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Social Implications of Atomic Energy to the Rockefeller Foundation

The information about atomic energy available to social students is so incomplete and has been so recently provided that one is forced to approach the discussion of the social implications of atomic energy by a series of assumptions.

Physical Facts

I base what I say later on the following assumptions as to the physical facts of atomic energy:

1. The military effectiveness of atomic bombs depends on their capacity to destroy urban populations and production and living facilities.
2. A single atomic bomb can reduce a city and its population to dust.
3. Military vulnerability is greater according to the degree of concentration of population and industry in centers.
4. Means of delivering atomic bombs seem to be present or assured.
5. There is no foreseeable effective defense against atomic bombs.
6. Secrecy, nor cost, nor lack of materials will prevent bombs from being available to a considerable number of countries in a few years, if they so choose.
7. The armament race in atomic bombs is under way with this country leading the pack with a bomb a day produced but with other countries absorbing the services of their leading physicists towards the same objective.
8. The ultimate military position of the United States may have been weakened rather than strengthened as a result of the discovery of atomic bombs.
9. The production on a laboratory basis of power from atomic fission is practically here; it would be wise to assume that its commercial development is only a question of time and degree.
10. Attention should not be focussed on atomic bombs alone but on the accelerating advance of physical and biological science and technology with even more titanic powers ahead for us to use or abuse.

Social Implications

I, of course, pass by those two extremely important results of atomic fission - the further development of science and medical applications. The interest of SS is in the bearing on war and peace, on commercial power,

and on political institutions and social life. The history of the social effects of inventions indicates that at the time a particular invention was discovered, seven-eighths of the whole is, as in an iceberg, below the surface. So I will approach the problem of what RF can do by stating a series of further assumptions as to social effects of atomic bombs and atomic energy and their born and unborn colleagues.

First, on the military side:

1. If two great countries were both armed with atomic bombs, a sneak attack by one need not prevent successful counterattack with bombs by the other.
2. If each of two countries succeeded in destroying the main cities of the other, succeeding military measures could proceed on only a token basis.
3. The greater destructiveness of atomic bombs may lead an aggressive country to hesitate more about making war since it would know that it could not hope to win against an armed rival the bloodless triumphs which Hitler achieved.
4. The bargaining position of small countries, which has been lost in the last thirty years after centuries of successful maintenance, may be improved.
5. If war starts, agreements not to use atomic bombs will probably be ignored. Paper agreements which might limit one side only might be worse than none.
6. A world of atomic bombs puts a democratic regime at a disadvantage with a totalitarian one.
7. There is no present practicable way of guaranteeing peace; but the threads which make for peace can be strengthened.
8. Neither expectation of a sudden moral regeneration of mankind nor a magic formula for sudden world government offers as much hope as patient working through the established agencies, international and national and by means of mutually conciliatory diplomacy with other nations.
9. Full support of UNO and building up all the vested interests and acquaintance in international collaboration are indicated.
10. No international machinery can be an effective substitute for a wisely oriented and skillfully manipulated foreign policy in our own country.

What RF cannot or should not do

1. RF can^{not} produce a social atomic bomb to neutralize the atomic bomb. No unitary, mechanistic answer on the social side is possible. It is strange how wedded many intelligent people are to the idea that problems that lie in the volitional behavior of human beings should respond to a mechanistic solution as does physical matter.

2. RF cannot behave as though it were an unofficial substitute for the government of the United States. It can, however, supplement government action; but it cannot try politically to manage for the government.
3. RF should not support work which is already likely to be well attended to by other public or private agencies.

What RF can do

Under its charter - "to serve human welfare throughout the world" - RF can appropriately do any of the following in the field of international policy - if it chooses:

1. Support fundamental studies more or less without regard to specific applications.
2. Support studies or other activity that are primarily pointed towards application or action.
3. Support ventures in general popular education designed to increase interestⁿ and understanding of the international issues of our day.

The suggestions which follow are pointed primarily toward the second of the above possible lines of action. Putting the emphasis there takes for granted the continuance of fundamental work the ultimate applications of which may be more important than those of ad hoc efforts. It assumes also the great importance of popular education in the social field since more than in the physical sciences the adoption of effective social policies is dependent upon wide public understanding and acceptance. But the agencies of public dissemination have grown so great and powerful that the officers would proceed here upon the exception principle. Furthermore, all the efforts at dissemination and public education may be merely the means of further public confusion if there is not clarity of central objective and policy.

The concrete proposals which follow are based on these assumptions. Suggestions are stated under four headings:

- I. The prevention of war through the development of a world community
- II. Commercial power
- III. Political implications of atomic energy
- IV. Moral implications.

I. The Prevention of War

In the world of today, no existing agency can enforce peace. The idea that we can have world government in a few years seems to me a fantastic form of escapism. We cannot hope for world unification by conquest; such unification, even if briefly obtained, would be neither peaceful nor democratic nor free. And we cannot obtain world government by formula, although this horse is having a good run. We have to begin from where we are - not from where we wish we were. The problems are not new; there is a long history of work on most of them; but they are now, as a result of scientific discoveries, vastly more urgent.

The foci of importance for RF attention are these:

- A. The building of a world community, working with and through the United Nations Organization
- B. The building of an integrated and consistent foreign policy for this country and an effective organization to implement it
- C. Establishing such a *modus vivendi* with Russia that our joint relations may make for peace rather than war.
- D. Miscellaneous Studies.

There are no easy or simple answers to any of these questions. No one can write a program in advance. I cite them as objectives for emphasis in international relations. Perhaps I can make these objectives concrete by instancing some possible methods of work, hoping thereby to elicit criticisms and counter suggestions.

A. Efforts towards a world community

The UNO organization is as yet so inchoate and there are so many possible lines of work that I limit myself to suggesting a means of currently identifying opportunities appropriate for RF activity.

I propose first that the Division be authorized to select or assign one staff member to serve as liaison man between the UNO and RF. This man would spend a majority (but not all) of his time keeping currently familiar with the whole developing program of UNO in order to report to us the appropriate opportunities for RF to consider. He might propose a study which was impossible for UNO because of international or ideological limitations but which was necessary to complete understanding of an issue. He might suggest fellowships for a year's advanced study to able juniors whom UNO wished to see grow towards positions of greater responsibility. There might be requests for support of some practical venture which UNO might wish to try out on an experimental basis first.

The man for such a post should be a man of practical and inventive turn of mind who would be aware of international forces and able to step about in them, but basically he should be a scientist and scholar, and not a politician.

B. The building of an integrated and consistent foreign policy for this country and an organization to implement it.

One has the feeling that this country has unlimited power internationally and doesn't know what to do with it or how to do it. It is difficult for a country, ninety percent of whose thoughts have been turned inward to develop or support an intelligent, consistent and long-run policy in external affairs. Yet such a policy would seem to be essential for our own interests and for the development of peaceful relations in the world.

RF funds can aid in various ways:

1. By supporting fundamental studies. As one example, I would cite the importance of studies of the problems in integration of our military and diplomatic policy. Pearl Harbor is proof enough of the need for such integration.
2. By aiding in the development of a trained staff for the State Department. This may involve support of studies of the organizational problem of a stable and competent staff. It may involve fellowships for persons whose further development may seem of especial importance to the Department.
3. By aiding through support of study and policy discussion ventures such as the War and Peace Studies program of the Council on Foreign Relations whereby a private agency undertakes to make currently available to the State Department the best brains and the best analysis of fact and opinion on particular issues of policy.
4. By aiding towards programs of public education.

Such ventures should prove helpful, but they will not add up to effective policy unless the government is geared to perform the final crucial step - that of policy determination. And our greatest lack seems to lie in our ineffectiveness in clear formulation of general public policy.

Those who have represented this country abroad over the last twenty years testify to the absence of a clear policy. "Use your own judgment" is the common advice. This lack is not limited to foreign policy.

General Bedell Smith, Eisenhower's brilliant chief of staff, said in a speech in London a month ago that if he had to plan another war, he knew where he would get his makers and planners of policy - from the British Army. We Americans are better at action and at improvising. Those acquainted with the field of economics know how few the good general economists are; yet our major problems of economic policy are beyond the competence of the thousands of specialists. And so we have such contradictory policies as those of the twenties when we loaned millions abroad, yet raised tariffs, and as those of 1945 when we claim that wages and prices are totally unrelated phenomena. A distinguished physicist, a Nobel prize winner, recently made clear that the problem is not limited to the social and military fields when he said, "We have better physics laboratory facilities in this country and generally a higher level of training in physics but very few physicists capable of the 'general view'."

So the problem goes to ^{the} roots of our educational system, our philosophy of values, to the size of our country. But to return to the problem in hand - that of foreign policy. I suppose if we were to write down the 50 greatest men in this country's history up to the end of the Civil War, most of the names would be men associated with the government. If we were to do the same for the period since the Civil War, most of the names would be of men from business, for we were occupied with business of exploiting the resources of the richest continent man had yet encountered. And our foreign policy was pretty much limited to high tariffs, Monroe Doctrine and the Open Door in China.

We perhaps cannot undertake the factors that make this country poor at the formulation of general public policy, but the limitations in governmental organizational structure that magnify such lacks are concrete points at which to begin. Both Congress and the State Department would be involved.

Of course RF's role would be limited to financing studies. I cannot say now what is possible without further exploration, but we would be alert to take advantage of whatever opportunities may offer. Trustee reactions would be particularly welcomed.

C. Russia

By singling out Russia, I do not mean to imply that the relations with other countries are not important. Of course, they are. But if world war recurs in the next twenty-five years it is likely to be war between Russia and her allies on the one hand and the United States and her allies on the other. The responsibility for avoiding such a catastrophe is that of diplomats and statesmen. Diplomacy probably cannot resolve the conflicts between the Soviet and this country; but it may be able to establish a modus vivendi with Russia. But there are opportunities that are appropriate to the Rockefeller Foundation. I mention two illustrations:

1. The Rockefeller Foundation has assisted Columbia University in the establishment of an advanced center for Russian studies and teaching. This was done to help this country to have dependable experts and dependable knowledge about Russia and be less dependent upon propaganda and ideological sentiments that color so much of what we get. It seems to me sensible to have two such centers in this country; so I would suggest that RF be prepared to support a second such center.
2. Russia has, through her Academy of Science meeting, extended the hand to foreign scientists and scholars. It may be that there is more hope of exorcising suspicion through the increase of unofficial contacts - especially at the scholarly and scientific level - than in other ways. Russia is now quietly arranging in this country for sending young pre Ph.D students to selected institutions on this continent. These students are to include men in the natural sciences, the medical sciences, the humanities, and the social sciences. If Russia opens her facilities and herself to competent independent students, I think it an appropriate RF opportunity to see that competent men be aided in making such studies. Studies will be made; it is a legitimate part of RF responsibility to aid such contact at the scholarly and scientific level. I do not suggest this as a means of having scholars and scientists serve the function of unofficial diplomatic ambassadors, although the bearing on war and peace exists, but rather because we should understand the one society in the world that is basically competitive to ours.

D. Specific Studies

I assume it to be obvious that certain studies would be entitled to examination:

1. Inspection

Half the experts believe that world-wide inspection is the answer to atomic bombs; the other half consider inspection to be a chimerical proposal. A study that would spell out the technical, political and industrial issues involved would be serviceable.

2. Proposals are being urged for studies of means of scattering of cities. These seem to me to be defeatist and to be notice to the world that we are stripping for action. Studies of the pattern of urban growth as affected by atomic energy or the scattering of military production and its relation to urban military production and its relation to urban development might have more merit.

3. A joint study by natural scientists and social scientists summarizing the basic facts of atomic energy and their social bearing on social issues would be serviceable. This may be done without RF support.

II. Commercial Power

It is important that, in our thinking, we should not concentrate on atomic energy in its present form - or even on atomic energy. The important fact from the point of view of internal social adjustment is that the progressive rate of fundamental scientific discovery is becoming ever more revolutionary in its effects. We have not reached the state of a push-button alchemy where any material may be transmuted but we are moving along. What these present and future changes mean to our system of economics, of government, and of morals are the really important questions. These questions must be answered clearly if man is to hope to be the master of these forces and not their pawn. As some one has put it, "Atomic energy is here to stay but are we?"

Such general questions have to be broken down into concrete issues.

I mention three:

- a. Commercial Power
- b. Political Implications
- c. Moral Implications

Only this much is it possible to say about commercial atomic power. It is possible by human intervention to slow down the rate of atomic fission so that usable commercial power is possible. How soon such power may be commercially profitable it is not possible to say. But it seems reasonable to assume that commercial atomic power will come and that its effects may be far-reaching. No one can predict the economic and social changes which will flow from its adoption. But it would seem to be sensible for RF to stand ready to finance studies whereby physicists and engineers, industrial economists and public administrators may follow developments and define issues and prospective changes as soon as they may be identified. Such an investment should assist in the anticipation of social issues.

III. Political Implications of Atomic Energy

The political and moral implications of atomic energy and the accelerated advance of science and technology receive relatively little attention compared to the international issues and the possibilities of commercial atomic power. But they are at least as important.

Atomic energy constitutes a giant new force propelling toward the organization of society from the center. It is not surprising that atomic energy produced the May-Johnson bill which proposed to establish governmental control over all work and workers and publications in atomic energy. The natural scientists have protested this infraction of their traditional freedom;

but when the substitute bill is written by the McMahon Committee, it will probably be found to be much nearer the May-Johnson bill than their traditional freedom. If atomic power is developed commercially it will almost certainly be in central power stations federally owned and with progressively greater control over the distribution of power - even if existing machinery of distribution be employed. And, if the armament race in atomic bombs continues, one wonders what will happen to our traditional guarantees of political freedom, when it is realized that the Communist party may be as important as a military arm of the USSR as it is as a political arm.

Atomic energy propels toward the organization of society from the center. Thus it is added to such other forces as war, improvement in communication, growth of great units and great groups, present day fiscal policies, and the urbanization of life and employment - each of which propels in the same direction. Our democracy grew and became vigorous on the assumption that power and responsibility were to be widely distributed and carefully controlled. Present trends culminating in atomic energy fundamentally modify that conception. What such organization of societies, each around its state, connotes in terms of a peaceful vs. a warlike international society, in terms of our democratic political institutions, and in terms of independence and personalities of individual human beings are important questions to consider. I do not know the answers, but I feel sure that the answers will be different from those which have been our traditional ones.

The "Franklinian" minds able to deal with these questions are not numerous and cannot be forced. Where they are found and need support, support should be considered. Specialists don't belong.

IV. Moral Implications

I recognize that the Rockefeller Foundation's concern is primarily with the tangibles of life. But an oblique reference to the moral consequences of atomic energy may not be out of order. What is the effect on man's spirit of this possession of the ultimate power of the atom? Does it compel still more, as a means of survival in a world of power, with the means and instrumentalities of power - rather than with something more fundamental? It is significant that the United States - if my judgment be correct - is more filled with fear at the end of the war when it was at the zenith of its power than at any time during the war including Pearl Harbor. It is significant that at the conferences on atomic energy which I attended, controls at the international level were discussed and controls at the national level but never - even when a representative of a theological seminary was present - the more fundamental controls of a moral and educational nature within the individual. Has the individual become too small change to count? Or does it mean - as John Lindberg of the Economic Section of the League puts it, "The outer kingdom has outgrown the inner kingdom" - and a social unbalance results that will not be redressed until a basic restoration of equilibrium between the two is restored. Lindberg goes on to add that atomic energy compels further preoccupation with "the earthly city (society)" based on power rather than with the "beloved city" based on love and sacrifice.

The rise of atomic energy and other scientific discoveries present or define in sharper light many such moral issues. The minds that can deal clearly with such issues are not numerous. These minds may be found among natural scientists (who have a deep sense of moral concern), social scientists, humanists or men of affairs. Where such minds exist and need help, such help shouldn't be considered. I don't think the whole problem should be left to the declaimers of the Saturday Review of Literature.

It is time for greatness; a time for abatement of pettiness of spirit - and a time for pooling of disciplines.

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