

WEEK 1 | INTRODUCTION

*TECHNOLOGY IS NEITHER GOOD NOR BAD;
NOR IS IT NEUTRAL.*

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Why is technology worth studying? As one author put it, “The story of humanity is the story of technology. The prophet Daniel marked off successive kingdoms by dominant metals: gold, silver, bronze, iron, iron-clay. We mark off human history by the Stone Age, the Bronze Age, the Iron Age, the nuclear age, and the computer age. Today, we live in the age of technology. This long-running drama of innovation includes each of us.”¹

APPLIED SCIENCE, AMPLIFIED POWER

What is technology? The Encyclopedia Britannica defines it as “the application of scientific knowledge to the practical aims of human life or, as it is sometimes phrased, to the change and manipulation of the human environment.”² You can see there is a close relationship between science, which is primarily concerned with uncovering how the natural world functions, and technology, which focuses on applying those discoveries. Technology is *applied science*.

The word technology is built on the root *techne-* or *technique*. Human beings amplify our natural or native power and ability by using newly developed techniques—new technologies. This process is ever evolving and progressing as old discoveries and techniques provide the foundation and the building blocks for new discoveries and new techniques. Thus, technology is not only applied science, but *amplified power*. It enables us to solve problems and overcome barriers that we would never be able to with our natural limitations. It was Abraham Lincoln who observed that, while all animals labor, only humans improve their workmanship through discovery and innovation.³

For example, technologies like the wheel, hydraulics, and the combustion engine enable us to travel further and faster than we could with only our own two feet. When in 1876 Alexander Graham Bell developed the telephone, it enabled us to communicate over greater distances than the sound emanating from our vocal cords ever could; the cell phone now allows us to use this amplified power wherever we are and whenever we want. Very often, technological advances amplify human power and ability in a way that benefits us and makes life easier and more meaningful.

¹ Tony Reinke, *God, Technology, and the Christian Life* (Wheaton, IL: Crossway, 2022), 13.

² <https://www.britannica.com/technology/technology>

³ Abraham Lincoln, cited in William Rosen, *The Most Powerful Idea in the World: A Story of Steam, Industry, and Invention* (New York: Random House, 2010), 323.

An illustration: David and Goliath. In 1 Samuel 17 the author narrates an encounter between two entirely mismatched opponents. Goliath of Gath is a professional warrior and a giant,

whose height was six cubits and a span. 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. And he had bronze armor on his legs, and a javelin of bronze slung between his shoulders. The shaft of his spear was like a weaver's beam, and his spear's head weighed six hundred shekels of iron. And his shield-bearer went before him (1 Samuel 17:4-7).

Goliath is a 9-foot-tall behemoth armed with some of the most sophisticated military technology available to him—weapons and armor made of bronze, the strongest workable metal of that period. Not only was he physically imposing and well-armed, but Goliath was a trained killer. He was the Philistine's greatest warrior, their champion (17:4). Goliath was so fearsome that the Israelites "were dismayed and greatly afraid" (17:11). Even Saul, the closest thing Israel had to a giant (1 Samuel 9:2; 10:23), was terrified.

It is at this moment of Israel's terror and fear that the narrator's attention turns to David. David is no Goliath. He is a boy, the youngest son of Jesse (1 Samuel 17:14); his older (and bigger) brothers are among those in Saul's army shaking with terror at the sight of Goliath (17:13). David is not a warrior; he is a shepherd (17:15). He does not have bronze armor. In fact, he does not have any armor nor any desire to wear armor (17:39). The Israelites, even his own brothers, have no faith in him (17:28-30, 33), and Goliath disdains him (17:42). By all measures, David stands no chance of defeating Goliath. Tony Reinke writes,

The fundamental problem here is that David and Goliath were mismatched in their energy potential. In ancient battles, the smaller army was the underdog. Force wins battles, and the larger army usually won. Whether we're talking about the combined kinetic energy of sword-bearing field soldiers, the ferocity of horse-powered chariots, the elastic potential energy behind arrows in full draw, the explosive potential of gunpowder behind a bullet, or the energy launched inside the warhead of a ballistic missile—wars are won by unleashing superior energy. In measurements of energy potential, Goliath was unrivaled, a weapon of mass dynamism, a small army in himself.⁴

Despite the clear disadvantages stacked against him, David does have two things on his side: he has the God of Israel (17:37), and he has technology. David, who lacked the technique needed to amplify his power through armor and a sword (17:39), was an expert with a sling. With the sling, David could greatly amplify the force his arm could apply to a smooth stone. That force, applied on such a small object, produced a tremendous amount of kinetic energy that transformed the

⁴ Reinke, *God, Technology, and the Christian Life*, 20

stone into a deadly projectile. Coupled with the ability to strike from a distance, suddenly this advanced technology gave David an edge over Goliath that he applied with deadly results (17:49). In this one-on-one matchup, David's superior technology overcame Goliath's, and David emerged victorious.

We recognize that, as we read the narrative, the ultimate reason for David's astonishing victory over Goliath is that he had faith in Yahweh, and Yahweh gave him victory. We should not overlook the fact, however, that God accomplished this by providentially providing David with both the technology and the mastery of it that enabled him to amplify his native power to such deadly potential.

Technologies can have a sinister side. The history of ballistics is the history of being able to kill more effectively and from a further distance, a dramatic amplification of humanity's natural capacity for violence and destruction. This is of benefit to humanity, for it makes hunting and thus food production easier and more efficient. When weapons are turned on each other, however, the outcome can be devastating. Though not always morally wrong, the need for violence—and technology that amplifies that violence—is a consequence of a fallen world.

Even technologies that do not appear to have negative side effects often do. Smart phones and social media are two such technologies, as we will discuss in detail later in this course. As one author writes, "While our technologies can apparently empower us to become *more* of ourselves, they can also permit us to become *less*, diminishing us even as they purport to deliver 'more' and 'better' and 'faster' and 'easier.'"⁵

In a fallen world, nothing is truly neutral. This is as true for technology as anything else. Melvin Kranzberg, an historian of Technology at Georgia Tech, wrote, "Technology is neither good nor bad; nor is it neutral."⁶ What he was alluding to is the recognition that technology comes to reflect the values of its creators and its users. In a fallen world full of fallen human beings, it is inevitable that technology will begin to reflect—and worse, amplify—sinful desires and values.

WELCOME TO THE TECHNIUM

In his high priestly prayer, Jesus petitions the Father on our behalf, praying, "I do not ask that you take them out of the world, but that you keep them from the evil one. They are not of the world, just as I am not of the world. . . . As you sent me into the world, so I have sent them into the world" (John 17:15-16, 18). Incredibly, Jesus asks his Father *not* to take us out of the world. Though we are not of this world, he says, we are called to live in it as ambassadors for Christ. This brings us to a profound truth: we cannot run from this world. No matter how bad it is, no matter how much evil surrounds us, this is where God has put us and called us to live for Him.

⁵ Craig M. Gay, *Modern Technology and the Human Future* (Downers Grove, IL: IVP 2018), 2.

⁶ Melvin Kranzberg, "Technology and History: Kranzberg's Laws," *Bulletin of Science, Technology, and Society* 15(1995): 5.

When we apply this truth to something like technology, we recognize that we cannot escape the technology-dominated culture in which we reside. The answer to technological advancements is not escapism, an Amish existence where we ignore those technologies and turn in on ourselves. Rather, we must learn to live in this world in a way that is uniquely Christian, applying Biblical wisdom to the culture and technology that pervades our everyday life.

What kind of world do we live in? Kevin Kelly, cofounder of *Wired* Magazine, has dubbed it the *technium*. The technium, he writes, describes this point in history in which technology has reached a “self-amplifying” and “self-reinforcing system of creation” where “our system of tools and machines and ideas became so dense in feedback loops and complex interactions that it spawned a bit of independence.”⁷ He goes on to describe this process: “[Older technologies] produce a hereditary tree of ancestral technologies. Just as in Darwinian evolution, tiny improvements are rewarded with more copies so that innovations spread steadily through the population. Older ideas merge and hatch idea-lings. Not only do technologies form ecosystems of cross-supported allies, but they also form evolutionary lines. The technium can really only be understood as a type of evolutionary life.”⁸

In other words, technology has reached a point where its progress is self-driven and unstoppable; there is a sense in which it has taken on a life of its own, an inexorable march towards artificial intelligence in which technology will improve itself without our help. We are watching this happen in real time, as new technical breakthroughs are happening so rapidly that we can hardly keep up with them.

Not only is technology advancing rapidly, but it has become integral to and ubiquitous in society. Kelly writes, “this global-scale, circular, interconnected network of systems, subsystems, machines, pipes, roads, wires, conveyor belts, automobiles, servers and routers, codes, calculators, sensors, archives, activators, collective memory, and power generators—this whole grand contraption of interrelated and interdependent pieces forms a single system.”⁹

How pervasive are these technologies? Some statistics:

Smart Phones¹⁰

- 1) There are 6.64 billion smartphones users worldwide, 83.72% of the worldwide population

⁷ Kevin Kelly, *What Technology Wants* (New York: Penguin, 2011), 11-12, 38.

⁸ Ibid., 45.

⁹ Ibid., 8-9.

¹⁰ <https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>; <https://www.pewresearch.org/internet/fact-sheet/mobile/>

- 2) There are over 10.57 billion mobile connections worldwide, 2.94 billion more connections than there are people
- 3) 97% of Americans own a cell phone.
- 4) Smartphone users have increased by 49.89% since 2017, and the U.S. has the highest penetration of smartphone use among the population at 81.60%
- 5) 75% of U.S. adults own a desktop or laptop computer; ~50% own a tablet

Social Media¹¹

- 1) 81% of Americans say they use YouTube regularly
- 2) 69% of Americans say they use Facebook regularly
- 3) 40% of Americans say they use Instagram regularly (76% for those 18 to 24 years old)
- 4) 25% of Americans say they use Snapchat regularly (75% for those 18 to 24 years old)
- 5) 21% of Americans say they use TikTok regularly (55% for those 18 to 24 years old)

Teens Aged 13 to 17:¹²

- 1) Access to smartphone – 95%
- 2) YouTube – 85%
- 3) Instagram – 72%
- 4) Snapchat – 69%
- 5) Facebook – 51%
- 6) YouTube (32%) and Snapchat (35%) are used most often
- 7) 45% of teens say their internet use is “almost constant,” while another 44% say they go on social media “several times per day;” Girls tend to use social media more than boys
- 8) Gaming – 90% (83% for girls, 97% for boys)

Every Minute of Every Day:¹³

- 1) Amazon makes \$258,752 in sales
- 2) Uber riders take 45,787 trips
- 3) Venmo \$51,892 in peer-to-peer payments
- 4) Spammers send 103,447,520 emails
- 5) Americans use 2,657,700 Gb in data

All these trends are being driven at an ever-increasing pace by digital technology that is transforming every aspect of the way we live. Just as it would be virtually impossible to extricate any one of these technologies from the system, so it would be nearly impossible to extricate

¹¹ <https://www.pewresearch.org/internet/2021/04/07/social-media-use-in-2021/>

¹² <https://www.pewresearch.org/fact-tank/2021/10/07/7-facts-about-americans-and-instagram/>; <https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/>

¹³ <https://www.businessinsider.com/sc/how-businesses-keep-up-with-technology>

ourselves from it. For better or worse, technology is a part of our lives that we cannot escape. Smart phones, social media, online shopping and integrated payment systems have created, as one scholar describes it, a digital environment marked by “a state of pervasive or permanent connectivity.”¹⁴

What should our takeaway from the above statistics be? As Mercer Schuchardt writes,

So why does the media matter now more than ever? Well, the blunt reality is that your parents, teachers, and religious leaders have been lying to you all along. They meant well, they intended the best, but they haven’t ever told you the truth. And that’s not because they didn’t mean to, want to, or try to—they are good people, for the most part. But the lie they told you wasn’t in the content of anything they said. The lie they told you was that they were your parents, your teachers, and your religious leaders. The truth is, they weren’t. The media was, and is, and will be, until you die.¹⁵

We must recognize that, in a fallen world, neutrality is a myth. Those who control the media, our and our children’s teachers, are not neutral.

WHAT WE NEED

In light of the pervasive and inescapable impact of technology in our lives, what we need is wisdom—skillful living. If technology is science applied, wisdom is truth applied, knowledge applied. But where does wisdom come from? This is the timeless question posed in Job 28, a chapter that, not unironically, talks a great deal about technology and its inability to unearth and reveal wisdom to humanity.

Wisdom, the poet says, comes from God. It is God alone who “understands the way to it” (Job 28:23). God alone determines the essence of wisdom (28:27). He employed wisdom in creating the world (Proverbs 8:22-31) and continues to employ it in His providential care of His creation.¹⁶ What is wisdom? Wisdom is “the fear of the Lord” (Job 28:28):

- Proverbs 1:7 The fear of the LORD is the beginning of knowledge; fools despise wisdom and instruction.
- Proverbs 9:10 The fear of the LORD is the beginning of wisdom, and the knowledge of the Holy One is insight.

¹⁴ Manuel Castells, et. al., *Mobile Communication and Society: A Global Perspective* (Cambridge, MA: MIT Press, 2006), 248.

¹⁵ Mercer Schuchardt, *Media, Journalism, and Communication: A Student’s Guide* (Wheaton, IL: Crossway, 2018), 34.

¹⁶ One commentator writes that “wisdom is [God’s] closest companion.”

- Proverbs 2:6 For the LORD gives wisdom; from his mouth come knowledge and understanding.
- Proverbs 3:4 Trust in the LORD with all your heart, and do not lean on your own understanding.
- Proverbs 3:13 Be not wise in your own eyes; fear the LORD, and turn away from evil.
- Proverbs 8:11 wisdom is better than jewels, and all that you may desire cannot compare with her.
- Proverbs 8:35 For whoever finds [wisdom] finds life and obtains favor from the LORD , but he who fails to find me injures himself; all who hate me love death.

If we are to survive in the technium, we need to hear from God's word and seek God's wisdom. His word is sufficient to give us the wisdom and insight necessary to view and use technology intentionally, wisely, carefully, and in a way that honors him.