

Review

The Sports Gene: Inside the Science of Extraordinary Athletic Performance

David Epstein. New York: Penguin Group, 2013. 338pp.

Dave Ogden *

David Epstein is another author chasing the elusive answer to one of the basic and ageless issues of social and natural sciences: Nature versus nurture. His discoveries and conclusions in *The Sports Gene: Inside the Science of Extraordinary Athletic Performance* are not necessarily new, but he provides ample and interesting evidence that leans more heavily on the side of nature. In doing so, he takes on stock believers in Karl Anders Ericsson's theoretical set called "deliberate practice." Ericsson and his colleagues have studied elite "performers" in a variety of fields, including typing, chess playing, musicianship, and athletic skills. Ericsson found that the top performers had logged at least 10,000 hours or 10 years of refined and focused practice. Ericsson found that the more years or hours of deliberate practice logged, the better the elite performer was. Epstein doesn't discount deliberate practice, but he displays much less enthusiasm than that felt by supporters and scholars of Ericsson's school of thought.

* **Dave Ogden** is professor of communications at the University of Nebraska at Omaha. Before coming to UNO in 2001, he was an associate professor at Wayne State College. He served as Director of Public Affairs at the University of Nebraska Medical Center from 1984 to 1988, and has worked as a reporter/news writer for KFAB and Metro Networks. Ogden's research focuses on baseball and culture, with specific emphasis on the relationship between African American communities and baseball. Since 1995, he has presented his research at the National Baseball Hall of Fame Conference on Baseball and Culture in Cooperstown, N.Y., Indiana State University's Conference on Baseball in Literature and Culture, the *Nine* Spring Training Conference in Tucson and at other national and regional research meetings. His work can be found in *Nine: The Journal of Baseball History and Culture*, the *Journal of Leisure Research*, the *Journal of Black Studies*, *Journal of Sport Behavior* and *Great Plains Research Journal*. He is co-editor of the books *Reconstructing Fame: Sport Race and Evolving Reputations* (University Press of Mississippi, 2008); *Fame to Infamy: Race, Sport, and the Fall from Grace* (University of Press of Mississippi, 2010); and *A Locker Room of Her Own* (University Press of Mississippi, 2013).

Epstein compiles a lengthy list of nature's signatures on the abilities of elite athletes. World-class high jumpers have longer Achilles tendons, major league baseball players have visual acuity that's off the charts, NBA players have unusual limb length and Ethiopian distance runners have longer legs, compared to those who live farther north or south of the Equator. Sometimes it is geography that plays a major role in a person's predisposition to elite performance and sometimes it is genes. For example, Epstein notes that those who live at low latitude countries, such as Australia aborigines and those in Africa, have longer limbs. The longer limbs provide more skin area for expelling heat, a physiological temperature control mechanism formed through the generations to cope with the environment. At the risk of that he is implying racial stereotypes, Epstein argues that it would be "blind to ignore the conspicuously thorough dominance of people with particular geographic ancestry in certain sports that are globally contested and have few barriers to entry. Namely, of course, that the athletes who are the fleetest of foot, in both short and long distances, are black" (141).

Epstein believes that genetics remain at the root of nature's influence on athletic performance. Just as Equatorial Africans have longer legs, world-class high jumpers have unusually long Achilles tendons. Training does not lengthen those tendons, but genes do. Epstein says it may be that the best of the world's high jumpers have certain genes that build and strengthen collagen, the basic material for tendons and ligaments. Genetic influence can be found across sports. One of Epstein's intriguing examples of this influence is Finland cross-country skiing legend and Olympic gold medalist Eero Mäntyranta. Mäntyranta's family bears a genetic mutation that makes some family members extra sensitive to EPO, a hormone which stimulates the production of red blood cells. Epstein says Eero Mäntyranta's number of red blood cells and hemoglobin was so high that some officials might have thought Mäntyranta was blood doping. But those unusual characteristics put Mäntyranta's ability to exchange oxygen, and to beat world-class opponents by considerable distances, in hyper-drive.

Genetics' effects on aerobic capacity are a recurring theme in Epstein's book. Some coaches and athletic officials have been astute enough to recognize the genetic-based potential in world-class athletes. Sometimes that recognition causes (or forces) the athlete to change to a sport in which the athlete supposedly will fare better. Cuban runner and 1976 Olympic gold medalist Alberto Juantorena was one of those athletes. He had his sights set on a career in basketball. But a Cuban sports official "convinced"

Juantorena that he would be more successful as a runner; and one year after Juantorena forsook basketball, he qualified for the Munich Olympics.

Epstein claims that inherent aerobic capacity and genetic predispositions also can (or should) become considerations in customizing training regimens for serious athletes. Some training regimens may be good for some athletes, but not for others. That is why “blue print” or textbook training plans should not be generalized to all athletes in the same sport or event. Those for whom the “established” plans do not work are not necessarily any less skilled or less athletic than those for whom the plan works. The difference may be that those who are not benefitting from the textbook plan might benefit, and even flourish, with a plan detailed to the athlete’s more inherent skill sets.

The logical step after recognizing genetically based athletic traits is the use of that recognition to accentuate those traits in future generations of athletes. That gets into the realm of genetic engineering, and Epstein does not devote much discussion to that topic, much less to the ethical questions that this area stirs. Although this book’s exploration of genetic engineering in human athletes is limited, one of Epstein’s most entertaining and provocative stories has to do with genetic manipulation through selective breeding of Alaskan sled dogs. One breeding program changed the nature of dog sled races, most notably the Iditarod. Epstein’s story centers on Lance Mackey and his huskie Zorro, who became the genetic hub of a new breed of racing sled dog. Until 2007 competitive long distance mushers wanted dogs for their speed, to “sprint between rest stops” at speeds up to 15 miles per hour (229). In the Iditarod that year Mackey introduced a team consisting mostly of Zorro’s offspring. These dogs were slower than those on other race teams, but could take fewer rest stops and “trot till they bored a hole in the earth” (230) That team won the Iditarod, as did Mackey’s teams, also consisting of “Zorro’s progeny,” for the next three years (230). The value of Mackey’s dogs increased, as did the adoption by other mushers of Mackey’s racing strategy. Epstein acknowledges that Mackey is one in a long line who has been breeding dogs to meet various purposes for well over a century. But Mackey’s story illustrates the impact that that genetic control can have in a sport, and not just sled dog racing.

While genetics, what Epstein occasionally refers to as the “hardware,” may offer a base for athletic advancement, most of the time “software” is necessary to bring out the talent. The “software” is the intense and focused training, or “deliberate practice,” to bring out and burnish the skill set.

By the end of the book Epstein comes back to where he started. He returns to his premise that Ericsson's 10,000 hour or 10 year theory is guilty of downplaying natural ability. Nature provides the hardware, but Epstein concedes that the hardware is of little use in most cases without the software. Epstein's book lacks a "Eureka" moment. That is, the conclusions he draws are no different from those made by other scholars in the social and biological sciences. But Epstein's research is in-depth and impressive and the many examples he gives to back his arguments make *The Sports Gene* worthy of reading.