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## Toward an Intelligent View of Intelligence

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Lloyd Humphreys presents a summary of the clear thinking that has made his career a distinguished one. He outlines an empiricist's theory of intelligence. He also sketches the social implications of his theory of intelligence. I find very little to argue about in his presentation. In fact, I don't think there is much that can be argued about.

I don't think Humphreys's position is behaviorist. I would call it *Dust Bowl empiricism*. Dust Bowl empiricism is a kind of Midwestern functionalism with a strong fondness for data. Although some might feel this is a pejorative characterization of Humphreys's theory, I consider it a compliment. Humphreys relates intelligence to what can be seen (the phenotype) and places a heavy emphasis on measurement. He logically extends this theory to its social implications.

Although I find very little in Humphreys's position to disagree with, there are several points I would like to emphasize or expand upon to indicate how important they are. Humphreys's presentation is extremely concise, almost telegraphic. Some of the implications of the important points he makes may not be obvious.

### Importance of Intelligence

The world is rapidly becoming a global community. This observation has been so widely trumpeted in the

press, it should come as no shock to anyone. An important factor leading us into a global community is international trade. Large international corporations are establishing a world economy. It could once be said that "what is good for General Motors is good for the country." But that is no longer true. What is more true now is that what is good for General Motors is good for the world. Large corporations are significantly affected by international events. Recession in Europe is a significant problem for large corporations, like General Motors, with significant exposure there.

The important battles of the future will not be fought with armies, and they will not be won by conquering territory. Wars of the future will be fought by international corporations for access to markets. The winners will be decided on the basis of market share and profits. Fortunately, these wars will produce more winners than losers. Consumers will win worldwide with lower prices for products and services.

The pressure on these corporations will be to become ever more productive. To stay in business in the global economy, companies will have to produce more product at lower prices. Two ways to do this are to use lower priced labor and to use automation. Lower priced labor is only a temporary solution to the productivity problem. If the world truly becomes a global community, labor prices will quickly be-

come uniform. Automation is the most certain way of reducing costs in the long run.

Besides producing goods more cheaply, the only other alternative open to a corporation for increasing its profits is through the development of new products. The more innovative the products are, the better. Because of the protection afforded by patents and copyrights, a company is given exclusive rights to the development of new products. There is no better business situation than to have a badly needed product and to be protected from competition. Until there is competition, the product will fetch whatever the market will bear, and its price need have no relation to cost of production.

What does all this have to do with intelligence? If the trends I describe are projected to their logical conclusion, in the near future we will live in a world very different from our present one. Much of manufacturing will be automated. There will be little need for the dull, routine factory jobs that employed much of the work force during this century. What will define the survival of businesses is innovation both in management and in product development. The most important commodity for such companies will not be raw materials, cheap labor, or even lots of capital. It will be intelligence.

Intelligent, well-trained, innovative workers will be at a premium. Even now, countries that can deliver smart, well-trained workers are preferred by large corporations. In the future, there may be open competition among countries for the most capable of their citizens. There are already signs of this happening.

More than half the students enrolled in U.S. graduate programs are not American citizens. The proportion is substantially higher in the hard sciences and engineering. Although some of these students return to their country of origin after finishing graduate training, many remain in the United States. Some go into academics, but many go to work for U.S. companies. The quality of American universities provides American business with access to some of the world's brightest and most innovative minds.

Besides the recruitment of exceptional talent, a company's future will depend on the general level of ability of all its employees. As Humphreys points out, the largest predictor of currently predictable job performance is general intelligence. Other traits, like practical intelligence or social skills, have been suggested as being more important in predicting job performance. However, the weight of evidence for these traits is small in comparison to the broad and extensive evidence showing that intelligence is important in most jobs.

Because productive firms will use fewer employees, the performance of each employee will be relatively more important. Those firms that select most heavily on general intelligence will be the most successful on average. Intelligence will become increasingly import-

ant to survival in a technical society. Those with exceptional intellectual skills will be favored. But this also means that those with low intellectual ability will have an increasingly difficult time adjusting. The proportion of the population that will be functionally mentally retarded can be expected to increase in the world I am describing.

The globalization of trade and the changes it will cause have a science-fiction quality. Competition for talent has already begun, and it is likely to intensify at a rapid rate. Ten years ago, I would have thought it unlikely that I would be able to sit at my desk at home and write this commentary on a computer that is more powerful than the first computer I worked on. When important social changes begin, there is no stopping them.

### What Is Intelligence?

Humphreys's theory is remarkably concise in summarizing what we know about intelligence. However, as Humphreys admits, it does not explain intelligence in the way most people would like it explained. Some kind of a biological or brain-behavior relation that includes a specification of how environmental variables influence intelligence would satisfy most people.

Just because Humphreys's theory doesn't give the kind of explanation that would satisfy most people doesn't mean (a) that the theory isn't important or (b) that such theories cannot be developed. The theory is important because of the kind of functional relations it incorporates. Testable behaviors are related to real-world consequences. These relations are not inconsequential. Of all the empirical relations for broad classes of behaviors in the social sciences, the relation between IQ and real-world behaviors is the highest. Nothing predicts better, including personality, motivation, or any other broad measure of behavior. In fact, there are few behavioral measures that will consistently predict specific, limited behaviors better than intelligence predicts certain behaviors.

It is also inappropriate to conclude from Humphreys's position that "deeper" theories of the kind that might satisfy many people could not be developed. Humphreys is silent on the kinds of relations that might explain intelligence. Because he has crafted his position with such careful attention to what is known, it is very likely that it will be consistent with the "deeper" explanations that could be offered. I have presented one such position (Detterman, 1987), and nothing Humphreys says in his target article seems in any way inconsistent with what I have postulated here. Because Humphreys's position is so closely based on empirical fact, it is hard to see how it could be inconsistent with almost any theory offering "deeper" explanations of intelligence.

### Social Consequences of Humphreys's Position

Humphreys outlines the social implications of the theory he suggests. The position is clear: Those who choose to ignore what IQ tests tell us do so at their own risk and are probably doomed to failure. There is substantial evidence that IQ tests make accurate predictions for almost all subgroups. Despite what we may believe the source of those differences to be, the tests do predict future behavior accurately.

This is likely to be the most controversial part of Humphreys's article. Unfortunately, most of the controversy will be based on wishful thinking and not on data. Humphreys's position, on the other hand, is based on a substantial amount of data. What the position also highlights is the need for more data. Although we know which differences exist among subgroups, the question of how these differences arise is still unanswered in any scientifically convincing way.

The question of subgroup differences is important to answer, no matter what the answer may be. Most researchers have stayed away from this socially sensitive area. There has been very little research presenting new data on the Black-White IQ difference in the last 15 years. Most of the best research on gender differences has been done by women. As researchers, most of us are terrified of becoming embroiled in political arguments. We choose the safe road of avoiding the issue of subgroup differences altogether.

Because most researchers do not address the issue, the issue goes unresolved. If subgroup differences are due to remediable causes, then generations of individuals will suffer needlessly with deficits that could have been prevented. Perhaps when we find the source of the differences between groups, they will be differences we will not care to remedy because they are associated with other favorable characteristics. Even if some differences between groups are found to be unchangeable by currently known technology, it is better to know the source of those differences than not to know. Knowledge is always preferable to ignorance.

Whatever the explanation of subgroup differences, society will be able to live with those facts. In the process of finding the answers, though, it is very im-

portant to be sure of what we know and what we don't know. Social policy should be based on what we are sure of, not on prejudices. Sometimes scientific facts are not easy to distinguish from prejudice in highly polarized debates. If social policy turns out to be based on positions that cannot be supported by research, those who avoid the debate will be as responsible as those who take an active role. In the end, social scientists will be blamed for allowing ignorance to go uneradicated.

### Summary

Humphreys has performed a valuable service by presenting his view of intelligence. Although there are minor points that some may disagree with, in my opinion Humphreys's position is an excellent summary of the core relations that most people who study intelligence would agree on. Much of what is presented in the target article is a formulation that Humphreys has developed over a lifetime of distinguished work, although he does not claim as much credit as he might for many of the insights. Although it is not in the disagreeable nature of scientists to be happy with anything for long, at least for now Humphreys's position represents a good summary of what we know about intelligence and what the implications of that position are. I, for one, appreciate the effort.

### Notes

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