authors, is for a type of residential environment very different from the usual shelter, one that offers the urban poor an alternative to dependence and isolation. The central message of *New Homeless and Old* is that SRO housing has done just that for the past century. Consequently, the portion of the SRO stock still in existence should be strictly protected, and additional units with similar virtues created, if the ranks of the homeless are to be kept from swelling further.

BARRETT A. LEE
Department of Sociology, Vanderbilt University, Nashville, TN 37235

Eight Years of the AEC

Atoms for Peace and War, 1953–1961. Eisenhower and the Atomic Energy Commission (A History of the United States Atomic Energy Commission, vol. 3.) RICHARD G. HEWLETT and JACK M. HOLL. University of California Press, Berkeley, 1989. xxx, 696 pp. $60. California Studies in the History of Science, vol. 4.

In 1962, Richard G. Hewlett and Oscar E. Anderson, Jr., offered a comprehensive and revealing account of the dawn of the nuclear age in the first volume of the official history of the Atomic Energy Commission, *The New World, 1939–1946*. In a second volume published in 1969, Hewlett and Francis Duncan continued the story through the end of the Truman years. Now Hewlett and Jack M. Holl have written the third volume in the history of the AEC.

Like its predecessors, *Atoms for Peace and War* has both the virtues and the vices of institutional history. With privileged access to classified materials, the authors are able to bring to light many controversies and policy debates that took place behind closed doors. Yet their evident loyalty to the organization for which they worked makes them hesitant to criticize the often flawed decisions they chronicle. To their credit, however, they lay out the full story and enable discerning readers to reach their own conclusions.

As with the earlier volumes, the coverage is impressive, ranging from the debates over how to use nuclear power to generate electricity to the development of the deadliest weapons in human history. Along the way they provide one of the best concise accounts of the Oppenheimer affair, a clear history of Eisenhower's Atoms for Peace initiative, and a balanced rendering of the partisan battle over the development of nuclear power, with Democrats insisting on a major role for the government while the Republicans championed a free enterprise approach. Although their principal concern is with policy issues, the authors still offer interesting insights into the personalities involved, providing a revealing contrast between the manipulative and devious Lewis Strauss and the more open if equally overbearing John McCone.

In the nearly 600 pages of text, three themes stand out clearly. The first is the close connection between the two seemingly different concerns of the AEC—atoms for peace and atoms for war. With the Cold War at its height in the 1950s, the Eisenhower administration sought to win the race with the Soviet Union in both areas. In making his Atoms for Peace speech at the United Nations in 1953, the President was seeking a way to force the Russians to divert some of their relatively scarce fissionable material to peaceful uses. And as the decade advanced, American leaders worried that the Russians might be taking the lead in developing large-scale nuclear power. Senator Estes Kefauver warned in 1956 that the United States had "fallen woefully behind" the Soviet Union in harnessing the atom for peaceful uses, while his Tennessee colleague Albert Gore termed such an outcome "catastrophic" (pp. 342 and 343). The greatest irony of all was the belated realization that Atoms for Peace could lead directly to the proliferation of nuclear weapons. The AEC sought to place stringent safeguards on the nuclear fuel supplied to reactors overseas, since in just a year the generation of 100 megawatts of electrical power produced 100 kilograms of plutonium. By diverting only a small portion of this deadly by-product, another country could make several atomic bombs a year.

A second theme lies in the conflict of interest the AEC faced over the issue of nuclear testing. Fallout from both the atomic tests conducted in Nevada through the 1950s and the H-bomb explosions in the Pacific raised a new and serious threat to public health. The continental tests produced local fallout that killed sheep on western ranges and exposed citizens in communities such as St. George, Utah, to serious levels of radiation. Yet the AEC, intent on continuing the Nevada tests, which were far cheaper and more convenient than those in the distant Pacific, kept a tight lid on the relevant data while insisting that there was no public danger. The AEC was even more guarded about the problem of global fallout from both Russian and American H-bomb tests, delaying the release of a report on the radiation hazard from testing until forced to make it public and then minimizing its ominous implications.

Congressman Chet Holifield of California, chairman of the Joint Committee on Atomic Energy, focused on the essence of the problem when he asked, "Is it prudent to ask the same agency to both develop bombs and evaluate the risks of fallout?" (p. 455). As the authors point out, there was a clear conflict in having the AEC responsible for conducting the weapons tests and for providing both the administration and ultimately the American people with the facts about fallout. Desire for perfecting new and more effective weapons took precedence over public disclosure. Led by commissioner Willard Libby, the AEC kept minimizing the potential dangers from both local and global fallout. Failing to see radiation as a serious threat to public health and safety, Strauss and his fellow commissioners treated it as a public relations issue; they seemed concerned only with reassuring the American people in order to permit testing to continue unabated. Thus in 1955 Strauss stated flatly that the radiation hazard in Nevada had been confined to the test site and that the highest dose at an off-site community was only one-third of what he termed the AEC's "conservative safety standards" (p. 286). Yet one of the 1953 Nevada tests exposed the citizens of St. George, Utah, to an estimated 6.0 roentgens of fallout, far beyond the 3.9-roentgen limit the AEC had set for this series.

The third and most explicit theme that Hewlett and Holl develop is the central role played by Dwight D. Eisenhower in shaping American nuclear policy in the 1950s. They argue that Eisenhower grasped the moral dilemma inherent in relying on nuclear weapons to preserve the peace and worked hard both to perfect peaceful uses of atomic energy and to restrain the race for more deadly weapons. Citing his statement to aides "that nobody can win a thermonuclear war" (p. 335), they claim that the President was personally responsible for the decision to seek an end to nuclear testing as a first step toward meaningful arms control. When Adlai Stevenson made a unilateral test ban a campaign issue in 1956, Eisenhower was forced to oppose it, but he never wavered in his search for a way to negotiate an end to nuclear testing with the Soviet Union despite the continued resistance of the AEC under both Strauss and McCone. Declaring that he would not be "crucified on a cross of atoms" (p. 401), Eisenhower finally endorsed the findings of the new team of scientific advisers brought into the White House after Sputnik and entered into a moratorium on testing with the Soviets that ended all further nuclear explosions during his presidency.

While correct in giving credit to Eisenhower for refusing to be bound by the parochial arguments of his own advisers, the authors neglect the equally important role played by private citizens in forcing the

government to come to terms with the realities of the thermonuclear age. The worldwide protest against atmospheric testing and its deadly by-products stemmed from the outcry of such concerned scientists as Albert Schweitzer, Linus Pauling, and Ralph Lapp. Refusing to accept the assurances of the AEC, these men informed the people of the danger facing mankind and brought to bear the pressure of world opinion that persuaded Eisenhower that American interests would be best served by entering into a ban on testing. That President Eisenhower rose above the narrow concerns of Strauss, McCone, and the AEC is testimony not only to his good judgment but to the determination of scientists dedicated to what was best not just for the United States but for the entire human race.

ROBERT A. DIVINE
Department of History, University of Texas, Austin, TX 78712

Cognition and Its Disorders

From Neuropsychology to Mental Structure. TIM SHALLICE. Cambridge University Press, New York, 1988. xvi, 462 pp., illus. $59.50; paper, $24.95.

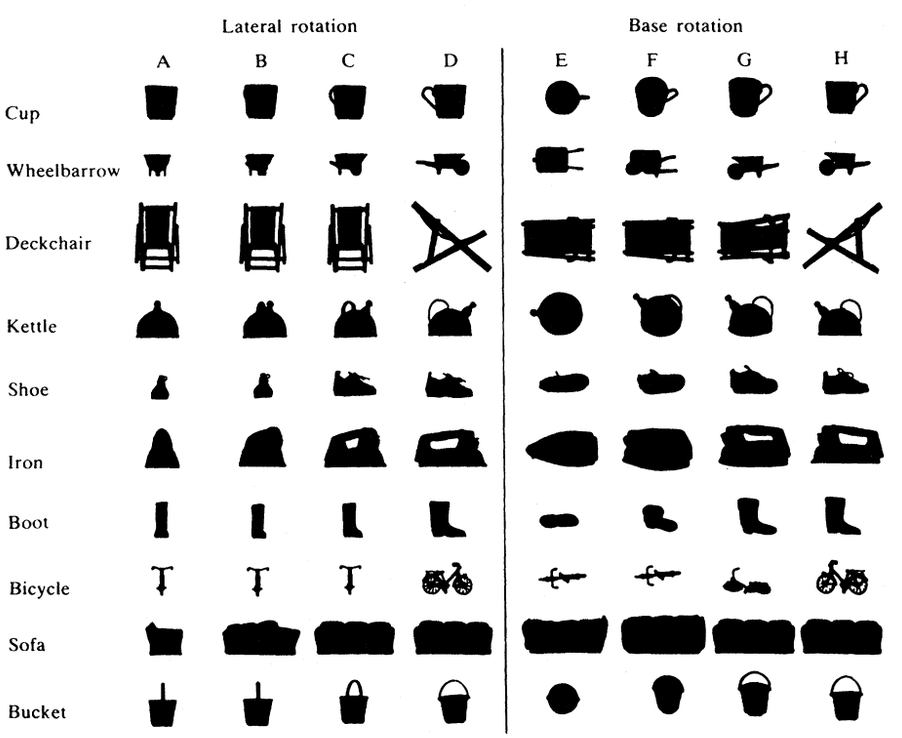
Shallice's book belongs to a branch of cognitive psychology (designated cognitive neuropsychology) whose aim is to learn more about normal cognition by studying patterns of impairments to cognition that have been caused by brain damage. Such patterns of impairment can be remarkably selective—hence remarkably informative. In some people with defects in the comprehension of words, the comprehension impairment can be confined to animate objects, with intact understanding of words referring to inanimate objects. Difficulties in producing words can be restricted to the production of proper nouns. Some patients whose reading of content words such as *elephant* or *chrysanthemum* is good cannot read even the commonest function words such as *the* or *and*. Examples of such selective deficits are now legion in cognitive neuropsychology. They show that cognition must be profoundly modular. Our semantic systems must have separate subsystems for animate and inanimate concepts; our knowledge of names must involve one subsystem for proper nouns and another for common nouns; and there must be separate lexical systems for content words and function words. These are claims about normal cognition; but they are made on the basis of studies of people with damaged cognitive systems.

In this book Shallice attempts two tasks. First, he expounds and scrutinizes theoretical ideas about major cognitive abilities, including memory, the perception and production of spoken and written language, attention, visual object recognition, the planning of action, and consciousness. Thus the book is a book about cognitive psychology; the fact that all the empirical results discussed in it happen to have been gathered from neurologically impaired people rather than from college students is, a cognitive neuropsychologist would argue, of no particular significance.

The second task of the book is to explain in detail basic ideas underlying the practice of cognitive neuropsychology and to subject these ideas to critical analysis. The emphasis on the single-case study, the structure of inferential arguments based upon double dissociations of function, the syndrome and the symptom complex, the Fodorian claim that modularity cannot be a property of such "central" processing systems as the calculation system—these are some of the fundamental ideas to which Shallice devotes attention. Hence the book is intended to contribute generally to cognitive psychology as well as to the understanding of clinical phenomena.

There is much in the book for cognitive neuropsychologists to argue about; let me give a couple of examples. A good deal of work in this field is characterized by an insistence upon single-case studies coupled with an indifference toward neurological information about the patient under investigation. The argument for this goes as follows. Any interesting cognitive system (the language-processing system, say) will consist of a very large number of individual processing components. If so, the likelihood of any two brain-damaged individuals having suffered precisely the same pattern of impairments and preservations of this set of components must be very small. Averaging over patients will thus not be justified, since each of the patients in a group will be different.

As for neurological information such as etiology or location of damage, the cognitive neuropsychologist may argue that what matters is what components of the system are damaged, not what the cause of the damage is—what difference does it make whether, say, the letter-recognition system was damaged by stroke, cerebral hemorrhage, or gunshot wound? And of what use, for the purposes of cognitive neuropsychology, is information about lesion location—how could such information assist in the task of learning more about normal cognition from studying acquired impairments of cognition? Shallice refers to this position—the complete rejection of group studies and the indifference to neurological data—as "ultra-cognitive neuropsychology" and



Two types of rotation, A–D and E–H, studied by Warrington and James (1986) . "The task of the subject was to identify the object at the smallest possible angle of rotation. Two groups of subjects were used: patients with right hemisphere lesions and normal controls. As expected, the right hemisphere patients were impaired on the task." [From *From Neuropsychology to Mental Structure*]