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## **1 Samuel 17:37-40 ESV**

*<sup>37</sup> And David said, "The LORD who delivered me from the paw of the lion and from the paw of the bear will deliver me from the hand of this Philistine." And Saul said to David, "Go, and the LORD be with you!"*

*<sup>38</sup> Then Saul clothed David with his armor. He put a helmet of bronze on his head and clothed him with a coat of mail, <sup>39</sup> and David strapped his sword over his armor. And he tried in vain to go, for he had not tested them. Then David said to Saul, "I cannot go with these, for I have not tested them." So David put them off. <sup>40</sup> Then he took his staff in his hand and chose five smooth stones from the brook and put them in his shepherd's pouch. His sling was in his hand, and he approached the Philistine.*

### **David, Goliath, and Four Chalkboards of Math.**

We're going to look at the story of David and Goliath in the First Book of Samuel. The two Samuel Books, along with Joshua and Judges, which come before the Samuel Books in the Bible, tell the tale of the Israelites entering Canaan, their promised land, and then the story continues to include their forced deportation by the Assyrians and then the Babylonians. Saul was the first King of Israel and David was the second King of Israel.

When we look at the period of history that comes before King David, we are not sure of the historicity of the major individuals of the Hebrew Bible stories. This is especially true of the very early biblical characters, like Adam and Eve, and Noah. The story of Adam and Eve and the Tree of the Knowledge of Good and Evil is clearly an allegory. And the Great Flood story is very similar to ancient pagan stories that apparently predate the Hebrew Bible

story of the Flood; this may well be an extremely ancient oral history that is not rooted in complete truth. But there is archeological evidence of the real-world existence of King David. Most significantly, there is something called the Tel Dan stele, a stele being an upright stone that typically has writing on it. The Tel Dan stele refers to the House of David, and dates to the ninth or tenth century B.C., the time when David was alive.

The story of David and Goliath tells of the coming of age of David, before he becomes the King. It's one of the most popular biblical stories; it describes a small but faithful, and poor, shepherd boy named David, who, armed only with a slingshot, kills the mighty giant Goliath. Goliath was a Philistine, and the term Philistine has become synonymous with any culture or individual that is uncouth, ignorant, or uncontrollably violent. The Philistines and the Israelites were longstanding enemies, with the Philistines in the role of the bully. The Philistines were pagans. The Philistines were an expansionist people, who built a vast colonial empire, which was why they constantly clashed with the Israelites. The two nations fought a series of wars that stretched out for almost a century. At first, the Philistines proved more powerful, but ultimately, the Israelites pushed them back. However, later the Assyrian Empire overwhelmed the two of them, and then made both Israel and the Philistine nation vassal states.

Before I tell the story of David and Goliath, though, I'd like to talk about my Ph.D. qualifying exam, something that I'm sure you have been dying to hear about. I received a Ph.D. in Computer Science from the University of Southern California a number of

years ago. But as almost any Ph.D. student can tell you, there is typically an exam that serves as a make-or-break point, a screening mechanism that not everyone gets through, and it occurs midway in the process of getting a Ph.D. Indeed, many people flunk out of Ph.D. programs because of this exam. A Ph.D. dissertation is usually very narrow and very deep in its academic focus. The goal of this exam is to make sure that the student also has a solid grasp of the broad body of knowledge required to truly be an expert in some academic field. Mine was a live exam, with me standing before a panel of professors. I went into it nervous, of course, but even more nervous than you might expect. You see, one of the professors who was selected for my exam was known to dominate these exams taking up most of the time, and his specialty was very far from the specific topic I was studying for my Ph.D. His area not at all what I had spent most of my time in graduate school studying. And sure enough, when the exam began, he asked the first question, and my answer to that single question took up a majority of the exam time. The problem is that computer science is a broad discipline, including very mathematical and very engineering-ish material – and I was at the engineering end of things. And of course, this professor was a mathematician. He did just what I was afraid he would do. He told me to pick up a piece of chalk, go to the chalkboard, and prove a mathematical theorem, one that I had never heard of. I remember my heart pounding as I fought to calm myself and try to work out in my head how I would prove this theorem. Now, this is a bit superficial, but in general, a theorem is basically a

statement of a mathematical fact, like Einstein's  $E = mc^2$  theorem. Basically, Einstein's theorem proves that energy and mass are equivalent. But of course, for it to be a theorem, it must be proved by a mathematical argument, which Einstein did indeed provide. Now, the theorem I was asked to prove was far less important, and of course others had proved it in the past, but I knew immediately that it was going to be a huge challenge for me to prove. I'll get back to this.

Let's talk about one of the most famous Hebrew Bible stories: David and Goliath.

This is from 1 Samuel, chapter 17, and I have edited this for brevity:

*Now the Philistines gathered their armies for battle. <sup>2</sup>And Saul and the men of Israel were gathered, and drew up in line of battle against the Philistines. <sup>3</sup>And the Philistines stood on the mountain on the one side, and Israel stood on the mountain on the other side, with a valley between them. <sup>4</sup>And there came out from the camp of the Philistines a champion named Goliath of Gath, whose height was six cubits and a span. <sup>5</sup>He had a helmet of bronze on his head, and he was armed with a coat of mail, and the weight of the coat was five thousand shekels of bronze. <sup>6</sup>And he had bronze armor on his legs, and a javelin of bronze slung between his shoulders. <sup>7</sup>The shaft of his spear was like a weaver's beam, and his spear's head weighed six hundred shekels of iron. <sup>8</sup>He stood and shouted to the ranks of Israel, "Why have you come out to draw up for battle? Am I not a Philistine, and are you not servants of Saul? Choose a man for yourselves, and let him come down to me. <sup>9</sup>If he is able to fight with me and kill me, then we will be your servants. But if I prevail against him and kill him, then you shall be our servants and serve us." <sup>10</sup>And the Philistine said, "I defy the ranks of Israel this day. Give me a man, that we may fight together."*

The point is that David was at best my size, and Goliath is described as six cubits and a span in height. Has anyone here ever known anyone who was six cubits and span tall? Well, extremely roughly, a cubit is about 18 inches, and a span is about 7 or 9 inches. So, Goliath was about 9 feet 8 inches tall – certainly a shade taller than me. David was armed

with a slingshot and Goliath was armed with “*a helmet of bronze, a coat of mail, bronze armor on his legs, and a javelin of bronze.*”<sup>7</sup> *The shaft of his spear was like a weaver’s beam, and his spear’s head weighed six hundred shekels of iron.*” Obviously, it was a lopsided fight. But we all know how it ends, making David not only one of the favorite heroes of the Bible, but also one of the most highly referenced literary metaphors of all time. David represents the victory of the courageous, the daring, and most of all, the faithful over the evil might of a seemingly radically more powerful enemy. David is also a broader metaphor than that: he is the ability of the determined individual to succeed at what must be done, no matter how daunting the task.

Here is David being commissioned by Saul the King:

*<sup>37</sup> And David said, “The LORD who delivered me from the paw of the lion and from the paw of the bear will deliver me from the hand of this Philistine.” And Saul said to David, “Go, and the LORD be with you!”*

*<sup>38</sup> Then Saul clothed David with his armor. He put a helmet of bronze on his head and clothed him with a coat of mail,<sup>39</sup> and David strapped his sword over his armor. And he tried in vain to go, for he had not tested them. Then David said to Saul, “I cannot go with these, for I have not tested them.” So David put them off.<sup>40</sup> Then he took his staff in his hand and chose five smooth stones from the brook and put them in his shepherd’s pouch. His sling was in his hand, and he approached the Philistine.*

This is the ending of the story:

*<sup>49</sup> David put his hand in his bag and took out a stone and slung it and struck the Philistine on his forehead. The stone sank into his forehead, and he fell on his face to the ground.<sup>51</sup> Then David ran and stood over the Philistine and took his sword and drew it out of its sheath and killed him and cut off his head with it. When the Philistines saw that their champion was dead, they fled.*

This incident leads directly to David's rise to power. Because of this battle, he is noticed by powerful people in Israelite society, and he is on the path to becoming the most famous of Israel's kings. David, in this well-loved Hebrew story of faith shows us that not only can courage, faith, daring, and determination allow us to overcome great moral obstacles, it might well cause God to lift us up and lead us to a life that he has planned for us, a life that we might never have otherwise envisioned if we had not been so determined.

I'm sure you're dying to hear the details of the theorem I was told to prove. As a way of explanation, and again, this is a bit of a superficial explanation, there are many techniques for proving mathematical theorems. Often, a mathematician is particularly clever and can prove a theorem with just a few lines of mathematics. The mathematician uses a slick trick, essentially by leveraging the proof of the theorem off other known, already proved theorems. The relationship between the new theorem being proved and the ones being leveraged might be far from obvious to anyone but a particularly insightful mathematician. But if the person proving the theorem is not a slick mathematician, if they're an engineer type like me, he tends to create what's known as a constructive or demonstrative proof, where one painstakingly starts from nothing and very slowly builds up to the theorem that needs to be proved. This brute force method of constructing a proof can lead to a very, very long, series of mathematical statements. This was what I did. I started on the left side of the chalkboard facing my examining panel of professors, filled that chalkboard, and then

proceeded to write on all four blackboards in the room, one on each wall. Only when I had gone all the way around the room, densely scribbling on every chalkboard, did I finally finish my proof. I wrote hundreds of lines of mathematics, as I painstakingly laid out my constructive proof. It took about an hour. The professor who asked the question sat there stone-faced the entire time. Then, when I was done, the other professors and I all looked at him. He sat there motionless, then finally, he nodded. You can imagine the relief that came over me. He said I did a great job – *for a non-mathematician*. Then he stood up, took the chalk, erased part of the front chalkboard, and wrote a non-constructive proof, a very slick one, that consisted of about twenty lines of mathematics. It took him maybe 5 minutes. Then he sat down. I'm sure I blushed beet red.

The rest of the panel asked me a few questions, and then in less than an hour and a half total, my exam was over, and I passed. My point? We all face giants in life. We take on those giants with what we have, with whatever tools God has given us. We trust in God to see us through. We might not get the job done in the most elegant way, and in fact, sometimes we end up feeling a little foolish at all the effort we put into solving a problem. There are also times when we out and out fail. There are lots of macho Bible verses about God standing with us when we fight battles, and I could have quoted those right now, but I prefer to focus, not on the brutal battles that God gets us through, but on how we feel during those battles. I prefer to quote these

words of Jesus, from the fourteenth chapter of the Gospel of John:

*Peace I leave with you; my peace I give to you. Not as the world gives do I give to you. Let not your hearts be troubled, neither let them be afraid.*

Jesus says this just after he tells his disciples that one of them will betray him, and that Peter will deny him. He's telling them that he will have to go away and that they will be on their own. He's building them up so that they will have the stamina needed to carry the Word of God to the world.

The greatest challenge isn't taking on the nasty battles we are confronted with. It isn't having the stamina to stick with it and find a solution, no matter what. It isn't even accepting it when we don't succeed. These things are indeed intimidating. But the biggest challenge is doing it all with peace in our hearts. It's very difficult to live out our faith that way, to really have so much trust in God that we can take on enormous challenges without being afraid. In truth, we all face much more frightening challenges in life than that theorem I had to prove. We lose loved ones, we get sick or injured, we lose a business or a job. Someone we love leaves us. There are bad events that go on for days or weeks or years. Or decades. There are things that follow us to our graves. But God doesn't want us to have troubled hearts or to be afraid. God wants us to go through life knowing that we will face extreme challenges, that we must do more than simply survive – we must continue to live Christ-like lives no matter what happens to us. We must treat other people with empathy, respect, generosity, and



forgiveness. That's hard to do when we're suffering or when we feel that we haven't gotten the things that other people have gotten. But in the end, if we can remain confident and calm despite what happens, if we can let God lift us up, then as it turns out, we're the one who has something that many, many other people don't have. And this is perhaps the most important thing we can ever get in life: the peace that comes from having true faith. It's hard to get there, but the effort is sure worth it. There are Goliaths that we will kill and some that we will fail at killing. There are theorems we'll prove and some that we will not prove. Sometimes, when we finally take down some nasty Goliath or prove some daunting theorem, the result is messy and far less impressive than what others might be able to accomplish. But we saw it through - and we did it with the Holy Spirit burning within us every step of the way.

That professor who asked me to prove that theorem, he was a nice man who was a strong supporter of all students. He was always there to help if you were having trouble in a course of his or if you needed advice along the way to getting your degree. After my preliminary exam was over, he came up to me and said that I shouldn't be embarrassed that my proof covered every square inch of four giant blackboards. He said that I had what it takes, simply because I was willing to take on a task that wasn't the most natural for me, and that I didn't give up. He said he was impressed that I did it so calmly. Calm? I asked. I wasn't calm, I said. I was terrified. He smiled and shook my hand. That man has since passed away. But I will always remember him fondly.