

Deutsch K W. *The nerves of government: models of political communication and control*. New York: Free Press, 1963. 316 p.  
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*The Nerves of Government* applies concepts of the theory of information, communication, and control to problems of political and social science. Key notions are Norbert Wiener's use of the concepts of "feedback," "channel capacity," and "memory." From these, concepts of "consciousness," "will," and "social learning" are developed by the present author. These ideas have found further application in the development in the computer-based political world model GLOBUS at the Science Center Berlin for Social Research. [The *Social Sciences Citation Index*® (SSCI®) indicates that this book has been cited in over 550 publications.]

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This book began in 1943, when the mathematician Norbert Wiener walked into my office at MIT and recruited me at the point of a cigar into a long process of communication. It started with a discussion about my field, international politics, but soon turned to his own work on communication and control in machines, animals, and societies.<sup>1,2</sup> His was the most powerful and creative mind I have ever encountered. We remained in close intellectual contact until I moved to Yale in 1958, and we remained close friends until his death in 1974.

His ideas were just what I needed to develop my own. I had been working for four years, first at Harvard and then at MIT, in search of a usable theory of nationalism and the economic and social conditions giving rise to it. During those four years I had immersed myself thoroughly in the historical, descriptive, and analytical studies of nationalism by many authors, among whom Rupert Emerson, Hans Kohn, Carlton Hayes, and Joseph A. Schumpeter were outstanding, but none of these seemed to me to provide adequate answers of how and why nationalism was generated worldwide within less than the last 200 years. Now, from Wiener and his associates, Walter Pitts, Oliver Selfridge, and others, I learned about the concept of *information*, which the work of Claude E. Shannon had made measurable<sup>3</sup> and which, as Wiener showed, was at the heart of all communication and control processes. The concept of feedback, then only known to a few engineers, was extended by Wiener to biological and social sciences and became another essential contribution to these wider fields. These ideas then became major elements in my own work on nationalism, and from then on, in my own thinking, particularly about the social sciences.

I published my analysis of nationalism in 1953, and some of my general ideas on communication theory and social sciences appeared in various social science journals between 1947 and 1953.<sup>4</sup> They were part of an ongoing discussion and went, in part, beyond the work that Wiener had done. When Selfridge remarked that the notions of "national consciousness" and of consciousness in general had no "operational meaning"—a term coined in 1927 by the physicist Percy W. Bridgman<sup>5</sup>—I felt challenged to provide one. The passages on "consciousness" in *The Nerves of Government* were the result, and my notion received a friendly reception in some quarters.<sup>6</sup>

When I moved to Yale in 1958, some of my younger colleagues there—particularly Richard L. Merritt, Bruce M. Russett, and Leroy Rieselbach—urged me to organize my ideas on cybernetics and social sciences into a book, and *The Nerves of Government* appeared in 1963. Its ideas struck many colleagues as unfamiliar, and it made its way slowly.

The main obstacles to the wider acceptance and use of a cybernetic approach to politics have been twofold. It seemed too complex to those colleagues habituated to a humanistic and literary approach to politics, and even to those already used to simple analyses of statistics, correlations, and regressions. And secondly, there was a lack of suitable data, particularly on time variables and changes over time. Though now, more than 20 years later, much more data have become available,<sup>7</sup> the shortage of data on time variables has not yet been wholly overcome.

Since the 1960s, the approach of communications theory and cybernetics has become widespread in the social sciences. The terms "feedback," "steering," and "learning capacity" have become almost common in the analysis of political systems. By now this approach has become part of general systems theory (see, for example, the journal *General Systems*), and it has become an essential element in the interactive computer modeling of national and international political processes.

The computer-based political world model GLOBUS at the Science Center Berlin (Wissenschaftszentrum Berlin [WZB]) continues this intellectual development.<sup>8-10</sup> With the help of computer simulation methods developed at WZB by Stuart Bremer, Thomas Cusack, Wolf-Dieter Eberwein, and their associates, this model traces the interactions among 25 major nation states and in six sectors within each of them from 1960 to 1978, and then projects these interactions and their results to the year 2010, in 10 feedback cycles per year. This required the empirical estimation of several thousand parameters, showing the size and possible asymmetry of interaction among key variables. The model has been running since 1983; publications documenting it and presenting early results are forthcoming. In this manner, as well as in others, the approach of *The Nerves of Government* is still at work.

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