H. J. Eysenck, The I.Q. Argument: Race, Intelligence, and Education. New York: Library Press, 1971, 153 pp. \$5.95.

If the essence of adult education is the problem of educating a mind already filled with information and misinformation, in contrast to the supposed open mind of the child, then the public controversy over I.Q., race, social class, education, and intelligence presents a paradigm problem for the adult educator. How is the layman to educate himself in these issues of enormous social importance? He is like a fly whose wings have been clipped by prejudice and intuitive misconceptions, who cannot help falling into the web spun by Sunday supplements and by psychologists concerned with enhancing the image of their profession rather than with their responsibilities as scientists.

Professor Eysenck spins out his argument from six points. Some of these points are well-known and undisputed, the rest are absolutely false; the combined effect is a lethal trap into which even the most careful unsophisticated reader is likely to fall.

Point One: Phenotypes develop by an interaction of the genes with the available environmental conditions. This theory is spelled out accurately by Eysenck, but not so well that one would refer a student to his discussion in preference to dozens of better ones. The point is basically that the characteristics of grown-up organisms do not come either from their genes or from the environment, but are built up according to a genetic plan which itself performs differently under different environmental circumstances. The validity of this view of development has no implications whatever for Eysenck's subsequent argument, but by anchoring the web here he gives it an apparent legitimacy.

Point Two: There are "environmentalists" who disagree with Point One. In fact, these "environmentalists" do not exist; they are straw men. By pretending that his opponents disagree with the above well-accepted theory, Eysenck hopes to discredit any opposition to his subsequent assertions.

The antagonist to these imaginary environmentalists is Professor Arthur Jensen of Berkeley. The book is no more than an impassioned defense of Jensen's weakest argument, with no discussion of any of his worthwhile contributions to the subject. It is true that Jensen, like Eysenck, is dead wrong in generalizing from heritability to group differences in I.Q., but Jensen cannot be held responsible for the faults of this book.

The "environmentalists" are of course never named. Eysenck does say twice, however, that the Cambridge Society for Social Responsibility in Science was simply chock full of them in August 1970, when Jensen came to England to debate his position. I was a member of the group at that time, and it did not contain any "environmentalists" or anyone at all who disagreed with the interactive model of development presented above.

Point Three: In our existing environment, and especially among American whites, I.Q. has high heritability. Again no one disagrees, though it is asserted that "environmentalists" do. Current estimates indicate that about 70% of the variance in I.Q.'s of white Americans can be accounted for by genotypic differences, as opposed to the effects of family, community, and schools. This is surprisingly high for a behavioral trait, and well worth further investigation. Eysenck makes a legitimate case against the ostrich-like position of the National Academy of Sciences, which opposes any further research on the subject. He points out that it was only after discovering the genetic causes of phenylketonuria that we were able to institute an environmental program (change of diet) to eliminate the disease. Similarly, any program to change the world and increase the effects of education must involve a better understanding of the reasons for high heritability of I.Q. in our present world.

Eysenck fails to add that this question has nothing whatever to do with race, and that the science establishment's fears are based upon the same error he himself makes in Point Five.

Point Four: On the average, black Americans have lower I.Q.'s than white Americans. This fact is tremendously important. The difference between the two populations is of the order of one standard deviation, or about 15 I.Q. points. For fifty years evidence has been accumulating which links this fact to two environmental causes: first, the fact that white children in our society seem to have easier access than black children to a few of the raw materials of development, such as food, books, and enriched physical surroundings; second, the fact that even where blacks have a healthy environment it is culturally different from that of the white children for whom the test was standardized.

This last point has been obfuscated by a generation of nonsense about "culture fair" tests. When the early testmakers set out to make the Stanford-Binet "sex fair" (i.e. more fair for boys and less fair for girls) they simply eliminated groups of items on which girls tended to do better than boys. The content of those items did not necessarily relate

to feminine or masculine roles, they were simply items which happened to discriminate between the two sexes. No one ever bothered to make the I.Q. test equally easy for blacks and whites, as they did for girls and boys. If the testmakers had ever really wanted to stop discriminating between white and black children, or between Jews and Catholics, or between English and Irish, all they had to do was construct a test with items which did not, in fact, discriminate. Instead they argued that a test which contained pictures instead of words, for example, should be culture fair on the basis of some inadequate notion about the differences between the two cultures. When the test continued to discriminate, psychologists and teachers alike were satisfied that they were discriminating fairly. It was the perfect contrapositive to the separate but equal doctrine.

Point Five: Since I.Q. is heritable, and heritability has something to do with the genes, and races differ in average I.Q., and race has something to do with the genes, then the racial differences found in I.Q. must be due to the genes and not to the obvious environmental differences between blacks and whites. This is what seems to make sense to any intelligent adult; it is what Jensen asserted in 1969, what ensnared the willing public and what no one has been able to disentangle from prejudices and fears. It is false, and undoing what has been done to the popular mind is a knotty problem for adult educators.

The truth is that a trait can have a very high heritability within a population, and have a very high heritability within another population (as we assume I.Q. does among blacks), while the two populations differ from one another entirely because of environmental differences. Imagine, for example, that we test all white Americans, but just before the test we give away some of the answers to everyone whose name begins with a letter from A to M. Suppose we give away just enough answers so that each person in the A-M group gets a score 15 points higher than he would have otherwise. This raises their average score 15 points above that of the N-Z group. The heritability will still be just as high within each group-because we will have done nothing to increase the variance within either group-but the 15 points' difference between the two groups will have nothing to do with heritability.

This might very well be the case for I.Q. differences between blacks and whites. There is absolutely no basis for concluding otherwise. In fact, it has been shown using a variety of mathematical models that the known differences in the environments of blacks and whites could account for the entire 15 point I.Q. difference. On this issue, unlike the issue of individual development, there is a position which might be

called environmentalist as opposed to racist (if we could separate the latter term from its overtones).

Point Six: Professor Eysenck really believes in integration anyway, no matter what evidence scientific research should happen to turn up. But because he believes in the infallibility of "properly" conducted objective research, and because he sees no value in any social decision-making which does not wait for the results of that research, he makes a very weak case for this position. His brief treatment of one or two educational issues related to I.Q. and race, such as streaming vs. nonstreaming in schools, is so superficial and uninformed as to be worse than worthless.

There is something strange about this book as a whole. Eysenck keeps hinting at his own sins and errors. In his introduction he warns us to beware of "experts" who "may know very little more about the issue in question than the man in the street . . . . often experts in their own fields, but not particularly knowledgeable in the field under discussion." Later he cannot resist citing the opinions of "W. Shockley, the Nobel Prize winner." Shockley is a physicist who won the Prize for inventing the transistor, not for any expertise in the field under discussion. Similarly, Eysenck warns us of propagandists who use the technique of "denying what has not been asserted," and spends the rest of the book denying the truth of an "environmentalist" position he himself has fabricated. Another example is his reliance on correlations to infer causation, along with a reminder that "Correlations do not tell us anything about causation." It is as though the author struggled compulsively to undermine his own argument. The book provides an interesting document for the case study of a scientist's mind.

A word on racism. In a morally neutral sense, a racist might simply be someone who believes that differences between people of different races are genetically inevitable, or at least inevitable given the world as it is. Eysenck is willing to take this position upon himself and upon Jensen. He has a right to protest that they are not racists in the pejorative sense. He does not dislike black people or wish them ill or even wish to deny them special opportunities for education and advancement. It is just that he believes them to be genetically inferior in intelligence, and superior in singing and dancing and boxing (and foot-shuffling? and watermelon eating?). He can hold that line; it is not inconsistent with the best liberal sentiments.

I believe that the vehemence of the argument is motivated by another concern entirely. It is not just genetic causation which Jensen and Eysenck are defending, but the very validity of the I.Q. tests themselves. For if individual differences in I.Q. are not determined genetic-

ally, are not fixed before birth and are not constant throughout life, then the I.Q. test is a hoax. If environmental programs like compensatory education can produce I.Q. gains, then the basic assumption of a constant ratio between mental age and chronological age is false. Thus the major technological accomplishment of psychology is shown to be worthless because it is logically and theoretically unsound, and the testing movement stands accused of having used its privileged position as a "science" to maintain social inequality in education over three generations. That is a serious charge against those educational psychologists who have put their faith in I.Q. tests; to counter this threat it may seem to them well worth alienating a few liberals and touchy blacks.

If Eysenck and Jensen are not racists, they are not martyrs either. They have been widely attacked, but justly; not for their political views or their iconoclasm but for precisely the errors and false arguments contained in this book. While geneticists and mathematicians have repeatedly pointed out the wrong assumptions and faulty logic contained in Jensen's paper, he and Eysenck and Shockley have entrenched themselves in their ignorance, taken advantage of popular misconstruals of the issues, and likened themselves to Copernicus and other now-sainted heretics of the past. The comparison is unfortunate. Copernicus was a revolutionary; Eysenck defends the present scientific and social order. And Copernicus's grounds for proof did not include an appeal for sympathy because he had been criticized.

Kenneth Kaye University of Chicago