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Innate Talent: Myth or Reality?

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“INNATE TALENTS ARE, we think, a fiction, not a fact.”¹ Psychologists Michael Howe, Jane Davidson, and John Sloboda threw down the gauntlet with this bold statement that summarized the gist of their provocative target article, “Innate Talents: Reality or Myth?,” published in 1998. The authors’ opening salvo was hardly controversial.

It is widely believed that the likelihood of becoming exceptionally competent in certain fields depends on the presence or absence of inborn attributes variously labeled “talents” or “gifts” or, less often, “natural aptitudes.”²

But they then proceeded to completely debunk the notion they branded “the talent account,” concluding that:

Even people who are not believed to have any special talent can, purely as a result of training, reach levels of achievement previously thought to be attainable only by innately gifted individuals.³

They further defended their takedown of the talent account by citing its importance in educational and policy decisions, and the observation that belief in this account is especially ubiquitous among those who instruct, pursue, and support musical training: teachers, students, and parents.

Within the accelerated timeline of cognitive science, 1998 is in the far distant past, yet the strong contemporaneous responses provoked by the Howe et al. title question still reverberate. In the interim, the popular press has seized on both the talent account and what it really takes to achieve success, particularly in professional sports and marketing. Books like Malcolm Gladwell’s *Outliers* codified the so-called “10,000 Hour Practice Rule,”⁴ and the title of Daniel Coyle’s *The Talent Code* foreshadowed his thesis: that the “code” can be cracked (with a little help from recent research in cognitive science).⁵

The talent account demands reconsideration, not just by academic psychologists or for-profit motivational speakers, but more urgently by practitioners who actually work with those deemed to possess (or not to possess) that most intangible of attributes, talent.

THE CRITICS SPEAK: PSYCHOLOGISTS

“Innate Talents: Reality or Myth?” roused a variety of strong responses from among reigning luminaries in cognitive science at the time of its publica-

tion. August cognitive psychologist Robert J. Sternberg weighed in with a response whose snarky title presaged his opinion. In “If The Key’s Not There, The Light Won’t Help,” Sternberg declared “deliberate practice” as patently obvious “for proficient levels of competence,” and charged Howe and company with citing studies that were “almost all irrelevant to the issue.”⁶ (Indeed, one study proffered the ability of seasoned cocktail waitresses to “regularly remember as many as 20 drink orders at a time” as proof that it is training that accounts for success, and not talent.)⁷

Another researcher allowed that even though the Howe et al. article demonstrated “little evidence for the talent account,” he still wasn’t buying “training and early experience” as the only factors that can account for individual achievement.⁸ This author’s plaintive plea, “Might we adopt the learning-related account instead of the talent account?,” and his subsequent suggestion that there are “problematic social implications” in stressing hard work alone, “especially in cultures in which effort is emphasized,” revealed his own biases: the late Giyoo Hatano was a professor of cognitive science at Keio University in Tokyo, Japan, a country that suffers one of the world’s highest suicide rates among industrialized nations.⁹ The causes for suicide are varied and complex, but most experts attribute Japan’s epidemic suicide problem to the toxic result of personal failure within a culture that values extreme effort.

Several respondents stressed the importance of industriousness, basically agreeing with the authors’ contention that talent is a myth, in part because “emphasis on innate talent as the basis for outstanding achievement underestimates the importance of hard work.”¹⁰

Deliberate Practice and the 10,000 Hour Practice Rule

Hard work has been the focus of Psychology Professor K. Anders Ericsson’s research career. Widely recognized as one of the world’s foremost authorities on expertise, Ericsson has studied both the quality and the quantity of hard work that it takes to become an expert at anything. Ericsson coined the term “deliberate practice,” which he defines as “an effortful activity designed to optimize improvement.”¹¹

Ericsson’s research is also the original source of the magic number 10,000 for the number of practice hours

that it seems to take for anyone (including so-called “prodigies”) to attain a level of mastery at such high-level tasks as tennis, golf, chess, piano, and violin.¹² Also known as “The 10-Year Rule of Necessary Preparation,” Ericsson has always generously acknowledged the many studies that preceded his which demonstrate this “rule of tens.”¹³ But since the famous (and very rich) author and inspirational speaker Malcolm Gladwell christened it the “10,000 hour practice rule,” it is his name that is most associated with this concept, not Ericsson’s, nor any of the other eleven researchers whose own deliberate practice, spread over more than a century, provided the data for the theory.

In his response to Howe and colleagues’ target article, Ericsson stressed the difference between “everyday abilities” and “expert performance.”

[While] basic capacities can be modified or circumvented by deliberate practice . . . we need to consider the differences in structure between most everyday abilities and expert performance. Only in expert performance is it possible to show consistently that individuals can acquire skills to circumvent and modify basic characteristics (talent).¹⁴

Other respondents echoed Ericsson’s admonition to distinguish between ordinary and notable accomplishments when taking down the talent myth; however, they cited the juxtaposition of commonplace activities with “extremes in performance” as simply “making talent easier to see.”¹⁵

More than one expert opined that the only way to account for the preternatural musical gifts of some autistics and *idiots savants* is “the talent account,” but here, too, Howe and company held fast to their conviction that it is largely practice (albeit driven by the obsessive-compulsive disorder that often accompanies autism), and not inborn talent, that accounts for these individuals’ remarkable abilities.

Talent Scouts Not Practice Scouts

A number of respondents simply reiterated their own version of the talent account. One stated unequivocally that inborn talent exists, adding that:

No randomly selected child has ever reached world-class achievement by practice alone, which, though essential, cannot itself produce greatness.¹⁶

The team of David Feldman and Tamar Katzir opened their review by recounting the amazement of the principal violinist of the Philadelphia orchestra after a performance of a Paganini violin concerto by the then eleven year-old prodigy Midori, who said, "If I practiced three thousand years, I couldn't play like that. None of us could."¹⁷

Feldman and Katzir went on to cite such famously talented individuals as Mozart, Picasso, Shakespeare, Pavarotti, and Robin Williams, and challenged:

If anyone can prove that the works of these individuals can be explained without recourse to a construct like natural talent, we will concede that talent does not exist . . . Practice, indeed.¹⁸

Another reviewer made the blunt and practical observation that, "Professional sports teams typically send out talent scouts, they do not send out practice scouts."¹⁹

Nature versus Nurture

Several critics correctly identified the target paper as another go-around in the age old nature versus nurture debate. The most notable was renowned psychologist Mihaly Csikszentmihalyi, who encapsulated his "psychology of optimal experience" in the best selling book, *Flow*.²⁰ Csikszentmihalyi dubbed the paper an exercise in "Fruitless Polarities" and dismissively declared that, "Flogging the dead horse of the nature versus nurture controversy is particularly useless in the context of talent."²¹

Four years after the publication of this highly controversial article, distinguished professor of psychology Michael Howe died suddenly in 2002. He was eulogized by colleague and collaborator John Sloboda as "an ardent environmentalist within [his] field."²² The term "environmentalist" is code for a person whose stance within the classic "nature versus nurture" debate is that a person's environment in which he is nurtured (or not), and not his inborn nature, will largely determine his outcome. This "Nurture Assumption" is precisely what author Judith Rich Harris assailed in her notable book of the same name, in which she argued that it is the complex mix of heritable traits played out within the larger social world of peers that have the most effect upon the way children turn out, and not the effects of parenting.²³ Harris is widely credited for having updated the nature/nurture lexicon to the more accurate and less emotion-

ally-loaded terms "heredity and environment." This independent scholar attracted the attention and ardent support of no less than Harvard experimental psychologist Steven Pinker, who himself confronted the nature/nurture conundrum in one of the most erudite and provocative books on the subject yet written.²⁴

In his book, Pinker took on three doctrines he named as both fundamental and dogmatic within Western culture: "The Blank Slate" (the belief that we are born "blank," with no innate traits coded within our DNA), "The Ghost in the Machine" (the notion that the mind is the seat of the soul and is free from its biological moorings), and "The Noble Savage" (the romantic belief in an Eden-like innocence and goodness among primitives that is only corrupted by modern culture). All of these precepts, Pinker argued, combine to retard the benefits of modern cognitive science from reaching society. Pinker, as well as the vast majority of those in the general field of cognitive science, believe that an either-it's-genes-or-it's-nurture proposition is a false dichotomy when applied to humans. As psychologist Gary Marcus put it:

. . . [another] misconception people harbor about genetics: that it will be possible one day to determine, once and for all, whether nature or nurture is "more important." Genes are useless without an environment, and no organism could make any use of the environment at all if it were not for its genes. Asking which one is more important is like asking which gender, male or female, is more important.²⁵

Much psychological research trickles down from the academy to the practitioner, abetted by the popular press, and exerts its effect upon educators, therapists, parents, coaches, public policy makers, and others in positions of influence. The myth of the "Blank Slate" reached its apotheosis during the last two decades of the twentieth century, dressed up in the guise of self-esteem theory.

Self-Esteem Theory

Claims that assuaging children's self-esteem could significantly ameliorate chronic social ills like drug abuse, teen pregnancy, and poor academic performance were so attractive that the California state legislature bought wholesale into this theory in 1986.²⁶ Throughout the remainder of that decade, the mantras of self-esteem theory ("Believe in Yourself!" and "I am Special Because I am Me!") seeped into the *Zeitgeist* and were unques-

tioningly adopted into school curricula and social policies across the country. Parenting books published in the last two decades of the twentieth century stressed self-esteem as the bedrock upon which all other values are built. The problem was, there was little science behind the theory.

Currently, self-esteem theory is undergoing a scrutiny it should have received the first time around. Continued research is revealing that low self-esteem does not necessarily correlate to the many ills once attributed to it, and falsely stoking self-esteem has offered no visible or measureable panaceas. In fact, high self-esteem may even be the underlying culprit for socially aberrant behavior, including aggression and violence.²⁷

Even though self-esteem theory is slowly being dismantled, according to authors Jean Twenge and Keith Campbell, the damaging effects of self-esteem theory have spawned a “Narcissism Epidemic,” which term became the title of their recently published book.²⁸ The authors build a solid case for why so many Americans born between approximately 1970 and 1990 (a group Twenge designated “Generation Me”) appear so strikingly (and, they argue, undeservedly) self-confident. According to Twenge and Campbell, add a dollop of self-esteem to the related theories of “The Blank Slate” (we all come into the world empty of any innate traits) and “The Nurture Assumption” (excellent kids get that way mostly by virtue of parents’ efforts), and the result is an epidemic among members of “Generation Me” who literally cannot tolerate criticism of any kind, even when it is proffered in its most benevolent package: teaching.

Clearly, the intertwined theories of self-esteem and the Blank Slate are what three psychologists from Case Western Reserve University had in mind when they branded Howe, Davidson, and Sloboda’s article as “Absurd Environmentalism.”²⁹

Absurd Environmentalism

The current thinking in cognitive science is that humans do indeed come into the world with certain inherent genetic traits. However, we are immediately cautioned by experts like Marcus to be wary of any metaphors that liken such inheritance to a recipe or a blueprint for how genetic information is realized in a living human. Rather, we are urged to imagine that the ways in which heritable traits play out in one’s environment are as complex,

unique, and difficult to predict as individual humans themselves.

The three Case Western researchers posed the question, “Why is absurd environmentalism such an attractive hypothesis to so many if it is so wrong?” and rejoined with the obvious answer, “Everyone wants to believe they can be anything they want” and why this is so: “We would prefer to believe that our accomplishments are due to our own hard work and not to a lucky roll of the genetic dice.”³⁰ This belief is not solely confined to learners. Teachers and parents are equally in thrall to the Blank Slate theory. The Case Western team argued that this belief is directly proportional to a sense of mission, power and control.

Because environment is the only part of total variance they believe they can change, the larger they see the environmental piece of the whole pie, the more meaningful and powerful they see their ministrations as being.³¹

As both a teacher and a parent, my response to that was swift, and human: “Ouch!” Yet if we are to harness results from cognitive science to better our own lives and those of the people dependent upon our ministrations, we must consider what these experts went on to say about the dark side of absurd environmentalism, which to them equates blaming the victim. In other words, the theories of “The Blank Slate,” “The Nurture Assumption,” and “Absurd Environmentalism” are all of a piece, and if one espouses them, then one assumes full responsibility whether as learner or teacher, and equally for both victories and defeats.

If one believes that accomplishment is totally the result of individual effort, then those persons who fail to accomplish much have only themselves to blame. This seems to us to be a very harsh judgment.³²

The Little Engine That Could

The merits of effort are instilled early in the young through inspirational books like the story of *The Little Engine that Could*, dogging them throughout their journey to adulthood. Inspirational posters are plastered ubiquitously on bulletin boards, school lunchrooms, and even inside bathroom stalls, trumpeting the benefits of hard work and perseverance (my son’s athletic team shirt reads, “If We Aren’t Going All The Way, Why Go At All?”).

No one seriously questions that effort is necessary for achievement, nor that the merit of that effort is conjoined to its quality. In the real world of cause and effect, an average effort engenders an average end product—unless you are an American high school student. According to Twenge and Campbell, there has been less than a one percent improvement in “actual learning” over the past thirty years (as measured by academic testing), but a whopping eighty-three percent increase in grades of “A” for academic subjects like math and reading.³³

The message of the iconic little blue train is simple: effort is rewarded by success. No matter how that simple idea is parsed as children mature and are capable of a more nuanced understanding, adding riders (“if you really want it”) and caveats (“but you have to work really hard”) have not inoculated this simple maxim against mutation to its more virulent strain: *any effort should be rewarded by success*. When things don’t work out the way this script foretells, social scientists like Twenge note an alarming tendency among “Generation Me” to simply give up, accompanied by the wan justification, “At least I tried.”

The Inverse Power of Praise

Social psychologist Carol Dweck has gained notoriety among educational circles for her research in how self-perception influences performance. The nature-nurture conundrum is recast in Dweck’s terminology as “the fixed mindset” (nature, heredity, and the talent account) versus “the growth mindset” (nurture, environment, and the rewards of effort). In Dweck’s investigations involving talent, she found that emphasizing a child’s innate abilities virtually positions a child for failure, and further, “provides no good recipe for responding to a failure.”³⁴ In other words, children who have been reared on praise for their talent tend to clutch that talent as a talisman, regarding effort as unnecessary due the magic of their natural gifts. This kind of thinking leads to a double whammy: lack of effort results (unsurprisingly) in failure at the task at hand—but those who have been stroked the most fall the hardest, even to the point of complete collapse, putting future effort in jeopardy. Dweck has fittingly dubbed this, “the inverse power of praise.”³⁵

Anyone who has taught for any length of time has at least several disappointing protégés in their history.

Whatever the reasons, there is almost nothing as bitter for a committed teacher when a student doesn’t work up to her potential or realize the ambitions you held for her, based upon the (dare we say it?) talent that she evinced in the early stages of training. If your protégé entered your studio with Dweck’s “fixed mindset,” then the reasons for her unremarkable output are at least more clear: “the inverse power of praise” doomed her from the outset, putting the kibosh on your teaching and relegating her to the gallery of those who “shoulda’ been contenders.” This offers a powerful explanation for why some precocious children stamped with the unfortunate label *Wunderkind* don’t successfully transition to adulthood. Adult life is filled with trial and failure, except for those who are pathologically averse to effort. In that case, the path of least resistance is truly no effort at all.

THE EXPERTS SPEAK: VOCOLOGY

The number one attribute that contributes to the success of a young professional singer is, without a doubt, an outstanding natural instrument. You cannot put that in somebody’s throat . . . you can’t teach a voice where there’s just an average voice.³⁶

The vocal talent has to be there.³⁷

Obviously, a singer must have what some call a “talent for singing.”³⁸

It is fair to assume that many voice teachers agree with these statements, at least on first pass. But when pressed to describe what talent really is, it is difficult to provide an exact definition. It is much easier to provide synonyms, like “innate abilities,” or “inborn, or God-given gifts.” We may demur entirely by listing historic luminaries (Sutherland, Pavarotti) or by citing our professional judgment: “I know talent when I hear it.” But before we can come to any conclusion about the existence of vocal talent, we must return to the expert on expertise, K. Anders Ericsson.

The Body Factor

Ericsson has noted that the search for the Holy Grail of talent has proved “surprisingly unsuccessful,” and has generally side-stepped a clear definition or refutation of “the talent account,” or what he calls “heritable characteristics that could predict or at least account for the superior performance of eminent individuals.”³⁹ However,

he has allowed the existence of predetermined ability in one domain: sports.

In activities like basketball where height is critical, Andersson has allowed that this must be deemed an inborn gift, given the fact that relatively little can be done to effect this attribute—but he avoids the word “talent.” I would argue that the same could be said of voice, particularly the robustness required for certain opera and music theater roles; big, hardy voices are born and not made. But beyond a simple recognition of these gifts as inborn, can we deem this “talent”? And, more to the point, what good springs from defining as talent a student’s inherited physical traits, when all that was required of him was to show up for his birthday?

Undermining the Talent Account

“When the talent was passed out, you must have been standing behind the door.” The damaging effects of such black humor on the egos of the poorly endowed are what sparked the self-esteem movement, and set Howe and colleagues on a quest to explode the talent myth. On the other end of the talent spectrum, Carol Dweck’s research has ably demonstrated the curse of the talent myth upon those judged to possess it most. In addition, the intimation of inherited gifts is frankly insulting to high achievers. As golfer Sam Snead, called “the best natural player ever,” reported in an interview:

People always said I had a natural swing. They thought I wasn’t a hard worker. But when I was young, I’d play and practice all day, then practice more at night by my car’s headlights. My hands bled. Nobody worked harder at golf than I did.⁴⁰

Regarding policy matters, a string of social scientists have noted the propensity for both families and institutions to heap resources upon those deemed most talented, abetted by the justification that a gifted population will benefit most and therefore maximize the investment. This kind of reasoning may be most evident in a weak economy, when committees and families are forced to narrow the allocation of precious resources. While this may make superficial fiscal sense, by the terms of the talent account, only a tiny percentage of the population is truly gifted, leaving a vast majority of persons who, in any chosen field of endeavor, are left without resources to help unlock their nascent abilities. And the critical figure in this process is not, it

appears, the individual himself, but those who care about his progress.

Ericsson and others have chipped away at the talent account by demonstrating in repeated studies that it is early intervention by teachers, parents, and mentors that causes the defining differences between superior and average performers in any domain, and not inborn talent. Michael Howe and his colleagues conducted a large-scale study of musical expertise by following five diverse groups of musically engaged children who ranged all the way from “outstandingly able” to “tried an instrument but gave it up.”⁴¹ The researchers found that the similarities among the five disparate groups of young people far outweighed their differences, except for one significant factor: parental involvement. It appears that the concern of people who care deeply enough about a young person’s development to pay for lessons, drive to rehearsals, supervise practice, and make instrument repairs when necessary is so critical to their success that it virtually wipes out any benefits attributable to the talent account.

In a final blow to the talent account, retrospective studies have even demythologized the successes of one who is the very symbol of inborn talent. Despite the evocation of his middle name, Mozart’s father took no chances on the existence of little Wolfgang’s God-given gifts. Even Mozart, it appears, put in his 10,000 hours of deliberate practice, although due to an early start at the age of three, he easily would have fulfilled this prerequisite at least by the time he was twelve, if not younger. In any case, it appears that prodigies are made and not born.

Ya either got it, or ya ain’t . . .

Some people got it, and make it pay,

Some people can’t even give it away

. . . You either have it, or you’ve had it!

—Mama Rose, from *Gypsy*⁴²

Many of us teach those who “can’t even give it away,” but even this unfortunate state may not preclude the joy of the pursuit (at least on the part of the learner). People study voice for myriad reasons, many of which are nonprofessional, and these reasons should be valued for the intrinsic worth inherent in the pursuit of beauty—even if that pursuit never results in its complete attainment. As long as a teacher is humane but clear in his assessment of his students, he should suffer

no ethical concerns born of feeding false hope. And whether or not one believes outright in the talent account, the bald truth is that many of us in the teaching profession simply do not have the luxury to entertain the notion of talent. With the exception of an elite corps of teachers who maintain studios in cosmopolitan cities or music conservatories, the vast majority of NATS members support a range of ability within their studios. Most independent teachers literally cannot afford to hew to the talent account, and institutionally affiliated teachers generally cannot withhold instruction from admitted students due to lack of something as hazy and subjective as “natural gifts.”

The critical question for both performers and teachers is not whether talent exists *per se*, but this: How damaging are the effects of the talent account, both to those who secretly fear they don't have it, and to those who believe they possess it the most? In light of Ericsson's theory of “Deliberate Practice” and Dweck's “Mindsets,” the answers to all students, regardless of where they fall on the talent spectrum, is unequivocal: Get over yourself and get to work. In light of Twenge and Campbell's “Narcissism Epidemic,” the difficulty of that process is directly proportional to one's addiction to praise.

Still, the nagging question of the existence of talent persists, and an attempt to answer it could easily be made by simply dismissing Howe, Davidson, and Sloboda as earnest but deluded zealots. Voice teachers could parry their environmentalist contentions with tales from the front: instances in which extreme effort, excellent training, supportive benefactors, and generous financial support were just not enough for significant (or even moderate) vocal achievement.

To reveal my own hand, in regard to singing, I do believe that what Ericsson calls “certain heritable traits” really exist in some people. However, my immediate rejoinder made equally as teacher and singer is—so what? As Gary Marcus reminds us, the dichotomy of talent versus environment is as useless as that of gender: neither is better, and both need each other to flourish.

In the end, the worth of talent as a construct is revealed as virtually useless when, in the absence of the training necessary to reveal it and the effort necessary to sustain it, talent, if it exists at all, vanishes.

NOTES

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Lynn Holding has sung throughout the United States, Europe, Australia, and Iceland, where her performances were broadcast on Icelandic National Radio. Her lecture series *Connecting Voice Science to Vocal Art* illuminates ongoing research in cognitive science, a field she claims "ushers in a paradigm shift in emphasis from how well teachers teach, to how well students learn."

Holding studied voice at the University of Montana with Esther England, in Vienna with Kammersänger Otto Edelmann, and at Indiana University with Dale Moore, where she was the first singer accepted to pursue the Artist Diploma. She earned the Master's Degree in Vocal Pedagogy from Westminster Choir College of Rider University, and studied vocology with Dr. Ingo Titze, Dr. Katherine Verdolini and others at the Summer Vocology Institute of the National Center for Voice and Speech. In 2005, she was awarded the Van Lawrence Fellowship, given jointly by the Voice and NATS Foundations.

She served four years as a member of the voice faculty at Vanderbilt University, and is currently Associate Professor of Voice and Director of Performance Studies at Dickinson College in Carlisle, Pennsylvania. She welcomes visitors to her website: <http://users.dickinson.edu/~holding> and communication at: holding@dickinson.edu.

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