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## Trevor Bauer Will Not Be Babied

Young power arms are the game's most valued currency, so what to make of the Diamondbacks' phenom who wants to change the way we think about pitchers' development? Front offices aren't so sure

Lee Jenkins

**Drivers on** Texas Loop 336 head east to the town of Cut and Shoot, west to the land of Rock and Fire. The gunslingers of America have a choice to make. Those who bear west steer onto a winding two-lane road lined with sprawling ranches, soaring oak trees and signs that remind them to DRIVE FRIENDLY. Many of the ranches off 336 are raising longhorns. One is breeding pitchers.

Down a hill, past a barn, next to a tractor, 60 young men gather in the 103° morning air. Some are freshly minted first-round draft picks. Others are Little Leaguers just trying to make local All-Star teams. They have come to the Texas Baseball Ranch in the town of Montgomery (population 600) to watch video of Whitey Ford and Bob Feller, run wind sprints with tires strapped around their waists and launch baseballs as hard and as far as they can.

Among them is a precocious 20-year-old from the Los Angeles suburbs named Trevor Bauer, the third pick in this year's major league draft, the most decorated amateur thrower since Stephen Strasburg, the most intriguing pitching prospect since Tim Lincecum and the fault line along which big league teams will debate the handling of the game's most valued commodity: the young hurler. While Strasburg stood out for his velocity and Lincecum for his mechanics, Bauer's defining characteristic is harder to measure. He has an insatiable mind.

Bauer will tell you that virtually every play in a baseball game takes 12 seconds or less, so his workout regimen consists of vigorous exercises that last no more than a fifth of a minute. He will tell you that every hitter must decide to swing no later than the first 20 feet a pitch is in the air, so he practices throwing into a metal grid 20 feet in front of the mound to ensure that all his pitches start on the same plane. Bauer has at one time or another deployed 19 different pitches, some of which he may have invented: They include the "reverse slider" (a harder variation of the screwball) and "the bird" (a splitter thrown with the middle finger raised).

Here is the modern pitcher, New Age but down-home, a product of both Southern California think tanks and East Texas back roads. Bauer throws at least six days a week with baseballs, weighted balls or medicine balls. He long-tosses 380 feet, even before starts. He warms up for his outings with about 45 pitches in the bullpen, and during especially long innings when his team is at bat, he heads back to the pen for more work. On his first warmup toss between innings, he crow hops across the mound and unleashes a fastball more than 100 miles per hour. This past season at UCLA, where Bauer was National Pitcher of the Year, he led the country in strikeouts (203 in 136 2/3 innings), led the Pac-10 with a 1.25 ERA and held opposing hitters to a .154 batting average. More remarkably, his last nine outings were all complete games, and in only one did he throw fewer than 130 pitches. After each of them he was out long-tossing the next day.

Major league executives have been conditioned to wince at such a regimen, assuming all that throwing will weaken the arm and eventually lead to injury. Over the past 20 years most organizations have tried to protect young starters by barring them from long-tossing more than 120 feet, or from throwing more than 30 pitches in the bullpen or more than 100 in a game. The intentions were admirable. The results, as evidenced by thousands of elbow and shoulder surgeries, have been catastrophic.

Bauer saw what those organizations did and then weighed it against information he collected from coaches, classes, books, videos and personal experience. "I just felt like there was a more efficient way for me," he says. He concluded that his throwing regimen actually strengthened his arm, as long as it was in concert with extensive stretching and sound mechanics. Before this year's draft, he arranged face-to-face meetings with representatives from the clubs interested in him. He wanted to explain the specifics of his routine and the

rationale behind it. He was willing to sacrifice a better slot in the draft—and therefore potentially accept a lower signing bonus—to be with an organization that trusted him.

"I told them all: 'This is what I do, it's what I believe in, and if you let me stick with it, I'll pitch in the major leagues for 20 years,'" Bauer says. "Some were open. Some weren't. But they needed to know what they were getting into."

**Kevin Towers** grew up in Medford, Ore., throwing with friends every day in pickup games, hot box contests and home run derbies. He spent eight seasons pitching in the Padres' minor league system, but when he became their general manager in 1995, he strayed from his rubber-armed roots. "We all did," Towers says. "With the big signing bonuses, people were afraid to push the envelope, because if something happened, it was, How dare you? But maybe that thinking hurt us in the long run. **Maybe it's why we have so many problems now.** Guys don't go deep into games, and then when they do, they're not used to it. **Thirty years ago, you threw and threw and threw. To me, that's healthy.**"

Towers took over as the Diamondbacks' G.M. last September, and in June, with his first draft choice with the franchise, he picked Bauer third overall and signed him to a major league contract that could be worth as much as \$7 million. In his professional debut, for Class A Visalia on July 30, Bauer threw two scoreless innings; last Friday night, he gave up two runs in three innings but struck out six batters.

Bauer is entering pro ball at an opportune time. Complete games are up for the fourth year in a row, from 112 in 2007 to 134 already this season. Several organizations, including Arizona, have reconsidered elements of their throwing program. The D-Backs were obviously drawn to Bauer because he can reach 97 miles per hour and command 10 different pitches, but they also view him as a catalyst for further examination of arm issues. "This is a chance for us to really explore what pitchers are capable of doing," says Jerry DiPoto, the club's senior vice president in charge of scouting and player development.

While the Diamondbacks negotiated Bauer's contract, he flew to Texas for a final summer at the Texas Baseball Ranch. Lounging in the barn one afternoon next to Chasey, a golden retriever--Labrador mix named for her pursuit of wild pitches, Bauer thought about a way he might treat himself when he officially becomes a multimillionaire. He is eyeing a video camera that can shoot 1,000 frames per second, which would allow him to study how each pitch is coming off his fingertips. He makes the camera sound as fun as a Ferrari, and far more essential. "Look, I'm not that big," says Bauer, who is 6'1", 185. "I'm not that strong. I'm not fast. I'm not explosive. I can't jump. I wasn't a natural-born athlete. I was made."

**Warren Bauer** is a chemical engineer, and even though he didn't play much baseball as a boy, he taught his son to view pitching through a scientific prism. They read about Cubans who threw coconuts to build arm strength, so they soaked baseballs in water to make them heavier. They drove nails into softballs, a trick Nolan Ryan used to add weight. They sometimes hollowed out balls, shoving sand and fishing weights inside. "We wanted Trevor to learn how to throw the right way," Warren says. "We never imagined there was such a huge divide in how you go about doing that."

At age 10 Trevor took pitching classes in Valencia, Calif., with a family friend and former college pitcher named Jim Wagner. Wagner was a police officer in nearby Glendale at the time, and Bauer was his only client. Most of what Wagner taught came from an instructional video recorded by somebody else. "It was what everybody taught in the '90s," Wagner says. "Lift your knee, pause over the top of the rubber, keep your head straight, get your elbow up, put your foot down, glide out along the ground and finish in a fielding position. I guess that might have worked if [Trevor] were 6'4", 230. But [in high school] he was 5'10", 150. We needed to be more athletic, less robotic."

Wagner junked the video and encouraged Trevor to experiment. They pulled back his front hip, angling it toward the third base line and uncoiling it toward home plate like a slingshot. Warren made Velcro harnesses that Trevor wore around his chest to isolate the lower body. Radar-gun readings climbed. Wagner introduced Trevor to L.A. long-toss guru Alan Jaeger, who tutored one of the most durable pitchers in the big leagues, the Angels' Dan Haren. When Trevor was 12, Jaeger put him on an arm-care program similar to what physical therapists prescribe for pitchers rehabilitating from rotator-cuff surgery. Trevor had to perform six shoulder exercises with Thera-Band tubing strapped to his wrists before he could make a throw. But once he was warm, Jaeger urged him to let fly. Trevor would bike to a park near his house with a milk crate full of balls and hurl them 300 feet against an adjacent tennis court's fence before the pro ran him off.

On the recommendation of Wagner and Jaeger, Trevor fled every summer to East Texas, where he could long-toss until midnight, and

often did. Ron Wolforth and his wife, Jill, opened the 20-acre Texas Baseball Ranch in 2003 to nurture young pitchers and channel ancients. "Back in the '40s and '50s, guys came up with their own motions, and they had more complete games with fewer injuries," says Wolforth, a former college baseball player and private pitching coach. "We interrupted the natural flow of Warren Spahns and Sandy Koufax and Bob Gibsons. We overinstructed the delivery."

Wolforth's pitchers do not work the land, the way old-timers did every off-season, but they do drag tires and pull 25-pound ropes, developing muscles that are integral to a full-body delivery. When Wolforth once ordered the pitchers to push a tractor across the ranch for 30 seconds, Bauer interrupted, saying that no play lasts that long. They should push harder, the youngster argued, for 12 seconds.

Bauer grew so comfortable at the ranch that he moved from the local motel into the Wolforth house, signed for mail delivered to the barn and started every day with high-minded questions such as: How do seams create spin? What is the effect of high finger pressure versus low pressure placed on a ball? When does a hitter have to commit? Wolforth once went to watch TV in the barn and found Bauer placing yellow dots all over the screen because he was mapping the plane of his pitches. Yet when Wolforth asked everyone to identify a historical pitcher with similar mechanics, someone they could pattern themselves after, Bauer struggled to pinpoint anybody.

Then, on March 31, 2006, on a 50° night in Seattle, a junior at Washington struck out 18 batters and threw a two-hit shutout against UCLA. Bauer called up the footage on a website. It was the first time he had seen Lincecum—the narrow frame, tilted head, the furious hip turn, the massive stride. "I watched it at 30 frames a second," Bauer says. "Before he gets to the top of his leg lift, his pelvis has been in motion six to eight frames toward the plate."

The next year, as a sophomore at Hart High School in Newhall, Calif., Bauer took physics and applied the lessons to what he had seen Lincecum do. "It started making sense why he did what he did," Bauer says, standing to demonstrate. "The more you delay your hip and shoulder from opening up, as long as you're moving toward home, you're shortening the distance to the plate and adding tension to the body, stretching the elastic band. If you fire your back hip and keep the front side of your body closed, you get more torque. The more torque you get, the more impulse you will get when you release."

Bauer heard the doomsday predictions about Lincecum, that his build was too slight and delivery too violent to avoid injury, so he searched for the red flags Wolforth taught him to recognize. Lincecum's throwing elbow didn't rise above his back shoulder. His throwing arm didn't sweep across his midsection. He used his entire body to generate velocity but decelerated his arm gradually. The motion was unorthodox yet unstrained. Bauer had discovered his model.

Lincecum was the friend he didn't have. In elementary school Bauer was teased by classmates because he wore baseball pants instead of jeans. In high school he was taunted by teammates because he carried a six-foot plastic shoulder tube that loosened his arm. Coaches called it Linus's blanket. "A lot of people don't want to be different," Bauer says. "And if they are, they hide it so no one holds it against them. But I didn't want to be at the mall at 10 p.m. I wanted to be at the park."

Bauer, who was 12--0 with a 0.79 ERA and 106 strikeouts in 70 2/3 innings as a junior, would have been drafted if he stayed at Hart for his senior year. But he was miserable there, and he learned from Jaeger that about 80% of pro organizations opposed long-toss programs like his. "I'd have just been some dumb high school kid," Bauer says. "But if I went to college and made a name for myself, maybe they'd see that it worked."

Bauer graduated early and enrolled at UCLA at the start of 2009, where his routine stayed the same, only he was not ostracized for it. He refused to lift weights because he felt they diminished his flexibility. He didn't run poles because he believed the distance compromised his explosiveness. His short-burst workouts with cones, ladders and hoses were just as demanding. "Good coaching," says UCLA head coach John Savage, "is allowing a guy like that to be himself." Bauer still carried his shoulder tube, and when an airline lost it on a road trip to Houston, he said he couldn't throw without it for fear of injury. The tube was recovered, and Warren made a PVC case to protect it.

When UCLA flew to Omaha last year for the College World Series, Bauer checked the case but carried on "Downright Filthy Pitching," a series of books written by Perry Husband, a former junior college coach who runs a baseball academy north of L.A. Husband has tracked millions of pitches in major league games and concluded that a 90-mile-per-hour pitch appears to a hitter roughly five miles per hour faster if it's on the inside corner and five miles per hour slower on the outside corner. Husband's theory, known as Effective Velocity, provided Bauer with the basis for his complex pitch sequences this season. When he returned from Omaha, he called

Husband and asked him one question that Wolforth was never able to answer: *When does a hitter have to commit?* Husband calculated the point of no return at the 20-foot mark. Bauer was concerned that his pitches were traveling on different planes before they reached 20 feet—Husband calls the planes "tunnels"—and therefore weren't deceptive enough. He sent film of the pitches to Husband, whose advanced video system makes it possible to overlay them on the same screen and show how each one differs at 20 feet. Husband sent back the clips with a narration of his findings.

"I've talked to other pitchers about this, and they're like, 'O.K., great, thanks a lot,'" Husband says. "There are only a few people in the world like Trevor." Warren promptly assembled a six- by seven-foot metal grid so Trevor could practice throwing through the same tunnel.

**In the** movie *Bull Durham*, Crash Davis tells rookie pitcher Nuke LaLoosh, "Don't think. It can only hurt the ball club." Baseball has traditionally struggled with its intellectuals, dismissing them as quirky or zany. But in the three years Bauer spent in college, some of his beliefs came to be more accepted in pro ball. Ryan, now the Rangers' CEO and president, has pushed pitchers to work deeper into games, and in 2009, hired Jaeger as a consultant to develop a long-toss program for Rangers pitchers. The Twins, Angels and Padres met with Jaeger as well. The Diamondbacks brought him to their instructional league last fall. As this year's draft approached, Jaeger quizzed executives on Bauer's behalf and then relayed the good news: At least 50% of organizations were now open to his long-toss program.

General managers regarded this draft as one of the best ever for college pitchers, with UCLA boasting two candidates for the top spot: righthander Gerrit Cole, 6'4", 220, with a classic delivery and a triple-digit fastball; and Bauer, three inches shorter and 35 pounds lighter, hurtling his body toward home plate like Lincecum with a buzz cut. Scouts were torn all season. Many pegged Cole as the safer choice but predicted Bauer would make the big leagues sooner. "If you try to change him, he won't sign," a scout said in April. "Or he'll be at the mall at 2 a.m. throwing 400 feet."

The Pirates chose Cole, the second time in three years a pitcher from Southern California went No. 1 overall.

Some scouts acknowledged that their bosses were put off by Bauer's flair—he wore a faded cap at UCLA, played hacky sack before games and listened to his iPod in the bullpen to enhance the rhythm of his delivery—but the Diamondbacks were enthralled. What others labeled quirky they called committed. When DiPoto met Bauer, the Arizona executive blurted out a line from statistician Bill James: "Oftentimes you measure a player's potential greatness by his uniqueness." Here was an organization that understood. DiPoto pitched in the majors from 1993 through 2000, long-tossing daily, even as coaches cautioned him, "You've only got so many bullets in that arm." DiPoto has studied the difference between high- and low-stress innings. He downplays simple pitch counts.

"There's a wave of this," Bauer says. "The wave is coming." He rattles off names of other top pitching prospects who have embraced similar training methods, such as Dylan Bundy, whom the Orioles took No. 4 overall. Bauer rejoices that the Mariners hired a Harvard Medical School-educated doctor, Marcus Elliott, who removed the weights from the weight room. Bauer is part of a broad movement, but he has the biggest platform.

Stunningly, the Diamondbacks were only a half game behind the Giants in the National League West through Sunday, after finishing last a year ago. They have placed Bauer on the 40-man roster and will consider promoting him for the pennant race, likely as a reliever. A September duel between Bauer and Lincecum, with a division title on the line, is an enticing possibility.

Bauer realizes that he must make some concessions before then. He already leaves his six-foot shoulder tube outside the dugout so as not to cramp any colleagues. He bought a smaller version at Brookstone, and even though he prefers the longer one sold by Oates Specialties, he understands the realities of the workplace. He will adjust when logic dictates it.

Until he signed his pro contract on July 25, Bauer incubated on the ranch, reminding the Little Leaguers to keep their throwing elbow below their shoulder. When Bauer first saw Strasburg pitching with his elbow above his shoulder, he felt a pit in his gut, and when he saw the Cardinals' Adam Wainwright doing the same, he felt it again. Both are currently recovering from Tommy John surgery. "I was like, 'No!' because I love watching those guys," Bauer says. "And I feel so sorry for them because it's not their fault. They were taught this way. I was just lucky enough to be taught a different model."

He is eager to share it, and on a steamy summer afternoon he sat in the barn next to an 18-year-old righthander from Oakland named Joe Ross. Ross is 6'3", 190, throws a 95-mph fastball and was picked 25th overall by the Padres, an organization that has squandered

first-round picks for the better part of two decades. Bauer and Wolforth deconstructed video of Ross's delivery, which reminded them of Roy Halladay's, with only two minor fixes recommended. "You need to guard these mechanics like a junkyard dog with foam coming out of your mouth!" Wolforth shouted.

He barked to punctuate his point. Chasey jumped. Ross froze. Bauer nodded. This is no joke. The gunslingers of America are entering an industry that for more than 20 years has failed to protect them. The most promising one of all has done what he can to protect himself.

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