

1. Read the following article, looking for big ideas.
2. Consider how this could apply to your life.

Complexity and the Ten-Thousand-Hour Rule*

by Malcolm Gladwell

Forty years ago, in a paper in *American Scientist*, Herbert Simon and William Chase drew one of the most famous conclusions in the study of becoming an expert:

There are no instant experts in chess—certainly no instant masters or grandmasters. There appears not to be on record any case (including Bobby Fischer) where a person reached grandmaster level with less than about a decade’s intense preoccupation with the game. We would estimate, very roughly, that a master has spent perhaps 10,000 to 50,000 hours staring at chess positions...

In the years that followed, researchers, time and again, reached the same conclusion: it takes *a lot* of practice to be good at complex, difficult tasks. Psychologist John Hayes looked at seventy-six famous classical composers and found that, in almost every case, those composers did not create their greatest work until they had been composing for at least ten years.

This is what I was referring to in my book “Outliers,” when I wrote about the “ten-thousand-hour rule.” No one succeeds at a high level without some natural talent, I wrote: “achievement is talent *plus* preparation.” But the ten-thousand-hour research reminds us that “the closer psychologists look at the careers of the gifted, the smaller the role innate [natural] talent seems to play and the bigger the role preparation seems to play.” In jobs that require a lot of thought and problem-solving, there are no naturals. Nobody walks into an operating room, straight out of a surgical rotation, and does world-class neurosurgery.

And second, the amount of practice necessary for exceptional performance is so extensive that people who end up on top need help. They always have access to lucky breaks or privileges or conditions that make all those years of practice possible. As examples, I focused on the countless hours the Beatles spent playing clubs in Hamburg and the privileged, early access Bill Gates and Bill Joy got to computers in the nineteen-seventies.

Psychologist K. Anders Ericsson conducted a study that looked at students studying violin at the elite Music Academy of West Berlin. I was interested in the general finding, which was that the best violinists, on average and over time, practiced much *more* than the good ones. In other words, within a group of talented people, what separated the best from the rest was how long they worked and how focused they were.

A study by Guillermo Campitelli and Fernand Gobet of a hundred and four competitive chess players shows that the average time it took to reach “master” status was eleven thousand hours. Robert Howard, of the University of New South Wales, recently published a paper in which he surveyed a group of eight grandmasters and found that the group hit their highest ranking after fourteen thousand hours of practice. Even among prodigies who reached grandmaster level before the age of sixteen, we see the same pattern. Almost all of that group reached grandmaster level at fourteen or fifteen, and most started playing when they were four or five. The famous Polgár sisters (two of whom reached grandmaster status) put in somewhere north of *fifty thousand hours* of practice to reach the top.

Cognitively complex activities [or difficult tasks] take many years to master because they require that a very long list of situations and possibilities and scenarios be experienced and processed. There’s a reason the Beatles didn’t give us “The White Album” when they were teen-agers. And if the surgeon who wants to fuse your spinal cord did some newfangled online accelerated residency, you should probably tell him no. What Simon and Chase wrote forty years ago remains true today. In cognitively demanding fields, there are no naturals.

**edited and revised*

RDW #1—What does this article say? Concisely summarize the main idea. How does this apply to your life? In what areas does practice make perfect? **Highlight two simple sentences for emphasis.**