

## **Book Review**

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### **“Origins” Without Origins: Exceptional Abilities Explained Away**

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HOWE, MICHAEL, J. A. (1990). *The Origins of Exceptional Abilities*. Cambridge, MA: Blackwell (262 pp.). ISBN 0-631-16827-3.

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Exceptional abilities are irresistibly intriguing. Consider, a child who at 12 months could say the alphabet forward, and at 16 months, to the great surprise of his parents, decided to say it backward, because he was tired of saying the letters forward. At this young age, he developed the concepts of forward and backward. Logical absurdities began to irritate him before he reached the age of 3. He pointed out that in the story of the gingham dog and the calico cat it was impossible that they ate each other up “because one of their mouths would have to get eaten up before the other mouth, and no mouth would be left to eat *that* mouth up.” He did not want to hear this story ever again (Hollingworth, 1942/1977, pp. 72-73). The pianist Lorin Hollander at the age of 3½ set out to devise a method of musical notation but his father explained to him that a system of notation existed and showed him a score and how it was done. “Within four minutes I knew the notes, the clefs, everything. A car horn sounded outside and, just for fun, my father asked me what note it was. I immediately answered, ‘F sharp’” (Feldman, 1986, p. 94). Dean, a Chinese boy, was evaluated at the age of 3 years and 2 months. He lived in America since birth but his only exposure to English was from his parents who did not speak it fluently; Chinese was the primary language spoken in the home. Dean began reading Chinese characters around 15 months of age and was always able to remember them immediately. In the testing session speaking English was a struggle for him, yet he understood complex sentences surprisingly well. His score on the Stanford

Binet was 164 and his mental age was 6. “While a testing situation is not a familiar experience for most of the young children we see, for none could it have been quite as foreign as it must have been for Dean. He had never separated from his mother before, had never been solely in the presence of an unfamiliar adult, had never spoken English to anyone other than his parents and had never been in a situation in which only English was spoken to him” (McGuffog, Feiring, & Lewis, 1987, p. 85). These examples show some of the fascinating range of exceptional abilities present at a very young age. Unfortunately readers would look in vain for them in *Origins of Exceptional Ability*.

Howe takes a generic approach to exceptional abilities. He puts forth the argument that no one is born exceptional because abilities are not innate but acquired in the process of intensive training. But there is no evidence of such intensive training in the examples cited above. Howe relies primarily on stock historical examples of eminent people and famous prodigies who underwent rigorous education from their earliest years on. He largely ignores careful and more recent studies of precocity. *Not once does Howe give any indication of direct acquaintance with a highly gifted child.* Moreover, he takes at face value the assertion of parents, or the famous people themselves, that there was nothing special about them to begin with. Today, as in the past, we know many parents who take their own abilities for granted and naturally see nothing unusual when their children also have them. When the Stanford-Binet first be-

came available, a teacher tested his daughter to find that at the age of 3½ she functioned at the mental age of 6. “Her IQ would thus be proved at about 185, calculated from her father’s detailed record of responses. This report was rendered primarily to show that the Binet tests were too easy” and the father asserted that she was in no way extranormal but represented the norm (Hollingworth, 1942/1977, p. 32). Howe routinely takes this type of assertion as valid. Again it is not hard to produce a counterexample, which also illustrates what comes up repeatedly for parents of highly gifted children. “A entered an excellent private school at the age of not quite 6 years. By this time he had developed many numerical processes by himself. On one occasion the mother went to speak to the teacher regarding the advisability of teaching such advanced processes to so young a child at school, and the teacher replied in great surprise that she had been on the point of asking the parents not to teach so young a child these matters” (Hollingworth, 1942/1977, pp. 74–75). Howe does not discuss the initiatives, discoveries, and self-generated skills of precocious children; he ignores the specific endowment of the child. Neither does he address the question of why the closely directed education received by prodigies does not necessarily push them in the direction preferred by their tutors. Norbert Wiener’s father was a humanist yet the son felt drawn to mathematics; as a little boy Prokofiev knew that he wanted to be a composer though his mother wanted him to be a concert pianist; Hemingway knew he wanted to be a writer though his mother forced him to study the cello.

Feldman’s (1986) study of prodigies sharply brought out evidence of the initiative and pressure from the child on its environment. The case of Adam reported by Feldman, is especially important here. According to his parents, Adam started to speak in grammatically correct sentences at 3 months of age, and his subsequent involvement in successive areas of concentration (linguistics, musical composition, etc.) was startlingly rapid and intense. Although Howe admits the evidence found by the pediatrician that the boy was “exceedingly mature neurologically at birth,” an innate condition, he nevertheless emphasizes only the high quality of the boy’s homelife, as if that somehow mitigated the boy’s unprecedented precocity and its biological basis. As in so many less extreme cases, so in this, the parents were not prepared for a precocious child. Howe leaves out Feldman’s theory of *co-incidence*,

the fortuitous convergence of highly specific individual proclivities with specific environmental receptivity that allows a prodigy to emerge. . . . The convergence . . . between a number of elements in a very delicate interplay: it includes a cultural milieu; the presence of a particular domain which is itself at a particular level of development; the availability of master teachers; family recognition of extreme talent and commitment to support it; large doses of encouragement. (Feldman, 1986, pp. 12–13)

It is rather surprising, too, that Howe does not mention Tannenbaum’s (1983) model of the constellation of psychosocial factors necessary to produce excellence: general ability, special ability, environmental factors (family, school, socioeconomic status, etc.), nonintellective factors (drive, personality, imagination, level of energy), and chance factors (opportunity, readiness, luck). Each of these factors can exercise a veto power: If one of them falls short, the rest cannot accomplish their work. Tannenbaum’s model is attractive because it puts some order into an otherwise bewildering array of influences and gives purchase on a systematic analysis of each. Although Howe gives attention to all of them in one way or another, he does not see a way through it. Even though he wants to identify the *causes* of exceptional abilities he addresses only the necessary environmental conditions. He minimizes the contribution of the specific endowment of the child (general and special ability) and ignores developmental processes.

Howe views special abilities as autonomous but narrow skills, a typical learning theory position, and believes that acquiring a number of special abilities adds up to extraordinary talent. How the coordination and integration of abilities into a talent takes place is never considered. For instance, to have a “good memory” means to have acquired a number of memory skills (p. 88), analogously to the man who trained for two years to be able to memorize strings of 80 random digits. Yet such a skill does not transfer to other memory tasks or help with understanding what one is memorizing. A more striking example is that of certain Hebrew mnemonists who memorized the 12 volumes of Talmud to the degree that they had a photographic memory of each page and if a pin was driven through the successive pages they could tell from memory what word the pin was piercing on each page, but they knew little of the meaning of the contents (Stratton, 1982). It would take hundreds of years for a normal person to acquire a

series of such exceptional memory skills whereas a gifted child develops a number of them in a short time without knowing how or without being explicitly trained. Helen Keller is a good example. She was accused of plagiarism when she wrote a story at the age of 10 because she could not remember if it was ever read to her, which it probably was when she was 8 years old, and only fragments of the story registered verbatim in her mind.

This habit of assimilating what pleased me and giving out as my own appears in much of my early correspondence and first attempts at writing. . . . it is certain that I cannot always distinguish my own thoughts from those I read, because what I read becomes the very substance and texture of my mind. (Keller, 1902/1961, pp. 68–69)

It is hard to see the relevance of learning strings of digits for understanding memory that is spontaneously as retentive as flypaper is of flies.

Howe's other example is that perfect pitch can be learned, as if that was proof that it cannot be innate in other cases. All musicians who do have it say that they always had it; what they learned was to give names to the tones, as Lorin Hollander did. Those who succeed in learning it are trained musicians who vary considerably in the amount of time needed to acquire it—for the most able a minimum of 2 months (Study #2, *Strings*, March/April 1992, p. 29). Improvement of memory for random digits or pitch recognition in no way explains how the likes of Helen Keller or Lorin Hollander developed their abilities.

Howe's other "proof" of the lack of specific endowment for an advanced ability is the necessity of prolonged instruction in the acquisition of reading: "When a child has learned to read earlier than most. . . . a close examination of the circumstances almost always reveals that the child has received considerable assistance from an adult or an older child who has been prepared to spend a good deal of time working with the young learner" (p. 79). The study of precocious readers shows otherwise. There are many reports of highly gifted children who *ask* to be shown letters, to have billboard and road signs read to them, and who from this figure out the rest, which, I might add, in a language like English is diabolically difficult (Hollingworth, 1942/1977; Roedell, Jackson, & Robinson, 1980; McGuffog et al., 1987).

Although the importance of individualized at-

tention and effectiveness of intensive education cannot be disputed, there are many instances of precocious children pushing the environment to satisfy their curiosity and their need for stimulation, and to keep up with their accelerated development. It is the origin of this kind of energy that must be explained. The cases when parents are tested to the limits by the demands of their precocious children are by far more numerous than those in which the parents were prepared or were able to rise to the challenge. So far too little attention has been given to the giftedness of parents as not only a significant but a necessary factor in the whole array of co-incidences.

As a staunch environmentalist and believer in the cumulative power of learning, Howe ignores the basic question of brain development: "With sufficient energy and dedication on the parents' part, it is possible that it may not be all that difficult to produce a child prodigy" (p. 138). Have we not heard this before?

Give me a dozen healthy infants, well formed, and my own specified world to bring them up in, and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant, chief—regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (Watson, 1925, p. 65)

The human organism may be extremely malleable, but we understand today, as Watson did not, the brain is not blank tissue but a rich depository of many potentialities and predispositions. Those that are strong at birth can develop quickly if conditions are favorable. In unfavorable conditions they atrophy just as unused muscles do. Howe takes the case of Helena Sidis (the sister of the famous and unhappy prodigy William Sidis), who "did *not* develop any abilities that were at all precocious or exceptional" (p. 170), as evidence that there were none. To Feldman's remark that if Adam was a girl we would not have heard of her, Howe says that everyone has heard of Marie Curie. In face of the considerable literature on the many ways in which gifted women's intellectual development is cut short for lack of encouragement and support (e.g., Kerr, 1985; Silverman, 1986), such a remark is difficult to understand.

Howe says that he has "demonstrated that the causes of many exceptional abilities lie in the special experiences and opportunities, and not in innate aptitudes, gifts, or talents" (p. 108). In the face of the

richer and more sophisticated models provided by Tannenbaum, Feldman, and Gardner, such an act of faith has little validity. The evidence that some abilities can be acquired through special experiences and opportunities does not change the fact that in all the other cases they develop early and quickly when specific innate endowment of the child is very high, provided all the other necessary co-incidental influences are also operative. A phenomenon can be produced by different paths and from different independent causes. One violinist can play in perfect tune because he or she has an innate perfect pitch, another because he or she has succeeded in developing it.

I looked in vain in this book for the recognition of the acquisition of abilities as a *developmental* process rather than the product of intense training. Consequently, the origin of exceptional abilities does not get explained, Howe's assertions to the contrary notwithstanding. Feldman (1986) undertook the study of prodigies because he wanted to understand developmental processes. Gardner (1983) described the distinct developmental patterns for each of the seven intelligences, but that did not catch Howe's attention. Howe uses historical cases selectively only to stress that their education was rather special, overlooking the fact that the parents and the teachers were also exceptional.

Howe would be hard put to find exceptional education in women of extraordinary achievement like Leta S. Hollingworth, who not only was not educated in any special way but who suffered several years of very destructive family conditions in her adolescence (Hollingworth, 1943). Bertha Pappenheim was denied the education her less gifted brother was given, yet she overcame her extraordinary mental illness (she was "Anna O.," a case of hysteria on which psychoanalysis was founded), and became a writer and a defender of the rights of orphans, unwed mothers, and women in general (Freeman, 1972). Mary Kingsley was self-taught, at first from quite outdated textbooks and when this was pointed out to her she started her self-education afresh; she became a first-rate zoologist and anthropologist (Frank, 1986). Eleanor Roosevelt was privately tutored but to no greater degree than children of wealthy families were in her day.

It is curious that in a work purportedly on exceptional abilities there is no mention of the Study of Mathematically Precocious Youth (SMPY; Stanley & Benbow, 1986). It is all the more curious because the study was begun as far back as 1971 and is known worldwide. SMPY is based on the idea of

finding mathematical talent in preadolescents with an identification instrument specific to the talent and more powerful than standardized achievement and intelligence tests. The SAT is normally given to high school seniors. About 125,000 top ranking 7th and 8th graders are now tested annually, of whom about 17% score above 500 (an average for students 4 and 5 years older) with some gaining the perfect score of 800. These talented youths were skilled at mathematical reasoning despite their lack of appropriate instruction in it. Top scorers even as young as 8 years old have been found. Perhaps nothing defeats Howe's thesis of the ordinary basis of extraordinary abilities as does this massive study.

Howe's discussion of the concept of intelligence does not reflect the developments of the last decade. He is right, of course, to point out that the term is descriptive and should not be used to explain ability. But he quickly shifts into equating intelligence with a score on an IQ test (once a popular notion) which is incorrect in light of progress in our understanding of intelligence and its measurement (Sternberg, 1982). IQ tests continue to be of importance in identifying highly gifted children as well as gifted underachievers and minorities who otherwise would not be recognized (Gross, 1992; McGuffog et al., 1987; Whitmore, 1980).

Despite its title, this is not a book about the origins of exceptional abilities but rather an argument to parents and policy makers that the guarantee of higher intellectual achievement in virtually any child of normal intelligence lies in more intense investment of effort and more individualized instruction, and that the family milieu and availability of resources, including specialized instruction, play a critical role in the development of talent. One can heartily agree with that, but I cannot accept Howe's objections to the term "gifted," his equating intelligence with the score on an IQ test, and his arguing against special educational provisions for gifted children. It is another instance of Howe's black-and-white reasoning.

The words 'talented' and 'gifted' . . . [have] led users to infer that children and adults can be firmly divided into distinct categories. A person is seen as either talented (or gifted) or not talented (or not gifted). . . . once it has been accepted that it is appropriate to categorize people in this manner, it is often assumed that one can justify according special treatment or special provisions for individuals who are within the

group, and regard the members of the group as forming a special and distinct category with special needs or interests (as in, for example, 'The Gifted Child Quarterly,' or 'The National Association for Gifted Children'). (p. 37)

It is too bad that Howe chooses to ignore the work that has been done to understand the enormous diversity of talent and types of giftedness (for instance, Gardner's [1983] theory of multiple intelligences which Howe writes off rather offhandedly) and the need to replace the lock-step age-graded education with a differentiated approach based on actual level of competence. This work, today perhaps best exemplified by SMPY, Renzulli's schoolwide enrichment model, and the model of curricular flexibility (Cox, Daniel, & Boston, 1985) clearly show that the appropriate approach to education is to provide children with learning opportunities corresponding to their level of competence. Although many educators and policy makers may think in simple categories of "gifted" and "nongifted" and set up programs based on cut-off scores, it is irresponsible for Howe to use this practice as a justification for arguing against "special provisions" for gifted children. There are, unfortunately, too many children who are frustrated, bored, or irritated because they are forced to sit in a class with teachers who know less than they do and who would not release them to do more advanced work or to spend their time more profitably.

In sum, this is a polemical piece, written in an almost conversational style; it is easy to read. The historical cases are interesting and worth closer examination. But the book is of little value to people interested in extraordinary abilities, creativity, and the developmental patterns of giftedness. The picture it gives to parents and educational policy makers is misleading. On the positive side, it is of value as an expression of faith in the power of individual instruction and the unlimited potential hidden away in every child.

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