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THE SIGNIFICANCE OF ELECTRICITY

by

Vice Admiral H. G. Rickover, U. S. Navy
upon accepting

THE PROMETHEUS AWARD

from

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DIRECTORATE FOR SECURITY REVIEW (OASD-PA)
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Most of us are so absorbed in our daily tasks that we give little thought to the deeper significance of our work. We live in an age when spectacular events occur daily, but they seem to be generated by relatively few occupations--by statesmen, scientists, men in space, just as in past ages the noteworthy deeds were done by warrior kings, scribes and priests. Yet much of the essential work of the world is performed by people who rarely are deemed newsworthy. Indeed, it is only in modern times that the part played in human history by the artisan and the trader has been recognized. To the artisan we owe all the fundamental tools--the wheel, the lever, the beginnings of metallurgy. To the trader we owe the spread of these arts along the trade routes of the world. The point I wish to make is that there is significance in any task well done if it contributes to human happiness and welfare.

The work of people who make electrical machinery and equipment is seldom considered dramatic or spectacular. Nor do we who are involved in this field think much about the inner meaning of our work. It is about this meaning that I should like to say a few words.

As you are aware, I have been closely associated with the electrical industry and its products for forty years--from the time I became electrical officer of a battleship in 1925, followed by graduate study in electrical engineering, then in charge of the electrical section of the Navy during the war, and finally my deep involvement with you in the creation of an atomic power industry for the Navy and for central stations.

I might cite statistics showing the expansion of generating capacity in the Navy and in the United States as a whole to show what progress has been made, and be content with this to prove the importance of your endeavor. But I would like to go a little deeper and try to evaluate the fundamental accomplishment of the electrical industry in providing our society with the foundations for a civilized life.

First, I would count the contribution to human happiness which it makes by giving us light. One has to have seen the darkness that envelops primitive man half his lifetime to grasp the enormous boon to human beings of living in well-lighted homes. Before the coming of electricity, most people could do little but sleep when the sun went down. The sun dictated the beginning and end of productive activities, of work, of study, of play. We often speak with gratitude of the great gift of longevity modern medical and public health sciences have given us. Electricity's gift has been to enlarge the portion of the day that can be used for productive and enjoyable activities. By adding hours to each day, it, too, lengthens the span of conscious life. I can think of no single material blessing I would rather have than electric light, and if I had to do without modern conveniences, this is the last one I would willingly forego. It has always seemed to me a significant coincidence that Goethe's last words,

as he lay dying in 1832, were "light--more light." And, as if in answer to his plea, the electric dynamo was invented shortly thereafter.

Second, I would stress the significance of electricity for the enhancement of human competence. There is much evidence that anatomically and physiologically man has changed little in the last 30,000 years or so. The innate capacity of today's newborn child does not appear to be superior to that of a child born into a family of Upper Paleolithic cave dwellers. It has been said by scientists that if a newborn child of that period could be placed into our century, it would be able to develop as our own children do. Where modern man differs is in his ability to utilize the capacities with which he is born. We have advanced greatly in knowing how to develop a child's native endowment through formal and informal education, most significantly through the means he now has to profit from the experiences and records of past generations. It is through external aids that mankind can rise in competence, in wisdom, in humanity.

Here the electrical industry plays an important role. We speak of ours as the age of the Second Industrial Revolution, or the Cybernetics Revolution, or the Scientific Revolution. I believe it might more aptly be called the Electrical Age. Electricity supplies us with all manner of tools and machines which multiply the capacity of the human brain. If I may be somewhat fanciful, I would say that the brain has become similar to the grid of a vacuum tube or a transistor which can amplify and control our mental energy a thousand, nay a million fold.

Third, I would cite the opportunity electricity provides for man to live under governments based on democratic ideals--this I count your most important contribution.

Two and a half millennia ago the Greeks learned that democracy was possible only when citizens had slaves to do much of the daily tasks of life, for unless they had time to study and to participate in civic affairs democracy was not viable. Electricity now provides each citizen of the United States with hundreds of mechanical slaves who do much backbreaking, disagreeable work--thus affording us the leisure to improve ourselves and to participate fully in the governance of our nation.

I am proud to be associated with a group of men whose work contributes to human dignity, ability and political potential. Therefore, I accept the Prometheus Award as a great honor and with great pleasure.