

"Nations give up only grudgingly things they consider to be their private property . . ."

A Happier Prospect For Atomic Energy

The author, a former Assistant Secretary of the Interior and chairman of a citizens committee to explore the subject of peaceful use of the atom, reports his view on vital subject.

By ROBERT MCKINNEY, '32ba

FOR THE PAST 40 years, nations of the world desperately have been seeking a formula which would assure peace. By multilateral meetings, bilateral agreements and unilateral actions they have tried to guard against aggression—whether the aggression be ideological, economic or military. How effective these attempts have been can only be judged in a relative way.

Indeed, we have had no World War since 1945. But, certainly, Korea and the Middle East will appear in history as more than footnotes.

While representatives of 80 nations meet almost continuously at the United Nations to deal with problems which burden the whole world, we find that the votes on all important issues at conflict are divided on ideological lines.

Although the United Nations exists as a forum for discussion, and thus often provides a mechanism for bringing about meeting of minds, states of war actually exist be-

tween many of the members. Nor—heated as it more and more often is by searing flashes—can we continue to dismiss this condition as “cold” war. It is, indeed, war in the pure sense; that is, in the sense of basic disagreement between nations backed up by the utilization of all available capabilities for destruction—destruction today by new and abominable economic attacks, possibly destruction tomorrow by new and horrible weapons.

Even though the words of important personages can be brought in a matter of minutes to the ears of the lowliest in all parts of the globe, the understanding which one would expect to result from such a stream of information has not followed. The words come across, it is true, but somehow, with the passing of years, the meaning seems to grow fainter and more blurred. It almost seems that, because of the wonders of electronic transmission, actual communication of thought and intent between nations is more difficult today than

ever before. It almost seems that our international vocabulary has become fossilized. Certainly it has not kept abreast of the new mutations of meaning by which the twentieth century has remade the language of Fox, Pitt, Talleyrand and Metternich.

This communication difficulty has corrupted and distorted relations between nations, because these nations use language archaic and no longer meaningful to describe the implications of today's events and to warn against tomorrow's pitfalls.

Present formulas for peace, being similarly based on obsolete vocabularies, can at best only be characterized as halting first steps in the right direction.

Let me offer five propositions which I offer to you in the belief that they are relevant to consideration of the chances for peace—whether in our time or in the more distant future. These five propositions are:

First: In a world living under present conditions of tension and change, any industrialized nation—whether free or totali-

arian—which loses vital foreign markets and foreign sources of fuels and raw materials, must face a decline in productive industrial output and an increase in unproductive military expenditure. Nations so isolated must, therefore, face eventual breakdown.

Second: Most of the underdeveloped nations of the world are—or soon will be—in rapid, often violent transition from outmoded ways of life. Only a relatively few industrialized nations have structures so mature that we can expect that further social, economic and political changes will be deliberately and democratically accomplished.

Third: The industrialized free nations can avoid isolation by furthering in the world's uncommitted and underdeveloped nations the evolution of structures in which these inevitable changes can take place peaceably, in which national hope and pride can find constructive outlet, and in which government can be by free consent of the governed.

Fourth: Unless the people in these nations in transition are held down by firing squads, the masses are bound to compel national leaders to take whatever courses

seem to offer the greatest immediate improvement in living standards.

Fifth: By the use of firing squads to suppress the will of the people, totalitarian countries can postpone improvement in their own living standards and direct the allocation of their productive efforts to heavy industry and armament. Therefore, by thus outstripping the industrial and military capabilities of their more democratic neighbors, these totalitarian countries are in a position to capture markets and resources by force and economic subversion rather than by true economic competition.

I believe you will agree that, if these five propositions are sound, the continuation of the present foreign policies of the nations of the world appear to make war absolutely inevitable.

BECAUSE OF TODAY'S complexities of interdependence between nations in the world, even the smallest country can make its actions felt in the everyday life of the largest. Unrest in Bangkok or Baghdad is reflected immediately in the markets of New York and London. National actions in one part of the world, affecting the supply of raw materials basic to the economies of other parts of the world, trip alarm bells warning of trouble to come.

Military budgets increase, because nations place faith in their foreign policies only to the extent that they can enforce these policies—right or wrong, sound or unsound—by strength of arms.

Nations give up only grudgingly things they consider to be their private property—whether this concept of property covers foreign markets, foreign supplies of raw materials, or favored positions in foreign lands. Anyone who tries to take such property away from any nation usually has to fight for it.

Yet we cannot solve the problem by the simple expedient of unilaterally disarming. There can be no doubt that the armed strength of the western allies has been a clear deterrent to those who seek to destroy us. Neither can there be any doubt that—should we relax our watchfulness and be led by impractical idealism in policy and action—all that we have, all that we stand for, will soon be destroyed.

But I think that there is more than a partial answer to some of these critical problems which beset us today. This answer derives, I believe, from an understanding of the new role which atomic energy can and must play in relations between nations.

I believe it is unquestionable that fear of the possible use of nuclear weapons adds

tension to every minor situation, for most situations have at least off-chances of flaming into open conflict between the great powers.

Man's manufacture of vehicles which can span enormous distances at high speeds, his ability and willingness to create and use weapons with explosive forces equal to many millions of tons of TNT, have introduced an entirely new dimension into the cost of diplomatic error, or into the cost of miscalculation of the moves and intentions of others.

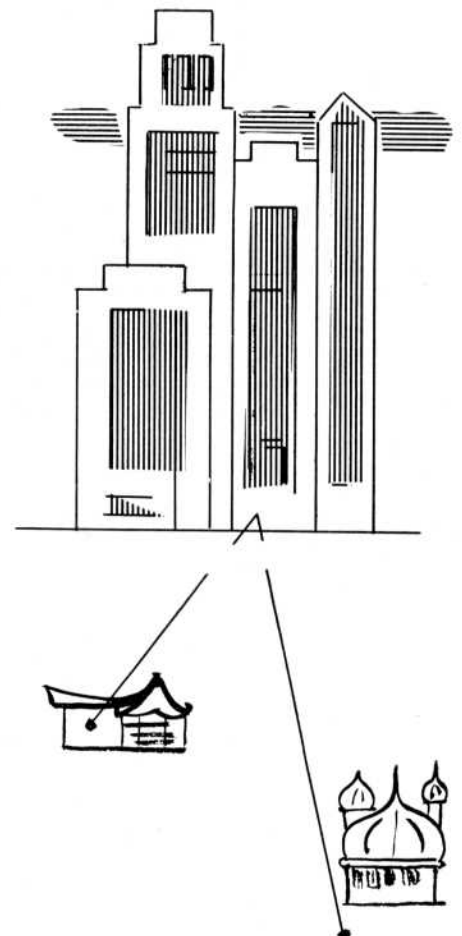
Reaction times have been so reduced that, unless some new retarding influence can be devised, each new situation must be faced in a state of tense readiness—with all military leaves cancelled, all planes in the air and all warships at general quarters.

Thus, while our possession of a large stockpile of nuclear weapons and our capability of delivering these weapons anywhere in the world in a matter of hours has been a shield protecting the free nations from communist domination, the whole world has had to pay the price of increased tension.

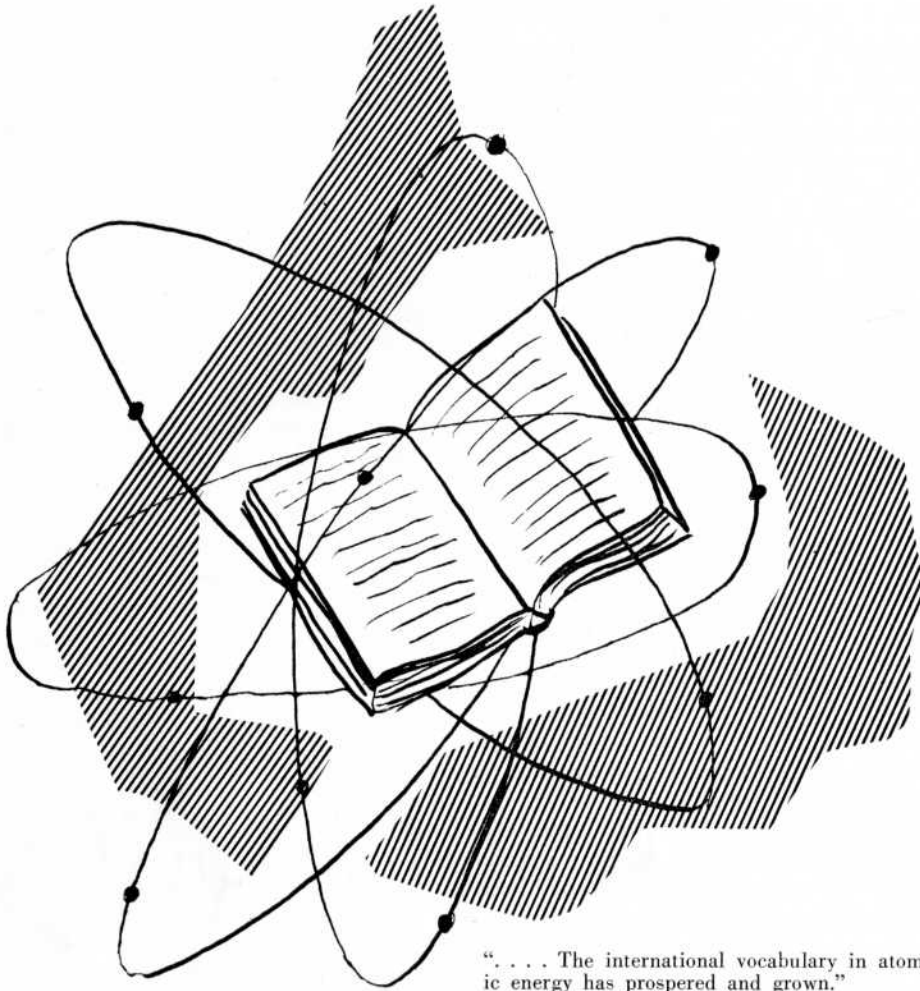
We have had to pay the price, too, of



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“... The international vocabulary in atomic energy has prospered and grown.”

watching potential aggressors develop their own arsenals of nuclear strength.

Most regrettable of all, we have had to pay the price of seeing this great new force of atomic energy used for purposes far below its highest capability—used as a police instrument to warn enemies not to attack us, when we would prefer to dedicate it wholly to the civilian benefits which our reason tells us mastery of the atom can and should bring.

How real and how immediate are these benefits?

Some two years ago, I was asked by the chairman of the Joint Committee on Atomic Energy of the United States Congress to head a nine-man, non-partisan Citizens' Panel to look into the progress being made in peaceful atomic uses and to measure their impact on our nation and on the world.

The work of the Panel brought to bear the cumulative thinking of several hundred authoritative individuals and organizations in close to a hundred special studies. Here are just a few of the highlights of peaceful atomic uses that the experts brought out:

Atomic electric power is here. Plants of

present design can be economically competitive in high-cost power areas.

In agriculture, new plant strains have already been developed through atomic radiation which yield more, are better adapted to mechanical harvesting and better able to resist drought, bad soil, pests and diseases.

Hundreds of atomic applications are working quiet revolutions in almost every phase of industry.

In medicine, several radioactive isotopes are now accepted pharmaceuticals—many more are in the laboratory state—thousands of patients have already been treated with radioisotopes—millions of others have been given atomic medical diagnosis.

THese early accomplishments, however, only scratch the surface.

Within one or two decades, a large part of our ocean-going tanker and ore-carrier fleets may be running on atomic power.

Within 25 years, more electricity will be produced in atomic power plants in Great Britain and Western Europe than is produced today from coal, oil and falling water.

These predictions may sound fantastic,

but they do not come from science fiction writers. They are conservative forecasts by practical, hard-headed men. And I have been careful in relaying these things to you not to inject into them the coloring of my own enthusiasm.

But—in addition to the present peaceful uses of atomic energy and in addition to future civilian atomic applications still in store—even greater values can be realized. It is of this third range of values that I would like to talk now.

I believe the peaceful atom can provide nations of the free world with an important element for use in the quest of peace.

I suggest that, in the peaceful uses of atomic energy, we have a way to establish a new set of meanings in the lexicon of international relations; that we have the opportunity to establish a new basis for understanding between nations.

Three years ago, such a suggestion would have been characterized in many quarters as impractical. Even though atomic energy is a field so international in its breadth and growth, until three years ago there was no common ground on which men of different countries could meet, no common language in which they could talk about atomic matters.

I have two reasons for having said, just now, that atomic energy is a truly international field. In the first place, I think we must all agree that science knows no national boundaries. No single country, no single ideology, has a monopoly on pure science or on its practical applications.

But I think my second reason for calling atomic energy an international field is even more important. To list the names of those who have contributed to the present state of atomic development—like Sir John Cockcroft and Sir William Penney, to name just a few of the many in Britain—would, indeed, be able to collect a “Who’s Who” of the world’s outstanding scientists and engineers. If censure or credit for the atomic era is to be given, almost all nations must share in it.

And yet, until only a few years ago, it was extremely difficult—in fact, under the laws of some nations it was illegal—for scientists of different countries to talk with each other on atomic energy matters. People at the policy-making levels of many of our great nations had confined their atomic thinking so exclusively to veiling military applications with secrecy that it was almost impossible, even among friends, to consider the really basic technical factors involved in the critical problem of preventing nuclear war. So I think I am justified in saying that the world had no common basis for understanding, no common “vocabu-

lary" in which atomic discussions could be carried on.

However, the end of the era of atomic secrecy was foretold when, in his historic address to the United Nations in December, 1953, President Eisenhower poured the footings for a structure of atomic understanding among men of all nations. His were the first words of an international atomic vocabulary. While limited in scope to the peaceful uses of atomic energy, these words nevertheless could support the foundation upon which we hope can be built lasting international agreement to prevent nuclear destruction and lead to the guarantees needed for peace.

This importance of establishing a common vocabulary in atomic energy can perhaps be most appreciated by noting that, since the President's proposal before the United Nations, there have been important extensions in the already broad collaboration between the United Kingdom and the United States in the atomic field—extensions which will substantially restore the practices on exchange of information which existed during our wartime partnership. It is even more important to note that, while in recent months much was being said about the breakdown of communication between the Foreign Office in London and the State Department in Washington, British and American scientists were meeting together at that very time to discuss present and future atomic programs to help both of our nations and the world. In this case, while the language of diplomacy was failing, the new international atomic language was succeeding.

DURING THE YEARS which have elapsed since President Eisenhower's address to the United Nations, the international vocabulary in atomic energy has prospered and grown. In Geneva two summers ago, at a scientific congress under the auspices of the United Nations, the principal facts on peaceful atomic developments began to emerge. The bright promises were tempered by discussion and frank recognition of inherent limitations. The real potential of the peaceful use of atomic energy was then, for the first time, examined by scientists and engineers on an international basis.

More recently, the barriers to a free international exchange of information have all but disappeared. For example, in the United States, a recent announcement by the Atomic Energy Commission, although couched in guarded phraseology, indicated—at least, as I understand—that there will soon be made freely available all information concerning technology developed in

the United States needed for harnessing atomic energy as a source of civilian electric power.

While enormous strides have been made, even greater progress can be expected with the establishment of the International Atomic Energy Agency, the statute for which has already been agreed upon in principle by participating nations.

As men of all nations join together to discuss atomic energy developments, as they begin to appreciate each other's ability to contribute, as they begin to understand each other's affairs and thoughts, the closer they will come to being able to talk frankly about all aspects of this subject. From frank talk can come agreement on the control of nuclear weapons—agreements which will be binding and which will assure the broad measures of international control and the guarantees so essential for lasting peace. From such agreements on the control of nuclear weapons can come reduction of these tensions which introduction of nuclear weapons has brought to the world.

Achievement of agreement in a field so complex and so closely tied to the basic security of any of the participating nations can establish an important pattern for relations between those nations, a new pattern for seeking the solution of many problems which now plague the world and make peace unsure.

There is another side of the coin. In the recent tragedy in Hungary and the upheavals in Poland and other satellites, we see evidence that isolation from markets or resources bars improvement of living standards and must lead to the eventual breakdown of totalitarian nations also.

Our lesson from the other side of the iron curtain is clear. By the communication of ideas—by permitting the formerly independent but now dominated people of Soviet-controlled satellites to see in true perspective the free world's technological accomplishments, and to draw upon the free world's unclassified technology as readily as Moscow's—we can by peaceful means further isolate the totalitarian states whose very nature is to seek to dominate all of us.

Atomic energy can supply two further elements which you might wish to consider. The elements are these:

(1) The peaceful uses of atomic energy can provide that new, constructive outlet for pent-up pressures needed in nations in transition; and,

(2) The atom is *today* that new source of energy which can relieve the complete dependence of many free nations on imported fuels.

The Suez crisis made clear to the world

that any industrialized nation faced with losing vital foreign sources of fuel inevitably experiences a decline in productive industrial output and an increase in unproductive military outlay. Such a nation stands on the threshold of isolation and breakdown.

Energy resources are the most critical factor in the economy of any industrialized nation. Without energy resources, no underdeveloped nation seeking to industrialize can possibly succeed.

Stop the flow of fuel to countries whose energy demand has outstripped native fuel resources and the immediate crippling effect is apparent. Factories shut down because of the shortage of electric current and process heat. Transportations slows

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ABOUT THE AUTHOR

Robert M. McKinney, '32ba, is editor and publisher of the Santa Fe New Mexican, and president of both New Mexican Incorporated and the Robert Moody Foundation. He is also director of both the Chicago, Rock Island and Pacific Railroad and the International Telephone and Telegraph Corporation; chairman of the New Mexico Economic Development Commission and Water Resources Development Board, and a member of the board of governors of St. John's College.

As author, he has published Hymn to Wreckage and A Picaresque Interpretation of History. After serving as a Navy officer during World War II, he became Assistant Secretary of the U. S. Department of the Interior in 1951-52.

McKinney is a native Oklahoman, born in Shattuck, but now must call Santa Fe, New York City and many other removed spots his temporary homes. In 1955-56 he served as chairman of a panel established by the Joint Congressional Committee on Atomic Energy to report on progress of the energy's peaceful uses. Since publication of the panel's report, he has talked to many groups around the world on various aspects of atomic energy.

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A HAPPIER PROSPECT FOR ATOMIC ENERGY

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to a trickle. A downward spiral spreads through the economy.

Of course, it is obvious that electric power and process heat are not the only energy requirements of an industrial economy. The substitution of power or process heat generated in nuclear reactors—or by any other energy source—would not obviate the need for great amounts of coal, crude oil and refined petroleum products.

On the other hand, were atomic power now available to Western Europe in large quantities, the acts of a volatile nationalist leader in the small country of Egypt, would not have shaken the world with such earthquake force. This would be true, whether the atomic power came from early model reactors barely capable of being economically competitive or whether it came from the most advanced designs yet conceived.

IT IS TRUE, of course, that the existence of such nuclear power plants would not make automobiles or trucks run without gasoline or motor oil. Yet, such atomic plants would make it possible for smaller quantities of oil, imported from areas still accessible, to be sufficient to prevent the economic disturbance through which Britain and Western Europe have just gone. Tempers in world chancelleries might not, therefore, have been pushed so close to the explosive point.

Even in the present Suez crisis, it is possible to keep industrial economies (of Europe) going with oil imports from the Americas. But given a continuation of Britain's and Western Europe's present rate of industrial expansion, and bearing in mind that three-fourths of the free world's petroleum reserves lie in the Middle East, a crisis like Suez a few years from now would have devastating effect.

I cannot avoid the feeling that the free world's failure to press forward vigorously with the construction of nuclear power plants for civilian use made the Suez situation possible and therefore inevitable, given the emergence of a new protagonist anywhere along the fault line in the Middle East.

I expressed this belief last May when in an address to the Overseas Press Club of New York, I said:

"In the Middle East we painfully

build a structure of military alliances, shored up with conventional military and economic aid, along the so-called Northern Tier, feeling sure that the Arab region to the south is safe. Suddenly we find the Arab nations turning against us, and the balance of power in the area tipping toward Russia. We are learning the hard way that the expensively and painfully won goodwill of governments lasts no longer than the governments themselves last. Only rarely does it carry over to the people. This is true not only of former colonial countries now going through the growth pains of national political and economic independence. It is true also of many established industrialized nations."

You might understandably ask whether President Eisenhower's "Middle East Doctrine" affects my analysis of these problems. Does the doctrine dissolve out the factor of urgency from an atomic power program in Britain and on the Continent? Does it dissolve out the factor of self-preservation from a program on the part of the whole free world directed at raising living standards in the Middle East and other underdeveloped regions?

A simple rereading of the proposal makes clear that the answer to both of these ques-

tions is "No." The President did not offer his proposal as an all-purpose cure for Middle Eastern turmoil. It is directed bluntly at keeping the Russians out. It does not purport to insure against a second stoppage of the Suez Canal, nor even to protect—except from Russian sabotage and subversion—the production and the flow of oil from the Middle East.

My own firm belief is that it is even more urgent that we now press forward with all possible speed on the construction of proven types of atomic power plants in the British Isles and Europe.

I do not mean to imply that through atomic power the world can or should free itself from dependence upon Middle East oil. To attempt to do so appears foolhardy from the technical standpoint, and extremely unwise from the standpoint of relations between nations. If indeed we seek a peaceful world, we cannot isolate Middle East oil from its natural markets, particularly in the United Kingdom and Western Europe. On the contrary, we must foster the development of oil markets (there) and at the same time foster the ability and willingness of the Middle East to satisfy these oil requirements, in order to assure a mutually beneficial relationship.

But I do say that, if atomic power is vig-

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ously exploited in the British Isles and Europe, disruption of oil supplied from the Middle East—for whatever reason—need not cause complete economic havoc. Even with a broad atomic power base in England, loss of Middle East oil supplied would be painful, but substitution of oil and coal from other parts of the world would carry her through. In such a position she would be less vulnerable—to the consequences of local difficulties—political or otherwise—in the Middle East.

In nations now going through the growth pains of political and economic independence, irresistible pressures on local leaders arise from the inability of age-old economic and social systems to meet even the barest needs of explosively expanding populations. These pressures must find outlets and will continue to cause upheaval and chaos if not directed into constructive channels.

NOW HERE AGAIN, I must repeat that atomic energy is no panacea for all the ills besetting the underdeveloped nations of the world. In talking about atomic power for underdeveloped nations, we must talk about it as part of an over-all plan which encompasses constructive use of the power generated and the beginning of capital growth.

But more important, if we can bring atomic benefits to underdeveloped nations as part of over-all programs, we can do more than merely satisfy economic needs.

This is not wishful thinking on my part. Atomic energy has almost a sorcerer's touch in some of the underdeveloped areas of the world. For example, in parts of Southeast Asia, where it is hard to raise enough food for the lowest level of subsistence.

Educated persons there have seldom made careers of agriculture as a science. Yet a few hundred dollars' worth of radioisotopes, used to demonstrate how crop yields can be increased or plant strains improved, could have—and in some localities actually have had—catalytic effect in bringing about intense local interest in agricultural research and in practical dirt-farming application.

I am equally certain that there are areas where small nuclear power plants, built at relatively modest cost, could have the same maturing effect on local economies and could induce a greater degree of political stability than plants many times the size utilizing conventional fuels.

The peaceful uses of atomic energy can give national leaders powerful implements for diverting into constructive channels the pressures created by people seeking satisfaction of their basic needs. But here, again, we must remember that radioisotopes for

agricultural or medical experiments, or even atomic power plants, are not enough.

We must provide facilities for training people to do the research and operate the atomic power plants of the future. There must be scientific and technical guidance and assistance. Gifts and gestures accomplish nothing.

If we do not use all peaceful means available to us to keep the people of underdeveloped nations free from the threat of economic isolation, free from the threat of continued low standards of living, we can ourselves expect eventually to be forced to turn much of our own productive efforts to the military retention of markets and resources. To keep them and ourselves free, we must help the underdeveloped nations toward sound economic, political and cultural growth.

In doing this, atomic energy can be important because it can help keep internal sacrifices occasioned by rapid economic growth within limits that uncoerced people will tolerate.

Our program, to be comprehensive, must be directed at ending those basic injustices which turn people against us. If we do not use care in making sure exactly how our assistance is brought to bear, we may find—as

we have often found in the past—that our most unselfish acts confront us with people more bitter than they were to begin with.

We have seen dramatic demonstration of the free world's strength in the airlift which broke the Berlin blockade. We have watched communist strength win limited local success in Korea and Indochina. Russia has, in turn, seen these very gains force us to build our own military capabilities to the point where the costs of further communist military aggression rise rapidly and the chances of further communist military success fall sharply.

But communist aggression has not been halted. Economic aggression holds greater promise of Soviet victory.

Because our economic defenses were unorganized and inadequate, aggression against the softest part of the free world's underbelly—Mideast oil—was immediately



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and immensely successful. Governments of those western nations most directly vulnerable felt that they had no choice except direct military action. The results of this action are still unclear, but certainly the gain, if any, has not been equal to the cost.

Thus, from Berlin to the Yalu and back to Suez, our net achievements have been, indeed, small. At best, they have produced only interim stalemates. This is because, as I have said, the strength of communist nations can more readily be exerted in support of their aggressive policies—since they need not cavil over impairing the lives, liberties or happiness of their own unlucky peoples.

At this point in world events, would an economic counter-offensive against communist powers by nations of the free world be adequate? Would not the failure in the Middle East of such an economic counter-offensive place the free world in general, and Western Europe in particular, in an even more vulnerable position with respect to vital fuels, raw materials and markets?

We must ask ourselves, as well, what would be the consequences, should we succeed in an economic counter-offensive in the Middle East. Would we try to extend any success there to other troubled areas? Would the continuation of such success ultimately pose to communism a real threat of economic isolation and eventual breakdown? What would communism's reaction to such a threat be? Would it be fatalistic acceptance, or would it be a new and more terrible communist military counter-challenge to the West?

We cannot answer these questions. But at least we can say that, whether the answers be yes or no, under present international policies we seem left with the same two prospects:

First, the prospect of uneasy stalemate, during which we must continue to add to our armaments and to our military aid and economic assistance programs at ever-increasing cost to our economies; or

Second, the prospect of counter-offensives in kind to further communist aggressions—military, political or economic—which actions clearly appear to lead to ultimate open conflict.

I prefer to believe, however, that there is a third—a happier prospect: The prospect of establishing a new pattern in international relations based upon atomic energy—a pattern which will provide the free world with an alternative source of energy; which will furnish constructive channels for the pressures accumulating in nations in transition; and a pattern which will lessen the tensions that lead to war by creating new understanding between nations.