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## Gordon Battelle

This month marks the hundredth anniversary of the birth of a little-known but great supporter of scientific research in the United States. A businessman with no credentials in science, he nonetheless added a new dimension to the nation's research structure. That person was Gordon Battelle, founder of Battelle Memorial Institute, who was born on 10 August 1883.

Battelle, son of a wealthy Ohio industrialist, might appear on the surface to have been most unlikely to found an organization dedicated to scientific research. He was not a scientist or engineer; he was not an inventor. He did not discover anything. Yet his conviction that research has practical value has had important consequences.

Battelle's brief life—40 years—spanned a period of great industrial expansion during which invention and applied research moved from the lone inventor's workshop to the company-built laboratory. His first interest in research was apparently sparked by a former university professor who was trying to develop a process to recover valuable chemicals from waste products of mining. Battelle set up a small laboratory for the research and eventually a commercial process was perfected.

When Battelle died in 1923, he left most of his sizable estate to found an institute that would be a place for "the making of discoveries and inventions" and that would be wholly independent of government, academic institutions, and industrial companies. He did not spell out the concept of contract research in his will. He did, however, create an institution ideally suited to employ that concept.

Thus the first independent, nonprofit, contract research institute came into being. It is indicative of the usefulness of this addition to the nation's research resources that Battelle Memorial Institute, during its 54-year history, has grown from an organization of some 30 people to one with a worldwide staff of some 7200. More important, the institute has served as a model for other independent contract research organizations throughout the world. Today there are at least eight other independent research institutes scattered across the United States. Each year they serve the research needs of thousands of companies and government agencies. Within Battelle alone, for example, in 1982, more than 3200 studies for about 2300 industrial and governmental sponsors in 47 countries were in progress.

The independent research institutes had combined research expenditures in 1982 of more than \$900 million and they played a vital role in technological progress. They have been the catalyst for a long list of achievements, including the first practical tape recorder, the commercialization of xerography, the first video disc, special paint used to coat such space vehicles as Skylab and Columbia, anticancer drugs that are used worldwide, and one of the first uses of bacteria for industrial waste management.

These institutes have grown and flourished because they meet real needs of industry and government; they are eminently practical. By their nature, they offer scientists an alternative to research careers in either an academic institution, a government laboratory, or a captive research center of private industry. The independent institutes have their greatest appeal for the scientist who enjoys the challenge of being an entrepreneur—of identifying a real-world need, "selling" the idea to a company or government agency, and leading the research to fill that need. This is a kind of research that calls for alertness to change, sensitivity to market forces, and innovation. Some scientists find this environment exciting; others find it frightening. Nowhere else in the world of research is the value of the work so frequently weighed against its cost.

These, then, are some of the features that set the independent institutes apart and make them valuable. In view of the many contributions of the independent institutes, it is no exaggeration to say that Gordon Battelle was a man with a vision. We need many more people with his faith in the value of science and research.—SHERWOOD L. FAWCETT, *Chairman and Chief Executive Officer, Battelle Memorial Institute, Columbus, Ohio 43201*