

# THE RESEARCH SCIENCE AND THE SHAPING OF MODERN LIFE REVOLUTION



A VIEWING AND DISCUSSION  
PROGRAM IN  
AMERICA'S LIBRARIES

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## Introductory Essay The Research Revolution

The twentieth century has witnessed many extraordinary events and experiences, but none more significant than the pace of scientific discovery and technological transformation. Together they have fundamentally altered almost every aspect of life as it is lived. These rapid advances in scientific research and technological development threaten to outpace the understanding of many Americans. According to recent studies, only one in nine Americans feels sufficiently well informed about science and technology. An informed citizenry in a democracy such as the United States is obliged to examine and to discuss important research-inspired discoveries, and to assess how the world as a whole, and people as individuals, have changed as a result.

About a century and a half ago, goal-directed scientific research began to impact everyday life in direct and important ways. In university laboratories and industrial research laboratories, the intersection between scientific research and industrial development began to produce important new materials such as plastics, polymer fibers such as nylon, new dyes, explosives, pharmaceuticals and a wealth of other products unknown in the natural world. Artificially created substances have transformed not only how we live our daily lives, but also the very way we view the relationship between the natural and the artificial. War and national defense have been revolutionized by the infusion of scientific, technological and even social research. Even at the most basic levels--the way we view ourselves in relation to our natural environment--our outlook on the world has been profoundly affected. The film/discussion series "The Research Revolution" will provide an historical perspective and a contemporary context for these critically important scientific/social issues.

Understanding the historical evolution and the contemporary character of the Research Revolution will enable us, as citizens, to deal more effectively with the new choices that rapid scientific change creates. The series will help illuminate for us the organization and goals of scientific-technical work, the critical outcomes of research and development, the material and social byproducts of such work, and the ethical issues that sometimes result.

The key components of The Research Revolution are documentary films, which place the scientific discoveries in historical context, carefully selected readings, and scholar-led discussions in library venues around the United States.

The first of the films is "I Am Become Death," which raises the ultimate moral questions of the powers granted by science and technology in the context of the dropping of the atomic bomb. But the same kinds of moral and political questions are raised not only by the destructive forces of the atom, but also by constructive attempts to apply science and technology to our own bodies.

"Into the Body," our second film, is an exploration into the increasingly blurred boundary between mankind and machines, and raises important questions concerning the relationship between the "natural" and the "artificial." The third and fourth films "Our Genes, Our Choices: Who Gets to Know?" and Gene Squad discuss the impact and implications of the new molecular genetics and its applications, both to forensics and to our personal well-being. If "Into the Body" traces the applications of the research enterprise to our bodies, these two films peer within and beyond our bodies to our progeny, our future.

The final two films in the series, "What's Up with the Weather?" and "Natural Connections" go beyond ourselves as individuals to the responsibilities of the human race as custodians of the earth, dealing with such large questions as global warming and our need to maintain the diversity of species on the planet as part of our stewardship of the earth.

These issues have leaped from the classroom to the daily newspaper, from academia to citizenship. Ideas matter; science matters; people matter.

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