

## Book review

**Howard gardner under fire: The rebel psychologist faces his critics, Jeffrey A Schaler (Ed.), (2006), Chicago and La Salle, Illinois: Open Court, ISBN-13:978-08126-9604-2, pp.xxi+ 407, Hbk price \$36.95**

Howard Gardner is some kind of phenomenon, make no mistake about it! And this book explaining his message is a lot of book for its modest price. I expect it will (and certainly should) enter into every college library. Edited by psychologist Jeffrey A. Schaler, it is one of the three books in the “Under Fire™” series (with two other volumes, on psychiatrist Thomas Szasz and philosopher Peter Singer). The present volume, on Gardner, includes the following sections: (1) vitae of the seventeen authors from various fields who offered critiques of Gardner’s works, (2) Schaler’s authoritative Introduction to Gardner’s works, (3) Gardner’s quite intimate intellectual autobiography, (4) thirteen critiques of Gardner’s work, (5) Gardner’s generally detailed replies to each of the thirteen critiques of his contributions, and (6) Gardner’s complete bibliography between the years 1965 and 2006, totalling about 1000 publications.

There are two quite distinct perspectives from which Gardner’s writings can be classified and evaluated. Critics and critiques of Gardner’s work that fail to distinguish on this point do an injustice to both Gardner and differential psychology. These contrasting viewpoints which allow Gardner’s works to be judged most fairly originated in the early history of psychology. The two contrasting schools of thought about the subject content, methods, styles of research, practical applications, and the aims of psychology’s future development are quite different — the *yin* and *yang* of psychology, so to speak.

This dichotomy was formally distinguished early on in German philosophy as *Verstehende Psychologie*, on the left hand, and *Naturwissenschaftliche Psychologie*, on the right. The first places psychology among the uniquely literary humanistic approaches to understanding experience. Its tools are the psychologist’s observational sensitivity and subjective insight into its motivation or meaning. Its subjective validity is the expressiveness and

convincingness of the psychologist’s interpretation, which depends largely on a kind of empathic literary talent. Some of Gardner’s works notably evince such a talent. An example of this, in what I consider to be his finest work to date, is his book *Creating Minds* (1993), which portrays the personal characteristics, motivations, and distinctive achievements of seven world-class geniuses, treating each one as an exemplar of one of the seven “multiple intelligences” introduced in Gardner’s famous book *Frames of Mind* (1983). However, *Creating Minds* qualifies more as an example of literary biography than as a test of Gardner’s seven hypothesized forms of intelligence.

Most of the critics Schaler selected to put Gardner’s psychology “under fire” are on the same side of this philosophic divide as Gardner. With few exceptions *Naturwissenschaftliche Psychologie*, which treats psychology as an empirical natural science, based on objective measurements, explicit testing of hypotheses by experimental methods, and statistical tests of significance, is unrepresented in most of the critiques. This renders the “under fire” promise a rather cool affair. Rather than questioning the objective validity of Gardner’s ideas, the majority of essentially like-minded critics more often offer suggestions for extending Gardner’s work further into the conduct of education, where it has its greatest appeal.

Probably many educationists with little interest in acquiring a clear understanding of scientific psychology and psychometrics have uncritically embraced Gardner’s psychology out of desperation. The persistent frustration of the educational system’s dealing realistically with the wide range of scholastic aptitude in the nation’s schools creates a fertile ground for seemingly attractive educational nostrums. Gardner’s invention of the term “multiple intelligences” capitalizes on the high valuation the public accords to the word “intelligence.” The appeal of Gardner’s terminology has been parodied as the Marie Antoinette theory of schooling: if the people have no bread, let them eat cake. If some pupils have inordinate difficulty learning the 3 Rs, let them spend more time exercising those other skills constituting the

several distinctive “intelligences”: music, art, dance, athletics, empathic understanding of other persons, or insightful understanding of oneself, and possibly a few other still debatable abilities that might intuitively qualify as “intelligences” in Gardner’s system, such as *naturalist* intelligence and *spiritual* intelligence.

Probably most subscribers to *Intelligence* are identified with the *Naturwissenschaftliche* tradition of theory and empirical research on the differential psychology of mental abilities. They will probably be most disappointed by Gardner’s shallow treatment of this venerable field of intelligence research. Originated by Sir Francis Galton in the mid-19th century it was further developed by a number of historical figures in the University of London, including Charles Spearman, Sir Cyril Burt, and Hans. J. Eysenck. It became known in differential psychology as the London School. Its American counterpart is represented by Edward L. Thorndike, Lewis M. Terman, Louis L. Thurstone, and John B. Carroll. The scientific philosophies of these two similar schools are alike in their emphasis on an empirical hypothetical-deductive approach to research based on objective measurement, statistical analysis, and a concern with the biological (especially genetic) sources of variance in mental abilities. Because Gardner’s theory of mental abilities remains aloof from research based on measurement and analysis in the tradition of the natural sciences, it has no means for proving itself to be more correct than the model of intelligence that has emerged from the London School. Nathan Brody’s commentary refers to this model as geocentric because the hierarchy of orthogonal (independent) latent ability factors is dominated by a single large factor that accounts for more of the variance in abilities than any other factor. Objective research has been unable to get around this ubiquitous dominance of the *g* factor in any large and varied collection of mental tests. Brody’s factual exposition spells out just some of the established evidence for this claim in which the variance represented in Gardner’s “multiple intelligences” is not eliminated but is distributed in a number of smaller factors in the whole hierarchy of ability factors. The nadir of this book is Gardner’s invalid attempt to belittle the dominant significance of the *g* factor in the domain of human abilities. Imagine calling on the help of Stephen J. Gould and Richard Lewontin for support in a critique of *g*!

Overall, Gardner’s treatment of *g* would impress only those readers with little or no accurate knowledge of *g* theory. In any case, it is a mistaken notion that *g* theory must be overthrown for the practical success of Gardner’s multiple abilities theory to prove its worth in education, if in fact that worth can be empirically demonstrated. Also, Gardner’s view that *g* theory should be abandoned simply because it has been around for a long time is untenable. Today, 400 years after Newton formulated the universal law of gravitation, theoretical physicists are still seeking the final explanation of gravity. And today, 100 years after Spearman discovered psychometric *g*, psychologists and neuroscientists are seeking a final explanation of *g*.

The final arbiters among scientific theories of intelligence will be sought in the physical properties of the brain. Although *g* is central to understanding individual differences in mental abilities and is proven to be manifested behaviourally, it cannot be described in the behavioural or psychological terms. It is a property of the brain itself. Advances in discovering the physical basis of *g* are especially hindered by misconceptions of what *g* is and what it is not. It is not merely an aggregation or sum of an individual’s scores on a large number of different mental tests. In fact, it is not itself a cognitive ability, but a condition that causes positive correlations among individual differences in performance on even extremely diverse cognitive tasks with respect to sensory-motor modality, brain modularity, and learned cognitive skills and all forms of knowledge. Also, *g* has a surprising number of various physical correlates, such as brain size, its glucose metabolic rate, the body’s degree of bilateral symmetry, and yes, even longevity. Hence back to the drawing board for Gardner’s re-assessment of psychometric *g* and his advice on how educators can live most successfully with its proved reality.

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