

Book Reviews

Jacob Bronowski: The Visionary Eye. pp. vii + 185. Cambridge. The MIT Press, 1978. Cloth, \$10.00.

Bronowski has assembled in The Visionary Eye a variety of essays which have as themes the problem of the relationship between science and art, the nature of the imagination in science and art and the character of knowledge in art. Although the content of most of the eleven essays are rather general, some fundamental points do emerge; most notable is his position that only by experiencing (science and art) for oneself can one explore his or her values and in turn take a step toward understanding more about what Bronowski sees as important aspects of one's life. The book is divided into two sections: the first consists of five essays dealing with the relationship between science and art; the second is the set of A. W. Mellon Lectures in Fine Arts delivered in 1969 at the National Gallery of Art, exploring the notion that art is concerned with knowledge.

Scholars have often attempted to find a common ground between the scientist and the artist. Bronowski holds that this ground can be found in the 'quality of imagination'. The vehicle which the imagination uses is language; not mere commands and communications, which even animals possess to varying degrees, but our ability to mentally formulate ideas. "The function of words in human thought is to stand for things which are not present to the senses, and to allow the mind to manipulate them--things, concepts, ideas, everything which does not have a physical reality in front of us now" (p. 9). The mind's ability to manipulate things, to form images freely, is what Bronowski calls the imagination. This is one of the factors which distinguish men from other animals and it is here that the mind allows images to become personal to us. This personal manipulation of one's own language according to Bronowski is the foundation for art and science. Thus 'creation', whether in science, art or whatever discipline, involves the externalization of the individual's mental images. This sense of 'art as

language' is reminiscent of R. G. Collingwood's treatment of the subject in his Principles of Art. Collingwood maintains that language includes any activity which is expressive in the same way in which speech is expressive. Bronowski appears to hold a similar idea: the formation of a mental image in one's own language recreates the work for us. This is important, for any work of art in itself--whether it be music, painting, poetry or a theorem--is not a finished product, at least insofar as an aesthetic experience is concerned. It is up to individuals and their imagination to recreate the work themselves. Bronowski is unclear about what one does when one recreates a work, but he implies that if one understands or follows how a work is made, if one follows the steps of a theorem for example, then the work has been 'recreated' for that particular individual. The internal relations that make it 'beautiful' have to be discovered in the object by the individual. One must actively recreate these relations by means of the imagination. These relations, however, are not, once conceived, determined forevermore. "On the contrary, fundamentally and literally, the poem is deliberately arranged to prevent you from making up your mind" (p., 17). One must, it seems, weigh the alternatives, but not judge. Each new viewing or hearing can hold new things for us aesthetically and this accounts for the fact that one poem may, over a lifetime, offer new insights.

Bronowski's aesthetic begins with the "conviction that art and science is a normal activity of human life" (p. 33). They both explore the freedom which one's intelligence opens up for them; their aesthetic is active, not contemplative, and this enables Bronowski to hold that any individual who actively creates is an artist, at least in some sense of the word. Art is something that people use to enlarge their freedom. The freedom Bronowski speaks of is the ability to think critically, to experience new things by means of our imagination. Although he does not state precisely what results from this freedom which art brings, it appears to be some kind of liberation from 'old values' to new ones. What these values entail, is never clearly laid out. He connects a kind of ethical value to an aesthetic experience, and one suspects that what he is fundamentally aiming for is a type of ethical aesthetic, although at one point he seems to deny that this is his position.

One of the weaker points, at least conceptually, occurs when Bronowski claims that technology is a

liberator, for he fails to draw an adequate distinction between science and technology. Science, like art, probably does enlarge our freedom in either a philosophical or moral sense, but the case may be a difficult one to make for technology. We, at least as Americans, have become somewhat enslaved to a technocratic world, and this enslavement is causing us to lose sight of our humanness. It is apparent from reading the book that while Bronowski does not think this enslavement results from technological concerns, yet he does see some kind of intellectual enslavement occurring; one wishes he had spent more time discussing this point.

Bronowski's second section is concerned primarily with certain epistemological claims in his aesthetic. Whatever knowledge art gives is not a form of instruction, at least not in the same way that the knowledge we gain from science is meant to instruct. This type of knowledge does not 'explain' anything; it is gained by our ability to recreate the work for ourselves. And this act of recreation brings us back to the notion of imagination. The second essay speaks of a 'unity of imagination'. This unity is the same for each specific art, for what he wishes to draw attention to is that art does not communicate with words, sounds, etc. but with images; "it is the essence of poetry, as of painting, as of all art, to communicate, to leap over the gulf between us . . ." (p. 108). Our imagination joins that which we are experiencing at the moment with what has been experienced at other times. This is applicable not only to art but to many scientific discoveries as well. The ability to make such analogies is characteristic of the creative person, regardless of the individual's particular discipline. Bronowski is right in placing much importance on the faculty of imagination, but he has difficulty in showing clearly how we enter into the experience of other people via the imagination. He holds that everyone is rather like everyone else although we are each essentially individual. It is the 'echo' in ourselves which makes a work of art expressive. Bronowski calls this echoing a 'mode of knowledge'; for we learn about what life really is because we catch these 'echos'. It is because we are all human that we are able to recreate a poem, a painting or a theorem which has been created by someone else. This is a crucial aspect of any work of art. The "ability to communicate . . . something which we instantly recognize as an echo of our own experience

and in which we see unfold a sense of universal human experience" (p. 134) is present in any created work. This expressiveness can only be transferred from artist to viewer or listener because of our being human. This strong grounding in our humanity forces Bronowski at the end of this section to again let certain ethical considerations come into play. Although he does not pursue this line of thought, one does get the impression that an ethic for Bronowski is a set of open-ended principles which result from 'the totality of our living', the recreating of our experiences which ought to push us beyond our present level of humanness. Bronowski is fundamentally correct, although he does not treat the subject in sufficient detail. "The thing about life really is that you make goodness or you make the experience for yourself by constantly balancing the values that you have from moment to moment. And you have to have profound moments like that which Einstein had, and you must make profound mistakes, but you must always feel you are exploring the values by which you live and forming them with every step that you take. On that I think the beautiful is founded. That, I think, is what the work of art says" (p. 170).

Bronowski's book deals with the subject in enough depth to allow insights, yet it is not burdened with technical trivia. It is not only interesting, but thoughtful and basically correct in most of its assumptions. He has been concerned in much of his previous writings with what it means to be human; this book follows in that tradition.

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