(Ann Kiernan for The Washington Post)

Opinion | How AI could transform baseball forever

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Once you declare something the best, there's not much more that needs to be said. So I'll keep my praise for Michael Lewis's 2003 "Moneyball: The Art of Winning an Unfair Game" brief. It's the best nonfiction book I've ever read, and on the short list of the most impactful. Until "Moneyball" revealed how Oakland A's general manager Billy Beane used statistical analysis to beat richer, dumber opponents, baseball was the realm of witch doctors. A's first baseman Scott Hatteberg told Lewis that his previous team, the Boston Red Sox, brought in motivational speakers to awaken their hitters' mystical sides. One delivered a lecture on the virtues of the thymus gland. "You were supposed to bang your chest before you hit," Hatteberg said, "to release all this untapped energy and aggression."

As a new season begins, the victory of stats over the thymus gland is so complete that there are few analytical mountains left to climb. Every team in every major sport employs mathematicians and engineers to find a strategic edge that keeps shrinking because of all the other mathematicians and engineers doing the exact same thing. The Tampa Bay Rays put a uniformed analytics coach in the dugout. Some teams have better data science and player performance models than others, but "Moneyball" demonstrated the insanity of competing against probability with intuition. It bounced all the schmucks out of the casino.

You'd think this would lead to the book's gradual obsolescence, but for the sports-obsessed, super-nerd segment of its readership — my people! — "Moneyball" is no longer tethered to its binding. It's a belief system, and like feminism and existentialism it's going through a second wave, fueled in part by artificial intelligence.

This second wave has multiple progenitors, but we'll focus on the least likely. Kyle Boddy was a restless junior software engineer bouncing from Microsoft to PokerStars when he read "Moneyball," got radicalized and started a baseball blog called "Driveline Mechanics." In 2007, he created Driveline Baseball, a physical lab where he could test his theories. This sounds ambitious, but the first Driveline was in a Seattle basement under an aikido studio next to a strip club that was adjacent to an RV park. "To be clear, I lived in an apartment next to the RV park, not the RV park itself," says Boddy. "I know you're doing journalism here."

It was from this modest perch that Boddy met Trevor Bauer, a brilliant young pitcher with all of four big league appearances for the Arizona Diamondbacks on his resume. Bauer had also read "Moneyball," and his devotion to analytics and self-improvement led him to buy a brand new $8,000 Edgertronic camera. (Bauer is now baseball's most deserving pariah.) "It was actually Trevor's dad who said, 'If I show you this camera, you're gonna want one right away,'" says Boddy. "I was like, 'Yeah, sure.'"

The Edgertronic slows the normal blur of a pitching or hitting motion down by shooting thousands of frames per second, providing perfect clarity, even in close-up. After just a few frames of footage, Boddy realized that a 150-year-old mystery of physics — the impact of tiny variations in finger placement on a baseball's seams, or the angle of a bat as it meets the ball — was winking at him, asking to be solved. "All I'd done my whole life to that point is find underground technologies and use them in ways that people don't expect," says Boddy. "And now here's this source of optical information that was never available or affordable before. I figured if I can't use this thing, then I need to go back and work for f---ing Microsoft."

Boddy immediately bought an Edgertronic on eBay. He also had a crucial insight about how to use it. Camera data could help players experiment with new pitch grips and refine their swings, and the avalanche of statistical data could confirm the outcomes. But to revolutionize player performance — to get athletes to really understand what they needed to do — the two had to

converge in simple and elegant software. And the means of that convergence was artificial intelligence.

I've spoken to a lot of people about AI, and there's an awkward point in almost every conversation where we both admit we don't know exactly what AI is. In fairness, it can be a lot of things. There's no fixed definition. But people are pretty assertive about the money they expect to make from it, and I'm an AI columnist, so it'd be nice not to have to talk about the benefits of this technology in the vague way people talk about, I dunno, Herbalife?

All of which is to say, Boddy has the most practical definition of AI I've heard. "It's the best translator ever," he says. "In the literal sense, we communicate with our athletes in Japanese and Korean and Spanish with a ChatGPT plug-in that translates baseball slang flawlessly in real time. But from a technology perspective — poring over code bases, switching between PHP or Python, none of that matters anymore. … AI takes totally different code or data or insights and harmonizes it. Numbers become words. Words can become images. Everything can talk to everything."

Boddy and his engineering team now rely on AI to blend dozens of data streams to create customized coaching regimens. I cannot emphasize enough how little this is like your weekly personal training session. Video analysis breaks down individual muscles and movements by the inch. Hardware (bats and balls) is equipped with software (sensors) that tracks every baseball action and renders them into equations that measure force and torque. Like all data-gobbling AI software, the process gets smarter as it goes; Driveline has collected enough historical performance data that it can correlate five non-baseball related physical tests into dead solid predictions of fastball velocity and bat speed. Even in its infancy, Driveline helped Bauer become one of baseball's best pitchers. But Bauer arrived at Driveline as a known prospect, with talent so obvious that he got a $3.4 million amateur signing bonus. More impressive was Driveline's ability to take soft-throwing Los Angeles Dodger Tony Gonsolin ($2,500 signing bonus) and, through pitch design and muscle development and endless cycles of analysis and Gonsolin's own hard work, help him emerge as an all-star.

Driveline has now worked with thousands of pros and more than 40 all-stars. Regardless of their backgrounds or countries of origin, Boddy has noticed that the new arrivals are way more savvy than the players Lewis profiled in "Moneyball." Because they've all read "Moneyball." Or at least seen the movie.

They grew up fluent in analytics and Edgertronics, and they understand that baseball is both a game and a market in which they are counterparties. The projection algorithms used by teams on the demand side value velocity and power, so the guys on the supply side go to Driveline to help them throw faster and hit harder. Which then gets them paid more. The market is aligned. If this compromises the romance of the game for you, now would be a good time to stop reading and cue up the James Earl Jones speech from "Field of Dreams." Because where things get really calculating — and relevant to any person who works for a living in the age of AI — is where labor and management diverge.

Most teams now have the same tech as Driveline. The big leagues have poached more than 40 Driveline alums to work in-house, and Boddy is a special adviser to the Red Sox. So why would a player spend their own money and travel to an inconvenient location to work on their game? Privacy. If your employer has kinesiologic data revealing how you suddenly got better at your job, they also know the circumstances in which you could suddenly get worse. Or how to optimally train your replacement. Last year's average MLB player salary was $4.5 million; it makes a lot of sense to pay Driveline $20,000 in training fees and keep your data to yourself. The math probably isn't as compelling in your job. But if you think a version of this tango isn't headed for your profession, I've got some thymus oil to sell you.

The more human performance improves through AI-driven data, the more important it'll be to establish ownership of that data. Players, mere pawns in Beane's "Moneyball" chess game, should be lauded for figuring this out fast. They even negotiated limits on how teams can use in-game data into their collective bargaining agreement. "I have friends who are lawyers and prop traders, and it's shocking to me how far ahead sports is when it comes to these technologies," says Boddy. "A lot of them don't see what's coming." Call that the third wave.

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