

The Not-So-Golden Mean

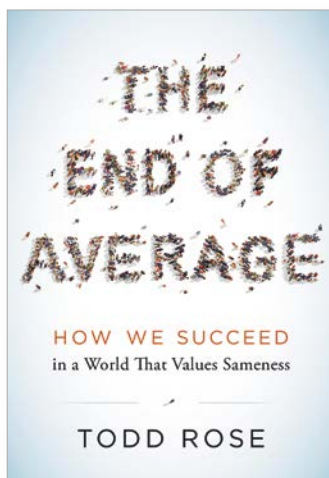
A neuroscientist aims to disrupt “the tyranny of the average”

**The End of Average:
How We Succeed in a World
That Values Sameness**

by Todd Rose

HarperOne, 2016, \$27.99; 256 pages.

As reviewed by Mark Bauerlein



There is an anecdote near the end of this assault on “averagarianism” by Harvard education researcher Todd Rose that illustrates how averaging tactics fall short and why people rely on them nonetheless. It begins the day before classes started at Weber State University, where Rose had enrolled after floundering in high school and bouncing for a few years from one nowhere job to another. He worked out his schedule with a counselor, who told him, “Given your poor academic performance, it makes the most sense if you take your courses in the usual order.” That meant, in part, remedial math and freshman writing.

Rose walked out feeling grateful for the attention—until he bumped into another freshman with the same adviser, who had given her the same advice, save for the remedial math. The adviser didn’t think she needed the math, but all his other advice matched.

Rose realized that the adviser saw all students as more or less average. Variations in coursework weren’t much necessary. But “The normal pathway had not worked out for me in high school, so why in the world should I expect it to work in college?” the author writes.

He dropped the math and discovered an exam he could prepare for at his own pace and use to test out of the remedial course. He saved the writing class for senior year, when he

would have acquired the ability not to let its inevitable boredom affect his effort. His strategy worked: Rose ended up in the honors program.

But Rose doesn’t blame the adviser. “Averaging” was necessary to the job. If he treated everyone as an individual and not a type, he could never work through the hundreds of advisees assigned to him. Treating people as unique is laborious.

This story is worth recounting because Rose’s own experience is central to the thesis of this book. “I first became interested in the idea of individuality because I was crashing over and over again in my own life,” he admits, “and I couldn’t figure out why.” The culprit, it turns out, was “the tyranny of the average,” that is, the leveling of people to a norm against which they may be appraised and to which they can be fitted. It is the purpose of *The End of Average* to disrupt this tyranny.

The demonstration starts with an account of where average thinking originated. Belgian astronomer Adolphe Quetelet (b. 1796) invented it by analogy. Scientists had found that the average of many measurements of

planetary motion was more accurate than any single measurement. Why couldn’t this apply to human beings? If we average the chest circumference of 1,000 Scottish soldiers, Quetelet asserted, we will find the ideal chest size. Height, weight, and complexion could be averaged, too, and yield a veritable model human, the Average Man.

Then came Sir Francis Galton (b. 1822), who also favored average measurements but changed the interpretation. For Galton, Average Man wasn’t an ideal; he was a mediocrity. He stood on the middle rung of a 14-step ladder running from the Imbecile to the Eminent. Most importantly, Galton said, eminence was consistent. People who were superior at one thing were superior at many things, just as imbecility in one area signaled a general imbecility.

The third figure in this history is the engineer Frederick Winslow Taylor (b. 1856), who sought to eliminate individuality from the labor sector. If you could standardize jobs and training, he reasoned, you could plug any worker into a task and maintain the same productivity. The worker would be as uniform and replaceable as the widget.

None of these men appreciated individuality. Quetelet interpreted individualizing traits as deviations from “proper” dimensions. Galton refused the truth that each individual is a mix of stronger and weaker traits. Taylor molded the average into a dehumanizing routine. One can easily see how such viewpoints affect education. We often put every student on the same track and penalize those who waver. We see a student struggle in one subject and expect deficiencies in others.

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We make learning into a rote process.

The moral objections here are easy and obvious, and Rose fills the book with familiar “cogs in a machine” language. But the research he cites is important. Many assume that a human average is an average because most people resemble it fairly closely. But when we calculate averages for traits such as weight, height, neck size, and wrist circumference, few individuals come close to the mean measurements. When the Air Force measured 4,000 pilots on 10 physical characteristics, not a single one came out all average. Even when the calculation was limited to just three characteristics, only 3.5 percent of the pilots qualified as average.

Any evaluation system that averages people's performance across more than one dimension overlooks differences and misinterprets everyone to some extent. It submits them to a “single-scoring” yardstick. IQ is a case in point. When we say someone has an IQ of 108, we assume a core intelligence that sets him above average. But the number is really a combination of scores on several subtests. Two people with the same IQ may score quite differently on arithmetic, vocabulary, and similarities. If we map them side by side and record each subscore, as Rose does, we get a distinct, “jagged” profile of each person, high points for relative strengths, low ones for weaker areas. Averaging flattens the individual to a single point.

The differentiation is crucial. Another anecdote from Rose's past shows why. As he finished at Weber State and aimed for graduate school, Rose kept stumbling as he prepped for the GRE. Those twisting word problems baffled him. One night he flung his pencil across the room and nearly hit his father, who asked him what was wrong. Rose explained what he was trying to do and his father replied, “That requires you to do most of the problem in your head.” Yes, and that's how his tutor did it, Rose replied. “But you don't have great working memory,” his father said. Noting that his son was

“good at visual thinking,” he suggested a different method.

You can guess the ending. Rose made visual versions of each question and aced the test. He succeeded because his father had identified part of his jagged profile—good at visual thinking, not so good with working memory.

As with IQ, single-scoring error also occurs when we generalize a person's character from behavior in one particular setting. A child argues repeatedly in math class, and so we label the child “aggressive.” But this pigeon-holing isn't borne out by child development studies. In fact, researchers say, the correlation between personality traits and conduct is rarely above 0.30—that is, the trait explains only 9 percent of behavior. A “jagged” approach breaks aggression down into different contexts: aggression with parents, with teachers, with male peers, and so on. Ten 14-year-olds would end up with different jagged profiles, even though they average out as generically aggressive. Rose himself was labeled a troublemaker and punished for acting up in class, when his real aim was to make the bullies laugh so they'd leave him alone.

Today, we have tools that bring down the costs of differentiating how we teach: customized digital instruction

that respects the individuality of each kid. Khan Academy shows how to do it. We can track each “individual learning pathway,” precisely what we need to keep un-average kids on course, for “we are all special cases.”

Any further advice for educators in *The End of Average*, though, focuses on higher education. There, Rose says, we should allow students more flexibility in designing their courses of study. Diploma programs must go, because they demand courses that are not pertinent to a student's goals. Why should engineers have to fulfill a foreign language requirement? Instead, let's break the curriculum up into smaller chunks of courses focused on a single “competency,” and grant a student a distinct credential in it, for instance, “Java programming for web sites, the history of World War I, pastry baking, or the climatology of Asia.” Depending on the subject, some credentials could be earned with one course; others would require several. MIT already does something like this, awarding “certificates” in supply chain management, big data, and other areas. If the principle were applied more broadly, students could build up credentials from different institutions, online or in person, at colleges or training centers, at their own pace, and sometimes for free.

However utopian that sounds, I expect higher education to move in this very direction. The elite schools will remain diploma-based, but others will drift toward greater flexibility in credits and curriculum. Students will prefer their lower costs and higher personalization. The credentials model also tallies with the ever-changing U.S. job market. The broad framework of a traditional liberal education simply isn't necessary or relevant in most workplaces. At times, Rose's view of individuality has a sentimental feel, but in fact it corresponds most strongly to the creative destruction of the 21st-century economy.

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