

NEW TOOLS FOR AN ABUNDANT LIFE

A PROGRESSIVE PROGRAM TO SECURE FOR THE PEOPLE THE BENEFITS OF SCIENCE & TECHNOLOGY

Notice

This is a preliminary draft. It is proposed that this statement be rechecked by scientists, then rewritten by writers, and be illustrated by artists.

Science is a growing body of knowledge and also a powerful method of solving problems; it continually transforms the conditions of life and makes possible either a world designed for satisfying human needs or by contrast, a world equipped with the means of efficiently destroying all life. We choose the creative applications of science and reject its use for war or for the profit of the few at the expense of the many. More and more scientists are finding common cause with their fellow citizens in seeking a practical democratic means of realizing this essential goal. We wish to speak out with those who feel the great possibilities of science in the service of man and who realize that enlightened political action, independent of the old political parties, is a necessity. Fortunately in our United States of America it is possible to influence the trend of events by voting, by criticism or praise of government or corporate policy, by public discussion of issues, and in many other political ways, including the formation of new political parties.

There are a number of questions which need examination in this regard:

- (1) What is the role of science in our country at the present time?

It is generally acknowledged that science is not now being used for promoting the general welfare to anywhere near the extent possible. There are two major reasons: First, the drive toward war has diverted a considerable number of scientists from their normal peacetime activities. Basic scientific developments are invariably retarded by war or preparation for war since during such

periods most scientists are not gaining fundamental new knowledge as is their usual custom, but merely applying old knowledge for purposes that have little use in peacetime. For example, the emphasis on atomic bombs has resulted in shamefully few applications of atomic fission, even to purely scientific problems. Second, the motive for doing scientific research and for improving methods of production is primarily not one of public service but one of securing a private gain, whether or not it benefits the public. True, we can see a great many important benefits of science which are available to the common man, and these must not be discounted. However, these benefits come to us partly as a result of public support for research centers, such as medical institutes or government and university laboratories, partly as a result of public vigilance in exposing the profit-seeking arrangements of the corporations - and partly as a by-product of private industry. Some industries genuinely seek, through a program of scientific research, to improve the quality and decrease the cost of useful products. It must be remembered, however, that research is costly and its fruits usually take years to mature. Hence these progressive industries are exceptions and often yield to temptations of immediate profits, especially when they have acquired a monopoly position. Also, these same industries bring about their improvements at the cost of displacing labor or making labor more routine and less suited to human requirements. Science has been applied much more generally to improving a factory product than to the betterment of the worker in the factory. In addition, much research is done merely to keep possible competitors out of the field.

The common understanding that many inventions are secretly suppressed by private interests, cannot of course, be as fully documented as can the few examples of the opposite behavior. However, the electric battery industry furnishes an example of how this practice probably works out in many other cases. In this instance the record has been made clear by the proceedings of the Justice Dept. in a little publicized anti-trust suit against the major battery companies for their agreeing to withhold from the market a new nickel-cadmium battery which

would render obsolete the well known lead storage battery used in autos. The new battery is the result of prolonged scientific research and promises to have a much longer life than the old type. The cost per year to the average automobile owner would be sharply reduced if the new battery were marketed. However, a pre-war cartel agreement provided for a German monopoly of their manufacture. Hitler's submarines benefitted from the research, but we did not. A prime motive for the behavior of the American companies was the considerable cost of investing in new techniques and equipment coupled with the prospect of selling new batteries to car owners only once in six or eight years rather than every one or two years. Even some time after the court judgement against these companies, the new batteries were still not available, except through small companies for special industrial purposes.

In addition to outright suppression of ^{invention} progress, there also exists the widespread practice of "educating" the public through the advertising of misleading or false claims to accept goods which are of inferior quality to what could be made by the best known methods.

(2) What could we reasonably expect to achieve by a whole-hearted utilization of science? *what does science offer the people*

A study of available resources and well established trends in scientific progress shows that the following are among the many practicable goals:

A) Food Production: Rational methods of soil conservation, soil nourishment, combined with already known ways of breeding superior animals and plant stock would yield several times the present food production within a generation.

Entirely new agricultural techniques have been explored which promise still greater returns - or an abundance of food with far less labor than at present. For example, by growing plants without soil in water solution of chemicals, compact, relatively simple producing units can be set up wherever there is sunshine. Over 200 tons of tomatoes per water acre have been produced by this method. An even

greater advance is indicated by studies leading to the manufacture of synthetic basic food, perhaps in the form of fodder for animals, from bacteria, sea algae or chemical conversion of waste materials. This planet has the potentiality of supporting many times the present population. Even with proven methods of production there is no scientific basis for the idea that wars are an inevitable part of a struggle to achieve a share of dwindling reserves in an overcrowded world.

B) Housing: New materials can already be produced which would permit attractive low cost housing on a mass production basis. Air conditioning in all climates at low maintenance cost.....

C) Manufacturing and Mining: If a nation decides to make a long term investment in improving the quality of manufactured products and the methods of production, using present scientific and technical knowledge, a several fold increase in productivity could be expected within two or three decades. Consider for example the basic industries, coal and steel, which influence the entire economy. The underground conversion of coal to oil and gas by chemical means appears feasible from studies and experiments already made; it would vastly improve fuel and raw chemical supplies and eliminate one of the most disagreeable forms of labor. In the steel industry the use of liquid oxygen in place of air would increase the productivity of blast furnaces by a considerable percentage. A basic reason why so few of the possible steps are not now being taken is the reluctance of private enterprise to take on investments which do not pay for themselves within five years or so. In certain fields only public responsibility can be counted on to seek these long range benefits of science.

D) Power: Even before the recent spectacular release of atomic energy, the development of electric power was so thoroughly understood and water resources so great that an unlimited supply of power for most areas was in sight. This nation, particularly under the Roosevelt administration, made great strides in acquiring