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See: *Hungarians in America*  
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## **Man is not a robot**

**ROBOTS, MEN AND MINDS:**  
**Psychology in the Modern World.**  
By Ludwig von Bertalanffy. Bra-  
ziller. 150 pp. \$5.

By Alan A. Stone

When Sigmund Freud first turned his interest from the neurosciences to human behavior, he tried to create a theory of mind based on what he had learned during his many years in the laboratory. At that time he wrote a manuscript which attempted to explain psychology in neurophysiological terms. It was published posthumously as *Project for a Scientific Psychology*. One of the many remarkable things about this document is that despite Freud's later claim that he had repudiated his effort to explain psychology in physical terms, one can find in the *Project* nearly all of his later theoretical concepts, though of course in a germinal form.

Freud never entirely escaped the framework of his original scientific concepts; they returned in various disguises to shape major portions of his later think-

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ing. Much of what seems mechanistic, many of the confusing notions of energies of the mind in psychoanalysis, are in fact based on the now antiquated physical scientific thinking of Freud's day.

Psychoanalysis is, however, not the only human discipline affiliated with this historic dependence on the conceptual thinking of the physical sciences. Auguste Comte, the father of sociology, far from renouncing physical science, proclaimed with satisfaction that he had shown "that the physical laws which are the basis of the theory of motion and equilibrium" could be extended to the "social form of existence."

Since all scientists, be they physical or social, must develop concepts or "models" to understand reality, it is not surprising that in this task they often rely for their "models" on what has worked best in other sciences. (Most often, they use Newtonian physics.)

Science in the past century often worked best when it could isolate a piece of nature, carry it into the laboratory and work on it. This tendency to study isolated fragments of nature has

## ***nor his mind a computer***



*Ludwig von Bertalanffy*

a great virtue: It permits one to break down complex phenomena and study them in manageable parts. However, it has often led to false assumptions. First, that the parts of nature one studies are somehow preestablished—in the natural order of things—rather than based simply on scientific convenience. Second, science too often assumes that if we isolate the pieces of a living system and study each of the components we can understand the whole system simply by putting the pieces of understanding back together like the pieces of a jigsaw puzzle. It is still, in the 20th century, hard for many scientists to accept that their basic concepts are not realities, but rather “models” of reality devised only to permit experimen-

tation and, at best, predictability of events.

Over the past 40 years Ludwig von Bertalanffy has established himself as one of the most important voices in this discussion of “models”—the conceptual framework of scientific theory. As a biologist he has a fortunate position, standing somewhere in the middle of an imaginary continuum that runs from the inanimate to the animate worlds. Von Bertalanffy's importance results from his creative use of his position to look to both sides of his own scientific area and to refine the framework in which scientific observations and scientific theories have been made and shaped. He can appropriately be called the father of the “general systems” approach—a



forward-looking attempt to develop models of science based on an ongoing system rather than a static or mechanical state. Von Bertalanffy believes that nearly all of the social sciences of the first half of the 20th century have been based on physical models that are outdated and mechanistic, reducing psychological man to a robot and his mind to a computer. In his latest book, he sets out to demonstrate this.

Unfortunately von Bertalanffy has dipped his pen into the jargon of at least ten different scientific disciplines and poured them onto the pages of this book with an indiscriminate largesse that will bewilder the average reader.

*Robots, Men and Minds* consists of two essays. In the first, von Bertalanffy surveys the image of man in contemporary psychology and social science, and in the second he presents a "new natural philosophy." Both essays are loosely structured and free-swinging and present many of von Bertalanffy's highly original and persuasive ideas. But what is surprising in a man of von Bertalanffy's stature is a kind of dogmatism that tars with the same brush such unlikely bedfellows as input-output economics, cybernetics, behavior-

ism, neobehaviorism and psychoanalysis.

All of these, he says, are mechanistic closed systems, portraying men as robots and undermining human values. "I don't care a jot," he says, "whether and to what extent professors A, B, or C have modified Watson, Hull and Freud, and have replaced their blunt statements by more qualified and sophisticated circumlocutions. I do care a lot that the spirit still is all-pervading in our society and even more, seems necessary to keep it going; reducing man to the lower levels of his animal nature, manipulating him into a feeble-minded automaton of consumption or a marionette of political power." The effects of this manipulation, according to Bertalanffy, are (1) the "unspeakable vulgarity of popular culture," (2) "unbearable children," (3) the filling of "thousands of mental hospitals," etc.

Although von Bertalanffy concedes that all this has "deeper social and historical roots," he claims that the "behavior boys," just like the "atom boys," have made the system efficient. Von Bertalanffy's indictment is sweeping, inclusive, erudite and unbelievably overstated. It is true that much of social science is based on a mechanical "mod-

el," but it is abundantly clear throughout the history of science that this is how most new scientific disciplines begin. Furthermore, it is equally true that much of physical science still functions effectively on that old-fashioned basis and that this "mechanistic" approach still holds great promise in the social sciences.

It is also true that our world has lots of problems, and to blame so many of them on the mechanical models of social science is akin to blaming the speedometer for an automobile accident that occurs at high speed.

Although there is bombast and cluttered rhetoric, there is also wisdom and poetry in this slender volume. The range of ideas, the breadth of knowledge, the scope of its theoretical conceptions make it a fascinating challenge to the traditional scientific point of view. Perhaps the measure of Bertalanffy's ranging intellect is that despite its flaws of jargon and disorder, he has created a book which will stick with the careful reader, making him both wonder and worry about science and its models of reality. ✱

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