, we are not succumbing to a facile optimism, engendered by a change in the climate of our diplomatic relations with the Soviet Union, or to the exhilaration engendered by the personal contacts of the leaders of the great powers and their visits to different countries of the world. We want to express in this move our belief that a new cohesive

¹ Compare the article, "First Things First," *Bulletin*, November 1959.

force has entered the interplay of forces shaping the fate of mankind, and is making the future of man a little less foreboding.

When, in the past, the *Bulletin* clock was moved forward closer to midnight, it was on the occasion of events—the first Soviet atom bomb, the first hydrogen bomb—symbolic of mankind's drift toward the abyss of a nuclear war. The recent advent of intercontinental missiles is another stage of the same drift; the forthcoming test of a French nuclear bomb in Sahara, symbolic as it is of the beginning of the world-wide spread of nuclear weapons, will be another. No similar landmark can be pointed out indicating progress on the road to world community, but there has been, in recent years, an accumulation of facts and words which suggest that this hopeful trend is gathering force. The feeling seems justified that a turn of the road may have been reached, that mankind may have begun moving, however hesitantly, away from the dead end of its history; and so, with a hesitant hand, we are setting back the *Bulletin's* clock.—E.R.

P. S. As this editorial was going to press, the news came of the deadlock of negotiations on nuclear test control in Geneva, and of the end of the self-imposed test renunciation by the United States. These events, however deplorable, do not affect the main arguments of this article, which sees hope not in any progress toward disarmament,¹ but in the growing recognition of mutual involvement and need for cooperation among nations.

A Voice of Realism?

The following is from a review of Organizing Peace in the Nuclear Age, by the Commission to Study the Organization of Peace (Arthur N. Holcombe, chairman), New York, 1959, which appeared in the December 4, 1959 issue of Science. The reviewer is Ithiel de Sola Pool, Center for International Studies, Massachusetts Institute of Technology.

. . . . The experience [of the International Atomic Energy Agency] illustrates once more how little leverage there is in foreign policy proposals based solely on abstract notions of welfare without reference to national interests. . . .

. . . . The argument in favor of channeling activities through the IAEA amounts essentially to a demand that we set an example for the Soviet Union because it might then, also voluntarily, use the IAEA for the operation of the Soviet atomic cooperative programs. Example setting is, unfortunately, flimsy strategy in international affairs. . . . It is hard to see why we should invite all the difficulties entailed in taking action under such unfavorable circumstances when there are opportunities for easy cooperation opened up by the effective unity within the Western alliance and similar groupings. . . .

. . . . It is not at all clear that quarantining certain subordinate, though still important, areas of international relations from infection with the great issues of war, peace, and power conflict is possible, or even, if possible, likely to be constructive. . . .