believed that life had a special character apart from its physical aspect, he postulates an influence "across space and time unlike any known type of physical action." Once established within a species, a characteristic is *somehow* transmitted to all members of the species. Sheldrake does not explain why or precisely how an organism takes the form it does. But, as more and more scientists have been pointing out, "traditional" biology has not provided a satisfactory theory either. Sheldrake's book challenges biologists to look at assumptions too long taken for granted.

THE
MICROELECTRONICS
REVOLUTION:
The Complete Guide
to the New Technology
and Its Impact on Society
edited by Tom Forester
MIT, 1981, 589 pp.
$25 cloth, $12.50 paper

Behind the most recent industrial revolution is the tiny silicon-chip integrated circuit of the new miniaturized computers. Barely 20 years old, it far surpasses the transistor in complexity and speed of computation. Though the United States leads in the microelectronics field, Forester, a former correspondent for *New Society*, believes that most Americans are ignorant of what the industry has wrought and what its growth portends. Proceeding from this premise, 43 scientists, philosophers, and other contributors discuss the computer's pervasive influence in areas ranging from military weaponry to town planning. Designs or prototypes exist for fully automated factories, domestic robots, synthetic neural tissue—even robotic medical consultants and legal arbiters. Among the potential effects debated here are automation-induced unemployment and, with the increasing interconnection of data banks, invasion of privacy. Will the growing dependence on artificial intelligence subtly reduce the power and scope of human mental processes? Even such an optimist as Herbert Simon, professor of computer science at Carnegie-Mellon, views the future warily: The very "capability of the computer for solving problems and making decisions . . . poses the greatest difficulty in predicting its impact upon society."