Public Reaction to Nonmilitary Aspects of Atomic Energy

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ANY EFFORT TO DISCUSS or analyze public reaction to peacetime uses of atomic energy is severely limited by the paucity of empirical research available. Kay and Gitlin have pointed out that of all survey questions devoted to the area of atomic energy, small indeed has been the number inquiring into opinions and attitudes on peaceful applications. At the time of their review of questions used by national polling organizations (1948), war-related questions outweighed those oriented toward peaceful applications by approximately 18 to 1 (*1*).

This distribution of question content is revealing. The emphasis on the atomic bomb and other weapons cannot be narrowly attributed to the interests or aggressive needs of pollers. It reflects an accent detectable in our entire society—in the press and other communication channels, in budget allocations, in statements of government leaders and other official pronouncements, and in the discussions of laymen. Where atomic energy is concerned, the bomb is central. This fact is not surprising. Born in war, the field of atomic energy has grown up in times of troubled peace. Research and development emphasis, consequently, has concentrated on weapons. No peaceful use of nuclear power has approached the drama and significance of the bomb.

However, it is important to assess the public response to the less publicized peaceful aspects of atomic energy. Hopefully, we may predict that man will arrive at some means by which to handle, albeit precariously, the threat implicit in the development. In this event its other side, the constructive side, will move upstage and will demand certain unique societal adjustments. The successful introduction of any new technological development depends in some measure on the receptivity of the public and special groups. It is important then to gather our limited data on public thinking about nonmilitary uses of atomic energy and attempt to draw from them an understanding of how the population at large reacts to this phenomenon.

What we have learned relates to two distinct but interrelated questions:

What is the state of public thinking about the broad discovery of atomic energy and its nonmilitary uses? What are some of the factors which account for a pessimistic negative evaluation of atomic energy by a sizable minority of the population?

Public Thinking About Atomic Energy

In assessing popular thinking about a new phenomenon, there are a number of facets to be considered. These may be phrased as a series of questions: How much do people know about the topic? How interested are they in it? Do they feel generally optimistic or pessimistic about it, that is, do they evaluate it positively or negatively?

The study from which the findings in this section of our report are drawn had as a major objective the comparison of attitudes in atomic installation communities with attitudes found in similar noninstallation communities (*2*). The sample required for this purpose is at most representative of Americans living in small and middle-sized cities. Since, however, it includes individuals geographically proximate to atomic energy plants, it seems reasonable to assume that this group should have at least as much information about the topic as a cross-section sample of the nation.

It is not surprising, in view of the relatively modest and specialized peacetime developments of atomic energy, that available data reveal the lay population to be ill-informed about atomic energy apart from the atomic bomb. About two-thirds of the people interviewed reported having heard of atomic energy in connection with something other than the bomb, but their knowledge was fragmentary. One person in five either "denied any impression that there were other uses than the bomb (or) did not report the vaguest concept of even general areas in which atomic energy could be used in peacetime" (*3*).

Among the two-thirds who knew of some nonmilitary use, very few mentioned more than one application. The most frequent was power, a characteristic quite readily associated with its military use. This application took various forms, however, sometimes alluded to as a source of power or energy, sometimes as a source of heat, or as fuel and motive power. Almost three-quarters of the group reported knowledge of this use. Medical purposes were mentioned with secondary frequency. About one-half alluded to them. Minor emphasis, less than one-tenth in each case, was given to agricultural, industrial, and scientific uses of atomic energy.

In answer to a question regarding what atomic energy is or what it is like, about one person in fourteen was able to give an informed response. Almost half the respondents said simply that they did not know (*4*).

In summarizing the section of their investigation dealing with information, the authors of this study concluded (*5*):

> The field of atomic energy seemed to exist as bits of information, varying interests and reactions that related to one or another specific uses, problems, or policies. It clearly did not exist as a rather well-structured phenomenon that fitted within a relatively well-defined area of interest for the overwhelming number of . . . respondents (*5*).

Nor does there seem to be much hope that this population will gain additional information about atomic energy or peaceful uses in the near future. Half of the respondents answered negatively when asked "Do you think that the average individual can understand enough about atomic energy to make it worth while to read things about it?" (*6*).

The amount of knowledge people have about a subject is indirectly a measure of the amount of interest the subject holds for them, since information-seeking demands interest. Having observed that people have very meager knowledge of nondestructive atomic developments, we might expect to find that they are also relatively uninterested in these developments. This is, in fact, what the survey results disclose.

Half of the respondents in this study reported feeling indifferent toward information about atomic energy when they came across it in their reading (*7*). Only about 10 per cent reported discussing atomic energy with family or friends more than "once in a while." Half said they rarely or never did (*8*). When asked whether there was anything about the subject they wondered about (in addition to information they already had), about half of those questioned were "disinterested in further data about atomic energy." Only one in six respondents both wanted more information and had some notion of where it might be obtained (an indication of at least minimal action resulting from the stated interest) (*9*).

From these findings it does not appear that the development of atomic energy and the allegedly revolutionary social and economic changes which it portends have captured the imagination or stimulated the curiosity of the majority of the lay population. The authors of this study found that "at this time involvement with the atomic energy process is restricted to the upper socio-economic and relatively well-educated groups in the population" (*10*). They conclude that nonmilitary aspects of atomic energy have not been made salient or meaningful for the bulk of the population because they have not been tied in any way to their own interests. This conclusion was equally applicable to residents of installation and noninstallation areas and indicates that the lack of salience of the subject of atomic energy is not simply a matter of geographical distance from the development.

What are the attitudes of people toward the development of atomic energy? Despite their lack of information and personal interest in the peaceful applications of atomic energy, it is encouraging to find that most people recognize, at least superficially, the potential importance of the field, and that they are generally optimistic about the eventual good which it will produce.

When asked "How important do you think it will be for those young people (of high school age) to understand atomic energy?" some 75 percent of the respondents revealed that they consider atomic energy to be of significance for coming generations (*11*). Nearly 60 percent thought that, "considering all its uses in peace and war," we will be better off for having discovered atomic energy. Only about one person in five was definitely negative about the development, with the remaining group uncertain or neutral in their reactions (*12*).

We are now in a position to give a tentative answer to the first of the two questions asked at the beginning of this article: What is the state of public thinking about the broad discovery of atomic energy and about its peacetime uses? We have seen that laymen are in general uninformed and uninterested in the development, but that nevertheless most people are optimistic and have generally positive feelings about it.

The Pessimistic Evaluation of Atomic Energy

The question remaining is: What factors account for negative or hostile reactions to the development, where they *do* occur? The importance of this question is not diminished by the fact that the majority of respondents are hopeful and positive in their evaluations. The proportion of respondents who hold a pessimistic view is still sizable. Understanding the basis for such a reaction may aid us in counteracting it or in preventing its spread.

A recent survey, sponsored by the Phoenix Memorial Fund of the University of Michigan, yielded some information relevant to this problem (*13*). In this study a representative sample of the Detroit labor force was questioned about atomic energy, in addition to other things. Among the questions asked was the same general evaluation question referred to in the previous discussion. People were asked to consider both wartime and peacetime uses of atomic energy, and to judge, in this context, whether we have gained or lost by the discovery. Again a majority felt positive toward atomic energy, and a minority felt that we would have been better off had it not been discovered.

An effort was made to establish factors that differentiate these two groups, and certain significant findings appeared.

The most important difference appeared in a variable termed "feeling of effectiveness." Negative reactions to atomic energy were most frequently given by people who were characterized by a feeling of powerlessness in public affairs. Confronted with the issue of atomic energy, with its threatening as well as con-

structive potential, they felt unable to handle the threat or even to contribute to its solution. Feeling unable to face the danger implicit in atomic developments, they tended to turn away from the entire field. They had fewer ideas about the topic than more effective people, and they were more likely to withdraw from the topic and wish that atomic energy had never been invented.

People who evaluated atomic energy positively, on the other hand, were marked by a high degree of psychological effectiveness. In response to questions about atomic warfare, they gave mainly two kinds of response. Either they recognized the danger but felt that something could be done about it, or they felt that there was no danger of atomic war and gave relatively well-thought-out and logical rationales for this judgment (indicating that they had faced the threat, but had concluded that it was not as great as originally conceived). In both cases, the danger was handled in a relatively realistic manner. These people were able, then, to look beyond the bomb to some of the constructive possibilities of atomic energy. Unimpeded by disorganizing fear, they were able to evaluate the discovery as a useful step in man's progress.

It was found, further, that there was a significant relationship between a feeling of effectiveness in public affairs and security feelings with respect to one's personal life. Those who were able to deal realistically with public affairs were also likely to feel satisfied with their own lives, confident about the future, and in control of their own futures. Ineffective people were likely to feel less in control and less optimistic concerning their day-to-day lives.

Two conclusions seem justified by these findings. The first has to do with the spread of nonreceptive, negative attitudes toward new atomic innovations. Since it appears that those who hold such attitudes are something like chronic pessimists, we may suggest that atomic energy is not creating unique negative reactions. People who are ordinarily secure and confident are not suddenly given to defeatism and fearful antiprogress sentiments when atomic energy is introduced. This means that a rapid spread of negative attitudes is not a probable danger.

The second conclusion relates to the problem of counteracting pessimism and nonreceptive attitudes where they do exist. The frightened people who hold such a position are relatively unable to distinguish between the good and the destructive sides of atomic energy. In helpless fear of the threat aspect, they confound the two sides and wish to undo the entire development. Presumably, if the threat of atomic war subsides in the world, these people will be able to look at atomic energy more realistically and will be more receptive to new innovations. Meanwhile, educational steps can be taken to help them differentiate more clearly between peacetime and military uses. Emphasizing constructive applications and clarifying their relation to the interests and experiences of the average person might go a long way toward building support for the new field and even toward helping ineffective people to place the danger elements themselves in a more realistic perspective. If it becomes clearer that good will be achieved by atomic energy, it may help this group to face the threat itself as a necessary condition for obtaining equally large benefits.

To summarize, the development of atomic energy, up to this point, has been tied largely to wartime needs and military demands. Peaceful applications have been comparatively modest and exceedingly specialized. Their consequences have not directly entered the life of the average citizen. His automobile is not run by atomic power; atomic power has not changed his job, his diet, his house, or his recreation.

In view of this lack of immediacy, it is not surprising to find that most people know very little about atomic energy and its peaceful uses. Even their lack of personal interest in the subject is more understandable when we consider this unreality. In addition, the public has not had access to much information. The press and other communication media have played up, for obvious reasons, the drama of the bomb rather than the less spectacular peacetime applications of atomic energy.

We often expect that events that are unknown and outside the mainstream of people's interests, if they are also major innovations, may be somewhat awesome and even frightening to people. While there is some indication that people are awed by the technical nature of atomic energy, there is relatively little indication that they are fearful and negative about it. A substantial majority is able to handle the danger implicit in atomic energy and feels optimistic about peacetime uses.

In cases where individuals are fearful and negative, their reactions appear to stem from personal insecurity rather than from the unique impact of atomic energy. Depending, as it appears to do, on elements of individual inadequacy, this pessimism toward the development is not likely to spread quickly through the general population. Also, there is some hope that the attitudes of the negative minority can be influenced by effective educational efforts emphasizing the constructive aspects of atomic energy.

References

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