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The Cybernetic Theory of Decision: New Dimensions of Political Analysis

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but for each aircraft shot down, more than two U-boats were lost.

Admiral Doenitz had forgotten that his objective in this phase was to run the U-boats through the aircraft patrol areas with the minimum possible loss. Had he ordered his crews to surface at night to use their diesels and accepted the loss of some boats to unalerted air attack, his force would have suffered less. Since the centimetric radar fitted aircraft could also join in the day battle, the German decision to surface during the day multiplied the RAF's effective force by a factor of six.

But the next step the Germans took is even more amazing. Baffled by their failure to detect anything on the NAXOS receiver, they concluded that the RAF must be using some other method to detect surfaced submarines. Suspicion centered on the METOX receiver used to detect metric radars, as it did produce some low-powered spurious emissions. So the Germans took it out of service, depriving themselves of a still useful countermeasure, while their industry delayed work on the centimetric NAXOS, to concentrate on the unnecessary task of producing a nonemitting metric receiver.

Alfred Price draws a comparison between the scientific advice available to the two adversaries at this stage in the war. The British had the inestimable benefit of their so-called "Sunday Soviets," informal weekly meetings where senior command officers, scientists concerned with radar development, and junior operational officers from the frontline would meet for a frank exchange of views. This brought "reality" to the scientists, frequently mesmerized by the brilliance of what they were inventing; tempered the views of senior officers, many of whom had their "ears pinned back" by enthusiastic juniors; and brought hot technical tips to the operators. On the other hand, Doenitz' operational staff in Paris, consisting of seven action-tested ex-U-boat captains,

average age 33, had no contact with the current U-boat commanders and the scientists. Indeed, until the end of 1943, the German Navy thought this was unnecessary and even diverting from the principal task. "Could any matter in naval warfare be all that far beyond the grasp of a trained and dedicated naval officer?"

I have heard this question posed rhetorically in the Naval War College. While by no means advocating the abdication of the naval officer's control of his profession, I strongly recommend that anyone thinking about this question read *Aircraft Versus Submarine*, at least to discover the painful route the German submarine service chose to find a way to the answer.

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Steinbruner, John. D. *The Cybernetic Theory of Decision: New Dimensions of Political Analysis*. Princeton: Princeton University Press, 1974. 366pp.

There are many paradigms or models which the analyst can apply to understanding the policy process. Three of the models most in vogue among contemporary analysts are the rational, cybernetic, and cognitive. The rational model implies that the decisionmaker sets forth his objective, lays out his options, and chooses that option which holds the most promise of achieving the desired objective at an acceptable cost. On the other hand, the cybernetic model assumes that the policymaker uses simple decision mechanisms to adapt to a complicated environment. The cognitive model falls somewhere in between the extremes of the rational and cybernetic paradigms. It implies that the options selected by decision-makers are a result not of cost benefit analysis but of past experiences.

In this volume, John Steinbruner argues that the cybernetic paradigm

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yields more insights into the policy process than either the rational or the cognitive models. He does not contend that either of the two other models are irrelevant for policy analysis. Rather, the author feels that the cybernetic paradigm can handle complexity better and that public policy decisions in the United States are becoming increasingly complex.

Steinbruner divides his discussion into two equal parts. The first five chapters outline the theoretical distinctions between the rational, cognitive, and cybernetic paradigms. The last five chapters analyze the multilateral force decisions in the 1956-64 period from the perspective of each of the three paradigms. The author's conclusion is that in the MLF case cybernetic approach is superior to the rational and cognitive models as an explanatory device.

Steinbruner's primary purpose in writing this book, which was his dissertation at MIT, seems to be to attack what he perceives as an excessive reliance by analysts of the U.S. national security policy process upon the rational or analytical model. According to the author, even scholars like Neustadt, Huntington, and Allison, who emphasize the political and organizational components of the decisionmaking process, are guilty of a rational bias. In Steinbruner's opinion, the works of these analysts indicate that the actors in the policy process who are motivated by political and organizational interests are making deliberate calculated choices to maximize those interests. The normative implications of the rational paradigm disturb Steinbruner a great deal because this viewpoint makes it seem that the U.S. Government is structured in such a way that it can rationally and systematically handle complex policy problems.

According to Steinbruner, "Let us, as best we can, stop fooling ourselves; (that the policy process is rational) let us understand better what we really are

about." He thinks that the U.S. Government acts more like the human brain, i.e., it devises simple decision mechanisms to produce highly adaptive outcomes in complicated environments.

The author is less concerned about the cognitive theorists because there are fewer of them and because he apparently views cognitive theory as a transition between the rational and cybernetic paradigms.

The case study portion of the book is excellent. It is the most complete analysis of the MLF controversy ever prepared. Steinbruner has done to the MLF controversy what Graham Allison has done to the Cuban missile crisis. However, the study has two defects. First, the theoretical portion is quite confusing. It is very difficult to discover precisely what the author means by the cybernetic paradigm and how he distinguishes it from the cognitive paradigm. At some points in the analysis, Steinbruner treats cybernetic theory as a species of cognitive theory, at other times he uses them interchangeably, and at still other times the author views them as separate paradigms. Second, the author is guilty of the same failing for which he condemns other political scientists, i.e., his use of the cybernetic paradigm implicitly postulates that the U.S. Government is incapable of handling current public policy questions in a rational way.

The theoretical portions of this book would be suitable for a graduate course in political theory and analysis and would be quite relevant for those political scientists who are concerned with the normative implications of their policy research. It would be totally unsuited to those not concerned with such matters. The MLF study is an excellent case analysis for students of the policy process.

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