we are trying to define our society by defining our children, *Toward a Theory of Instruction* will influence lay and professional talk about education for some time. Two programmatic essays, "Patterns of growth" and "Notes on a theory of instruction," contain Bruner's central principles. In the first, he treats of the child's response to his world in three modes—the *enactive* in which "an object is what one does to it," the *iconic*, in which "images develop an autonomous status," and the *symbolic*, when language becomes "an instrument of thinking." This scheme, which owes a great deal to Piaget and to Werner, permits Bruner to discuss the several ways in which a child may solve the "same" problem and leads him to a conclusion of what education is fundamentally about—"providing aids and dialogues for translating experience into more powerful systems of notation and ordering." Bruner comes closest to the classroom in his essay on instruction. He maintains that a proper theory of instruction requires statements about predisposing conditions for learning (he emphasizes guided exploration), statements about the structure of a body of knowledge (he makes revealing comparisons of different methods of representation), statements about the sequence of materials presented to the child, and statements about the quality of rewards and punishments administered (Bruner sees intrinsic reward as incomparably more effective than grades or praise dispensed by the teacher). Bruner discusses these requirements in a general form and then in application to the teaching of quadratic equations to young children. The argument is plausible and the application ingenious. Unfortunately, Bruner's enthusiasms and his remarkable ability to call up apt illustrations blur the essential distinction between the convictions of a gifted teacher and a serious theory of instruction. The conversation between developmental psychologist and teacher has hardly begun.

Toward a Theory of Instruction is valuable in part because it represents speculation in the middle range—between too-grand generalization and laboratory detail. It presents the best case yet made for carefully planned and concurrent evaluation of curricular innovation. It speaks for all school children in arguing for playfulness and personalization in teaching. It is a virtuous book that will offend only the crustiest members of the educational establishment.

An important question remains unanswered at the end of *Toward a Theory of Instruction*. What should we do now? Bruner is indefinite about his intended audience but however it be defined—parents, teachers, psychologists, or citizens—the audience receives no obvious call to action. Bruner closes *diminuendo* when he urges us to "have the courage to recognize what we do not understand and to permit ourselves a new and innocent look" at the problem of instruction.

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Sources of Science Reprint Series

William Harvey has been rediscovered again. The tercentenary of his death, which was celebrated in 1957, served as the focal point for new editions and new translations of Harvey's work. In the past decade the very rapid growth of the history of science and history of medicine has given great impetus to new scholarly efforts. Not only was the *De motu cordis* retranslated, together with a volume of Harvey's letters on the circulation of the blood, but a series of previously unpublished Harvey manuscripts were brought together by the British medical archivist, Gweneth Whitteridge. More recently, two separate translations of Harvey's manuscript "Anatomical Lectures" were prepared, one by O'Malley, Poynter, and Russell, the other by Whitteridge.

Although Harvey has been the subject of several recent biographies, all of them have been fairly thin studies, and, surprisingly enough, none have shed much new light on the life and work of the great physiologist.

It is against this background of activity that the Johnson Reprint Corporation has reissued the 19th-century volume, **The Works of William Harvey** (Johnson Reprint Corp., New York, 1965. 750 pp., $25) in their Sources of Science Series. Robert Willis, who translated and edited the original printing for the Syenham Society as one of their translations of the writings of great physicians, did a creditable job by anyone's standards. And, although there have been corrections and emendations by the later editors and translators of Harvey, none of these have been so significantly better as to fully displace the work of Willis.

Opening the volume is a brief biography of William Harvey which, in its 80 pages, sets forth the basic outline of Harvey's career. It reflects its author's desire to add to the medical literature a "life of Harvey by one who had maintained a familiarity with anatomy and physiology."

The full text of the *Anatomical Disquisition on the Motion of the Heart and Blood in Animals* is presented together with the two public defenses addressed to John Riolan. Various of the anatomical letters are also included.

There is no doubt in my mind that this edition of Harvey's works is important primarily because it contains the full text of the *Anatomical Exercises on the Generation of Animals*. This lengthy embryological treatise of Harvey's has not been reproduced nor re-edited in English in the past hundred years. The original Sydenham edition of the works has been out of print for a long time, and it is therefore a pleasure to welcome this volume of Harvey's studies on generation and development. Students will now be able to have before them the full corpus of one of the 17th century's great biologists. The inclusion of the embryological treatise permits a much better understanding of Harvey's roots in the past, as well as of his experimental advances, than is available to those who read only the very spare and experimentally organized study of the motion of the heart and blood. It is too bad, however, that no scholar has yet undertaken a new translation and editing of Harvey's work on generation; historical scholarship during the past century has added much to our understanding of the role of Aristotelian thought in the 17th century, and this, in turn, permits a far better understanding of Harvey's own work.

But, having praised this new publication, I can only bemoan the fact that its price, $25, places it beyond the reach of the student and the private scholar and suggests that only the library with a good budget can afford to purchase it. In this day when so many more students are becoming interested in the historical development of science, it is a shame to reprint classics in prohibitively expensive editions.

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