



# Book Review

## Range Why Generalists Triumph in a Specialized World

Reviewed by Major Ian P. Smith

*“The challenge we all face is how to maintain the benefits of breadth, diverse experience, interdisciplinary thinking, and delayed concentration in a world that increasingly incentivizes, even demands, hyperspecialization.”<sup>1</sup>*

The development of expertise is claimed to be more important now than ever and often touted as a key to success.<sup>2</sup> A “push

to focus early and narrowly” and, especially in sports, a need to begin practicing “as early as possible” to develop expertise has arisen from the belief that “the more competitive and complicated the world gets, the more specialized we all must become to navigate it.”<sup>3</sup> However, this “push” has not been limited to sports, and many of us are familiar with the “ten-thousand-hours rule to expertise.”<sup>4</sup> This “rule,” made popular in Malcolm Gladwell’s book *Outliers: The Story of Success*,<sup>5</sup> “represents the idea that the number of accumulated hours of highly specialized training is the sole factor in skill development, no matter the domain.”<sup>6</sup>

Many examples exist of individuals who have demonstrated this “rule” as the key to their success, and, by starting as early as possible with “deliberate practice,” they had a head start over those who take longer to begin their journey.<sup>7</sup> Examples include Tiger Woods with golf, Mozart with piano, and the Polgar sisters with chess—brilliant individuals in their respective fields who developed their expertise through narrow and early focus.<sup>8</sup> However, as David Epstein argues in his book, *Range*, it is much more accurate to say that these individuals are the “exceptions, not the rule.”<sup>9</sup>

The “question” Epstein set out to explore in *Range* was “how to capture and cultivate the power of breadth, diverse experience, and interdisciplinary exploration, within systems that increasingly demand hyperspecialization, and would have you decide what you should be before first figuring out who you are.”<sup>10</sup> The result of this exploration is a wonderfully well-thought-out and organized book filled with stories and examples of people who were not early specialists but who nonetheless used their breadth of experience—their range—to accomplish incredible things.

Epstein does not claim that expertise is unimportant or without a place; rather, he argues that in most areas of life, “depth can be inadequate without breadth,” and “the ability to integrate broadly” is “our greatest strength.”<sup>11</sup> This review will explore several of the key takeaways from *Range* and seek to apply some of the principles to our roles as judge advocates (JAs).

## Experience Does Not Necessarily Lead to Expertise

There is a place for deliberate practice, and one would be remiss to claim a person cannot improve in a wide variety of skills by spending hours and hours of repetition in the same area. Epstein makes no such claim, but he points out that the research shows “whether or not experience led to expertise . . . depended entirely on the domain in question.”<sup>12</sup> Psychologists have separated the domains into two types of learning environments: “kind” and “wicked.”<sup>13</sup>

### Kind Learning Environments

A kind learning environment is one in which a “learner improves simply by engaging in the activity and trying to do better.”<sup>14</sup> “Narrow experience” is much more valuable when “[p]atterns repeat over and over, and feedback is extremely accurate and usually very rapid.”<sup>15</sup> Activities such as chess, golf, and even firefighting could be described as kind learning environments.<sup>16</sup>

In “kind” learning environments, “deliberate practice,” “experience,” and the “rush to early specialization in technical training” can lead to expertise at recognizing repeatable patterns.<sup>17</sup> A 1940s experiment demonstrated this notion when a Dutch psychologist took chess players of different ability levels, flashed an image of a chessboard midgame for three seconds, and asked them to recreate the board.<sup>18</sup> Unsurprisingly, the more skilled the players were, the more accurate they were in recreating the board.<sup>19</sup>

However, years later, a reenactment of the same experiment highlighted a weakness of the kind learning environment.<sup>20</sup> In this experiment, the chess boards showed “the pieces in an arrangement that would never actually occur in a game,” and the more skilled players performed no better than the less skilled players.<sup>21</sup> Without the recognized patterns the chess masters were used to, their expertise disappeared.<sup>22</sup>

Epstein argues this is one of the main problems with kind learning environments: “When we know the rules and answers, and they don’t change over time—chess, golf, playing classical music—an argument can be made for savant-like hyperspecialized practice from day one. But those are poor models of most things

humans want to learn.<sup>23</sup> Examples like Tiger Woods and the Polgar sisters give the “false impression that human skill is always developed in an extremely kind learning environment.”<sup>24</sup> In reality, most experiences, especially ones “which involved human behavior, and where patterns did not clearly repeat,” showed little increase in skill based on narrow experience or deliberate practice only in that domain.<sup>25</sup> As Epstein argues, “We have been using the wrong stories.”<sup>26</sup>

### ***Wicked Learning Environments***

The converse of the kind learning environment is a “wicked” one,<sup>27</sup> where “the rules of the game are often unclear or incomplete, there may or may not be repetitive patterns and they may not be obvious, and feedback is often delayed, inaccurate, or both.”<sup>28</sup> In these domains, narrow experience does not improve skill, and the experience itself can sometimes “reinforce the exact wrong ideas.”<sup>29</sup> Epstein provides a potent example:

[There was] a famous New York City physician renowned for his skill as a diagnostician. The man’s particular specialty was typhoid fever, and he examined patients for it by feeling around their tongues with his hands. Again and again, his testing yielded a positive diagnosis before the patient displayed a single symptom. And over and over, his diagnosis turned out to be correct. As another physician later pointed out, “He was a more productive carrier, using only his hands, than Typhoid Mary.” Repetitive success, it turned out, taught him the worst possible lesson.<sup>30</sup>

While this is an extreme example, the point is important: “The human tendency to rely on experience of familiar patterns can backfire horribly—like the expert firefighters who suddenly make poor choices when faced with a fire in an unfamiliar structure.”<sup>31</sup> Epstein posits that the “trick” to combat the risk of falling into the trap of relying too heavily on experience is to evaluate an “array of options *before* letting intuition reign.”<sup>32</sup>

Most experiences are more akin to wicked learning environments. Life is filled with situations where we are called on to adapt to our environments, and recognizing the “patterns” from our experiences can only get us so far. As Epstein put it, “There are unknowns, and luck, and even when history

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repeats, it does not do so precisely. . . . [We] are operating in the very definition of a wicked learning environment, where it can be very hard to learn, from either wins or losses.”<sup>33</sup> In this vein, one of the areas Epstein explores is education and how to maximize learning for range.

### **Range in Education**

Focusing on one specific area or specialty was once understandable, perhaps even necessary, but as society has become increasingly complex, there is a “demand for knowledge transfer: the ability to apply knowledge to new situations and demands.”<sup>34</sup> Yet, even with increased complexity, society and education have responded by “pushing specialization, rather than focusing early training on conceptual knowledge.”<sup>35</sup>

Epstein cites a study of college seniors with diverse degrees at one of America’s top state universities, which compared their grade point averages (GPAs) to their performance on a critical thinking test.<sup>36</sup> The test, which “gauged students’ ability to apply fundamental abstract concepts from economics, social and physical sciences, and logic to common, real-world scenarios,” revealed that the correlation between “broad conceptual thinking and GPA was about zero.”<sup>37</sup> The skills that helped students to get good grades at their university did not “include critical ability of any broad significance.”<sup>38</sup>

Another fascinating study conducted at the U.S. Air Force Academy showed that “deep learning”—learning with the most long-term benefit—was best developed

in cadets who initially seemed to struggle but, over the long run, had a “deeper understanding of the material.”<sup>39</sup> The study, which spanned a decade, examined thousands of cadets who were randomly assigned to calculus sections taught by nearly a hundred different professors.<sup>40</sup> It

primarily focused on understanding the differences that individual teachers made.<sup>41</sup> One group of Calculus I professors’ students consistently performed exceptionally well on their Calculus I examination. However, those same students underperformed in subsequent math and engineering courses that required Calculus I as a prerequisite.<sup>42</sup> The converse was also true. A second group of cadets in Calculus I had professors whose students consistently appeared to underperform on the Calculus I exam, and they went on to do better in subsequent classes.<sup>43</sup> “What looked like a head start evaporated.”<sup>44</sup>

A research team that evaluated sixty-seven early childhood development centers designed to “boost academic achievement” discovered that most of the programs taught kids “‘closed’ skills that can be acquired quickly with repetition of procedures,” but that other kids quickly catch up to, eliminating the “head start.”<sup>45</sup> The researchers instead recommended that the greatest benefit to small children would be to teach them “‘open’ skills that scaffold later knowledge. Teaching kids to read a little early is not a lasting advantage. Teaching them how to hunt for and connect contextual clues to understand what they read can be.”<sup>46</sup> What we learn is less important than how we learn. As Arturo Casadevall<sup>47</sup> said, “You have people walking around with all the knowledge of humanity on their phone, but they have no idea how to integrate it. We don’t train people in thinking or reasoning.”<sup>48</sup>

In addition to evaluating the way we learn, with the push to focus early, Epstein

argues that while it is important to have a “sampling period” early, one should never stop being curious or afraid to “abandon a previous goal and change directions” if necessary.<sup>49</sup>

Because personality changes more than we expect with time, experience, and different contexts, we are ill-equipped to make ironclad long-term goals when our past consists of little time, few experiences, and a narrow range of contexts. Each “story of me” continues to evolve. We should all heed the wisdom of Alice, who, when asked by the gryphon in wonderland to share her story, decided she had to start with the beginning of her adventure that very morning. “It’s no use going back to yesterday,” she said, “because I was a different person then.”<sup>50</sup>

### Range for JAs

There is a high demand for JAs today to have both breadth and depth, expertise and versatility—in a word, range.<sup>51</sup> Early in their careers, JAs are expected to develop competence “in any environment, . . . in a variety of legal functions in a variety of assignments with increasing responsibility.”<sup>52</sup> Many of the situations in which JAs will find themselves can be accurately described as “wicked environments,” where there are “unknowns” and the “rules” are not always clear or are incomplete. It is crucial that in those scenarios, JAs can draw on their diverse experiences to make informed decisions. While there may be some concern that the focus on breadth will come at the expense of depth, *Range* demonstrates that broad experience can be a huge advantage.

### Conclusion

At the heart of *Range*, Epstein appeals to those who perhaps “feel behind” because they did not start specializing earlier, they took an untraditional or zigzagging path to get to where they are today, or they still do not “know exactly where [they are] going.”<sup>53</sup> He challenges the reader to “[c]ompare yourself to yourself yesterday, not to younger people who aren’t you.”<sup>54</sup> This challenge is relevant to everyone at every stage in life, but especially to those who do not know where they

are going and who feel discouraged when they look around and it appears that everyone around them has figured out their lives.

Epstein argues that you should “[a]pproach your own personal voyage and projects like Michelangelo approached a block of marble, willing to learn and adjust as you go, and even to abandon a previous goal and change directions entirely should the need arise.”<sup>55</sup> While there is nothing wrong with specializing, and it is important that we “specialize to one degree or another, at some point or other,” it is equally important to remember that everyone’s path is different, your “experience is not wasted,” and “[w]e learn who we are in practice, not theory.”<sup>56</sup> This book is insightful, interesting, and encouraging. The stories, studies, and anecdotes have far-reaching applications for a broad audience—especially in a wicked world. **TAL**

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### Notes

1. DAVID EPSTEIN, *RANGE: WHY GENERALISTS TRIUMPH IN A SPECIALIZED WORLD* 13 (2019).
2. See Sean Mooney, *Why Expertise Matters and How to Find It*, FORBES (June 24, 2020), <https://www.forbes.com/sites/forbesbusinesscouncil/2020/06/24/why-expertise-matters-and-how-to-find-it/?sh=629090ed48b1>; Lidiya Kesarovska, *Why Expertise Is Key to Success in Business*, LET’S REACH SUCCESS (May 24, 2022), <https://letsreachsuccess.com/expertise-business>.
3. EPSTEIN, *supra* note 1, at 6.
4. *Id.* at 5.
5. MALCOLM GLADWELL, *OUTLIERS: THE STORY OF SUCCESS* 67 (Back Bay Books 2011) (2008).
6. EPSTEIN, *supra* note 1, at 5.
7. *Id.* at 5-6.
8. See *id.* at 5-6, 17.
9. *Id.* at 20.
10. *Id.* at 289.
11. *Id.* at 228, 289.
12. *Id.* at 20.
13. *Id.* at 20-21.
14. *Id.* at 21.
15. *Id.* at 20-21.
16. *Id.*
17. *Id.*
18. *Id.* at 24-25.

19. *Id.* at 25 (“A grandmaster repeatedly re-created the entire board after seeing it for only three seconds. A master-level player managed that half as often as the grandmaster. A lesser, city champion player and an average club player were never able to re-create the board accurately.”).

20. *Id.*
21. *Id.*
22. *Id.*
23. *Id.* at 30.
24. *Id.* at 32.
25. *Id.* at 20.
26. *Id.* at 32.
27. *Id.* at 21.
28. *Id.*
29. *Id.*
30. *Id.*
31. *Id.* at 30.
32. *Id.* at 112.
33. *Id.* at 229-30.
34. *Id.* at 45.
35. *Id.* at 47.
36. *Id.*
37. *Id.* at 48.
38. *Id.*
39. *Id.* at 91.
40. *Id.*
41. *Id.*
42. *Id.* at 90-91.
43. *Id.* at 91-92.
44. *Id.* at 91.
45. *Id.* at 97.
46. *Id.*
47. Casadevall is the chair of molecular microbiology and immunology at the Johns Hopkins Bloomberg School of Public Health. *Id.* at 275-76.
48. *Id.* at 277.
49. *Id.* at 7, 65, 290.
50. *Id.* at 156.
51. See U.S. DEP’T OF ARMY, FIELD MANUAL 3-84, LEGAL SUPPORT TO OPERATIONS, at introduction (1 Sept. 2023) (“To succeed in today’s operational environment, judge advocates are versatile practitioners who are experts in their roles as lawyers, ethics advisors, counselors, law of armed conflict (also called law of war) subject matter experts, and rule of law practitioners.”).
52. OFF. OF THE JUDGE ADVOC. GEN., U.S. ARMY, JUDGE ADVOC. LEGAL SERVS. PUB. 1-1, PERSONNEL POLICIES para. 5-1(d)(1) (30 Sept. 2024).
53. EPSTEIN, *supra* note 1, at 290.
54. *Id.*
55. *Id.*
56. *Id.* at 161, 290.