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THE CONCEPT OF INTELLIGENCE IN PSYCHOLOGY AND PHILOSOPHY

There is no agreed-upon definition of the concept of intelligence neither in psychology nor in philosophy. Experts' definitions differ widely. I know of two studies of experts' definitions of intelligence: one was done by the editors of the Journal of Educational Psychology ("Intelligence and its Measurement") in the year 1921. Contributors to the symposium were asked to address two issues: 1. What do I conceive "intelligence" to be, and by what means can it best be measured by group tests? What are the most crucial "next steps" in research? Fourteen experts gave their views on the nature of intelligence, with such definitions as the following: – the power of good responses from the point of view of truth or facts (Thorndike) – the ability to carry on abstract thinking (Terman) – having learned or ability to learn to adjust oneself to the environment (Colvin) – the capacity for knowledge (Henmon); the capacity to acquire capacity (Woodrow) – and half a dozen more. The other study of experts' definitions of intelligence was done 1986 by Douglas Detterman and Robert Sternberg, two leading figures in the psychological research on intelligence. They sought to update the 1921 symposium. They solicited two dozen brief essays by experts in the field of intelligence, who were asked to respond to the very same questions that were posed to the experts in the 1921 symposium. The idea was to address the issues raised in a way that might reflect any progress that had been made from the beginning to the ending of this century. The two dozen answers were as diverse as those of the first symposium. In 1990 Robert Sternberg published his book *Metaphors of Mind. Conceptions of the Nature of Intelligence*. In this book Stemberg tries to explain the variety of theories about the nature of intelligence by invoking the hypothesis that metaphors, of which there are many, serve as the foundations for theories of intelligence. The upshot is rather discouraging: There are theories, but they lack empirical support, because they are hard to operationalize and therefore to test. (This objection is often raised against the widely red book of Gardner 1983.) And the number of IQ-tests could be expanded indefinitely without any better understanding of what they show about the human mind (Andersen 1992). Given this non-partisan view of the state of the art, it would be an astonishing fact

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if there were an agreed-upon definition of the concept of intelligence. For the lack of such a definition only reflects the fact that there is no worked-out theory of intelligence. Having a successful definition of intelligence without a corresponding theory would be like having a building without foundations. This lack of theory is also responsible for the lack of some principled regimentation of the very many uses the word 'intelligence' and its cognates are put to. Too many questions concerning intelligence are still open, too many answers controversional. Consider a few examples of rather basic questions: Does 'intelligence' name some entity which underlies and explains certain classes of performances[1], or is the word 'intelligence' only sort of a shorthand-description for 'being good at a couple of tasks or tests' (typically those used in IQ tests)? In other words: Is 'intelligence' primarily a descriptive or also an explanatorily useful term? Is there really something like intelligence or are there only different individual abilities (compare Deese 1993)? Or should we turn our backs on the noun 'intelligence' and focus on the adverb 'intelligently', used to characterize certain classes of behaviors? But when is behavior intelligent and when is something done intelligently? Should we primarily look at how something is done (the adverbial use dominates) or should we primarily look at what is done: If the system plays chess, it is intelligent, because the ability to play chess is a manifestation of intelligence? How is intelligence related to successful performance? What is the proper range of application of the concept of intelligence? Only human beings or are animals or machines or cells or assemblies of cells or even species (phyla) also to be included? (For a recent example for the discussion of this question, see Schull 1990.) How does the intraspecies comparative use of the notion of intelligence (student A is more intelligent than student B) relate to the interspecies comparative use of the notion: Velvet monkeys are more intelligent than wildebeests? (For a recent example for the discussion of this question, see Macphail 1987). Are individuals the proper locus of intelligence or are human beings more intelligent than other species because we have language, writing, books and other aids? Do these serve as aids for increasing our abilities without increasing intelligence? Compare: The microscope helps us seeing more and more details without increasing our visual acuity. Hans Moravec suggests in his book *Mind Children. The Future of Robots and Human Intelligence* (Moravec 1988): "The edge humans have over other large-brained animals such as elephants and whales may depend less on our individual intelligence than on how effectively that intelligence is coupled to our rapidly evolving, immensely powerful, tool-using industry" (p. 19). – This is a sample of questions a theory of intelligence has to address. I used the term "basic" questions because I take it, that these questions would have to be answered long before other hotly debated questions such