

DAVID  
AND  
GOLIATH



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THE ART OF BATTLING GIANTS

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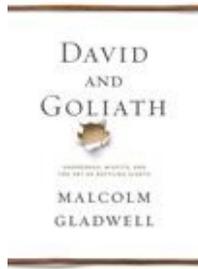
# DAVID AND GOLIATH

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THE ART OF BATTLING GIANTS

MALCOLM GLADWELL



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*For A.L. and for S.F., a real underdog*

But the Lord said to Samuel, “Do not look on his appearance or on the height of his stature, because I have rejected him; for the Lord does not see as mortals see; they look on the outward appearance, but the Lord looks on the heart.”

1 Samuel 16:7

## Introduction

### Goliath

“Am I a dog that you should come to me with sticks?”

#### 1.

At the heart of ancient Palestine is the region known as the Shephelah, a series of ridges and valleys connecting the Judaeen Mountains to the east with the wide, flat expanse of the Mediterranean plain. It is an area of breathtaking beauty, home to vineyards and wheat fields and forests of sycamore and terebinth. It is also of great strategic importance.

Over the centuries, numerous battles have been fought for control of the region because the valleys rising from the Mediterranean plain offer those on the coast a clear path to the cities of Hebron, Bethlehem, and Jerusalem in the Judaeen highlands. The most important valley is Aijalon, in the north. But the most storied is the Elah. The Elah was where Saladin faced off against the Knights of the Crusades in the twelfth century. It played a central role in the Maccabean wars with Syria more than a thousand years before that, and, most famously, during the days of the Old Testament, it was where the fledgling Kingdom of Israel squared off against the armies of the Philistines.

The Philistines were from Crete. They were a seafaring people who had moved to Palestine and settled along the coast. The Israelites were clustered in the mountains, under the leadership of King Saul. In the second half of the eleventh century BCE, the Philistines began moving east, winding their way upstream along the floor of the Elah Valley. Their goal was to capture the mountain ridge near Bethlehem and split Saul's kingdom in two. The Philistines were battle-tested and dangerous, and the sworn enemies of the Israelites. Alarmed, Saul gathered his men and hastened down from the mountains to confront them.

The Philistines set up camp along the southern ridge of the Elah. The Israelites

pitched their tents on the other side, along the northern ridge, which left the two armies looking across the ravine at each other. Neither dared to move. To attack meant descending down the hill and then making a suicidal climb up the enemy's ridge on the other side. Finally, the Philistines had enough. They sent their greatest warrior down into the valley to resolve the deadlock one on one.

He was a giant, six foot nine at least, wearing a bronze helmet and full body armor. He carried a javelin, a spear, and a sword. An attendant preceded him, carrying a large shield. The giant faced the Israelites and shouted out: "Choose you a man and let him come down to me! If he prevail in battle against me and strike me down, we shall be slaves to you. But if I prevail and strike him down, you will be slaves to us and serve us."

In the Israelite camp, no one moved. Who could win against such a terrifying opponent? Then, a shepherd boy who had come down from Bethlehem to bring food to his brothers stepped forward and volunteered. Saul objected: "You cannot go against this Philistine to do battle with him, for you are a lad and he is a man of war from his youth." But the shepherd was adamant. He had faced more ferocious opponents than this, he argued. "When the lion or the bear would come and carry off a sheep from the herd," he told Saul, "I would go after him and strike him down and rescue it from his clutches." Saul had no other options. He relented, and the shepherd boy ran down the hill toward the giant standing in the valley. "Come to me, that I may give your flesh to the birds of the heavens and the beasts of the field," the giant cried out when he saw his opponent approach. Thus began one of history's most famous battles. The giant's name was Goliath. The shepherd boy's name was David.

## 2.

*David and Goliath* is a book about what happens when ordinary people confront giants. By "giants," I mean powerful opponents of all kinds—from armies and mighty warriors to disability, misfortune, and oppression. Each chapter tells the story of a different person—famous or unknown, ordinary or brilliant—who has faced an outsize challenge and been forced to respond. Should I play by the rules or follow my own instincts? Shall I persevere or give up? Should I strike back or forgive?

Through these stories, I want to explore two ideas. The first is that much of what we consider valuable in our world arises out of these kinds of lopsided conflicts, because the act of facing overwhelming odds produces greatness and beauty. And second, that we consistently get these kinds of conflicts wrong. We misread them. We misinterpret them. Giants are not what we think they are. The same qualities that appear to give them strength are often the sources of great weakness. And the fact of being an underdog can *change* people in ways that we often fail to appreciate: it can open doors and create opportunities and educate and enlighten and make possible what might otherwise have seemed unthinkable. We need a better guide to facing giants—and there is no better place to start that journey than with the epic confrontation between David and Goliath three thousand years ago in the Valley of Elah.

When Goliath shouted out to the Israelites, he was asking for what was known as “single combat.” This was a common practice in the ancient world. Two sides in a conflict would seek to avoid the heavy bloodshed of open battle by choosing one warrior to represent each in a duel. For example, the first-century BCE Roman historian Quintus Claudius Quadrigarius tells of an epic battle in which a Gaul warrior began mocking his Roman opponents. “This immediately aroused the great indignation of one Titus Manlius, a youth of the highest birth,” Quadrigarius writes. Titus challenged the Gaul to a duel:

He stepped forward, and would not suffer Roman valour to be shamefully tarnished by a Gaul. Armed with a legionary’s shield and a Spanish sword, he confronted the Gaul. Their fight took place on the very bridge [over the Anio River] in the presence of both armies, amid great apprehension. Thus they confronted each other: the Gaul, according to his method of fighting, with shield advanced and awaiting an attack; Manlius, relying on courage rather than skill, struck shield against shield and threw the Gaul off balance. While the Gaul was trying to regain the same position, Manlius again struck shield against shield and again forced the man to change his ground. In this fashion he slipped under the Gaul’s sword and stabbed him in the chest with his Spanish blade....After he had slain him, Manlius cut off the Gaul’s head, tore off his tongue and put it, covered as it was with blood, around his own neck.

This is what Goliath was expecting—a warrior like himself to come forward for hand-to-hand combat. It never occurred to him that the battle would be fought on anything other than those terms, and he prepared accordingly. To protect himself against blows to the body, he wore an elaborate tunic made up of hundreds of overlapping bronze fishlike scales. It covered his arms and reached to his knees and probably weighed more than a hundred pounds. He had bronze shin guards protecting his legs, with attached bronze plates covering his feet. He wore a heavy metal helmet. He had three separate weapons, all optimized for close combat. He held a thrusting javelin made entirely of bronze, which was capable of penetrating a shield or even armor. He had a sword on his hip. And as his primary option, he carried a special kind of short-range spear with a metal shaft as “thick as a weaver’s beam.” It had a cord attached to it and an elaborate set of weights that allowed it to be released with extraordinary force and accuracy. As the historian Moshe Garsiel writes, “To the Israelites, this extraordinary spear, with its heavy shaft plus long and heavy iron blade, when hurled by Goliath’s strong arm, seemed capable of piercing any bronze shield and bronze armor together.” Can you see why no Israelite would come forward to fight Goliath?

Then David appears. Saul tries to give him his own sword and armor so at least he’ll have a fighting chance. David refuses. “I cannot walk in these,” he says, “for I am unused to it.” Instead he reaches down and picks up five smooth stones, and puts them in his shoulder bag. Then he descends into the valley, carrying his shepherd’s staff. Goliath looks at the boy coming toward him and is insulted. He was expecting to do battle with a seasoned warrior. Instead he sees a shepherd—a boy from one of the lowliest of all professions—who seems to want to use his shepherd’s staff as a cudgel

against Goliath's sword. "Am I a dog," Goliath says, gesturing at the staff, "that you should come to me with sticks?"

What happens next is a matter of legend. David puts one of his stones into the leather pouch of a sling, and he fires at Goliath's exposed forehead. Goliath falls, stunned. David runs toward him, seizes the giant's sword, and cuts off his head. "The Philistines saw that their warrior was dead," the biblical account reads, "and they fled."

The battle is won miraculously by an underdog who, by all expectations, should not have won at all. This is the way we have told one another the story over the many centuries since. It is how the phrase "David and Goliath" has come to be embedded in our language—as a metaphor for improbable victory. And the problem with that version of the events is that almost everything about it is wrong.

### 3.

Ancient armies had three kinds of warriors. The first was cavalry—armed men on horseback or in chariots. The second was infantry—foot soldiers wearing armor and carrying swords and shields. The third were projectile warriors, or what today would be called artillery: archers and, most important, slingers. Slingers had a leather pouch attached on two sides by a long strand of rope. They would put a rock or a lead ball into the pouch, swing it around in increasingly wider and faster circles, and then release one end of the rope, hurling the rock forward.

Slinging took an extraordinary amount of skill and practice. But in experienced hands, the sling was a devastating weapon. Paintings from medieval times show slingers hitting birds in midflight. Irish slingers were said to be able to hit a coin from as far away as they could see it, and in the Old Testament Book of Judges, slingers are described as being accurate within a "hair's breadth." An experienced slinger could kill or seriously injure a target at a distance of up to two hundred yards.<sup>1</sup> The Romans even had a special set of tongs made just to remove stones that had been embedded in some poor soldier's body by a sling. Imagine standing in front of a Major League Baseball pitcher as he aims a baseball at your head. That's what facing a slinger was like—only what was being thrown was not a ball of cork and leather but a solid rock.

The historian Baruch Halpern argues that the sling was of such importance in ancient warfare that the three kinds of warriors balanced one another, like each gesture in the game of rock, paper, scissors. With their long pikes and armor, infantry could stand up to cavalry. Cavalry could, in turn, defeat projectile warriors, because the horses moved too quickly for artillery to take proper aim. And projectile warriors were deadly against infantry, because a big lumbering soldier, weighed down with armor, was a sitting duck for a slinger who was launching projectiles from a hundred yards away. "This is why the Athenian expedition to Sicily failed in the Peloponnesian War," Halpern writes. "Thucydides describes at length how Athens's heavy infantry was decimated in the mountains by local light infantry, principally using the sling."

Goliath is heavy infantry. He thinks that he is going to be engaged in a duel with

another heavy-infantryman, in the same manner as Titus Manlius's fight with the Gaul. When he says, "Come to me, that I may give your flesh to the birds of the heavens and the beasts of the field," the key phrase is "come to me." He means come right up to me so that we can fight at close quarters. When Saul tries to dress David in armor and give him a sword, he is operating under the same assumption. He assumes David is going to fight Goliath hand to hand.

David, however, has no intention of honoring the rituals of single combat. When he tells Saul that he has killed bears and lions as a shepherd, he does so not just as testimony to his courage but to make another point as well: that he intends to fight Goliath the same way he has learned to fight wild animals—as a projectile warrior.

He *runs* toward Goliath, because without armor he has speed and maneuverability. He puts a rock into his sling, and whips it around and around, faster and faster at six or seven revolutions per second, aiming his projectile at Goliath's forehead—the giant's only point of vulnerability. Eitan Hirsch, a ballistics expert with the Israeli Defense Forces, recently did a series of calculations showing that a typical-size stone hurled by an expert slinger at a distance of thirty-five meters would have hit Goliath's head with a velocity of thirty-four meters per second—more than enough to penetrate his skull and render him unconscious or dead. In terms of stopping power, that is equivalent to a fair-size modern handgun. "We find," Hirsch writes, "that David could have slung and hit Goliath in little more than one second—a time so brief that Goliath would not have been able to protect himself and during which he would be stationary for all practical purposes."

What could Goliath do? He was carrying over a hundred pounds of armor. He was prepared for a battle at close range, where he could stand, immobile, warding off blows with his armor and delivering a mighty thrust of his spear. He watched David approach, first with scorn, then with surprise, and then with what can only have been horror—as it dawned on him that the battle he was expecting had suddenly changed shape.

"You come against me with sword and spear and javelin," David said to Goliath, "but I come against you in the name of the Lord Almighty, the God of the armies of Israel, whom you have defied. This day the Lord will deliver you into my hands, and I'll strike you down and cut off your head....All those gathered here will know that it is not by sword or spear that the Lord saves; for the battle is the Lord, and he will give all of you into our hands."

Twice David mentions Goliath's sword and spear, as if to emphasize how profoundly different his intentions are. Then he reaches into his shepherd's bag for a stone, and at that point no one watching from the ridges on either side of the valley would have considered David's victory improbable. David was a slinger, and slingers beat infantry, hands down.

"Goliath had as much chance against David," the historian Robert Dohrenwend writes, "as any Bronze Age warrior with a sword would have had against an [opponent] armed with a .45 automatic pistol."<sup>2</sup>

## 4.

Why has there been so much misunderstanding around that day in the Valley of Elah? On one level, the duel reveals the folly of our assumptions about power. The reason King Saul is skeptical of David's chances is that David is small and Goliath is large. Saul thinks of power in terms of physical might. He doesn't appreciate that power can come in other forms as well—in breaking rules, in substituting speed and surprise for strength. Saul is not alone in making this mistake. In the pages that follow, I'm going to argue that we continue to make that error today, in ways that have consequences for everything from how we educate our children to how we fight crime and disorder.

But there's a second, deeper issue here. Saul and the Israelites think they know who Goliath is. They size him up and jump to conclusions about what they think he is capable of. But they do not really *see* him. The truth is that Goliath's behavior is puzzling. He is supposed to be a mighty warrior. But he's not acting like one. He comes down to the valley floor accompanied by an attendant—a servant walking before him, carrying a shield. Shield bearers in ancient times often accompanied archers into battle because a soldier using a bow and arrow had no free hand to carry any kind of protection on his own. But why does Goliath, a man calling for sword-on-sword single combat, need to be assisted by a third party carrying an archer's shield?

What's more, why does he say to David, "Come to me"? Why can't Goliath go to David? The biblical account emphasizes how slowly Goliath moves, which is an odd thing to say about someone who is alleged to be a battle hero of infinite strength. In any case, why doesn't Goliath respond much sooner to the sight of David coming down the hillside without any sword or shield or armor? When he first sees David, his first reaction is to be insulted, when he should be terrified. He seems oblivious of what's happening around him. There is even that strange comment after he finally spots David with his shepherd's staff: "Am I a dog that you should come to me with sticks?" Sticks plural? David is holding only one stick.

What many medical experts now believe, in fact, is that Goliath had a serious medical condition. He looks and sounds like someone suffering from what is called acromegaly—a disease caused by a benign tumor of the pituitary gland. The tumor causes an overproduction of human growth hormone, which would explain Goliath's extraordinary size. (The tallest person in history, Robert Wadlow, suffered from acromegaly. At his death, he was eight foot eleven inches, and apparently still growing.)

And furthermore, one of the common side effects of acromegaly is vision problems. Pituitary tumors can grow to the point where they compress the nerves leading to the eyes, with the result that people with acromegaly often suffer from severely restricted sight and diplopia, or double vision. Why was Goliath led onto the valley floor by an attendant? Because the attendant was his visual guide. Why does he move so slowly? Because the world around him is a blur. Why does it take him so long to understand that David has changed the rules? Because he doesn't see David until David is up close. "Come to me, that I may give your flesh to the birds of the heavens and the beasts of the field," he shouts out, and in that request there is a hint of his vulnerability. *I need you to come to me because I cannot locate you otherwise.* And then there is the otherwise inexplicable "Am I a dog that you come to me with sticks?" David had only one stick. Goliath saw two.

What the Israelites saw, from high on the ridge, was an intimidating giant. In reality,

the very thing that gave the giant his size was also the source of his greatest weakness. There is an important lesson in that for battles with all kinds of giants. The powerful and the strong are not always what they seem.

David came running toward Goliath, powered by courage and faith. Goliath was blind to his approach—and then he was down, too big and slow and blurry-eyed to comprehend the way the tables had been turned. All these years, we’ve been telling these kinds of stories wrong. *David and Goliath* is about getting them right.

[1](#) The modern world record for slinging a stone was set in 1981 by Larry Bray: 437 meters. Obviously, at that distance, accuracy suffers.

[2](#) The Israeli minister of defense Moshe Dayan—the architect of Israel’s astonishing victory in the 1967 Six-Day War—also wrote an essay on the story of David and Goliath. According to Dayan, “David fought Goliath not with inferior but (on the contrary) with superior weaponry; and his greatness consisted not in his being willing to go out into battle against someone far stronger than he was. But in his knowing how to exploit a weapon by which a feeble person could seize the advantage and become stronger.”

## Part One

### The Advantages of Disadvantages (and the Disadvantages of Advantages)

Some pretend to be rich, yet have nothing; others pretend to be poor, yet have great wealth.

Proverbs 13:7

## Chapter One

### Vivek Ranadivé

“It was really random. I mean, my father had never played basketball before.”

#### **1.**

When Vivek Ranadivé decided to coach his daughter Anjali’s basketball team, he settled on two principles. The first was that he would never raise his voice. This was National Junior Basketball—the Little League of basketball. The team was made up mostly of twelve-year-olds, and twelve-year-olds, he knew from experience, did not respond well to shouting. He would conduct business on the basketball court, he decided, the same way he conducted business at his software firm. He would speak calmly and softly, and he would persuade the girls of the wisdom of his approach with appeals to reason and common sense.

The second principle was more important. Ranadivé was puzzled by the way Americans play basketball. He is from Mumbai. He grew up with cricket and soccer. He would never forget the first time he saw a basketball game. He thought it was mindless. Team A would score and then immediately retreat to its own end of the court. Team B would pass the ball in from the sidelines and dribble it into Team A’s end, where Team A was patiently waiting. Then the process would reverse itself.

A regulation basketball court is ninety-four feet long. Most of the time, a team would defend only about twenty-four feet of that, conceding the other seventy feet. Occasionally teams played a full-court press—that is, they contested their opponent’s attempt to advance the ball up the court. But they did it for only a few minutes at a time. It was as if there were a kind of conspiracy in the basketball world about the way the game ought to be played, Ranadivé thought, and that conspiracy had the effect of widening the gap between good teams and weak teams. Good teams, after all, had players who were tall and could dribble and shoot well; they could crisply execute

their carefully prepared plays in their opponent's end. Why, then, did weak teams play in a way that made it easy for good teams to do the very things that they were so good at?

Ranadivé looked at his girls. Morgan and Julia were serious basketball players. But Nicky, Angela, Dani, Holly, Annika, and his own daughter, Anjali, had never played the game before. They weren't all that tall. They couldn't shoot. They weren't particularly adept at dribbling. They were not the sort who played pickup games at the playground every evening. Ranadivé lives in Menlo Park, in the heart of California's Silicon Valley. His team was made up of, as Ranadivé put it, "little blond girls." These were the daughters of nerds and computer programmers. They worked on science projects and read long and complicated books and dreamed about growing up to be marine biologists. Ranadivé knew that if they played the conventional way—if they let their opponents dribble the ball up the court without opposition—they would almost certainly lose to the girls for whom basketball was a passion. Ranadivé had come to America as a seventeen-year-old with fifty dollars in his pocket. He was not one to accept losing easily. His second principle, then, was that his team would play a real full-court press—every game, all the time. The team ended up at the national championships. "It was really random," Anjali Ranadivé said. "I mean, my father had never played basketball before."

## 2.

Suppose you were to total up all the wars over the past two hundred years that occurred between very large and very small countries. Let's say that one side has to be at least ten times larger in population and armed might than the other. How often do you think the bigger side wins? Most of us, I think, would put that number at close to 100 percent. A tenfold difference is *a lot*. But the actual answer may surprise you. When the political scientist Ivan Arreguín-Toft did the calculation a few years ago, what he came up with was 71.5 percent. Just under a third of the time, the weaker country wins.

Arreguín-Toft then asked the question slightly differently. What happens in wars between the strong and the weak when the weak side does as David did and refuses to fight the way the bigger side wants to fight, using unconventional or guerrilla tactics? The answer: in those cases, the weaker party's winning percentage climbs from 28.5 percent to 63.6 percent. To put that in perspective, the United States' population is ten times the size of Canada's. If the two countries went to war and Canada chose to fight unconventionally, history would suggest that you ought to put your money on Canada.

We think of underdog victories as improbable events: that's why the story of David and Goliath has resonated so strongly all these years. But Arreguín-Toft's point is that they aren't at all. Underdogs win all the time. Why, then, are we so shocked every time a David beats a Goliath? Why do we automatically assume that someone who is smaller or poorer or less skilled is *necessarily* at a disadvantage?

One of the winning underdogs on Arreguín-Toft's list, for example, was T. E.

Lawrence (or, as he is better known, Lawrence of Arabia), who led the Arab revolt against the Turkish army occupying Arabia near the end of the First World War. The British were helping the Arabs in their uprising, and their goal was to destroy the long railroad the Turks had built running from Damascus deep into the Hejaz Desert.

It was a daunting task. The Turks had a formidable modern army. Lawrence, by contrast, commanded an unruly band of Bedouin. They were not skilled troops. They were nomads. Sir Reginald Wingate, one of the British commanders in the region, called them “an untrained rabble, most of whom have never fired a rifle.” But they were tough and they were mobile. The typical Bedouin soldier carried no more than a rifle, a hundred rounds of ammunition, and forty-five pounds of flour, which meant that he could travel as much as 110 miles a day across the desert, even in summer. They carried no more than a pint of drinking water, since they were so good at finding water in the desert. “Our cards were speed and time, not hitting power,” Lawrence wrote. “Our largest available resources were the tribesmen, men quite unused to formal warfare, whose assets were movement, endurance, individual intelligence, knowledge of the country, courage.” The eighteenth-century general Maurice de Saxe famously said that the art of war was about legs, not arms, and Lawrence’s troops were *all legs*. In one typical stretch in the spring of 1917, his men dynamited sixty rails and cut a telegraph line at Buair on March 24, sabotaged a train and twenty-five rails at Abu al-Naam on March 25, dynamited fifteen rails and cut a telegraph line at Istabl Antar on March 27, raided a Turkish garrison and derailed a train on March 29, returned to Buair and sabotaged the railway line again on March 31, dynamited eleven rails at Hedia on April 3, raided the train line in the area of Wadi Daiji on April 4 and 5, and attacked twice on April 6.

Lawrence’s masterstroke was an assault on the port town of Aqaba. The Turks expected an attack from British ships patrolling the waters of the Gulf of Aqaba to the west. Lawrence decided to attack from the east instead, coming at the city from the unprotected desert, and to do that, he led his men on an audacious, six-hundred-mile loop—up from the Hejaz, north into the Syrian desert, and then back down toward Aqaba. This was in summer, through some of the most inhospitable land in the Middle East, and Lawrence tacked on a side trip to the outskirts of Damascus in order to mislead the Turks about his intentions. “This year the valley seemed creeping with horned vipers and puff-adders, cobras and black snakes,” Lawrence writes in *Seven Pillars of Wisdom* about one stage in the journey:

We could not lightly draw water after dark, for there were snakes swimming in the pools or clustering in knots around their brinks. Twice puff-adders came twisting into the alert ring of our debating coffee-circle. Three of our men died of bites; four recovered after great fear and pain, and a swelling of the poisoned limb. Howeitat treatment was to bind up the part with snake-skin plaster, and read chapters of the Koran to the sufferer until he died.

When they finally arrived at Aqaba, Lawrence’s band of several hundred warriors killed or captured twelve hundred Turks and lost only two men. The Turks simply had not thought that their opponent would be crazy enough to come at them from the desert.

Sir Reginald Wingate called Lawrence’s men an “untrained rabble.” He saw the Turks as the overwhelming favorites. But can you see how strange that was? Having lots of soldiers and weapons and resources—as the Turks did—is an advantage. But it makes you immobile and puts you on the defensive. Meanwhile, movement, endurance, individual intelligence, knowledge of the country, and courage—which Lawrence’s men had in abundance—allowed them to do the impossible, namely, attack Aqaba from the east, a strategy so audacious that the Turks never saw it coming. There is a set of advantages that have to do with material resources, and there is a set that have to do with the *absence* of material resources—and the reason underdogs win as often as they do is that the latter is sometimes every bit the equal of the former.

For some reason, this is a very difficult lesson for us to learn. We have, I think, a very rigid and limited definition of what an advantage is. We think of things as helpful that actually aren’t and think of other things as unhelpful that in reality leave us stronger and wiser. Part One of *David and Goliath* is an attempt to explore the consequences of that error. When we see the giant, why do we automatically assume the battle is his for the winning? And what does it take to be that person who doesn’t accept the conventional order of things as a given—like David, or Lawrence of Arabia, or, for that matter, Vivek Ranadivé and his band of nerdy Silicon Valley girls?

### 3.

Vivek Ranadivé’s basketball team played in the National Junior Basketball seventh-and-eighth-grade division representing Redwood City. The girls practiced at Paye’s Place, a gym in nearby San Carlos. Because Ranadivé had never played basketball, he recruited a couple of experts to help him. The first was Roger Craig, a former professional athlete who worked for Ranadivé’s software company.<sup>1</sup> After Craig signed on, he recruited his daughter Rometra, who had played basketball in college. Rometra was the kind of person you assigned to guard your opponent’s best player in order to render her useless. The girls on the team loved Rometra. “She has always been like my big sister,” Anjali Ranadivé said. “It was so awesome to have her along.”

Redwood City’s strategy was built around the two deadlines that all basketball teams must meet in order to advance the ball. The first is the time allotted for the inbounds pass. When one team scores, a player from the other team takes the ball out-of-bounds and has five seconds to pass it to a teammate on the court. If that deadline is missed, the ball goes to the other team. Usually that’s not an issue, because teams don’t hang around to defend against the inbounds pass. They run back to their own end. Redwood City did not do that. Each girl on the team closely shadowed her counterpart. When some teams play the press, the defender plays behind the offensive player she’s guarding in order to impede her once she catches the ball. The Redwood City girls, by contrast, played a more aggressive, high-risk strategy. They positioned themselves in front of their opponents to prevent them from catching the inbounds pass in the first place. And they didn’t have anyone guard the player throwing the ball in. Why bother? Ranadivé used that extra player as a floater who could serve as a

second defender against the other team's best player.

"Think about football," Ranadivé said. "The quarterback can run with the ball. He has the whole field to throw to, and it's still damned difficult to complete a pass." Basketball was harder. A smaller court. A five-second deadline. A heavier, bigger ball. As often as not, the teams Redwood City was playing against simply couldn't make the inbounds pass within the five-second limit. Or else the inbounding player, panicked by the thought that her five seconds were about to be up, would throw the ball away. Or her pass would be intercepted by one of the Redwood City players. Ranadivé's girls were maniacal.

The second deadline in basketball requires a team to advance the ball across midcourt into its opponent's end within ten seconds, and if Redwood City's opponents met the first deadline and were able to make the inbounds pass in time, the girls would turn their attention to the second deadline. They would descend on the girl who caught the inbounds pass and "trap" her. Anjali was the designated trapper. She'd sprint over and double-team the dribbler, stretching her long arms high and wide. Maybe she'd steal the ball. Maybe the other player would throw it away in a panic—or get bottled up and stalled, so that the ref would end up blowing the whistle.

"When we first started out, no one knew how to play defense or anything," Anjali said. "So my dad said the whole game long, 'Your job is to guard someone and make sure they never get the ball on inbounds plays.' It's the best feeling in the world to steal the ball from someone. We would press and steal, and do that over and over again. It made people so nervous. There were teams that were a lot better than us, that had been playing a long time, and we would beat them."

The Redwood City players would jump ahead 4–0, 6–0, 8–0, 12–0. One time they led 25–0. Because they typically got the ball underneath their opponent's basket, they rarely had to attempt the low-percentage, long-range shots that require skill and practice. They shot layups. In one of the few games that Redwood City lost that year, only four of the team's players showed up. They pressed anyway. Why not? They lost by only 3 points.

"What that defense did for us is that we could hide our weaknesses," Rometra Craig said. "We could hide the fact that we didn't have good outside shooters. We could hide the fact that we didn't have the tallest lineup. Because as long as we played hard on defense, we were getting steals and getting easy layups. I was honest with the girls. I told them, 'We're not the best basketball team out there.' But they understood their roles." A twelve-year-old girl would go to war for Rometra. "They were awesome," she said.

Lawrence attacked the Turks where they were weak—along the farthest, most deserted outposts of the railroad—and not where they were strong. Redwood City attacked the inbounds pass, the point in a game where a great team is as vulnerable as a weak one. David refused to engage Goliath in close quarters, where he would surely lose. He stood well back, using the full valley as his battlefield. The girls of Redwood City used the same tactic. They defended all ninety-four feet of the basketball court. The full-court press is legs, not arms. It supplants ability with effort. It is basketball for those who, like Lawrence's Bedouin, are "quite unused to formal warfare, whose assets [are] movement, endurance, individual intelligence...courage."

"It's an *exhausting* strategy," Roger Craig said. He and Ranadivé were in a

conference room at Ranadivé's software company, reminiscing about their dream season. Ranadivé was at the whiteboard, diagramming the intricacies of the Redwood City press. Craig was sitting at the table.

"My girls had to be more fit than the others," Ranadivé said.

"He used to make them run!" Craig said, nodding.

"We followed soccer strategy in practice," Ranadivé said. "I would make them run and run and run. I couldn't teach them skills in that short period of time, and so all we did was make sure they were fit and had some basic understanding of the game. That's why attitude plays such a big role in this, because you're going to get tired."

Ranadivé said "tired" with a note of approval in his voice. His father was a pilot who was jailed by the Indian government because he wouldn't stop challenging the safety of the country's planes. Ranadivé went to MIT after he saw a documentary on the school and decided that it was perfect for him. This was in the 1970s, when going abroad for undergraduate study required the Indian government to authorize the release of foreign currency, and Ranadivé camped outside the office of the governor of the Reserve Bank of India until he got his money. Ranadivé is slender and fine-boned, with a languorous walk and an air of imperturbability. But none of that should be mistaken for nonchalance. The Ranadivés are relentless.

He turned to Craig. "What was our cheer again?"

The two men thought for a moment, then shouted out happily, in unison: "One, two, three, *attitude!*"

The whole Redwood City philosophy was based on a willingness to try harder than anyone else.

"One time, some new girls joined the team," Ranadivé said, "and so in the first practice I had, I was telling them, 'Look, this is what we're going to do,' and I showed them. I said, 'It's all about attitude.' And there was this one new girl on the team, and I was worried that she wouldn't get the whole attitude thing. Then we did the cheer and she said, 'No, no, it's not one, two, three, *attitude*. It's one, two, three, attitude, *hah!*'"—at which point Ranadivé and Craig burst out laughing.

## 4.

In January of 1971, the Fordham University Rams played a basketball game against the University of Massachusetts Redmen. The game was in Amherst, at the legendary arena known as the Cage, where the Redmen hadn't lost since December of 1969. Their record was 11–1. The Redmen's star was none other than Julius Erving—Dr. J—one of the greatest athletes ever to play the game of basketball. The UMass team was very, very good. Fordham, on the other hand, was a team of scrappy kids from the Bronx and Brooklyn. Their center had torn up his knee the first week of practice and was out, which meant that their tallest player was six foot five. Their starting forward—and forwards are typically almost as tall as centers—was Charlie Yelverton, who was only six foot two. But from the opening buzzer, the Rams launched a full-court press, and they never let up. "We jumped out to a thirteen-to-six lead, and it was a war