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KINGDOM BUSINESS IN THE BRAVE NEW WORLD

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"Take delight in the Lord, and He will give the desire of your heart."
- Psalm 37:4

THE PURSUIT OF SUCCESS IN GOD'S EYES

BY
ARCHIE W. DUNHAM

Shareholders reward highly successful business leaders with fame and fortune. I, perhaps, never achieved that plateau of success, but I had a fulfilling and wonderful career. In 1998, I separated Conoco Inc. from DuPont with the largest Initial Public Offering (IPO) in U.S. history at the time and then followed that up in 2001 with the merger of Conoco and Phillips Petroleum to create ConocoPhillips, the third largest energy company in America and the fifth largest corporation in the Fortune 500. I was inducted into the Oklahoma Hall of Fame, the Horatio Alger Society of Distinguished Americans, and I was recognized by the New York Mercantile Exchange as the CEO of the Year in 2001. I chaired the National Association of Manufacturers, the United States Energy Association, and the National Petroleum Council, and I was appointed by President George W. Bush to serve on two presidential commissions. Numerous other honors and recognitions followed. It's certainly a resume of success—at least in the eyes of the world. Yet, in all these things, I strived not to honor myself but to bring glory to the Lord because God's definition of success is much deeper and eternal than honors given by man.

Proverbs 10:9 says, "Whoever walks in integrity walks securely, but whoever takes crooked paths will be found out" (NIV). It's important to note that someone who walks in integrity has no fear of being "found out." They have nothing to hide; they have no fear, no embarrassment or shame. Their footsteps are secure, and their pathways are straight.

Besides walking securely, might I possibly substitute my own word in this translation? "Whoever walks in integrity walks successfully." Integrity is not only the means to a goal—it is the goal. It is the reward of a successful life lived blamelessly before and with God. Walking in integrity is a measure of success in itself and creates a life that bears witness of the Lord on this earth.

In light of that, I believe all of my awards, honors, and accomplishments are simply the fruit of a life laid down in pursuit of success through God's eyes. I attribute all my success to Him and His faithfulness to me as I strived to be

faithful to Him. As a quality of integrity, faithfulness can also be seen in a successful life. It's much more important to be faithful to God, your family, and even your country than to be famous—though fame is often included in the world's definition of success. Fame fades quickly while faithfulness is eternal. In 2 Corinthians, Paul calls us to "fix our eyes not on what is seen, but on what is unseen, since what is seen is temporary, but what is unseen is eternal" (4:18, NIV). It's the eternal things that matter because it's the eternal things that last.

Pursuing a life of God's eternal success, marked by integrity, doesn't always offer black-or-white decisions. Situations may feel clouded with confusion, and outcomes may disappoint us. But throughout my life, I can see thought and behavior patterns that I've clung to in this journey to success. It all began with giving up—giving up control.

Giving Up

The seeds of success are planted long before we see the, sometimes massive, trees they produce. Some call me successful because I was the CEO of a very large Fortune 500 company and later the chairman of three very large Fortune 500 Companies, but my first steps into successful living came in 1976. The previous few years had been difficult for me after not receiving an opportunity I believed I would have been chosen for. I was unhappy in my work. I wanted more responsibility. Nothing satisfied me. I had achieved just about all that I was capable of achieving with me in control of my career. I was the one making all the decisions—not God.

During that same time, I had been taking on more responsibilities at my church and learning to trust God instead of relying on my own abilities, but I had yet to apply that same concept to my career and personal life. However, that decision came on a cool spring evening in 1976 while sitting in my back yard in Houston. I decided to turn everything completely over to God; I gave up control to Him. It was a tough decision, but I told God that if He wanted me to stay in my current mid-level management job for the next 10 years—and if He wanted me to live in hot humid, mosquito-infested Houston for the next 20 years—then I was ready to do it.

Jesus set the perfect example of giving up control. Here He was, the Son of God, with access to all power in the universe, coming to Earth in obedience to His Father. After living a perfect life, He didn't have to subject Himself to

death, but He told His followers, "I seek not my own will, but the will of Him who sent me" (John 5:30, ESV). If Jesus, who is the perfect and holy Son part of the Triune God, subjected Himself to the Father's will, how much more should I, a mere man, subject my will to the same good and gracious God?

When I accepted Jesus into my heart, I accepted Him as my Savior, but on this night in 1976, He became my Lord as well. If you want to be successful, it's not enough to just make Jesus your Savior—you must make Him your Lord. We must seek His will above our own. Giving up control to Him may feel scary, and it may go against everything that feels comfortable, but I believe it's worth it. From that moment of surrender on, except when I've tried to reestablish control, I have been content. I'm not perfect, as everyone knows, but I strive to be content. Like Paul wrote to the Philippians, "I have learned the secret of being content in any and every situation, whether well fed or hungry, whether living in plenty or in want" (Philippians 4:12, NIV).

Six months after making Jesus the complete Lord of my life, my family and I moved to California to a great, new opportunity with expanded responsibilities, a lovely home, and a caring church. I received everything my heart desired—after I gave it all up.

Seek His Will in His Word

After deciding to seek God's will above our own in the pursuit of success, you may be asking yourself, "Now what?" How do we discern what God, the Creator of Heaven and Earth, wants for our lives? This is the most difficult and challenging question you will ever ask of God. Obviously, God does not speak to us out of a burning bush like He did with Moses. Each person must decide for him or herself how to discern God's direction for your life, but for me, it best starts in His written Word, the Bible.

The Bible not only gives insight into the character and heart of God, but it also provides countless principles and words of wisdom for us to consider. Proverbs 2:6 says, "For the Lord gives wisdom; from His mouth come knowledge and understanding." We all need His wisdom, as well as knowledge and understanding from the One who sees things we can't yet see and knows things we don't yet know.

If you're not sure how to start, begin with Proverbs, the book of wisdom. Throughout my career, I have tried to

> ### Integrity is not only the means to a goal—it is the goal. It is the reward of a successful life lived blamelessly before and with God.

Learning how to fruitfully deal with disappointment and overcome doubt is a vital part of the journey to success, and His peace promised in Scripture guided me through that process.

read it daily to garner wisdom and bring my way of thinking into alignment with the way God thinks.

To some, the Bible may be an irrelevant, outdated book in a world full of computers, technology, medical advances, and psychological analyses. However, the Bible itself tells us it is living and active (Hebrews 4:12), meaning that even if our exact situation or question isn't written in its pages, it is still able to speak and respond to our questions and our needs, if we genuinely pray, asking for His direction in the situation, and continue to study His Word, seeking an answer.

Let me take, for example, the missed opportunity I mentioned earlier. This was many years ago. Conoco had nominated me to be a White House Fellow, a program established by the President of the United States in 1964 for the purpose of identifying future leaders, allowing them to spend a year working either in the White House or for one of the cabinet secretaries. I had made the final interview list of 150 people from thousands of nominations. After months of intense preparation, I spent the afternoon before my final interview continuing my studies on global policies and issues. I was extremely nervous. Finally, my wise wife suggested I was reading the wrong book. She handed me my Bible and suggested that I read Philippians 4:6-7: "Do not be anxious about anything, but in every situation, by prayer and petition, with thanksgiving, present your requests to God. And the peace of God, which transcends all understanding, will guard your hearts and your minds in Christ Jesus" (NIV).

Meditating on that Scripture that afternoon and the next day before my interview filled me with a calm presence and confidence. I left the interview convinced I would be selected. The Word of God had worked within my heart.

Surprisingly, to me, I placed second, and only the first place candidate was selected from the Southwestern U.S. region that year to be a White House Fellow. I was devastated. Where was the peace that transcended all understanding then? Yet, God had purpose. Through this experience, I learned how to conquer doubt and rely on God during stressful and difficult times. Learning how to fruitfully deal with disappointment and overcome doubt is a vital part of the journey to success, and His peace promised in Scripture guided me through that process – when later in my career as I negotiated huge business transactions, chaired numerous boards of directors, and conducted negotiations with multiple Heads of State globally.

Live By His Leading, Not Our Logic

Finding God's direction and will for my life often led me to make decisions that outwardly seemed illogical. That is why we must lean into His Word and what we sense His Holy Spirit is saying through it. Obedience to His path opens doors and brings blessing.

My tenacity to hold to His leading was tested after two years of living in California. I had been walking almost three years with Jesus as the Lord over my life when I was offered the opportunity to become the project manager for Conoco's new corporate headquarters being built in Houston. Everything about it sounded like a great opportunity, and it was a big promotion. I took the next week to think it over and pray about it.

During one of my morning quiet times, God gave me a verse in Galatians which I had been studying for weeks, suggesting that, based on my circumstances at the time, I should stay in California. I declined the job offer. What seemed like almost immediately, my phone began ringing with former bosses telling me I had lost my mind and that Conoco's president would give me another week to reconsider his offer. After praying about it for another week, I was even more convinced that I should stay in California. I held fast to the conviction God had placed on my heart through His Word.

Six months later, I was elected president of the Conoco subsidiary in California—one of the best jobs I've ever had and an opportunity I would have missed had I listened to human reason and moved back to Houston.

The Bible is filled with instances of God-defying logic. In 2 Kings 5, we see a leprous Naaman reaching out for guidance from the prophet Elisha. After being instructed to wash seven times in the dirty Jordan River, Naaman almost missed out on the blessing by not following through. It didn't make sense for an already unclean man to wash in an even more unclean river. How would that heal him? Yet, through the prodding of his servant, Naaman obeyed and received the healing he almost reasoned himself out of.

God also uses the illogical to save His people through Gideon in Judges 6. Setting out to fight the Midianites, an

army of thousands, Gideon's army started with 32,000 men, but God cut it down to 300—300 against thousands! Surely this was a battle Gideon could be reasoned out of. However, he obeyed, and God gave him the victory! Simply by blowing their trumpets, crashing pitchers, and flashing their torches, the 300 won the battle—or, rather, God won the battle.

As a businessman, I did not lead armies into battle (although it certainly has felt like that at times), but like Gideon and Naaman, the Lord did call me to make decisions that didn't seem to make sense. Part of finding success in God's eyes is allowing Him to make the big decisions even when it doesn't seem to make sense. Then, trust in His goodness as He sees you through it.

Values

As I mentioned earlier, my definition of success is rooted in integrity, which in the world we live in today may not seem to make sense. Unethical conduct, underhanded business deals, and deceitful withholdings scream at us that it's "every man for himself!" However, integrity teaches us that valuing other people and creating a culture of highly ethical conduct in our companies actually serves us in the long run, which is quite the opposite of what we're used to thinking.

If you truly value people, honesty, and integrity, these values will spread through your company, your business dealings, and your relationships. One of the most important goals of a good leader is to establish a corporate culture that permeates every aspect of the company, whether that leader is present or not. Values are critically important because they stay with the company for decades long after the Chairman or CEO retired.

I believe that building a company, and a legacy, full of honest and selfless workers is success in itself, and these principles are also part of what made me successful in the marketplace. One example that comes to mind was in the mid '90s. I met with President Hafez al-Assad, the president of Syria at the time. Conoco was endeavoring to make a series of investments in Syria, a country where no other U.S.-based company had been allowed to invest for about 40 years. In speaking with him, I told him not about the project we were proposing but about our company's values and culture. Maybe that wouldn't have made sense to other businessmen. Maybe they would have thought I was insane for not trying to "sell, sell, sell" our project idea, but that didn't make sense to me. Instead, I shared with him the values and culture of Conoco and then placed value on him and his country by explaining why we should be allowed to invest in Syria. I told him about our experience in Venezuela and how we had contributed to the people there. I shared with him very openly that Conoco, unlike some foreign competitors, would never offer a five dollar bribe to a government official to secure a contract or permit. We believed in honesty and were committed to do everything in our power to develop a project that would help his country and his people.

After I left, I later discovered, he contacted the President of Venezuela to confirm all that I had told him. In response, the President of Venezuela confirmed that Conoco had done exactly what we said we would do. President Hafaz al-Assad was pursuing a company of integrity, and because he found one, we were given the opportunity to do business in Syria. That project continues to supply natural gas to the people of Damascus today, even in the midst of war. This reminds me of a verse in 2 Corinthians 8:21: "For we are taking pains to do what is right, not only in the eyes of the Lord but also in the eyes of man." While the Lord is our first and only Righteous Judge, we must also value those around us enough to do what is morally right. In this case, it brought great favor and open doors.

Besides reinforcing the principle of valuing others, this story also speaks of another valuable aspect of integrity: honesty. If you say you're going to do something, do it. If you said you did something, you better have done it. If you say you are something, be it. If the President of Syria had called the President of Venezuela and found that everything I had said was a lie, we would have lost that business opportunity. However, I spoke truth.

The Business of Relationships

Creating this atmosphere of integrity, honesty, and value—essentially the atmosphere of the kingdom of God—draws success and contentment in a healthy network of employees. Though in the business realm we discuss profitability, stocks, deals, and numbers, business is ultimately about people—people outside the company and people inside the company. After all, Jesus cherished people; they are why He came: "For the Son of Man came to seek and to save the lost" (Luke 19:10, NIV). The lost. That's people. While I certainly couldn't save anyone the way Jesus did, I sought to value and empower those around me and under me.

When I worked at Conoco and ConocoPhillips, my biggest challenge was to consistently meet the demands of all our stakeholders—not just shareholders. Our stakeholders were our investors, customers, employees, and the communities where Conoco and, later, ConocoPhillips operated. These were the people given under my care, and because God is a relational God, I strived to be a relational

> **Being successful in the business world begins with being successful at home.**

CEO, whether inside the company, through a people-development process and a culture of openness and care of our employees, or outside the company, as portrayed in my meetings with the president of Syria and other Heads of States and CEOs. In order to find true, lasting success, people must be a priority.

Do you remember the awards, honors, and accomplishments I listed at the beginning? I failed to mention my most treasured accolades: being named Father of the Year by Community Partner of Houston in 1998 and a Trailblazer by the University of Oklahoma in 2017, both relational and values-driven honors. My most important roles in life are being husband, father, and grandfather. I believe that being successful in the business world begins with being successful at home. The Father of the Year title evidences that, by my Father's graceful leading, I have truly lived a successful life. And so can you.

About the Author

Archie W. Dunham is Chairman Emeritus and former Independent Non-executive Chairman of Chesapeake Energy in Oklahoma City. He served as President and Chief Executive Officer of Conoco Inc. and then as chairman of ConocoPhillips, following the merger of Conoco Inc. and Phillips Petroleum Company, until his retirement in 2004. He has served on numerous boards and received countless awards and honors, including the Marines' highest honor, The Globe and Anchor Award in 2011 and Houston's Father of the Year in 1998. Archie is married to his childhood sweetheart, Linda, for over 58 years. Together they are the proud parents of three wonderful children, eight fabulous grandchildren and three beautiful great-grandchildren. They are members of the Second Baptist Church of Houston and also attend the Community of Faith Church in Hockley, Texas.

ARTIFICIAL INTELLIGENCE AND THE FUTURE OF THE WORKPLACE
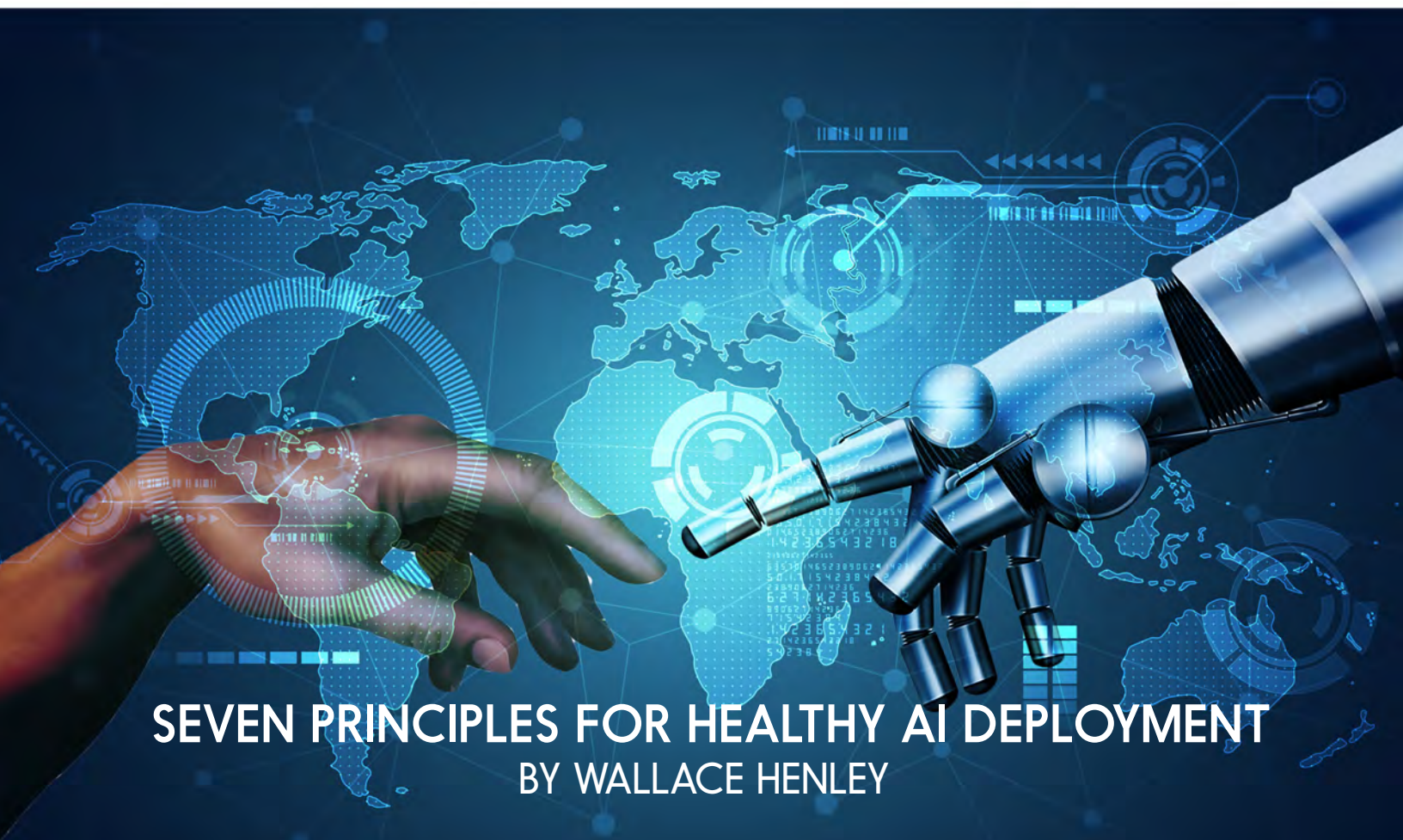
SEVEN PRINCIPLES FOR HEALTHY AI DEPLOYMENT
BY WALLACE HENLEY

Introduction

"Artificial intelligence is on the verge of penetrating every major industry from healthcare to advertising, transportation, finance, legal, and now inside the workplace," says Jeanne Meister, founding partner of Future Workplace LLC, New York.[1]

This "penetration" is so intense that Mark Carney, governor of the Bank of England, fears that widespread automation, displacing greater number of human employees, could ultimately lead to Marx and Engels again becoming "relevant."[2]

According to Carney, "If you substitute platforms for textile mills, machine learning for steam engines, Twitter for the telegraph, you have exactly the same dynamics as existed 150 years ago—when Marx was scribbling *The Communist Manifesto*, … There is a disconnect in expectations." More than "90 percent of citizens don't think their jobs will be affected by automation, but a similar percentage of CEOs think the opposite" with regard to "the number of jobs that will be materially affected."

"The signs are everywhere," Carney continued, pointing to contemporary examples. Humans are increasingly irrelevant, noted Carney, in law firms where AI machines "comb through documents and read evidence," as well as banks utilizing "a combination of artificial intelligence and big data to computerize customer service departments."

A Stanford University research team concludes that artificial intelligence "now seems poised to automate many tasks once thought to be out of reach, from driving cars to making medical recommendations and beyond."[3]

Cyber-futurist Ray Kurzweil believes that by 2029 there will be "almost no human employment in production, agriculture, and transformation." Education will be the "largest profession," and there will be "many more lawyers than doctors."[4]

Yet not all the data are grim. A report by the International Bar Association (IBA) Global Employment Institute notes that some studies show that jobs eliminated by AI "will be compensated for, more or less, by newly created jobs." A German study, for example, suggests that automation will result in 390,000 new jobs in the "third sector" (low paid jobs) over a ten-year period.[5] In fact, the IBA report quotes findings that the creation of "one high-tech job will create between 2.5 to 4.4 other jobs in the local area, mostly in low-skilled and medium-skilled in-person services."[6] These non-routine manual occupations are service jobs, such as janitors, gardeners, manicurists or home health aides.

Louis Monier, founder of the AltaVista search engine, actually sees benefit in the loss of jobs. Monier has no ethical qualms about it, he told an interviewer for *Tech Republic*. The employment that AI will destroy are the jobs people would not choose "because of passion or a sense of mission," but are simply means of "putting food on the table." The jobs that will outlast the AI onslaught "will be either creative, or require a human touch," enabling workers "to decouple making a living from a job."[7]

Ironically, the IBA finds that just about every job "where an employee sits in front of a computer screen and processes and interprets data is at high risk."[8] These are jobs that require checking, analyzing, and processing data—all of which will be done eventually by artificial intelligence. It's no surprise that the "greatest boom" in employment in the decade ahead will be in the IT service sector.[9] Yet the IBA report anticipates that from 2017-2027, some seven million jobs will be eliminated because of AI, and two million created, leaving a job deficit of five million. The "integration" of five million people looking for jobs into the new labor configuration resulting from AI "is the greatest challenge for governments, employee representatives, and companies."[10]

Much has been written about the quantitative benefits of AI—greater productivity, reduction of conflict between workers, elimination of costly benefit packages, absenteeism, turn-over, to name a few. But what about the qualitative? We are not speaking here merely of enhanced quality in products and services, but the impact of AI on corporate culture, and the quality of the workplace itself for the humans who remain.

And what about those men and women who see their work, not merely as an occupation, but as a God-given vocation? Will the AI "invasion" of the workplace deprive individuals of their purpose and push them out of what they feel to be their places of ministry?

As advanced societies rush on the journey of AI development and expanded use, there are important principles that can help companies maintain the vital balances that help make AI a tool rather than a master. Here we consider seven principles for healthy deployment of AI in the workplace:

Principles for Healthy AI – A Christian Perspective

Immanence must not displace Transcendence.

The transcendent and the immanent must be seen as a linkage, not as two separate, competing dimensions. Martin Luther's reforms led ultimately to a fresh understanding of the importance of the transcendence-immanence union. Luther's thought spurred other sixteenth century reformers "to recover the Biblical doctrine of work."[11]

However, artificial intelligence is being developed in an era of the fading of the sense of the Transcendent. As in the Ages of Enlightenment and Reason, the boundaries provided by a healthy regard for Transcendent Authority are giving way to the onslaughts of utilitarianism on one hand, and idealistic romanticism on the other.

As the world of work becomes increasingly a cyber-domain it is vital to maintain the link between spiritual values and technological complexity. To separate divine revelation from human inventiveness is to walk on the precipice of a perilous divide. The transcendent and the immanent must be seen as a linkage, not as two separate, competing dimensions. Martin Luther's reforms led ultimately to a fresh understanding of the importance of the transcendence-immanence union, and ultimately to the possibility of recovering a biblical vision for work and the workplace.

Information must not trump wisdom

"Get wisdom," the admonition of Proverbs 4:5-9, has been replaced by "get data" in the cyber-dominated world of work and relationship. This is driven partly by two factors forced upon businesses and the people who lead and operate them by the internet: (1) the enormity of data, and

> TO SEPARATE DIVINE REVELATION FROM HUMAN INVENTIVENESS IS TO WALK ON THE PRECIPICE OF A PERILOUS DIVIDE.

(2), the speed with which it comes. Such phenomena have significant impact on decision-making.

The author served on the White House staff during the Watergate scandal that led to Richard Nixon resigning the presidency. Sometime later, I visited with a former colleague, Charles Colson, not long after he had become a Christian. In fact, the meeting occurred in the prison where Colson, a former senior member of Nixon's staff, was serving time for Watergate-related convictions. When asked why Watergate happened, Colson responded, "*We didn't take time to reflect.*"

Desktop computers were not pervasive in 1972, and the internet didn't exist. Yet the pressure of political expediency created a philosophy of "act, then think," rather than contemplating actions in light of principle and potential outcomes.

AI machines can accumulate data, and even perform reasoning functions. However, decisions require more than that. *Chokmah*, one of the Hebrew words translated "wisdom" in the Old Testament, refers to that which is learned in the whole range of human experience. It infers an enhancement of human intuition, based on previous experiences.

THE RISE OF SOULLESS AI WITHIN THE WORKPLACE, WITHOUT THE RE-STRAINTS AND EDIFYING VISION OF THE TRANSCENDENT CAN ROB WORKERS OF THEIR SENSE OF PURPOSE AND THE WORKPLACE OF ITS SANCTITY.

Sophia, a classic Greek word for "wisdom," carries the idea of the good judgment that enables individuals to know how to control circumstances. Coupled with "discernment," the capability of recognizing nuanced motivations behind behaviors and circumstances, the decision-making process may not be speedy, but it draws from more than mere data (though there's no denying the importance of ample information).

AI data-processing is characterized by accuracy and speed. However, it must not be a substitute in the workplace for humanity in decision-making. People do more than process information; they link data with personal experience, taking information to a depth machines cannot replicate.

The machine can muster the data, but it is the wisdom of a human being that can ultimately comprehend what to do with the information. Herzfeld observed that "As we see more and more tasks accomplished by computers, we could easily begin to think of both our tasks and our purposes solely in terms of the mechanical, the computable, setting our minds on information rather than wisdom, pacing ourselves at the computer's speed rather than taking time to ponder, reflect, and contemplate."[12]

Functional necessity must not determine delegation of decision-making

Herzfeld points out that "increasingly complex" technological systems demand decisions "in a time frame that is not optimal for human beings." She believes that "such a scenario would almost certainly result in the removal of the human being from the decision-making loop."[13]

This would have negative outcomes. Exclusion of humans from decision-making means people would "become slaves to our machines, acting on their behest and not our own." To quote Joseph Weizenbaum,

"What could be more obvious than the fact that, whatever intelligence a computer can muster, however it may be acquired, it must always and necessarily be absolutely alien to any and all authentic human concerns? The very question, 'What does a judge (or a psychiatrist) know that we cannot tell a computer?' is a monstrous obscenity. That it has to be put in print at all, even for the purpose of exposing its morbidity, is a sign of the madness of our times."[14]

Proverbs 11:14 says that "Where there is no guidance the people fall, but in abundance of counselors there is victory." Travis Henley, a senior vice president at Hewlett Packard Enterprise, notes a major concern with regard to AI exposed in this ancient principle:

"There is a vital human element with a moral framework in the 'many counselors' concept. Artificial intelligence, however, multiplies on itself via self-learning algorithms in an amoral framework. AI is, in effect, its own counselor. The question becomes how, when, where does the human element insert itself into the AI as self-learning replicates through the network based on cold data. For example, in AI-guided healthcare decisions, death can become an objective outcome based on algorithms and probabilities with the 'inherent value of life' created by a moral construct."[15]

Capability must not overwhelm calling

Martin Luther, and John Calvin especially, enlarged the understanding of work as a calling of God, and the workplace as the field of ministry where that "vocation" is carried out. Calvin saw all spheres of human endeavor as arenas for the exercise of calling. However, the rise of soulless AI

within the workplace, without the restraints and edifying vision of the Transcendent can rob workers of their sense of purpose and the workplace of its sanctity.

Future workplace expert Jeanne Meister sees a direct impact by AI on a corporate culture that embraces the idea of vocation, and not merely occupation. "For many, work is more than a job; it's a higher calling, ... So it is important that the company communicate a common purpose, be it through corporate philanthropy or service to the community."[16]

The human must not be absorbed into the machine

The dream of immortality has seeped into the cyber-world. Kurzweil, for example, thinks, that by the end of the twenty-first century, humans will be able to upload their brains into computers. There would even be an automatic update with every advance of computer technology, assuring us a kind of eternal life. "Our immortality will be a matter of being sufficiently careful to make frequent backups."[17]

> The human, the Imago Dei, is not to turn over his or her authority to the machine, imago hominis. And because work is inherent in the original purpose of the human being, work must not be abandoned to the machine.

While that future "paradise" is still in the future, there is already the danger of human beings being swallowed up in the computerized workplace. There, cyber-development becomes more important than human resource development.

Idealism must not cloud reality

Western thought and civilization have passed through the Classical Age, into the Age of Barbarism, into the Medieval period, Renaissance, Enlightenment, Age of Reason, Romanticism, Modernism, and Postmodernism. Some would say we are now in a period of post-post modernism in which there is a strange union of the technological and the mystic-spiritual.

Romantic idealism is a new danger haunting the development and deployment of artificial intelligence. Weizenbaum provides an example of this, when he says that "the computer programmer is a creator of universes for which be alone is the lawgiver..."[18] Intended or not, Weizenbaum warns against the *hubris* that clouds outcomes in the minds of many who develop and program artificial intelligence machines.

Herzfeld, quoting Dreyfus, opined that "Wishful thinking has probably always complicated our relations with

technology ... However, it is safe to assert that before the computer, and before the bomb, the complications weren't as dangerous as they are today. Nor was the wishful thinking as fantastic."[19]

But it was perhaps French theologian-philosopher-lawyer Jacques Ellul who best captured the subtle portents of the technology that is producing AI not only for jobs, but for all fields of human endeavor. Writing in 1990, Ellul expressed concern for the "optimism" of technicians who are driven by "an absolute belief in unlimited progress." In the face of every problem, they live by a faith creed that "technical progress will deal with it." This, says Ellul, is "an absolute form of the technological bluff."[20] The "bluff," of course, is in the failure of the article of faith. In the case of the workplace the stunning "technical progress" of AI has dealt with the consequences of "unlimited progress," but, in the process, has created new problems. The hope is that in the quest for solutions to those difficulties, there will be an advance of learning that will benefit those hurt the most. However, this will never happen if there is not a realistic assessment of the negative impacts that must be resolved.

Human telos (ultimate purpose) must not be sublimated to cyber expediency and utility

God's initial call on the human being is expressed in Genesis 1:27-28:

> "God created man in His own image, in the image of God He created Him; male and female He created them. God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it..."

Genesis 2:15 reveals how the human is to carry out the assignment. "Then the Lord took the man and put him into the Garden of Eden *to cultivate it and keep it*" (Italics added). Thus the "Dominion Mandate" of Genesis 1:27-28 is not about exploitation and mastery, but about the care expressed in the ideas of "cultivating" and "keeping." Further, the Garden of Eden is the prime Old Testament type of the Kingdom of God. The world will return to that pristine state when Christ returns at the end of finite time (*kronos*) and the world undergoes a restoration to its original, "mint" condition. (Acts 3:19-21)

In Luke 19, Jesus gives His followers the parable of a man who has come to establish a new kingdom. The man gives resources to his servants, and tells them "occupy until I come." The literal reading of Jesus' parabolic statement is that the man is commanding and equipping his servants to use the resources to "do business" until the return of the owner of the property.

The bottom line is that the human, the *Imago Dei*, is not to turn over his or her authority to the machine, *imago hominis*. And because work is inherent in the original purpose of the human being, work must not be abandoned to the machine.

The Bible's consistent message, from Genesis across to the New Testament, is that human *telos* is vocation, not merely occupation. The "Dominion Mandate" is given to the human *before* the fall. Thus the "work" is fulfilling, giving satisfaction through the positive use of the gifts God has put in us all. It is *after* the fall into sin that "work" becomes "labor" and the "sweat of the brow." Even then, however, human vocation carried out with the Kingdom in view, no matter how "sweaty," is holy, purposeful and satisfying.

All this is not to say that artificial intelligence is not to be utilized in the workplace. There is nothing gained in becoming Luddites whose aim is to smash the machinery. It is to say, however, that the "dominion" must not be turned over to the machine. Weizenbaum warns that computerization has "reduced reason itself to only its role in the domination of things, man, and finally, nature."[21] *Imago Dei* must never allow *imago hominis* to be master in the workplace, or any other sphere of human relationship and endeavor.

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COMMUNICATION TECHNOLOGIES AND INTERPERSONAL RELATIONSHIPS:
SOME CONSIDERATIONS FROM THEOLOGY

By Randy Beavers, Denise Daniels, Al Erisman, & Don Lee

Abstract: While the unintended consequences and high pace of change associated with technology will change the nature and types of our interpersonal relationships, Christian theology provides a lens through which we can evaluate these changes. In this paper we outline some theological principles that undergird our understanding of what God intends for relationships, as well as ways that our relationships are either consistent or inconsistent with God's intentions in terms of healthy and unhealthy relationships. We then discuss ways in which communication technology can amplify both positive and negative aspects of relationships, providing examples from the workplace. We classify the impact of technology on relationships through one of four categories: connectivity, closeness, engagement, and/or reciprocal understanding. Finally, we summarize our conclusions about ways that Christians could think about and engage with technology, and we discuss some areas where future research would be useful.

Introduction

For centuries of human history, relationships have been rooted in presence. What a person said and did in a variety of situations were factors in shaping a relationship. A person was brave, bold, kind, caring, collaborative (or the opposite of these) and this was evident in what that person said and did in the presence of others. For the most part, relationships occurred face-to-face. Historically, technology supplemented face-to-face relationships, for example through letter writing.

Recently, technological advancement has enabled new methods of interpersonal interactions, changing our understanding of what a relationship is and how we engage in it. For example, instead of requiring two people to be in the same place at the same time in order to interact, technology allows people to engage while in different places, or to communicate at different times. It has opened opportunities for many more relationships, allowed global teams to work together from different locations,

allowed access to new talent or new customers, and created unprecedented collaboration across the world. These changes provide positive opportunities for us to create and extend relationships, but they also create significant challenges. Because technology is changing at such a rapid pace, we are often unaware of the ways in which it affects us and our interactions with others.

Assuming that relationships and technology are both under God's dominion, it is particularly important for Christians to be attentive to how technology might impact our view of and communication with others, as well as how we might utilize technology to be aligned with God's purposes for us. We need to ask how technology influences relationships and to what extent these impacts facilitate or hinder God's intent.

Technology is "the totality of methods rationally arrived at and having absolute efficiency in every field of human endeavor," according to Jacques Ellul.[1] Often, though not always, it is associated with the application of science to achieve some practical end. The term "technology" has often been used to refer to information technology or digital devices, but the subject is much bigger. There are implications of technology that we should be aware of if we want to understand the role of technology in our lives. We will highlight two: one that applies to technology generally, and one specific to information technology.

First, technology has unintended consequences.[2] A technology created to solve one problem might later solve a different problem. The automated teller machine (ATM) was created to shorten the lines inside a bank, but it ultimately resulted in the advent of 24-hour banking when it was moved outside the bank building. Conversely, a technology used to solve one problem can create a different problem. The automobile improved the ability to move from place to place in a timely way, but also introduced pollution, traffic accidents, and so forth. The same technology used for good (driving to see friends) can be used for evil (bank robber's getaway car), and various technologies can be combined to create something completely new and altogether un-envisioned by their creators. For example, the computer chip, a modem, the internet, and security technologies are combined to make online commerce possible. While we will never eliminate unintended consequences, we can evaluate what might go wrong in the use of technology, and seek to mitigate against the potential misuse of the technology. Certainly after the evidence of misuse is recognized, we can seek to manage it. For example, debating something in email may lead to divergence of understanding, and a face-to-face conversation may be better to resolve a misunderstanding.

Second, information technology in particular has a very high pace of change. Moore's law says that every two years the number of transistors per square inch will double.[3] Roughly interpreted, this means that every two years any device dominated in cost by the transistor will either drop by a factor of two for the same performance, or double in performance for the same price. When combined with unintended consequences discussed above, this means that completely new ways of doing things can appear almost overnight. This has two important consequences: 1) Since people absorb change at different rates, there will be some people who quickly get on board the new way of doing things, while others (for reasons of priority, cost, or learning) are left behind. This suggests we should make relationships a significant factor in deciding whether or not to use a given technology. Rather than use video conferencing because we can, we should ask what might be missing in how we relate to each other, and seek other solutions to fill in; and 2) Each new opportunity opens the possibility for exploitation that can be used by those with nefarious intent. There is a time lag, sometimes significant, between when someone discovers a way to exploit the technology and when others uncover what is going on. Toxic mortgage-backed derivatives and the polluting effect of Volkswagen diesel engines are illustrations of this.

While the unintended consequences and high pace of change associated with technology will change the nature and types of our relationships, Christian theology provides a lens through which we can evaluate these changes. In this paper we outline some theological principles that undergird our understanding of what God intends for relationships, as well as ways that our relationships are either consistent or inconsistent with God's intentions. We then discuss ways in which communication technology can amplify both positive and negative aspects of relationships, providing examples from the workplace. Finally, we summarize our conclusions about ways that Christians could think about and engage with technology, and we discuss some areas where future research would be useful.

Theological Values Undergirding Relationships and Technology

Before we turn our attention to a discussion of relationships and the ways in which technology can influence them, we need to start with an overview of some theological principles that help us understand God's intent for both technology and relationships. While there are a large number of Christian scriptures that have implications for technology and relationships, in this section we focus on three principles from the creation narrative that are critical, as well as some additional concepts emphasized in the New Testament.[4]

Implications from Creation
First, we learn from the opening chapters of Genesis that humans are created in God's image: "[In] the image of God he created them. Male and female he created them."[5] While this can mean many things, most agree that it places

particular worth on humankind. Thus in relationships we should seek to recognize the particular worth – the *imago Dei* – of another person.

A second theological principle derived from the creation narrative with implications for relationships is that each member of the Godhead is in *relationship* with the other members of the Trinity. We see this allusion when God says, "Let us make man in our image…"[6] A foundational view of God in Scripture is one of being in relationship - we see the three persons of the Trinity interacting and communing with one another. So we too are designed to be in relationship with God and with each other. When God sees that Adam is alone since no animal was like him, God says "It is not good,"[7] and creates for Adam a partner in Eve. To the extent that technology allows us to communicate better and to develop and maintain relationships, it may be one avenue through which we can live out God's purposes for humanity.

The third theological principle is derived from the Creation Mandate (sometimes referred to as the Cultural Mandate), where God tells Adam and Eve to "Be fruitful

HEALTHY RELATIONSHIPS RECOGNIZE THE DIGNITY OF OTHERS, ARE CHARACTERIZED BY APPROPRIATE LEVELS OF TRUST, AND REFLECT RECIPROCITY.

and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground."[8] Later God gives Adam the responsibility to name the animals. These commands require that humans continue *creative activities* that God began. We are invited to use our creative energies to cultivate the raw materials of creation into something new. While there may be obvious implications of the Creation Mandate for reproduction and agricultural cultivation, many theologians have also understood it to apply to every aspect of humanity's creative impulses, from physical artifacts such as making clothes, building houses, and creating art, to organizational policies and practices, to creating government structures[9] - and yes, even creating technology. God could have created a computer tree from which we gather hardware and software, but instead chose to provision the world perfectly, and invited us into the creative process. The human creation of technology is one of the ways in which we reflect God's design for humanity. In the same way that God's creativity produced an order that sustained human life, trees that were "pleasing to the eye and good for food,"[10] human creativity too can contribute to order, be aesthetically pleasing, and useful in meeting human needs.

Other Biblical Implications

One result of sin in the Garden was the breaking of relationships, both between humans and God and between humans themselves. We see this clearly in Genesis 3 as Adam blames Eve and God for the sin ("that woman you gave me" he says to God). But the Bible is very clear that relationships remain important, rooted in the fact that other humans are image bearers, even in the presence of sin.[11] Further, Jesus's teachings on healing broken relationships[12] and the importance of another person[13] underscore our need to prioritize the role of relationships.

We must recognize that not every aspect of our relationships or creativity will align with God's purposes. Nonetheless, it is important to see that from the very beginning, the importance of relationships and creativity are rooted in who God created us to be. It is also important to note that as followers of Christ we are to be agents of *reconciliation* in the world,[14] and this includes bringing reconciliation to our relationships. Because we are designed for good relationships, yet we are living in a world marred by the fall, the relationships that we build and maintain, will have both healthy and unhealthy components. A vital step is not to attempt to "go it alone" as an individual. Wise counsel can be a great support to helping us overcome our own blind spots; and in Matthew 18 we are reminded when we get stuck in a relationship issue, we should engage others. In the next section we discuss some factors that determine the health of relationships.

Healthy and Unhealthy Relationships

What determines whether a relationship is healthy or not? This is where Christian theology can provide helpful guidance. As Scripture highlights, *humans are created in the image of God*. We are God-breathed soul inhabitors, made for life beyond the world that we know. C.S. Lewis (1941) famously said, "There are no ordinary people. You have never talked to a mere mortal. Nations, cultures, arts, civilizations - these are mortal, and their life is to ours as the life of a gnat. But it is immortals whom we joke with, work with, marry, snub and exploit."[15] Healthy interpersonal relationships are marked by a recognition that others are intrinsically and eternally valuable, regardless of what they do or do not do for us. When we view others as important simply because of who they are, rather than objectifying and viewing them as instrumental to our own ends, we both honor God and the person made in God's image.

Appropriate levels of trust also characterize healthy interpersonal relationships. This trust needs to be mutual so far as possible[16] and built on demonstrating trustworthiness. Healthy relationships are marked by a level of personal sharing and vulnerability appropriate to the

particularities of the relationship. For example, sharing intimate details about oneself with a spouse or very close friend who holds that information in confidence is healthy. Sharing the same information with a neighborhood acquaintance, who then shares it with others, might be quite unhealthy. In the latter case, the depth of the relationship is not commensurate with the information shared; there may be inappropriate vulnerability not supported by the reality of the relationship. In other words, there may be unfounded assumptions about trust with the acquaintance. Intimate relationships could be unhealthy in an opposite way. Being unwilling to share personal vulnerability with anyone – including close friends or family members – is a marker of low trust levels and an unhealthy relationship.

Of course, appropriate levels of trust are predicated on the trustworthiness of the two parties in a relationship. Trust is formed by a cognitive process through which we evaluate the ability, benevolence and integrity of another in order to discern who is trustworthy. [17-18] In other words, one's trustworthiness inspires trust.[19] Note, however, that trust can be formed in an unhealthy manner in situations where there is deception resulting in a false belief that the trustee is trustworthy. Relationships are unhealthy when beliefs about trustworthiness are distorted by lies, deception, and accusations.

Finally, *healthy relationships are reciprocal.* One side is not always giving and the other taking, but rather there is a back and forth that characterizes the relationship. Unhealthy relationships are one-sided. One person makes assumptions about the other person in terms of their level of engagement and commitment to the relationship that are not true. This may occur when one person makes demands on the other without ever providing anything in return. It could also occur when one person assumes a level of connection or intimacy with the other that is not shared by the other.

In a business setting, healthy relationships are fundamental to the culture and performance of an organization, but the business setting itself sometimes works against healthy relationships. Due to the pressures of business, it is easy to treat another person as a means to get something done, rather than a person made in the image of God. Further, in a business setting, we are often put together with people we might not choose for a relationship, requiring a stronger commitment to gain mutual understanding. Finally, technology may filter our perceptions of others, reducing them to a response, a voice, or a message, and making it more difficult to see them as a whole person. Meeting face-to-face, having meals together, and learning

non-work-related things about another person brings them to life, allowing us to see others as more fully human. Exploring how trust and relationships are a part of the bigger story of organizational culture is important and has a business value.[20]

We are made in God's image, designed for relationship, and designed to create. Because of the Fall our relationships may be either healthy or unhealthy. Healthy relationships recognize the dignity of others, are characterized by appropriate levels of trust, and reflect reciprocity. In the next section we explore how our creative impulses have resulted in technologies that can both enhance and damage our relationships.

Impact of Technology on Relationships

Technology has an amplifying effect on interpersonal relationships. Technology is neither an unmitigated good nor evil, but it is powerful, and its consequences can result in good or bad outcomes. Technology can amplify the health or flaws in relationships, pushing them to become either more or less healthy. In order to explore this amplification effect, we discuss the impact of technology on four characteristics of relationships:[21] Connectivity, Closeness, Engagement, and Reciprocal Understanding.

> # TECHNOLOGY CAN AMPLIFY THE HEALTH OR FLAWS IN RELATIONSHIPS, PUSHING THEM TO BECOME EITHER MORE OR LESS HEALTHY.

Connectivity

First, relationships are based on *connectivity*, the level to which one can gain access and interact with another. Two or more counterparts need to be connected in order to interact and build a relationship. Through communication technology, humans can build and maintain relationships regardless of location and time, synchronously and asynchronously. Various modes of communication, such as email exchange, blogs, online forums, and texting, give us the opportunity to extend conversations and thus maintain relationships even if communication only occurs sporadically. Acquaintances can be made more quickly than before, and more acquaintances can be made than before. Social network platforms (Facebook, Instagram, Snapchat, Twitter, LinkedIn, etc.) and virtual online communication tools (Skype, FaceTime, various video conferencing tools) have changed the way we interact, enabling us to build relationships in new and different ways.[22] Through social media technology we can become acquainted with another in an instant by a click of the mouse or a tap on a screen. Our networks extend through our current connections, allowing us access to a constellation of others with whom we can start potential

relationships. We can become acquainted with people far beyond our neighborhoods through use of technology, something that would not have been possible without technology.

This increase in connectivity may be positive in that it allows us to sustain relationships with friends or co-workers who are no longer in geographic proximity. This initial connection through technology often leads to face-to-face connections. One recent study showed that users of digital technology heavily frequent public spaces such as cafes, restaurants, and religious centers, and consequently might be more likely to have offline interactions.[23] In this respect, communication technology allows us more opportunities to express our God-given design for relationship.

While many more interpersonal interactions are possible due to technology, the quality of these relationships may be diminished since technology does not provide us with any more time than we had in the past. The consequent challenges are much deeper than those in the relationships we had without technology: Do we have the time with another person to understand who that person really is beyond the transaction we are engaged in? Do we have time to build the trust and understanding of our neighbor or co-worker when there are so many competing relationships? Is the relationship reciprocal, or are we simply eavesdropping on another person's life via social media? Increased connectivity may also imply a level of trust with someone else that is no longer based on our personal experience with them. Moreover, it allows those we do not know to reach us. When we receive a message from someone we do not know, how do we understand the validity and the intentions from the conveyed message? While increased connections due to communication technology allow us more opportunity for relationships, they may also diminish the extent to which we view others with dignity, lead to lack of reciprocity, and result in unfounded assumptions about trust.

Closeness
Second, *closeness* depicts the mental or physical distance between one another in an interaction. Technology might enhance the sense of closeness between two people by allowing for communication and interactions that are more frequent. For example, technology that provides high fidelity and allows people to interact in different places at the same time (such as Skype or FaceTime) might enhance their closeness to each other. Such interactions may cultivate trust and better allow us to see the image of God reflected in the other person. On the other hand, increased speed and the enhanced ability to reach more acquaintances through communication technology may also have negative effects on relationships. Communication technology may hinder one's dedication of time to build and maintain relationships due to the frequency of communication one is expected to make on a regular basis – for example, the volume of e-mails, instant messages, and

posts that are expected to be replied and responded to. In addition, people may have unequal access, knowledge, and motivation to use rapidly changing technology, resulting in relational diminished closeness between users and non-users of the technology, or even isolation between the different populations (e.g., between generations, populations of social economic status, regions).

The type of technology may also affect the sense of closeness people experience. Particularly, when interactions occur at different times and in different spaces, people may not be able to catch the value-based cues that are usually transferred in same time/same place interactions, which can affect the perceived trustworthiness of the other. For example, texting, which is increasingly replacing face-to-face and telephone conversation for younger people,[24] may not convey adequate emotion or nuance necessary for the full development of trust. In the era of social networking, one can have hundreds of "friends," and tens of thousands of second level relationships. Nevertheless, the number of connections does not imply closeness; and in fact, some data suggests that those with large numbers of connections in their social networks may actually have weaker interpersonal relationships – or less closeness – than those who have fewer connections in their social networks.[25]

Engagement
Third, there is a sense of *engagement* between counterparts in relationships. Engagement conveys the attention one gives to a communication interaction. A person may be fully engaged with all senses in a synchronous, face-to-face interaction, but less engaged in an asynchronous e-mail communication. As anyone who has ever taught an online class knows, the level of engagement when interactions are technology-mediated can be hard to gauge. The typical indicators of engagement, such as eye contact, facial expressions, and body language, are less available. When the interaction occurs at different times, such as with email communication or via Google docs, engagement is yet harder to determine. Engagement is impacted by whether the interaction occurs synchronously or asynchronously. Issues of trust become difficult to evaluate: Are they who they say they are?

When we are less engaged with another, it becomes easier to think of them as an object rather than fully human. One of the significant implications of this objectification is that empathy and compassion toward the other are often diminished, resulting in behaviors toward them which minimize their humanity. Some evidence suggests that online interactions are more likely than face-to-face interactions to elicit interpersonal hostility.[26] On the other hand, other research indicates a positive correlation between some types of social media use (chatting and Facebook) and empathy.[27] The contrasting research findings suggest that the relationship between technology use and

empathy is complex and will require more exploration

ing on the same page"), potentially putting the relation-

THE EASE OF INTERACTION THAT TECHNOLOGY PROVIDES MAY MAKE THE RELATIONSHIP MORE TRANSACTIONAL RATHER THAN "COVENANTAL." THE CHALLENGE IS TO EMBRACE THE VALUE OF TECHNOLOGY WITHOUT LOSING THE HEALTHY ASPECTS OF RELATIONSHIPS THAT ARE CENTRAL TO OUR IDENTITY AS IMAGE BEARERS OF GOD.

before we have a clear picture of the interaction.

Ellul argues that efficiency is a core value of all technologies.[28] Businesses often focus on the efficiency and cost savings associated with technology, ignoring the longer-term effects of technology's impact on our view of human dignity, trust, and reciprocity. Healthy relationships require a commitment of time and effort to build and maintain. Because technology can make communication "quick-and-easy," it may also prevent the formation of meaningful relationships. The ease of interaction that technology provides may make the relationship more transactional rather than "covenantal." For example, technology can help us schedule more meetings and enable us to make each meeting shorter. However, this process of efficiency focuses on the tasks to be achieved, reinforcing the idea that the person with whom we are engaged is a part of the task, rather than an agent in a covenantal relationship. Efficiency does not leave room for the casual conversation away from the formal agenda, where you may really be able to understand another person. The challenge is to embrace the value of technology without losing the healthy aspects of relationships that are central to our identity as image bearers of God.

Reciprocal Understanding

The extent to which there is *reciprocal understanding* is another characteristic of relationships. Misunderstanding others is always possible, and can be amplified by technology. Consider the situational factors that can lead to misunderstanding between two people: language, culture, background, and environment all play a part in building and maintaining relationships. A low level of reciprocal understanding depicts a situation where counterparts are communicating with each other but lack the understanding of the other person's world. For example, engineers may talk about the functional meaning of the various components of the product, whereas finance people might talk about the cost of the same components. A lack of appreciation for or understanding of the other's perspective might cause a misalignment in communication ("not be-

ship between the engineers and finance people at risk. On the other hand, a high level of reciprocal understanding may depict a situation wherein relationships are built and maintained despite the differences of situational context in which communication occurs.

To what extent does technology influence an understanding of the situational context? On the one hand, since the content of a message often requires context for full understanding, it is easy to see how misunderstandings can develop when context is stripped away through technologies that minimize contextual cues. In may be difficult to communicate context and develop trust without "living life together" and knowing the person beyond the message. On the other hand, in some cases technology may allow for more time for reflection and understanding than face-to-face or real-time interactions. When narratives need to be interpreted, elaborated, or explained, the time and space distance that technology can allow could be beneficial. In these cases technology can help us contextualize the conversations and thus help us have a better understanding of the communicator's intent, increasing the trustworthiness and meaningfulness of a relationship. With more frequent communication an individual's motivations and interpersonal style would be more evident.[29] Therefore, asynchronous communication via technology, compared to an instantaneous, physical face-to-face interaction may give people more time to help contextualize the communication by clarifying, interpreting, and explaining their perspectives.

A better understanding of another's intentions and emotions may increase the experienced trust in the communication, which in turn helps build and maintain relationships. Francis Fukuyama drew this conclusion: "If people who have to work together trust one another, *doing business costs less...*By contrast, people who do not trust one another will end up cooperating only under a system of formal rules and regulations which have to be negotiated, agreed to, litigated, and enforced, sometimes by coercive means."[30] In some cases communication technology will work against trust development, but in other cases it can be used to enhance it.

Principle	How Technology Can Support	How Technology Can Detract	Practical Applications
Connectivity	Extended networks allow more opportunities for interaction and relationships	Quality of each relationship may be diminished	Ensure that you have at least some reciprocal high trust relationships.
Closeness	Allows for more frequent interactions and relationships built outside of the constraints of same time/same place	There may not be enough time to build and sustain deep relationships	Get to know something about the person beyond the transaction at hand
Engagement	Efficient, cost-saving technology may enhance empathy for those we would not otherwise be able to engage	The fewer physical cues available, the higher the likelihood of viewing someone as an object	Recognize every person as someone made in God's image
Reciprocal Understanding	Allows for more time to reflect and understand a situation than in a real-time interaction	Misunderstandings arise when the appropriate context is missing	Give grace and understanding to both parties when disputes arise

Implications Moving Forward

Throughout history, technology has revolutionized communication and has required humankind to respond and adapt to how we move forward as a society. Examples include the printing press, telegraph, and telephone. However, "the internet and mobile phone have disrupted many of our conventional understandings of ourselves and our relationships, raising anxieties and hopes about their effects on our lives."[31] In this paper, we contribute to the conversation by including a theological perspective and combining research from communication, technology, and business. Even when we believe we have resolved how to do effective communication fostering healthy relationships, we know that a new technology will come along and challenge our framework once again. As we gain comfort with a technology, it could change our effective use.

Technology will continue to change rapidly and we cannot expect to predict the practical consequences that may result. Nonetheless, there are theological principles that can guide us: Everyone we interact with, whether face-to-face or via technology, is made in the image of God. God desires us to have healthy relationships, marked by appropriate trust and reciprocity. Our calling to be agents of reconciliation should motivate us to continue to discover ways that technology can be used to enhance and support relationships, and to avoid ways that it undermines these same relationships. There are four aspects of relationships that are affected by technology: connectivity, closeness, engagement, and reciprocal understanding. We summarize the opportunities, challenges, and practical applications associated with each in the attached table.

We have seen that technology opens up many types of communication that can enhance or hurt relationships. A common danger in practice is to make simplistic rules about using or not using technology in communication. Consider the following rule: "Never email a colleague from your office, but rather walk down the hall and talk with them." If the purpose of the communication is to solve a misunderstanding, that may make sense. If the purpose is to communicate the time of a meeting the next week, the interruption from talking with a colleague would be an intrusion for both of you. Thus, it is important to think carefully about the nature of the communication and use the technology that works the best for the communication at hand. Rather than hard and fast rules regarding technology, we need to utilize our God-given and Holy Spirit-enabled conscience to contribute to human flourishing. The best of these decisions are not just made individually, or even "between

me and God," but rather in community. This helps us get beyond our own self-justification and lack of self-awareness.

In an earlier era, Forrester and Drexler[32] introduced a way of using the various modes of communication for the effective performance of a team, focusing on face-to-face communication for trust building, using same time/different place tools for clarification of goals and objectives, and finally doing individual work with updates communicated through asynchronous communication. As technologies become more capable, each needs to be examined for its ability to support the different motivations for communication, and used appropriately. For example, could we effectively build trust through a holographic discussion or a video chat session, or does trust require physical presence with someone? In addition, the cost of interaction in a relationship must be considered. Working with a colleague on the other side of the world, we might know that face-to-face would be desirable but travel costs may make it prohibitive.

Future Directions

There are many considerations we have not covered or only hinted at in this paper. Throughout the preceding sections we have referenced relationships primarily between two individuals. But we also have relationships with non-human entities, including with our pets, with inanimate objects (e.g., cell phones, Roomba vacuums), with companies, and with artificial intelligence (e.g., Siri or Alexa). What principles should guide our interactions in such non-interpersonal relationships? This may become increasingly important as technology increasingly blurs the line between objects and people.

We have not discussed the ways in which organizational contexts might shape the impact of technology on relationships. For example, the position someone has in an organizational hierarchy might make the use of technology more or less appropriate in their interactions with others. Similarly, the role of the individual with whom you are interacting (e.g., customer, supplier, or community member) may also influence the type of technology that is appropriate, or the extent to which it ought to be used. We are not aware of research that has examined the faith commitments of those in organizational leadership and the extent to which such values influence the decisions that are made about using technology. For example, are Christians any more likely than others to draw on theological principles in considering how to use technology? Future studies may well add value to the discussion of the impact of technology on relationships by considering various and nuanced organizational contexts.

Finally, there are a number of ways in which technology may influence individuals, which we have not discussed. For example, there is empirical research demonstrating the impact of "screens" on children's brain development, and a number of questions raised about the potentially addictive nature of some technologies. Should there be limits associated with our use of some technology? Does this depend on age, gender, personality, etc.? Does the Scriptural mandate for Sabbath apply to our use of technology? That is, if technology is a tool that helps us to work, then limiting its use one day per week would be consistent with the concept of Sabbath keeping.[33] Is there a difference between productive and consumptive use of technology in terms of its impact on the individual? Does the way in which a technology is being used have a bearing on its value? If so, are there criteria that can guide our assessment of it and decision making about its use?

Overall, we hope that our discussion of how technology influences relationships and how theological principles can guide our evaluation of these influences might provide helpful guidance to those in organizational settings who must make decisions about using technology. We also recognize that there are many things we still do not know about technology and how it might influence relationships. It is our hope that future work can expand our understanding of the interaction between technology and relationships in a world of rapid and constant change.

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NOTES

[1] Jacques Ellul, *The Technological Society*, tr. John Wilkinson (New York: Knopf Doubleday, Vintage Books, 1964). Ellul made the distinction between technique (using the stated definition) and technology (which he defined as the study of technique) but for our purposes we will use technology for both.

[2] Edward Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* (New York: Knopf Doubleday, 1996). Tenner more fully develops the case for the unintended consequences of technology.

[3] Mike Golio, "Fifty Years of Moore's Law," *Proceedings of the IEE* (103(10), October, 2015), 1932-1937.

[4] For a more thorough discussion of theological values undergirding relationships see Denise Daniels & Al Erisman, "Relationships at Work," presented at the Christian Business Faculty Association annual meeting, October 19-21, 2017, San Diego, CA.

[5] Genesis 1:27

[6] Genesis 1:26

[7] Genesis 2:18-25

[8] Genesis 1:28

[9] See Andy Crouch, *Culture Making: Recovering Our Creative Calling* (Westmont, IL.: IVP, 2008) for a fuller description of the implications of the Cultural Mandate.

[10] Genesis 2:9

[11] Genesis 9:6 and James 3:9

[12] Matthew 18

[13] Matthew 18:6, Luke 17:2, Matthew 25:40

[14] 2 Corinthians 5:18, "All this is from God, who reconciled us to himself through Christ and gave us the ministry of reconciliation."

[15] C.S. Lewis, "The Weight of Glory," Sermon delivered in the Church of St Mary the Virgin, Oxford; reprinted in *Theology* (November, 1941). Retrieved from: https://www.verber.com/mark/xian/weight-of-glory.pdf

[16] Romans 12:18

[17] Mayer, Roger C., James H. Davis & F. David Schoorman, "An Integrative Model of Organizational Trust," *The Academy of Management Review* (20(3), 1995), 709-34. Accessed at http://www.jstor.org/stable/258792.

[18] J.D. Lewis & A. Weigert, "Trust as a Social Reality," *Social Forces* (63(4), 1985), 967-85.

[19] Fernando Flores & Robert C. Solomon, "Creating Trust," *Business Ethics Quarterly* (8(2), 1998), 205.

[20] Both David Gill and James Heskett make the case that trust is critical to building a healthy organizational culture, and that culture ultimately influences organizational outcomes; see David W. Gill, *It's About Excellence: Building Ethically Healthy Organizations* (Executive Excellence Publishing, 2008), and James Heskett, *The Culture Cycle: How to Shape the Unseen Force that Transforms Performance,* (Upper Saddle River, NJ: Financial Times Press, 2012).

[21] Organizational communication scholars have described various characteristics of relationships, but as far as we are aware, they have not been compiled in any systematic or commonly recognized way. For example, the Fundamental Interpersonal Relationships Orientation (FIRO) is a theory and measure of an individual's desired and expressed levels of inclusion, control, and openness in relationships; see W.C. Schutz, *FIRO: A Three Dimensional Theory of Interpersonal Behavior* (New York, NY: Holt, Rinehart, & Winston, 1958). Also Brito et.al. describe group relationships in terms of their levels of communal sharing, authority ranking, and equality matching; see Rodrigo Brito et.al., "The Contexts and Structures of Relating to Others: How Memberships in Different Types of Groups Shape the Construction of Interpersonal Relationships," *Journal of Social and Personal Relationships* (28(3), 2010), 406-431. We are using the four characteristics of connectivity, closeness, engagement, and reciprocal understanding to describe relationships in this paper.

[22] Robert Weiss & Jennifer P. Schneider, *Closer Together, Further Apart: The Effect of Technology and the Internet on Parenting, Work, and Relationships* (Carefree, AZ: Gentle Path Press, 2014).

[23] Keith Hampton, Lauren F. Sessions, & Eun Ja Her, "Core Networks, Social Isolation, and New Media: How Internet and Mobile Phone Use is Related to Network Size and Diversity," *Information, Communication & Society* (14(1), 2011), 130-155.

24 "Texting Becomes Most Popular Way for Young People to Stay in Touch." *The Telegraph* (December 3, 2012). Retrieved on 1/30/2018 from http://www.telegraph.co.uk/technology/news/9718205/Texting-becomes-most-popular-way-for-young-people-to-stay-in-touch.html.

[25] Stephanie Tom Tong, Brandon Van Der Heide, Lindsey Langwell & Joseph Walther, "Too Much of a Good Thing: The Relationship Between Number of Friends and Interpersonal Impressions on Facebook," *Journal of Computer-Mediated Communication* (13(3), 2008), 531-549.

[26] See for example, E.A. Jane, "Your a Ugly, Whorish Slut—Understanding E-bile," Feminist Media Studies (14(4), 2012), 531-536, and "Flaming? What Flaming? The Pitfalls and Potentials of Researching Online Hostility," *Ethics and Information Technology* (17(1), 2015), 65-87.

[27] Franklin M. Collins, *The Relationship between Social Media and Empathy* (Dissertation submitted to Georgia Southern University (2014)), available at https://digitalcommons.georgiasouthern.edu/etd; see also H.G.M. Vossen & P.M. Valkenburg, "Do Social Media Foster or Curtail Adolescents' Empathy? A Longitudinal Study," *Computers in Human Behavior* (63, 2016), 118-24.

[28] Ellul (1964).

[29] Manuel Becerra, & Anil K. Gupta, "Perceived Trustworthiness within the Organization: The Moderating Impact of Communication Frequency on Trustor and Trustee Effects," *Organization Science* (14(1), 2003), 32-44.

[30] Francis Fukuyama, *Trust the Social Virtues and the Creation of Prosperity* (New York: Free Press, 1996), 27.

[31] Nancy Baym, *Personal Connections in the Digital Age.* Digital Media and Society Series (2 nd ed.) (Cambridge, U.K.: Polity Books, 2017).

[32] Russ Forrester & Allan Drexler, "A Model for Team-Based Organization Performance." *The Academy of Management Executive* (13(3), 1999), 36-49.

[33] Margaret Diddams, Lisa Surdyk & Denise Daniels, "Rediscovering Models of Sabbath Keeping: Implications for Psychological Well-being," *Journal of Psychology and Theology* (32(1), 2004), 3-11.

WISDOM:
SKILL FOR LIVING IN A COMPLEX (TECHNOLOGY) WORLD

By Marjorie J. Cooper

Abstract: The purpose of this essay is to discuss the concept of wisdom as it is presented in Holy Scripture and applied to technology. No arena in the business world is in more need of the influence of godly wisdom than technological innovation, the applications to which it is assigned, and its impact on society. The building blocks of Christian maturity and wisdom in making ethical decisions in the development and implementation of technological innovation can be found in Scripture and are designed by God. First, the fear of the Lord entails humility that predisposes a person to learning wisdom. Then, diligent study of God's word results in a growing understanding that influences the Christian through a series of life's learning experiences. As time goes by, a history of exercising wisdom builds confidence grounded in a repertoire of lived-out choices and consequences. God's wisdom is the only way to ensure ethical decision-making in the face of new technologies; there are no short-cut formulas that magically identify and solve ethical dilemmas. However, Christians who follow God's path to wisdom find themselves in the position of offering moral influence in an ethically challenging business environment.

Introduction

In 1984, Apple's famous Macintosh commercial aired during the Super Bowl and Michael Dell launched Dell Computers. Both were important events in the evolution of technology. People who were born in 1984 will turn 34-years-old in 2018; yet from a technology perspective, they are living in a world completely different from the world into which they were born. In 1984, a mere eight percent of US households had a personal computer. The World Wide Web was five years in the future, and much of home entertainment spending was for renting videotapes.[1] Technologies have certainly changed in 34 years, demonstrating the escalating cycle

of industry innovation and dissemination followed closely by obsolescence.

More than 80 years ago, Schumpeter wrote that such disequilibrium, this constant technological change and the societal change it portended, was an inescapable characteristic of entrepreneurial capitalism.[2] Vast technological changes occur even in one's own lifetime, and the cycle of change appears to be accelerating. Dramatic changes in technology inevitably diffuse into all areas of culture—economics, communications, education, politics, and even religious orientation—giving rise to moral debate and the need for discernment in decision-making. The complexity of change often confounds those whose circumstances demand adjustment, adaptation, and innovation if they are to survive and prosper in the face of extreme cycles of innovation, destruction, conflict, and renewal. Not only are present times exciting, they also can be disconcerting for Christians.

The purpose of this paper is to focus on the necessity for God's people to apply His wisdom to changing and demanding business conditions, particularly technological innovation and implementation. What does the Bible have to say about making good decisions under evolving technological discoveries and applications? Since it is impossible for Christians to prepare specifically for every unforeseen eventuality, they need the wisdom of God for insight and courage to be outspoken about possible technological abuses as they move forward into vast unknowns. Although human beings lack the power to see into the future and to calculate the long-term implications of their decisions, God is fully aware of every contingency and all ramifications of each potential decision. By walking in God's wisdom, Christian businesspeople marshal the confidence to make good choices in applications of technological innovation, such as data mining, social media, and artificial intelligence. Only godly wisdom enables Christians to be prepared for life's opportunities and threats.

The Need for Godly Wisdom

The world today, including the marketplace, is full of pitfalls and ethical compromises waiting to lure both the well-meaning and the deliberately unethical into the murky swamp of illicit and illegal behaviors. In his book *Why Smart People Make Bad Choices*, author Robert J. Sternberg, reviewing the cases of Bill Clinton and Monica

Lewinsky, Richard Nixon and the Watergate coverup, and Neville Chamberlain's disastrous pacification of Hitler, states that ". . . foolishness occurs in the interaction between a person and a situation."[3] The problem is not that people get into trouble because they are unintelligent; they get into trouble because they make poor choices, choices that do not reflect the wisdom of God because either they have rejected God's word and his teaching or, as Christians, are unaware of how biblical teaching might apply in a given situation.

It is widely acknowledged that church-goers today are significantly more biblically illiterate than they were even a generation ago.[4] Even evangelical Christians, who should know better, are more likely to embrace heresy than in the past.[5] Technological innovation that leads to ethical dilemmas coupled with unprecedented biblical illiteracy constitutes a recipe for poor decision-making on the part of Christians. As Scripture teaches, human beings are flawed and lacking in the ability to always correctly assess long-term outcomes (e.g. Ps. 14:1-3; Rom. 3:9-12; 1 John 1:8, 10). Thus, the person who rejects the wisdom of God cannot help but make poor decisions in some areas of life, because it is the nature of fallen humanity to deviate from the ways of God. This is the case even if they know better, and much more the case if they are ignorant of what Scripture teaches.

Of course, ethical breaches are not new; history is littered with examples of immoral behavior. What is new are the multiple and unprecedented opportunities for technology to open the doors to behaviors that affect widespread swaths of society in ways previously unimagined. For example, Artificial Intelligence (AI) brings great advantages to medical practice, such as more precise diagnosing of disease. Yet AI also opens the door to rule-based medical care, where every case is diagnosed by algorithms, thus reducing or eliminating the benefits of customized care by physicians who have long-term relationships with their patients.

Genetic mapping allows more precision diagnostics in preventive treatment of diseases to which a patient is predisposed. However, legislation already has been proposed that would allow employers to collect genetic information on employees. Although it is currently illegal to discriminate on the basis of pre-existing conditions, one mere act of legislation has the potential to unleash health benefits discrimination in keeping with actuarial projections of medical costs associated with predicted diseases.[6]

> **BY WALKING IN GOD'S WISDOM, CHRISTIAN BUSINESSPEOPLE MARSHAL THE CONFIDENCE TO MAKE GOOD CHOICES IN APPLICATIONS OF TECHNOLOGICAL INNOVATION.**

AI is also being used to create customized learning for individual students in the educational system. A diagnosis of a student's strengths and weaknesses at a designated grade level can assist in customizing content for maximum learning and educational progress. However, AI can also be used to program students with respect to values, ethics, and moral content. The issue of whose values then become embedded in educational programs is of significance for Christian parents. Although questions regarding whose values are taught in the classroom are not new nor necessarily related to technology, certain aspects of technology—for example, the widespread scope of technological reach and the rapid pace of new technology adoptions—may make the problem more acute and more resistant to ethical concerns and adjustments.

In the arena of social media, Facebook has suffered a PR backlash stemming from its failure to protect the privacy of 50 million Facebook users (and by extension the privacy of all their Facebook "friends") because Facebook shared its data with Cambridge Analytica and neglected to monitor how the third-party used that data.[7] According to Christopher Wylie, a data scientist at Cambridge Analytica, the usage of the Facebook data to target voters in the 2016 presidential election was a "grossly unethical experiment."[8] He admits that Cambridge Analytica engaged in message targeting to specific voter groups based on choosing ideas to which they would be susceptible, including framing, topics, tone, and various fear appeals. He further states that Cambridge Analytica is a "full-service propaganda machine."[9] In this way, news items, opinion editorials, blogs, advertising, and other kinds of information sources were selectively fed to certain target audiences to reinforce and even intensify their predispositions, while blocking content that might provide a more balanced point-of-view.

These are just a few examples of challenges being wrought by technology that call for advances in ethical thinking within the business community. Just as the Industrial Revolution resulted in changes to child labor laws, so the current revolutions taking place in technology portends a more thoughtful approach to technology implementation than simply, "If we can do it, we should do it." Irina Raicu, who works at an ethics center in Silicon Valley, contends that although both law and ethics have some difficulties catching up with technology, the problem is not insurmountable. "Many technologists . . . are not encouraged to conduct that analysis, even superficially. They are not even taught to spot an ethical issue—and some (though certainly not all) seem surprised when backlash ensues against some of their creations."[10] For these reasons, more and more technology experts are calling for ethics awareness and ethics training in the context of emerging technologies.[11]

Ethics training has been found to improve employees' sensitivity to ethical issues and companies' willingness to concern themselves with "doing the right thing."[12] Therefore, an increase in ethics training programs for technologists is one way of raising awareness and heightening sensitivity to ethical issues. Others suggest a code of ethics to govern all internet content.[13] The advantage of a common code of ethics would be standards that are known by all content purveyors; but the disadvantage is that a one-size-fits-all approach invariably advantages some business models over others and often fails to fit some business's circumstances. Additionally, numerous ethical situations arise from other types of technological advance besides internet technology, such as those already mentioned that confront the medical profession.

Although these and other suggestions help provide a way forward, they often do not answer the most important ethical questions—questions that depend upon one's value system for resolution. Some examples might be:

- •"If our company is more profitable using practices that violate privacy, why shouldn't we use those practices? Maybe society needs to change. After all, I'm maximizing shareholder value."
- •"If it isn't illegal, there is nothing to stop us from doing it."
- •"If I can conceive of an innovative technology, who's to say I shouldn't develop that technology?"
- •"Human workers are like our machines; our job is to make operations as efficient as possible. When a machine becomes obsolete and cannot do the job efficiently, we replace it. We should do the same with people that are obsolete."

The press for a moral compass that will help society grapple successfully with such problems surprisingly has led some to call for a return to religion. For example, one author writes, "Here's where science comes up short. The answers can't be gleaned from any social data set . . . But they just might be found in the Bible. And the Koran, the Torah, the Bhagavad Gita, and the Buddhist Sutras. They're in the work of Aristotle, Plato, Confucius, Descartes, and other philosophers both ancient and modern."[14] In light of the history of human conduct, surely one must be forgiven for thinking this approach might be unwieldy at best and disastrous at worst, relying in some cases on mutually contradictory belief systems. Still, Holmes is correct that ideas such as the "Golden Rule and the sacredness of life to the value of honesty and virtues of generosity"[15] represent commonalities on which most can agree and which might be a good starting place.

Nevertheless, for important moral questions, such as those above and others like them, Christians can bring a unique perspective to the identification, analysis, and implementation of measures to act more ethically that is grounded in the wisdom found in the Scriptures. Because the character of God constitutes the basis for morality,

AS AMBASSADORS OF CHRIST, CHRISTIAN BUSINESS-PEOPLE SHOULD APPROACH TECHNOLOGY AS A MEANS OF DISSEMINATING GOD'S REDEEMING CARE TO ALL CREATION, RATHER THAN APPROACHING TECHNOLOGY AS A MEANS FOR REALIZING SELFISH AMBITIONS.

Christians who faithfully dwell on the revelation of God in Scripture can bring unique insights to the creation and disposition of technologies that impact the social order.

Some Theological Frameworks for Wisdom

It often appears that Christians are no better at making good decisions than non-believers. This is probably because Christians can become so immersed in their culture that they naturally follow the wisdom of the culture rather than the wisdom of God—that is, unless their minds have been disciplined to think theologically rather than react according to cultural expectations and/or their fallen dispositions. Psalm 1 says of the committed follower of Yahweh that "his delight is in the law of the Lord, and in his law he meditates day and night" (v. 2), indicating habitual reflection on the Scriptures and what can be known of God, his creation, and the world system in which humans interact.

There are some consistent theological constructs repeated over and over in the Scriptures that have widespread application and that should inform discussions of ethical dilemmas that arise from technological innovation. For example, a theologically balanced understanding of the character of God is critical. People often view God as so loving that anything goes provided one is sincere in one's beliefs—thus, justice is overwhelmed. One implication of this misperception would be that any sort of technological program to which one sets oneself is perfectly acceptable if one is sincere and blameless in the imagined applications. The idea that a technological application might violate God's justice is foreign.

Because God is the Creator and human beings are made in his image, it is not only understandable but arguably necessary that they too are driven to discover and create within the scope of their ability. However, this fact challenges the frequent practice of innovation divorced from moral groundings, because God and his standards should be an integral part of the innovation process—that is, all innovation inherently should have a moral awareness guiding its development. Builders of the Tower of Babel undoubtedly viewed themselves as innovators of new technology; unfortunately, their motives were revealed as self-serving and anti-god (Gen. 11:1-9). If they had considered carefully God's perspective on their endeavor, they could have avoided his judgment.

For such reasons, each stage from idea generation to implementation necessarily should include the "what ifs" that govern possible misuse of the innovation and/or unintended consequences that might arise. Unfortunately, it seems to be human nature to become so enamored of an innovative idea that thoughts of negative outcomes are quickly brushed aside in the enthusiasm to "sell" others on the idea. Ego and personal aggrandizement take over; moral footing is lost in the excitement. Other reasons for moral lapses may include ignorance of possible outcomes from the technology; lack of facility in moral reasoning; self-serving motives for pushing the technology forward; or a utilitarian belief that one is serving the "greater good."

Human beings are creative because they are made in the image of God (Gen. 1:26-27). Not only were human beings made to reflect the creativity of God through innovation, but they were also intended to carry out the redemptive purposes of God throughout the earth (2 Cor. 5:20). As ambassadors of Christ, Christian businesspeople should approach technology as a means of disseminating God's redeeming care to all creation, rather than approaching technology as a means for realizing selfish ambitions.

This leads us to another fact of wisdom—not a pleasant one but a necessary one—that human beings are fallen. In fact, the Bible teaches that, as a race, humans are evil. Ecclesiastes 9:3 tells us that "the hearts of the sons of men are full of evil and insanity is in their hearts throughout their lives." Rather than expecting that humans will make good, moral choices, we should expect that if there is some way to turn a good technology into an instrument of destruction, humans will find a way to do it. Such a perspective could be construed as negative thinking, but the Christian ought to understand that anticipation is the first step toward prevention of abuse. Furthermore, Christians should be the most realistic of all people, because they should recognize the repetition of human failure and disobedience delineated in Scripture. When negative consequences are anticipated in advance, moral guardrails and disincentives for technology abuse can be put in place. Honest and open brainstorming about the possible misuse of technological innovation enables managers to

identify illicit use and put safeguards in place to prevent such misuse. Christians usually acknowledge in theory that human beings are fallen, but they also often ignore that fact, proceeding as if all is well and casting blame on anyone who tries to warn of the dangers.

Although Christians may admit that human beings are flawed and disposed to resist the wisdom of God, the problem does not stop there. This world is characterized as Satan's system—his political, economic, governmental, social, and religious system. In John 14:30, Jesus tells his disciples, "I will not speak much more with you, for the ruler of the world is coming, and he has nothing in me." Later in John (16:11b), ". . . the ruler of this world has been judged." Jesus clearly attributes the rulership of this world to Satan, and warns his disciples (John 15:18) that "if the world hates you, you know that it has hated me before it hated you." Paul cautions believers in Eph. 6:10-18 that they are in a battle and for that they must use the appropriate armor, for which the wisdom of God is a summary reference. For these reasons, the world will not joyfully embrace Christian values. There may be a cost incurred when technology is critiqued by the values of a 2,000-year-old religion. Some—likely, much—pushback is to be expected: ridicule, anger, disbelief, and frustration at blocking "progress."

Finding Wisdom

God's wisdom is a resource available to all believers in Jesus Christ. In addition, God has commanded us to appropriate his wisdom, and he has promised to make it available to us if we ask in faith (James 1:5-8). James, however, does caution against being double-minded—that is, of two minds. We cannot serve God in faith and, at the same time, cling to the principles of the world's judgment—hedging our bets, so to speak. As Christian businesspeople consider the feasibility and potential payoffs of various development projects, no factor is more critical in that assessment than the need to follow faithfully God's priorities and commandments as well as his warnings as applied to any human endeavor.

The Bible tells us that "The fear of the Lord is the beginning of knowledge: Fools despise wisdom and instruction" (Prov. 1:7). Thus, the fear of the Lord is a prerequisite for attaining wisdom and its accompanying assets. The fear of the Lord signifies a humble spirit, a willingness to be instructed and to learn. It is the opposite of the fool, who "despises wisdom and instruction" (Prov. 1:7) and plunges heedlessly ahead with his or her project.

For example, sophisticated innovations, such as driverless cars, robotics, and drone technology, are often the products of highly intelligent, gifted scientists and engineers. The breathtaking creativity behind new technology, however, should equally be directed toward anticipating misuse and toward grounding technological theory in sound, biblical judgment. Even geniuses need to humble themselves before the wisdom of Almighty God.

The Bible makes clear the importance of acquiring knowledge and understanding for everyone with no exclusions. The entire chapter of Proverbs 2 declares the benefits of pursuing wisdom through instruction in the word of God. For example, verse 3 promises discernment, so readers won't be the victims of fraud and deceit. Verse 6 promises that the Lord gives wisdom through knowledge and understanding to those who choose to walk uprightly in his ways. God becomes a shield, a protector, for his followers (v. 7b), and he guards the ways of justice on their behalf (v.8). Verse 9 reiterates that those who pursue wisdom will have the ability to discern what is right and just, so that (v. 11) God's people can exercise discretion, avoiding various kinds of evil and perversity as well as the traps and temptations that evil people lay before them.

In contrast, the first chapter of Proverbs warns of the consequences for "scoffers" and fools who "hate knowledge" (Prov. 1:22). The writer of Proverbs under the inspiration of the Holy Spirit reminds readers that if "fools" persist in neglecting God's counsel, hating knowledge, and ignoring reproof, calamity will befall them (vs. 26-32). At that time, they will call upon the Lord and he will refuse to help them. No matter how successful a businessperson, scientist, engineer, or entrepreneur may be, the person who neglects the wisdom of God is a fool.

Practicing Wisdom

Where wisdom is exercised, good character and moral behavior emerge. Psalm 19:9 tells us that "The fear of the Lord is clean, enduring forever; the judgments of the Lord are true; they are righteous altogether." With wisdom also comes other desirable traits. Here in Ps. 19, the psalmist celebrates moral purity. Verse 11b reminds readers that "Moreover, by them thy servant is warned," so that not only is the Christian's testimony preserved and the Lord honored but the one who acts wisely serves as a warning to others.

> WHEN NEGATIVE CONSEQUENCES ARE ANTICIPATED IN ADVANCE, MORAL GUARDRAILS AND DISINCENTIVES FOR TECHNOLOGY ABUSE CAN BE PUT IN PLACE.

Proverbs 8:13 tells readers that "the fear of the Lord is to hate evil; pride and arrogance and the evil way and the perverted mouth, I hate." Wisdom changes character for the better, and those changes will be reflected in decisions by businesspeople and scientists who innovate new technology. "The fear of the Lord is the instruction for wisdom, and before honor comes humility" (Prov. 15:33). The fear of the Lord brings perspective on oneself and one's limitations and failures. By cultivating wise humility, the Christian businessperson can have a realistic understanding of how his or her influence might be used to promote the common good through various innovations and technology improvements.

Sometimes, however, business and technology fail to recognize their God-given responsibilities to promote human flourishing. J. Michael Pearson, CEO of Valeant Pharmaceuticals, may be the current poster child for Big Pharma's greed. Pearson unequivocally defends unethical pricing policies. In fact, Valeant in recent years raised the price on several essential drugs by as much as 800%. Pearson proclaims, "We're in the business of shareholder profit, not helping the sick."[16]

Pearson is not alone. Heather Bresch, chief executive officer of Mylan, which owns EpiPen, testified before Congress defending the company's outrageous price hikes on its EpiPen product. EpiPen is the go-to product for life-threatening allergic reactions; yet the product which costs about $30 to produce now goes for over $600 before coupons or rebates.[17] Contrary to inventive rationalizations by business executives, the Bible still promises blessing to those who fear the Lord and who choose to follow the wisdom of God (Ps. 128:1). Realistically, taking an ethical posture in the use of technology could result in shareholder criticism and loss of market share. However, it is equally possible that the opposite effects could obtain: loyal customers and enhanced reputation in the marketplace. Such is the case for Chick-fil-A, a company that generates more revenue per restaurant than any other fast-food chain in the US.[18]

A Protocol for Application

The following is a summary protocol for surfacing ethical concerns pertaining to innovative technology. Drone technology will be used briefly as a representative example. However, this section is prefaced with the caveat that appropriation of the wisdom of God is essential for truly ethical outcomes. There is no innovation evaluation system that will serve up unequivocally redemptive benefits unless the parties involved are aware of and in submission to God's wisdom.

Eliyahu Goldratt's *Thinking Processes* are recommended as the most rigorous system of evaluating human decision-making available to business today.[19] These tools are meant to be used by groups to analyze business problems. However, they have also been used successfully in non-profit organizations, educational institutions, and individual counseling sessions. A two-step approach to the *Thinking Processes* using only two of the tools would offer significant enrichment of new technology planning and development. The methodology may be illustrated below:

Step 1 – Evaporating Cloud Conflict diagram
Identify possible conflicts and to articulate a clear understanding of the desired effects of the technology that are giving rise to the conflicts.[20] For example, drones can be used to fight crime by filming aerial video with high-powered cameras.[21] Such usage, however, introduces legal issues with respect to privacy concerns. Thus, the conflict is that society wants law enforcement to catch criminals but does not want law enforcement to spy on law-abiding citizens. To break the conflict, one proposed solution is more restrictive privacy legislation with respect to public air space.[22] However, there are negative outcomes from increased legislation, such as inhibiting search and rescue efforts.

Step 2 – Future Reality Tree
After analyzing each conflict with the Evaporating Cloud technique, identifying the legitimate benefits sought that are in each conflict, and the possible solutions that might solve the conflict, a Future Reality Tree should be constructed.[23]

A Future Reality Tree begins with potential solutions to each core conflict and is a cause-and-effect diagram constructed to show the outcomes that logically derive from implementing each of these possible solutions to the conflicts. Any outcomes, both positive and negative, that could logically arise from the proposed solutions must be included in the Future Reality Tree, including ethical dilemmas. Scheinkopf writes of the Future Reality Tree that it is useful "when you want to explore the potential effects of an idea before implementing it."[24] Thus, the second step in the protocol allows participants in the planning process to surface and explore not only the problems but also the positive and negative effects of proposed solutions.

For drone technology, logical outcomes of increased privacy legislation might include hampering law enforcement and search-and-rescue efforts or infringing on the Second Amendment. Often the Future Reality Tree enables participants to anticipate and solve potential negative effects to the proposed solutions before a disastrous implementation takes place.

Step 3 – Ethical dilemmas solutions
The third step in this protocol for Christians who are attempting to exercise faithful adherence to the wisdom of God would be to carefully examine the ethical dilemmas that have surfaced either in the Evaporating Cloud conflict diagram or in the Future Reality Tree as negative outcomes to proposed solutions. Solutions to ethical dilemmas can

be mapped into a Future Reality Tree, just as any outcome. The difference would be that Christians intentionally offer redemptive solutions that are given priority in the planning process to any potentially negative outcomes. For drone technology, one long-term solution seems to be drones that are programmed for human-defined courses of action to address privacy concerns.[25]

Conclusion

The Hebrew word for wisdom is *ḥokmâh*, and it means "a skill for living." The teaching involved constitutes timeless principles for living well in a flawed world, a world that can be hostile to Christian values. These are principles that do not become obsolete, even in today's sophisticated business and technology environment, because they are grounded in the wisdom of God, the Eternal and Immutable One. To illustrate the differences, Scripture contrasts the ways of the fool and the ways of the wise: The wise show obedience to the precepts and commandments of God that lead to successful living, but fools make poor choices that lead to destruction and misery. Nowhere is the potential for widespread destruction and misery more evident than in the development and application of new technologies.

A useful protocol for assessing potential benefits and problems with technological applications is to use Goldratt's Thinking Processes, specifically the Evaporating Cloud technique and the Future Reality Tree. Christian businesspeople, engineers, and developers should integrate into their analysis God's wisdom with respect to the sinful predisposition of all humans to ruin God's good gifts. Similarly, ethical dilemmas should be addressed through a framework that allows for and rewards solutions that are redemptive for human flourishing under God.

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SHALOM AND MORAL IMAGINATION FOR BUSINESS TECHNOLOGISTS

By Jason M. Stansbury

Abstract: This essay addresses the problem "What are the ethical implications from a biblical perspective as technological changes reshape stakeholder relationships?" It characterizes the effects of technological change upon stakeholder relationships in microeconomic terms, so that various technologies can be understood in terms of their implications. It then describes the Christian ethical concept of "shalom," and explores some of its implications for stakeholder relationships with biblical grounding. It next explores the microeconomic stakeholder implications of technological change in terms of shalom. It finally discusses moral imagination as a practical technique for understanding the ethical implications of a novel situation, envisioning practical and moral alternatives, and selecting an optimal alternative. This essay contributes to Christian business ethics by applying an exegetical approach to shalom to a class of contemporary business ethics problems (i.e., technological innovation), thereby overcoming the hermeneutical distance between the horizons of Scripture and contemporary business technology. It also contributes to Christian management practice by specifying a practical approach to identifying and solving ethical problems posed by technological innovation.

Introduction

As Christians strive to be salt and light[1] in the organizations in which they work, they will encounter technological change that influences the form and goals of that work.[2] Although these changes are driven by scientific and engineering innovation, their influences and impacts are cultural,[3] and Christians therefore must discern[4] whether and how such changes fulfill the cultural mandate to "fill the earth and subdue it."[5] Do these changes, in their implications for a person's relationship with her- or himself, with God, with other people, or with the natural world, contribute to the peaceful interdependence among these (i.e., shalom)[6], or do they disrupt that shalom? That is, do they qualify as "culpable shalom-breaking," or sin?[7]

I will suggest in this essay that technology can contribute positively to human life in social and economic terms, but that some of its applications are exploitative or idolatrous rather than contributory. I will then argue that Christians should strive in their stakeholder relationships for "shalom," that is, the peace between a person and God, others, her- or himself, and the natural world that is described in Scripture as God's will for His creation. I will next explain how some technological shifts in stakeholder relationships are consistent with that shalom, and others are not. I will finally argue that moral imagination is one way that Christians may realize opportunities to be salt and light[8] in the organizations in which they work, by recognizing stakeholder relationships that lack shalom and reconfiguring them so that they can enjoy such peace.

Technology and Value Creation

Every technology is invented to do something, at the very least to amuse its creator or its user. Therefore, all technologies embody their inventors' intentions;[9] in addition to unanticipated "off-label" uses, a technology does what it was invented for, to some better or worse extent. In particular, technology tends to serve the interests of one stakeholder group, capital, more reliably than it serves the interests of other stakeholders,[10] because capital funds the research, development, production, and distribution of a given technology. Technologies that do not benefit capital are not funded through the development and launch cycle. So although some technologies are developed by and for other stakeholders (as workers may create new tools, or consumers may build freeware), most technologies need to earn a return on their funders' investments. In particular, this phenomenon explains the paradox of increasing prevalence of labor-saving technologies in workplaces around the world, while hours worked and wage growth have stagnated for many workers: labor-saving technologies are not typically developed, purchased, and implemented to help workers make more money with less

effort, but instead are intended to help the purchasers of that capital equipment make more money with less labor (or less-expensive labor).[11]

There are three ways that a new technology can generate value for its owner or seller. One is by creating value for the user, as the user is able to do something heretofore difficult or impossible, or is simply able to do something faster or better. A dishwasher does something that people have done for centuries, but vastly reduces the time that people spend at it, and in many cases does a better job. An airplane makes transcontinental travel (or even some daylong business trips to another state) possible, when the time required for these activities would have once been prohibitive. These things have value, and that value is divided between the user, the owner, the seller, and the inventor; for instance, if I value getting from Chicago to Los Angeles at the start of March in a matter of hours rather than days more than I value $500, then I buy the ticket and take my flight. If that time savings was worth $1200 to me, then the $1200 of value created by the technology is divided into $700 of consumer surplus[12] and $500 of producer surplus[13] (assuming that the seat would be flown empty if I hadn't bought it, so selling it to me is a pure $500 gain to the airline). The airline in turn leased an airplane in anticipation of selling seats on it, whose value exceeded the cost of leasing and operating the airplane . . . and Boeing designed and built the airplane in anticipation of selling it for more than its all-in cost to the company. Everybody wins. So far, so good.

But, there are other ways to create value for the owner or seller of a technology. One is by using the technology to appropriate more of the other party's surplus. For instance, as I surf the web and browse new winter coats, the servers hosting the pages I visit may recognize my physical location as being populated mostly by people of a certain socioeconomic status. In anticipation of my estimated greater will and ability to pay for a new coat, those servers present me with higher prices than they present to visitors from lower-income zip codes. That technology creates value for the user (i.e., the website I visit), and the seller (the developer of the software), but not for me. Similarly, I may use OpenTable to book restaurant reservations; restaurants pay OpenTable to manage their reservations, and to direct diners to them, both of which have value to the restaurant. But perhaps I use OpenTable to reserve a table right before walking into the restaurant that I was about to enter anyway, just to garner reward points in the application. I can use those points for a gift certificate in a few months. But the restaurant has directly paid OpenTable (and indirectly paid me) for something that was going to happen anyway. OpenTable and I have cooperated to exploit the restaurant.

Finally, technology may be used to generate value by creating or obscuring externalities. Factory automation raises productivity in part because machines do the work of some people, so that the people who remain produce

A CHRISTIAN'S ETHICAL ORIENTATION SHOULD BE TOWARD SHALOM, THAT IS, PEACE WITH GOD, SELF, OTHERS, AND CREATION. SUCH PEACE IS NOT MERELY A LACK OF CONFLICT, BUT RATHER ENTAILS A SET OF DISPOSITIONS, ACTIONS, AND RELATIONSHIPS CONDUCIVE TO INDIVIDUAL AND COLLECTIVE THRIVING.

more total value of goods with less labor overall. Factory automation also raises productivity by pacing the remaining people, who must keep up with the machines. In some workplaces, people run the machines. In other workplaces, the machines run the people.[14] (This is not unique to auto-parts plants; salespeople whose work has been automated by a Customer Relationship Management software package may experience something quite similar). The people may or may not be paid any more than before the automation. They may also take risks with their own safety to keep up with the sociotechnical systems in which they work.[15] To the extent that this cost of higher productivity (i.e., workers exerting greater uncompensated effort, or taking risks with their own safety) is not borne by the owners of the newly-automated organization; it is external to their system of costs and benefits, so economists call it an "externality"[16]. Similarly, the replacement of help desk staff with "self serve" technical support saves money for whatever organization once sustained the cost center of the help desk, but did so by pushing the work of resolving issues to the users.

So, there are many ways that technology can be used to generate value for its inventors, sellers, owners, and users. But not all of those ways center upon the creation of economic value; some of them rely significantly or wholly on the redistribution of economic value. And some technologies exploit users or others in ways that are subtle, or that even enlist users in the exploitation of others for the benefit of a technology's inventors or owners.

Shalom for Stakeholders

What, then, should Christians do to be salt and light[17] when faced with technological changes in the workplace? I argue here that a Christian's ethical orientation should be toward shalom[18],that is, peace with God, self, others, and creation. Such peace is not merely a lack of conflict, but rather entails a set of dispositions, actions, and relationships conducive to individual and collective thriving. Such thriving includes virtues that are familiar to many businesspeople as valuable for success in nearly any organization. Prudence[19], diligence[20], thrift[21], integrity[22], and generosity[23] are repeatedly commended in the Wisdom literature of the Old Testament, and were as valuable for the ruling and commercial classes then as they are today.[24] Shalom can be understood in part as an economic order in which the creation mandate of Genesis 1:28-30 is fulfilled by humans laboring in ways both toilsome and creative, to meet their own and each other's needs through production and exchange. It even seems that market exchange and free enterprise are, in limited ways, consistent with that shalom.[25] However, shalom is also a theme in the prophetic literature of the Old Testament[26] where deceptive, coercive, and exploitative business practices are repeatedly condemned[27], but the inclusion of the excluded and the restoration of the fallen is also repeatedly promised.[28] This God-given order for human life is normative for all relationships, and culpable violation of that order is sin.[29]

What are the specific requirements of shalom for business? Unfortunately, while humans can know something of God's intended order with the enlightenment of the Holy Spirit, through both the study of the created world and the study of the Scriptures, human sinfulness obscures that order in both cases.[30] Therefore circumspection is always proper when attempting to elaborate the meaning of shalom for any domain of human life.[31] Even so, a number of practices seem consistent with Biblical teaching on business practices.

In general, a business exists to serve its customers with products and services that promote human flourishing, to provide its employees with the means of livelihood through meaningful and creative work, and to provide investors with a return on their investment.[32] The first two purposes especially are consistent with the creation mandate of Genesis 1, and therefore ought generally to take precedence over the third purpose; while all three are good and necessary, the third is generally to be satisfied while the first two are to be maximized.[33] Moreover, the theme of humble and caring service in the best interest of others is a consistent theme in the Gospel of Luke[34], which contains a preponderance of the teaching on economic activity in the New Testament.[35] Jesus even spoke about[36] and Himself demonstrates[37] a reversal of roles in which the master serves the servants[38], indicating that mutual service is a crucial aspect of God's intended order among people. As products and services today are typically provided by businesses rather than furnished through home

production by household laborers, it seems appropriate to extend this ethos of mutual service to today's employment relationships and supplier-customer relationships.[39]

Moreover, another theme in Luke's Gospel is declining to create patronage relationships in which one person or organization becomes a dependent client of another.[40] Patronage was widespread in the Roman empire, and savvy heads of households (or their servants entrusted with management responsibilities) sought opportunities to expand their patronage networks.[41] Client households, having become dependent upon the patronage of a more powerful household, could then be exploited for economic rents[42], whether providing goods or services at a discount or purchasing them at a markup. Contemporary franchisees, or firms subject to the demands of a controlling shareholder, or organizations that have a few powerful customers or suppliers, sometimes experience similar patronage relationships in which their patron demands additional purchases of slow-moving inventory, or the reduction of headcount to fund larger dividends, or re-negotiations of payment terms. Yet Jesus spoke of freeing people from patronage when He quoted from Isaiah while speaking in the synagogue at Nazareth[43]... declined to become a patron of a Roman centurion who clearly understood that his request for the healing of his own servant would make him a client of Jesus[44]...and instructed His disciples not to enter patron-client relationships when He sent them into the countryside.[45] Patronage does not seem to be consistent with shalom.

These principles offer some guidance for the Christian businessperson evaluating a technological innovation. As discussed in the prior section, a technology often generates economic value for its inventor or seller in one of three ways: creating value for the user, enabling the user or owner to capture more of another party's surplus in economic transactions, or imposing or obscuring externalities that shift some of the owner's or user's costs to another party. Each one can be evaluated in terms of shalom.

Evaluating value creation through technology in terms of shalom

Creating economic value for users seems non-controversial, and in strictly economic terms it is. However, recall that any technology embodies the values of its inventor.[46] Moreover, the designer's intentions and the values that shape them may sometimes be embodied subtly in a given technology, so that they come to be taken for granted as "the way it works" for users.[47] For instance, social media users who become accustomed to photographically documenting their joys, sorrows, outfits, and meals online for a growing audience of followers and "friends" may with little consideration start to think of those events in their lives as the basis of a competition, providing them with readily-measurable status, and the social media provider with motivated and creative drivers of site traffic and advertising revenue. Users may adopt a technology for reasons that are apparent to them, but come to be influenced by the underlying values of its inventors in other ways without realizing it.[48]

The values that create economic value ought to be appropriated discerningly, because economic value may itself become a consideration that overwhelms all other values. This is a caution that is familiar to many Christians, as "the love of money is a root of all kinds of evil. Some people, eager for money, have wandered from the faith and pierced themselves with many griefs."[49] While money is clearly useful for purchasing a variety of goods and services that contribute to human wellbeing, failing to discipline the accumulation of capital with the question "how much is enough?" is the sine qua non of greed.[50] Yet the reduction of the range of other human goods to some quantifiable measure of utility, for which money is a convenient though rough proxy, is both the key to the power of rational management[51] and its greatest weakness.[52] That reduction allows a score to be kept, which separates winners from losers and good ideas from impractical ones; it also has the advantages of simplifying account-ability and motivating both managers and the managed, and coordinating interests and incentives across a range of stakeholders who are presumed in the final accounting to simply want more capital for themselves.[53] Yet human wellbeing cannot be reduced to a single linear measure of utility[54], and attempts to manage as if it could ignore the other irreducible qualities of work done well[55], deny participants in business practices the opportunity to enact their virtues[56], debase the relationships among people who are presumed to be only using one another[57], and ultimately foster an unsustainable economy of appropriation and exploitation.[58] To the extent that technology fosters both efficiency and control, using it could be construed as contributing to the rationalization sketched above -that is, to the idolatry of money.

Living and working faithfully in the midst of idol-worship has been a challenge for Christians since the New Testament era, and Paul's first letter to the Corinthians provides some helpful guidance.[59] The cults of the Greco-Roman pantheon permeated the civic and economic life of ancient Corinth, and gatherings of political or trade associations often occurred over meals that incorporated the ritual sacrifice of the entrée to the patron god or goddess of the group before it was served to the guests.[60] Meat sold in the marketplace or served in a pagan's private home sometimes got the same treatment.[61] Because refusing such food was socially isolating, some Corinthian Christians sought Paul's permission to partake, on the grounds that because the pagan gods were fictional their idols were powerless, and therefore Christians who understood these facts could eat such food with impunity.[62] Paul instead responded that while it was true that the pagan gods were "nothing at all"[63] and "everything is permissible"[64], "not everything is beneficial."[65] Christians ought to aspire not to

greater freedom from constraints, but instead to the self-discipline that enables their witness.[66] Partaking in food that gives the impression of syncretism can confuse fellow Christians and pagan associates alike about the loyalty of the believer to God alone.[67] Because that confusion has shown itself to be so dangerous throughout the history of God's people[68], it falls short of the love for others and God (i.e., shalom) proper to believers.[69] Therefore, while Christians are permitted to freely consume food bought in the marketplace or served in a pagan home without concern for its unknown ritual history, if they are advised that it has a ritual history Christians must refuse such food.[70]

Can Christians use technology in business or otherwise participate in contemporary management without subjecting themselves to idolatry? Paul's guidance recounted above is useful today. Designing, distributing, or using technology that does something that wasn't possible before, or does something better or cheaper than was possible before, would seem to be no less permissible than buying meat instead of bread at the local market. But affirming the reduction of human goods (whether virtues, relationships, or the panoply of non-economic values that stem from the range of human practices) to transactional economic value would seem to be no more permissible than acquiescence in a ritual consecration of a meal. Whether that affirmation consists of using automated services (like self-scanners at the grocery) precisely to avoid personal interaction, or using an online intermediary to choose a hotel on the basis of price and aggregate reviews without reference to the actual content of those reviews, or using gamification ("enhancing services with (motivational) affordances in order to invoke gameful experiences and further behavioral outcomes")[71] to stoke users' competitive instincts and thereby elicit greater efforts[72], Christians should resist using technology to flatten their business and personal interactions into a series of arm's length economic transactions. In a subsequent section, I will discuss how moral imagination can help Christians to enact shalom in these interactions instead.

Evaluating value appropriation through technology in terms of shalom

The second general form of value creation through technology, capturing a larger share of another party's consumer or producer surplus, is more straightforwardly problematic than the paradoxical benefit and idolatry of economic value creation. Deception and extortion (i.e., coercion) are straightforward ways to capture value from another party in a transaction, and are routinely condemned in Scripture.[73] Spearphishing (i.e., sending deceptive messages to email users in order to trick them into revealing their login credentials) and ransomware (i.e., using malicious code to lock a user's computer, and providing the password only upon payment of a ransom) are obviously unethical uses of technology. But more subtly, technology enables the creation of patronage relationships: raising users'

switching costs enables a technology's inventor or seller to subsequently extract economic rents from increasingly dependent users. Limiting the interoperability of software or devices with rival technologies can induce a user to commit to a single provider's platform rather than enjoying several of them, since the hassle of working around incompatibilities or learning one's way around a new user interface or re-creating lost data that doesn't transfer can be overwhelming. For instance, fifty-page user agreements that pop up on an electronic device in the midst of a routine task are one way that such dependence is exploited, since few users will abandon an application or even stop to read the new agreement. Although the dialog box that pops up collects putatively informed consent to gather ever more of the user's personal or behavioral information (to better serve the user with relevant advertising, of course), the threat to otherwise terminate a user's access to a product or service that they are in the midst of using is clearly if gently coercive. Leveraging the value of a product or service to increase users' dependence, and therefore the inventor or seller's future capability to command higher prices / more access to user data / more user tolerance of security or reliability problems / et cetera, is a means of capturing more of the value created by that product or service, that is, appropriating more of a user's consumer surplus. Nehemiah 5 describes a similar dynamic during the reconstruction of Jerusalem's wall during the reign of Artaxerxes, the king of Persia: Jews who lacked the resources to feed their families were sold food or lent money by "nobles and officials" with greater means, but at the cost of selling their daughters into slavery or turning over title to their fields and vineyards.[74] These nobles were using the value of their available grain to convert freeholding peasants into serfs, that is, becoming the patrons of those clients, the exploitative potential of which transaction was recognized and prohibited in the Mosaic Laws.[75] Nehemiah himself took offense at this arrangement, publicly berated those responsible, and exacted a pledge both to return the appropriated assets and to refrain from any such appropriations in the future.[76] Thus, even as the means of fostering dependency have changed since the eras of Nehemiah or Luke, doing so today still seems to be inconsistent with the shalom God intends for His people.

Similarly, imposing negative externalities upon another party also seems problematic. Imposing costs upon another person without compensation is condemned in Scripture, whether by negligently exposing others to risk (i.e., digging a pit and leaving it uncovered, resulting in the death of another person's draft animal)[77], or by withholding payment from workers.[78] Patronage, of course, increases the power of someone to leave such costs uncompensated. So technologies that shift foreseen uncompensated costs to others, as through job intensification in automated roles[79], would seem to be inconsistent with shalom. Technologies that negligently shift unforeseen

uncompensated costs to others, like information systems that increase the accessibility of sensitive information to authorized users but also to hackers in the case of the Equifax breach[80], would also seem to be inconsistent with shalom.

Moral Imagination

Even recognizing the violations of shalom described above can be difficult for committed Christians. Because technology embodies the values of its designers, often in a way that becomes taken-for-granted by its users and even the designers themselves[81], holding alternative values does not necessarily mean that a designer, seller, or user will recognize the conflict. For Christians, this can be understood as a problem of religious incongruence: the believer's actual beliefs are not entirely coherent with each other or with the faith the believer espouses, and the believer's actions may also be inconsistent with that faith.[82]

This problem can be overcome in part through moral imagination[83], which enables a decision-maker to recognize the moral shortcomings of the status quo and identify preferable alternatives[84]. It occurs in three stages: reproductive imagination, productive imagination, and free reflection.[85] Reproductive imagination entails constructing a mental model of the situation at hand: what is happening, why it is happening, and the values that give it meaning. Doing this accurately and thoroughly is crucial for seeing "the realities as they actually are, not as they might have been, and not as we wish they were.[86] This stage is prompted by a "paradigm failure"[87], in which a person becomes aware that the situation at hand poses problems that her or his set of norms and ways of seeing the problem cannot solve; what is crucial is that it makes explicit the mental models that currently are used to justify the status quo. That step especially can help Christians to realize that something about the status quo is at odds with their faith commitments. Productive imagination then identifies alternatives: How else might the parties involved relate to each other? Why else might that happen? What other values might give those alternative relationships meaning? This stage generates practical and moral alternatives by reconfiguring elements of the reality at hand. Finally, free reflection evaluates these alternatives, by asking whether they are practically and morally appropriate to the situation, using the range of values identified in the productive imagination stage. Free reflection enables the decision-maker to identify an alternative potential reality that is both feasible and morally preferable to the status quo.[88]

Moral imagination has been studied in simulations among part-time MBA students[89] surveys of businesspeople[90], and case studies in the field.[91] These have revealed that an organizational culture in which ethics is important has a significant effect on employees' tendency to consider alternatives and evaluate them in ethical terms, though that effect is strongest for employees who consider ethics less important to their senses of self, while employees for whom ethics is personally important are already more likely to exercise moral imagination and therefore less affected by organizational culture.[92] Moral attentiveness (a person's tendency to evaluate situations in ethical terms) tends to promote moral imagination, and this relationship is stronger for more creative employees.[93] When moral imagination is exercised by businesspeople to realistically assess the inadequacies of the status quo, conceive new configurations of stakeholder relationships, and partner with other organizations to address problems that were unsolvable under the prior status quo, they can overcome problems like sweatshops in the apparel supply chain[94] or governance, corruption, and environmental impact in petroleum production.[95]

Notwithstanding the influence of the concept of moral imagination in the business ethics literature, some readers may wonder whether the lack of Scriptural references above indicates a reliance upon "hollow and deceptive philosophy, which depends on human tradition … rather than on Christ."[96] It is true that the origin of the concept of moral imagination described above is in the philosophy of Immanuel Kant[97], and not in the Christian tradition. However, the concept of common grace in the Reformed tradition of Protestant Christianity highlights that out of His love for the human race and His merciful will to prevent sin and ignorance from having their full effect, God gives insight even to people who do not know or acknowledge Him.[98] These insights are useful for thinking clearly and acting prudently, and even correcting Christians' own sinful errors, so it is valuable for Christians to discerningly avail themselves of those insights.[99]

That said, such discernment requires asking whether the concept of moral imagination is at the very least consistent with the witness of Scripture. Bruno Dyck's careful exegesis of the Gospel of Luke with respect to the theme of economic relationships[100] revealed a repeated pattern of four phases of learning and action in the "journey narrative" from Luke 9:51 to Luke 19:40, whereby the disciples came to better understand the implications of Jesus's teachings about the Kingdom of God for daily life. This pattern was repeated three times between Luke 9:51 and Luke 13:30, before being repeated three times in reverse between Luke 14:1 and Luke 19:40. The "reverse cycles" recount "institutional change" (i.e., a shift in social norms and structures, like inviting the poor to a banquet in Luke 14), a "changed way of seeing" the situation (e.g., loving Jesus more than one's own family, also in Luke 14), an "action response," (e.g., welcoming home the prodigal son in Luke 15), and "problem recognition" (e.g., commending the shrewd manager who scattered his master's possessions by writing down his master's accounts receivable, before pointing out that one cannot love both God and money in Luke 16).[101] The first stage in the reverse cycle, institutional change, bears some resemblance to

the reproductive imagination that comprehends a techno-logical change to existing relationships within and across workplaces. The second stage, a changed way of seeing, bears a resemblance to the productive imagination that recognizes alternative values to those reified in the status quo and envisions alternative configurations of resources and relationships. The third stage, an action response, is typically seen in the business ethics literature as an out-come of moral imagination rather than a component of it.[102] But pairing faith with works is crucial for Christian discipleship[103], and Dyck found in his exegetical study of Luke that acting on a changed way of seeing was crucial for the fourth stage in the reverse cycle: the Disciples' realization that the Kingdom of God differed in its values and practices even more than they had realized from the world they knew. Altogether, moral imagination bears some significant resemblance to the stages of the "reverse cycle" whereby the disciples learned to see the Kingdom of God in everyday life, though Luke's journey narrative

emphasized action as a part of the learning cycle rather than as its outcome.

Conclusions

While the moral implications of technological change in business can be difficult to analyze, I have suggested that the Biblical concept of shalom can help. In particular, while technology creates a bewildering array of foreseen and unforeseen effects on human relationships, grouping those effects into three general forms - value creation, val-ue appropriation, and creating or obscuring externalities - makes those effects more analyzable. Shalom highlights that the latter two forms are exploitative of others, and therefore unbiblical, while the first form has idolatrous potential that can also violate shalom. Moral imagination can help Christians to discern the problems associated with new technological applications, and identify ways to

MORAL IMAGINATION: AN EXAMPLE

A Christian manager may identify an opportunity to install self-service checkouts at a chain of retail stores. Exercising reproductive imagination requires assessing the advantages and disadvantages of that opportunity, and the values underlying them. Such automation has a number of advantages: reducing the store's reliance on human laborers who may commit errors in customer service, miss work or show up late, or demand raises, at-tracting customers who prefer not to interact with other people during their shopping experience, and keeping greater checkout capacity available rather than having to staff up or down at peak times. The values underpin-ning these advantages include providing a more consis-tent transactional experience for the customer, reducing several aspects of operational variability, and of course making a return on investment from the prior two. The disadvantages include reducing personal interaction and perhaps relationships with customers, reducing the opportunities available to low-skilled laborers, and reducing the flexibility of the checkout experience to ac-commodate emergent or unusual customer needs (e.g., questions, or disabilities).

As inclusion of the excluded is integral to shalom[105], this change would seem to pose some problems. If the Christian manager were to engage in productive imagi-nation, s/he might then consider alternatives: what if the checkout is not a barrier between the customer and the door, but instead is an opportunity to enhance the customer's experience through personalization and relationship? What if the checkout is an important opportunity for unskilled laborers to begin developing knowledge, skills, and relationships that prepare them

to advance to positions of greater responsibility in the store? After all, it is hard to match the transactional efficiency of the internet, so a bricks-and-mortar re-tailer may want to invest in a more compelling shopping experience rather than a more minimal one. Perhaps installing self-checkout stations but using them to handle peak times, rather than using them as the default checkout option and staffing up manual lines at peak times, would realize such goals. The manager might then engage in free reflection, to consider whether and how the shoppers, checkout clerks, and store owners are better off under such an alternative, and whether shalom is thereby better served. Without training in product knowledge or relationship-building techniques, checkout clerks may find their jobs stultifyingly transac-tional, and customers may be frustrated by the store's failure to adopt self-checkout. But if checkout clerks are empowered to assist customers with idiosyncratic requests and needs, educated on product attributes and combinations so that they can converse meaningfully with customers about their purchases, and trained on techniques for recognizing whether a customer wants to chat or is in a hurry, then their experiences and the customers' would be enhanced. They would gain op-portunities to exercise virtues like love of learning or empathy, and bolster their opportunities for advance-ment. At least some customers would build cordial or even friendly relationships with checkout clerks. Peace among people and within people would increase, and the Christian manager would thereby enjoy peace with God.

resolve them. Future research on technology and shalom in business might extend this analysis by examining problems of unforeseen consequences of technology adoption, or problems of the appropriateness of control of other people enabled by technology.

In practice, Christians striving to apply new technologies appropriately might apply moral imagination as follows: when faced with an innovation of some sort, the first challenge is to explain what it does, why it works, and why that is valuable. Because technology in business tends to serve the interests of the capital provider who pays for its development and deployment, it is important to specify how the technology creates value: does it do something that wasn't possible before, or perhaps do something familiar somehow better? Does it appropriate economic surplus from other parties, or perhaps impose negative externalities on them? What values, economic or otherwise, are shared by its users, buyers, or others? Asking these questions facilitates reproductive imagination that makes explicit both what works about the status quo, and what might be morally problematic. Next, a Christian decision-maker should engage productive imagination and imagine some alternative configurations. What other values might be prioritized besides the ones identified in the prior stage? In particular, it can be valuable to re-order stakeholders[104]: what if the technology in question were being used primarily to enhance the work-lives and material sustenance of the labor force, or to provide a good or service that enables customers to thrive, and only secondarily to generate a return on capital investment? That thought experiment can highlight opportunities to serve customers and labor, and may well also provide adequate or better investment returns. Finally, a Christian decision-maker should do some free reflection to evaluate the alternative configurations imagined in the second stage. Would they be feasible? Would they promote interdependence rather than dependence among stakeholders? Would they embody an ethos of service rather than one of being served? That is, would they promote shalom better than the status quo? Moral imagination can help the Christian businessperson to see alternatives that are more consistent with her or his beliefs, even for unfamiliar technologies.

To increase her or his capacity for moral imagination, a Christian businessperson could take several measures. First, knowledge of Scripture can help her or him to be "transformed by the renewing of [their] mind . . . [to] be able to test and approve what God's will is,"[106] enabling a better evaluation of the shalom of a technological innovation. Second, familiarity with both the experiences of stakeholders, and the implications of technologies, increases one's capacity for both reproductive and productive imagination. Reading widely, meeting and conversing with a range of people, and taking opportunities to experience different parts of a business all help to develop a wider set of perspectives that can be brought to bear in either form of imagination.[107] Finally, practicing creativity in low-stakes problem-solving, that is, generating novel solutions and evaluating them for their practicality and appropriateness, can bolster one's capability for productive imagination and free reflection on more important problems.

Altogether, while technological change poses challenges for Christians striving to live at peace with God and others, moral imagination can help such Christians to identify opportunities to reconfigure their business practices and relationships in the service of such peace, sometimes even by adopting new technologies!

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[64] 1 Corinthians 10:23, NIV.

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ECONOMICS, PRIVACY, AND CHRISTIAN ETHICS

By Steven Mc Mullen

Abstract: Concerns about consumer privacy have intensified in recent years as electronic commerce has become more common. These concerns result from economic and technological developments that encourage retail specialization. Moreover, privacy concerns can prevent markets from serving customers, and can contribute to a problematic consumer culture. This essay argues that a theological concern for forming and preserving relationships in commerce can guide Christian responses to privacy concerns and to the consumer culture that results. The essay concludes with some guidelines for building trust around data use between firms and consumers.

Introduction

In recent years, concerns related to privacy and technology have grown substantially, making security and consumer privacy, especially regarding activity on the internet, a top priority for technology companies. There is no doubt that modern consumers have a new set of privacy-related concerns that earlier cohorts did not need to worry about. The ubiquity of personal information available on social networks and blogs is just the tip of the iceberg. Advertisements and prices are often customized to an individual based on their browsing history and their known demographic profile. New "gig-economy" innovations such as Uber and Airbnb can limit the institutional buffers between people engaged in commerce.[1] According to one famous study 87% of people in the U.S. are uniquely identifiable if you know only their name, gender, birthdate, and zip code.[2] Moreover, corporations are only starting to take advantage of the detailed information they often can collect about their customers' spending habits, and as machine learning tools improve, firms, governments, and political organizations will increasingly be able to pitch sophisticated messages and offers to individuals on the basis of their available data.

In this essay I will argue that these privacy concerns have economics at their root as much as technology. The

rash of privacy issues that we are dealing with now is the result of an economic system in which specialization and trade have rapidly changed the nature of commerce. On the one hand, technology and scale have made consumer oversight of commercial practices almost impossible, and made relationship-centered commerce rare. On the other hand, these same technologies have facilitated the creation of new communities and networks across great physical distance. This leads to a quandary for Christian social ethicists: what does a theology that is centered around restoring relationships have to say about a system that makes people genuinely better off while minimizing personal relationships and accountability in some cases, and creating new (and different) communities in other cases? More practically, what would an ethical use of personal information look like in this context?

While these and related concerns have motivated some to make a radical shift toward local economies or away from commercial capitalism,[3] this would be extremely harmful. I will argue, instead, that a more nuanced response is warranted. We can embrace the economic benefits of technology while also using theology to guide us in protecting the relational element of economic interactions whenever possible. This could happen in two ways. First, prioritizing relationships in economic life will sometimes motivate strict legal protections of individual information, while at other times it will justify openness to technologically-mediated commerce when it complements personal interactions. Second, principled Christian business-people should commit to long-term credible commitments to transparent use of data. Doing so would help create a culture and expectation of honesty and openness in data use.

The Economic Context of Privacy Concerns

As Adam Smith famously wrote, the ability of a person to specialize in their most productive tasks is limited by "the extent of the market."[4] The story of economic progress in the western world since the industrial revolution has been one in which people's ability to specialize has steadily expanded. This expansion resulted from the steady growth of trade, facilitated by reduced trade barriers, better governance, better communications technology, and advances in transportation. This same process has been accelerated in recent years by the emergence of e-commerce and social media. Specialization has now progressed to the point where people are constantly, unknowingly, interacting with thousands of other people that they will never meet.[5] This process is the foundation of increased standards of living across the globe, and is thus worth cheering.

Consider, in this context, two types of transactions. The first I will call a "local" transaction. In this simple case, the customer (i) knows the person selling them the prod-

uct that they buy, (ii) knows or has access to extensive knowledge about the product that they are buying, (iii) knows exactly what useful information they are giving to the seller, and (iv) knows (and tacitly approves) of the use that seller might make of that information. These are the sort of transactions that draw people to farmers markets and local businesses. Most notably, these transactions are common in environments where collecting and using consumer data is either technologically limited or the scale is too small for consumer data collection to be valuable. While these kinds of transactions can have numerous problems, including concerns about privacy, the privacy concerns are those that normally occur in community, and are thus foreseeable and able to be mitigated by other practices.

I will label the second type a "distant" transaction. In this case, the customer (i) buys a product without knowingly interacting with another person, (ii) purchases a product whose production methods they are incapable of tracing, (iii) has little knowledge about the nature of the information that is available about them as a result of the transaction, and (iv) has little knowledge of how their information can be used to profit the seller or the public to whom it might be available. This is the sort of transaction that happens when you buy almost anything from Amazon, consume media online, or participate in a social network. In fact, the "distant" transaction described is extreme, but it is still a better description of almost all commercial life in the U.S. today than is the "local" transaction described first. Moreover, even though much of the time people are engaging in "distant" transactions, we still often behave as if most transactions are of the "local" variety.

The move toward this type of distant transaction is not all bad. Our wealth and our health are largely attributable to the specialization and scale which leads inevitably to transactions with this complexity and social distance. Moreover, in this complicated environment, a little judicious commercial use of personal data can be a good thing. When internet search engines learn your demographic characteristics and tastes, you are more likely to see advertisements for goods that interest you, which is usually good for everyone. In terms of market efficiency, in fact, the sharing of information is often a net gain for all parties.[6] Moreover, it is often the case that consumers opt into trusted networks where they will have reputations or be "known." Consumer profiles dramatically reduce transaction costs, as consumers are able to quickly find the goods and services they desire. As the scale of the market grows, in fact, the benefits to consumers from this kind of information-based profiling grow as well.

Abuse of Information

In some cases, even though efficient, accessible personal data can be used in ways that consumers dislike. Young women who purchase a pregnancy test at a large retailer

CHRISTIAN TRADITION SHOULD CAUSE US TO BE CONCERNED WHEN ONE OF THE SIDE EFFECTS OF A GOOD SYSTEM (E-COMMERCE) IS TO LIMIT OPPORTUNITIES AND INCENTIVES FOR COMMUNITY AND RELATIONSHIPS.

might be embarrassed to find that the retailer starts sending her custom advertisements for baby products. Consumers may find that the email that they gave freely for one purpose has been sold to advertisers or "spammers," which fill up their inboxes. Employers can screen potential employees based on blogs or social network activity. Social media users may find that their political preferences have been predicted by an algorithm, and that the news items that are shown to them all lean in a predictable direction. In each of these cases the individual with the valuable information has little knowledge about potential uses of their information, and often cannot track or observe the use of said information. That is, they are at a disadvantage because of two asymmetries in the market: (i) an asymmetry of information, and (ii) an asymmetry of risk.

The asymmetry of information comes from the fact that consumers have little way of knowing which commercial partners will abuse their information and which ones will not. The details of network security and the implications of different privacy protections are complicated and opaque to most consumers. Even if firms wanted to communicate to consumers that their information was secure and their use limited, these commitments are difficult to credibly communicate broadly.[7] Moreover consumers may not be in a position to know which information is sensitive and which is not, or how it might be used. Those who might use personal information for profit are far more knowledgeable and can hide behind the relative anonymity and white noise of the marketplace. In the face of this asymmetric information, consumers who are risk averse may even refuse to participate in the marketplace, internet, or social media, preferring instead to "stay off the grid." They do so, however, at a high cost.

Moreover, following the standard economic models of asymmetric information,[8] if misusing customers' information provides a competitive advantage, then principled retailers that are unwilling to engage in these practices may be driven out of the market by retailers that are less principled.[9] In fact, competition can drive the market toward broad and harmful use of consumer data even if every actor is perfectly trustworthy. If consumers are not able to distinguish between those retailers whose business model involves heavy use and sale of consumer data and those whose business does not, then the lower prices of those who use consumer data can attract customers

ignorant about data use. Even worse, if customers cannot tell the principled from the unprincipled retailers, they may assume all retailers will use their information, and then some will withdraw from these markets overall. The result is a classic market failure that results in a kind of self-fulfilling prophesy: consumers don't trust firms to protect privacy, and assume the worst, which makes it harder for higher-cost firms (that limit consumer data use) to compete in the market. This problem can be remedied by a credible signal from retailers regarding respect for personal information or by government regulation.

The second asymmetry problem is the asymmetry of risk. Even if a firm is discovered "misusing" personal data, most common uses of data that concern consumers are perfectly legal. The firm risks only losing a customer, which is likely far outweighed by the advantages gained from targeted advertising, price discrimination, and additional revenue streams. The customer, on the other hand, who gains little from sharing information or being tracked, stands to lose much. Similarly, the risk of identity theft is borne almost entirely by consumers, who are generally expected to demonstrate that they did not make any given purchase made in their name.[10] In short, firms get most of the benefits from keeping information open and accessible, and consumers bear most of the risk. The result is that all the incentives for the protection of information fall on the side of the market that has the least knowledge about how information can be used and abused.

In some important cases, competition has been pushing large tech firms to make strong commitments to the careful use of consumer data. For example, Apple has sought to distinguish itself by creating tools that limit tracking of personal data and allowing users to monitor all personable data the firm has stored.[11] Other tech firms, such as Google and Facebook, who receive substantial amounts of revenue from targeted advertising, will find it difficult to follow this lead. Facebook has made significant reforms following negative publicity, however, and recent EU legislation is forcing many companies to increase the degree to which firms protect consumer data.[12] It is still unclear whether high levels of consumer-data protection will become standard in more competitive markets, but some of the momentum currently appears positive.

An Ethic of Openness in an Impersonal World?

In the face of these economic forces that lead to privacy concerns, there is a strong countervailing legal, ethical, and economic tradition that prizes individual privacy as a right. Part of the development of a right to privacy in the American legal tradition has been the consensus that people have an interest in "having control over information about oneself."[13] In many cases this right is encoded into law, as with information about a person's health and education records. The law is far less clear regarding information that firms collect about their customers' shopping habits, or individuals' activity in quasi-public forums. In these cases, the legal standard usually requires that people demonstrate harm done to them for any use of information to be considered illegal. Both in tort law and constitutional law, however, privacy has become an important consideration in legal disputes.

Philosophical defenses of a right to privacy have centered on preventing unwanted intrusion into a personal sphere.[14] In this literature, individual autonomy and dignity are the primary justifications of privacy rights, where the goal of privacy protections is to insulate an individual's self-determination from the interference of others. This logic, together with the legal tradition of privacy rights, helps fuel a culture in which autonomy from the will of other people is a primary goal.

Moreover, the same specialization that makes it difficult for consumers to have complete information about the goods that they consume also encourages an economic culture in which exchange is valued for purely instrumental reasons. In the effort to provide goods and services to customers more efficiently, commerce has become separated from the geographic and institutional connections that connect members of a community. This is to say that economic exchanges are usually of the second "distant" type described earlier. In this context, customers are not trained to expect relationships and commerce to go together. What is left to motivate transactions, then, is only the utilitarian value one gets from the goods and services. In this context an expectation and desire for autonomy, and thus privacy, trumps the demands of community.

Christian ethics could contribute much to our response to a culture which prioritizes privacy. I will consider two themes of Christian thought here. First, I propose that the Christian tradition should cause us to be concerned when one of the side effects of a good system (e-commerce) is to limit opportunities and incentives for community and relationships. Privacy and individual autonomy can be good, but not the ultimate good. The reconciling work of Christ is one that restores relationships through sacrifice.[15] And while the ultimate reconciliation is with God, His work should also result in reconciliation between people. While reconciliation between people is often a matter of individual action, it can also result from the mitigating economic or political practices that create social distance between people. As an example, consider Paul's rebuke of the Corinthians for engaging in a practice of the Lord's Supper that divided the community along economic lines.[16] Following this, Christian social thought from diverse sources has emphasized the importance of maintaining and restoring relationships.[17] For example, the more market-oriented school of Catholic social thinking has often emphasized the social, rather than autonomous character of humans, and has lauded communities of solidarity as the preferred context for market action.[18] In Kuyperian neo-Calvinist thinking, a similar theme arises, as the call for a biblical shalom, which includes peaceful and loving relationships between people, as an ultimate measuring stick against which we can evaluate social systems.[19] While relationships are not the sole end of economic activity, this distinctive of this theme of Christian social thought needs always to be pursued along with the normal production of material well-being.[20]

Building on this theme, if our culture of privacy seeks to exalt individual autonomy at the expense of relationship with others, or if our new technologies can sometimes push people toward isolation, then Christians should be the first to look for new alternatives. These relationships need not be based in commerce, but historically they have often been. Commercial life has the potential to reinforce communal connections and provide the context for relationships, even if this is not always realistic or possible. So then, what is the correct posture of Christians toward the privacy concerns described above? To answer this, consider again the two types of transactions described earlier.

First, in a "local" transaction, one key element is that the transaction takes place in the context of a relationship between the buyer and the seller. Or, at minimum, the transaction leaves open the possibility of a relationship, which could be furthered by economic exchange. In this context, a Christian ethic of relationship restoration – an ethic of peacemaking – would clearly push against a desire to avoid relationships with those nearby. Because in this context, an assertion of a ultimate privacy right is an assertion that one has a right not to be known by another, a right not to be in real relationship. At times this kind of assertion would be appropriate, but autonomy is not the highest end we can aim for, and so Christians have reason to be wary of this culture of privacy.

Unfortunately, as noted earlier, these "simple" transactions are now a rarity. In "distant" transactions, relationships might be impossible, as human interaction with another person is likely minimal. In extreme cases at least, openness to others, then, cannot foster relationship. Relationships are rather inefficient, as they cannot be automated. Consider this litmus test: how should a person respond to a personal question from a vendor at the farmer's market, compared to the same question in

an email from Amazon.com? If the lady selling zucchini at the farmer's market asks you how old your kids are, she probably likes your kids. If Amazon.com asks the same question in an email survey, they don't like your kids. They want to know which toys to advertise to you. Openness won't get you a relationship with Amazon, it will only get you targeted advertising and price discrimination.

This is all to say that in an impersonal economy where information is a commodity, privacy concerns really are concerns about justice. We need to get privacy laws right, because getting them right will allow commerce to happen, and will encourage private institutions that are trustworthy. Moreover, in the specialized economy that we inhabit, if some level of privacy is not assured, the asymmetric information and asymmetric risk will push people away from each other, by pushing them out of the market, and it will push ethical retailers out of the market as well. Privacy laws are often what keep people from using technology to take advantage of others for profit. Thus we can think of a well-functioning set of privacy protections as an institution which preserves some level of community in the case where commerce has already been severed from other community institutions.

It is worth noting, moreover, that in many cases the protection of individual privacy will give consumers the power to opt into communities where there is increased trust and relationships. This freedom to freely and knowingly share information about themselves, in fact, can only exist in the context of broader legal protections about individual data. This implies that the best parts of the new electronically connected economy – the creation and sustenance of new communities – depends on the regulation of privacy and the prevention of abuse.

Reputation, Commitment, and Ethical Action

A second theme of Christian ethics focuses on creating the space for ethical action. We share a tradition that warns of the destructiveness of greed.[21]Christians, therefore, have a calling to individually and structurally "spur one another on toward love and good deeds."[22] In the world of commerce, this is consistent with laws that hold people accountable for misdeeds, but it can also reach much further. If our system moves toward an equilibrium where successful business requires broad use of consumer data against the desires of consumers, we unwittingly undermine the freedom of businesspeople to pursue the good of their customers. Economic theory predicts, moreover, that these situations can undermine consumers' trust in businesses. This leads to a situation in which the lack of community and trust actually undermines the ability of firms to make commitments to consumers regarding ethical and transparent use of data.

How then, can we create a market in which there is a real possibility of trust? In this framework, this must entail an economy in which a company can be both profitable and trustworthy, meaning that there must be a way for a firm to rightfully earn a reputation for responsible use of consumer and community data. If, in some markets, the direction of competition and technology currently makes this difficult, clearer rules that allow firms to credibly bear the risk of a breach could reverse the trend. For example, if a law shifted so that firms were more restricted in their use and sale of consumer data, it could become profitable for firms to develop and pay for stricter protections for consumers. Firms could then make credible commitments to consumers, and could build a reputation for coming up with innovative ways to efficiently protect identities. While the market currently gives motivation for firms to innovate in this direction, very costly moves cannot be sustained.

Changes in this regard do not have to entail regulation. In the long run, it may be that the intermediaries like PayPal could provide controlled ways for consumers to interact with many different vendors while controlling access to their information. Because the information asymmetry limits valuable transactions, it creates an opportunity for firms to find ways to reduce the transaction risk, connecting buyers and sellers. This kind of entrepreneurship is complicated, and may not become profitable unless the privacy concerns of consumers intensify, but the result could be a space in which new institutions could build trust between consumers and distant organizations.

It is worth noting that the ubiquity of consumer information increases the importance of consistency and commitment in firm's reputations. Because consumer data persists long after the transaction or agreement, the commitment that a firm makes to customers, if data is collected, becomes a long-term rather than a short-term commitment. This shift makes the long-term commitment of a firm to its trading partners far more important, and the reputation of a firm a more valuable asset. Hopefully, this shift will push firms toward more long-term cost-benefit analyses and firm commitments to principles of transparency.

Even more broadly, it is essential that firms understand that an economically sound commitment to communication, transparency, and consumer control requires overcoming a couple of large barriers. First, to overcome the time-inconsistency problem, firms will have to, either through regulation or contracts with third parties, bind their future decisions.[23] A promise by a firm today that can be altered in 6 months by a change in fine print will not be credible in the short run, nor will it push the market toward building institutions that reinforce credibility. If, instead, the firm contracts with a third party to monitor and control consumer data use, as intermediaries like PayPal often do, then those with the data have an econom-

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ic incentive to protect privacy, eliminating the long-run incentive to monetize consumer data.

What then, is the place of a Christian ethic of openness in a global economy? Let me offer two suggestions. First, our global technological economy is busy shaping our culture, and right now that is a culture that lauds privacy and zealously protects the space that is "personal." But our economy is not made up entirely of "modern" transactions. To the extent that there is a place for relationship-centered commerce, Christians should resist the urge to let privacy rights reign supreme. That is, in the anonymized commerce enabled and encouraged by modern technology, there could be a real danger that we lose the ability, mores, and disciplines necessary to participate in a more personal economic life. In particular, there are a set of habits and customs that undergird traditional commerce and certainly trust-building relationships are often at the center of their formation. The result is a set of "bourgeois virtues"[24] which reduce transaction costs and allow markets to function with minimal government oversight. McCloskey argues that these habits and virtues are more central to the success of market economies than the rational action models indicate. Given this, an excessive kind of suspicious individualism could make genuine relationships in the commercial world much more difficult. A Christian economic ethic then, must include a concern for the practical material concerns of efficiency, but it must also preserve the space for relationship-centered economic activity where possible. In that realm, moreover, openness and generosity, enabled by trust-building private institutions, can lay the foundation that ethically sustains the impersonal economic activity that we cannot avoid.

Second, we can use the possibility of relationships as a rule to guide where privacy should be asserted and where we should let Christian generosity and openness be our aim. It may be that sharing personal information on a social network is a good Christian thing to do, especially if it is done in a context that complements rather than replaces face-to-face interactions. Similarly, building connections between the institutions of civil society and commerce, where possible, can entail openly sharing identities and connections within a community. If all of our political discussions happen in an online environment in which people are anonymous, the discussion devolves and the finding of common ground is rare. In the context of community and known identity, however, there is the chance for real relationships to temper political disagreements. We can encourage these good elements while, at the same time, consistently condemning a social network company if it collects that same personal information and sells it to advertisers.

Where can Christian Practitioners Make a Difference?

If we take these privacy concerns seriously, then we should immediately recognize the possibility for broad systemic change, but also the possibility of individual action. In particular, this environment heightens the stakes for firms and consumers when entering into a transaction. The goal should be to create practices that make trust between consumers and firms rational. To do this, firms should consider the following guidelines for the use of data:

1) *Make firm long-term commitments to responsibly use consumer data.* Any way that a firm can make a binding commitment, internally, through third parties, or through regulation, it should do so. This will build the norm of trustworthiness in the firm and start to build a reputation.

2) *Invest in credible communication*. Firms should find ways to communicate to consumers, in simple and transparent ways, exactly how their data will be used. If the message can be externally verified, that is even better.

3) *Give consumers transparent control*. Allowing partners and customers to opt into data use allows others to make free choices to be a part of the firm's community, and will also build trust.

Conclusion

Trends in information processing and economic specialization may have created the need for serious attention

to consumer privacy in both business and law. The host of privacy concerns that are arising have the effect of both limiting online commerce and driving people to protect their identities and lives from those around them. While this is unlikely to cause an economic crisis for retailers, there is good reason for principled businesspeople and policy-makers to create a standard that will build trust between actors. In some cases, privacy laws will become an important focal point for shaping economic habits and culture. These laws should be constantly revised to allow people to participate in commerce, medicine, and social networks without the fear that firms will collect, share, or sell their personal information. Moreover, a Christian ethic of generosity and openness should support such privacy laws lest the fear of abuse cause people to limit their participation in the global economy. Moreover, firms should invest in practices, and policymakers should consider laws, that will make trustworthy use of data a competitive advantage, instead of a liability.

About the Author

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