

Technology and Non-Interpersonal Relationships

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ABSTRACT: This article examines how our interactions with technology-infused objects affect human relationships and spirituality. From a Christian perspective, how do non-interpersonal relationships influence our relationships with others and with God? Using Martin Buber's (1958/2000) I-Thou Framework and Scripture, we examine technology that is made by people yet has capabilities greater than people do in a growing number of contexts. We discuss boundaries and trust with respect to how we relate to these objects as non-persons. We conclude with implications for business decision-making.

KEYWORDS: Christian theology, relationships, technology, artificial intelligence

TECHNOLOGY RELATIONSHIPS: HOW OUR RELATIONSHIPS WITH OBJECTS IMPACT OUR RELATIONSHIPS WITH OTHERS

In the futuristic HBO series *Westworld*, humans come to a theme park depicting the American Wild West in the 1800s to escape their current reality. *Westworld* is not just any theme park; it allows the “client guests” to immerse themselves in a storyline where they interact with androids infused with artificial intelligence. The guests choose their own paths and can determine what they want their experience to be, whether pleasure, pain, heroism, or death.

The show portrays how guests are affected by their interactions with non-human androids in the park as well as how the guests' decision-making can lead them to become less human than the androids (Lacko, 2017). In *Westworld*, the lines are blurred as to what is real and what is not. Who is human and who is android? A guest asks, “Are you real?” The robot mimicked the “Turing

Test” (Turing, 1950), responding, “Well if you can't tell, does it really matter?” (Lacko, 2017). Indeed, we argue it does matter. As Paul argued with the people of Athens concerning the statue to an “unknown God” in Acts 17:16-34, we cannot fully understand the world and our place in it without understanding with whom or what we are engaging (cf. Morelli, 2019). For the Christian, our relationships with technology raise profound issues for how we understand our own humanity and how we understand other people.

The blurring between what is human and what is created by humans affects both our relationship with others and ultimately our relationship with God. If we treat non-humans as superior to humans, then we may idolize them while minimizing the value of those who are made in the image of God. On the other hand, if we denigrate non-humans as simply tools or devices made to do our own bidding, we may develop habits and patterns of behavior in our interactions with them that overflow into our human relationships. And our human relationships

impact our relationship with God. 1 John 4:20 says, “Whoever claims to love God yet hates a brother or sister is a liar. For whoever does not love their brother and sister, whom they have seen, cannot love God, whom they have not seen.” Jesus also made a connection between our relationship with God and our relationship with others when he gave the greatest commandments, to love God, and *likened* it in importance to loving our neighbor (Matthew 22:37-39).

As technology creates increasingly lifelike objects, like *Battlestar Galactica’s* mechanical humanoid race of Cylons (Morehead, 2013), relationships between people and things have become more common. We have conversations with Siri and Alexa, we name our Roomba vacuums, we cooperate with computer-generated avatars when playing video games, and we are unable to determine whether the person we are interacting with on social media is real or a “bot” (Confessore, Dance, Harris, & Hansen, 2018). We may think we are becoming god-like in the sense of creating beings with intellectual capabilities and the ability to learn.

Modern technology, recently artificial intelligence (AI), has been considered to match or even exceed human intelligence and capabilities on certain tasks, such as complex decision-making, reasoning and learning, sophisticated analytics and pattern recognition, visual acuity, speech recognition, and language translation (Anderson, Rainie, & Luchsinger, 2018). Increasingly, this technology is designed to learn from us and about us. While some animals have always had both these capabilities in a limited way, now technological objects can take this further and deeper, potentially leading to new types of relationships.

In the past, when we interacted with objects, we learned from them (a book, for example) but they did not learn from us. We also could do things we could not do without them, such as using a machine to lift a heavy load. Now, given advances in machine learning, objects, devices, and even organizations become different through their interactions with us. A search engine, for example, may respond differently to one person versus another because of different past interactions (MicroArts Team, 2014). A company, using data analytics to mine my past buying habits, will also respond differently to me than to someone else, perhaps surpassing the clerk who had come to know me over a period of time. These technology-driven objects and devices do not simply know what we have done in the past; in some sense, they learn why we have done these things. They may have insight into our behavior that we do not have about ourselves.

For the Christian, our non-interpersonal relationships raise profound issues of how we understand our own humanity and how we understand other people. Thus, they have the potential to shape our human interactions and our relationship with God.

In this paper, we examine how human relationships are affected by our technological interactions. We have framed two sets of research questions:

1. In what ways are our relationships with these non-person entities similar or different from our relationships with people? Are these relationships transactional, interpersonal, or on a spectrum somewhere in-between?
2. What are the criteria for healthy interactions with technology?

We attempt to answer these questions by considering technological objects (e.g., software, hardware, AI systems) that are becoming more capable and thus increasing our dependence upon them, even as our understanding of them decreases. There are even those who speculate this technology will be deified (Midson, 2017). We examine this possibility through the lens of Buber’s (1958/2000) I-Thou relationship framework and Scripture for boundary conditions and discuss the role of trust in relationships and how this pertains to objects. We conclude with implications for business and considerations for future research.

UNDERSTANDING RELATIONSHIPS

Famous for his thesis on human existence, Martin Buber’s (1958/2000) I-Thou relationship framework is useful in addressing our first research question. Buber’s framework utilizes two modes of interacting with others: “I-Thou” and “I-It.” He describes “I-Thou” interactions as the process of encounter, dialogue, and relationship, reflecting the holistic mutuality between two beings. Buber concludes that all I-Thou relationships carry within them a reflection of the reality of the existence of God, the ultimate *Thou*. Conversely, in “I-It” interactions, a person interacts with other things and people but is set apart from, and does not truly engage in, relationship with the other. There is no sense of mutuality or dialogue between *It* and *I*, but rather a sense that the *I* party is simply experiencing the other; the emphasis is on the *I* rather than the *It*. I-It interactions are marked by instrumentality and do not accord the *It* with a sense of independent autonomy. Instead, the *I* is the subject acting on others. According to Buber (1958/2000), all the perceived ills of modernity—

including isolation, dehumanization, materialization, and objectification—occur as the result of I-It relationships.

In contrast, I-Thou relationships are reciprocal. “[I]n *I-Thou* relationships, the *I* is the object allowing others to act on him” (Diddams, 2006). Herzfeld (2015) summarizes his understanding of Buber’s thesis by focusing on the importance of I-Thou relationships in our engagement with other people but warning against treating human-created objects as equivalent to people:

In his seminal work, *I and Thou*, Martin Buber warns against the human propensity to treat other human beings as objects. Baron Cohen notes that lack of genuine empathy underlies much of human cruelty, the cruelty he describes as people turning people into objects, a process that changes us over time so that in the end “we relate only to things or to people as if they were just things.” Treating humans as objects erode our ability to be empathetic. Nevertheless, treating objects as human beings can result in a similar erosion. The need to be in relationships, a part of the *imago Dei*, coupled with what Philip Hefner has dubbed our nature as “created co-creators,” drives us to create intelligent computers, and to try to relate to them but we must remain aware of the distinction between them, as things, and us as persons. (p. 38)

What Buber (1958/2000) identified as a duality—relationships are either I-It or I-Thou—may in fact be a continuum. We may engage with other people sometimes in an I-Thou manner but at other times shift to viewing them as objects. Similarly, we may recognize that an AI machine is an object (It) but still interact with it as if it were a person (Thou), and in the process, that interaction may begin to change who we are. The reason for this is that the increased “intelligence” of the AI’s user interface makes it seem almost human-like. Whenever we say “please” to voice assistants such as Siri, Alexa, or Google Assistant, we are demonstrating this. We are increasingly becoming familiar with hearing intelligent comments from the objects we encounter. The growing level of reciprocity between a human and an object creates some confusion over whether we are engaging with a *Thou* or an *It*. Note the blurring, and distortion of, reality in the modern age. We have loose, interchangeable categories due in large part to the infusion of artificial intelligence into objects most members of society carry on their person constantly.

The modern ills of society Buber points to have all grown due to social media and may allow a human to look

to an object or organization for interpersonal relationships, finding them to be easier to manage, more helpful, and in some ways more satisfying. Through this, people may devalue those with whom they may have previously been in deep personal relationships. Further, these systems—perceived as possessing “all knowledge”—begin to compete with God in our lives.

Many of us experience a range of emotions, including a false sense of connection, when interacting with “smart” devices. We can speak to these voices as if they were a person. In observations of interactions with computerized support systems, “[u]sers spoke to the automated assistants longer than they did to human support agents performing the same function. People would volunteer deep secrets to artificial agents, like their dreams for the future, details of their love life, even passwords” (Yearsly, 2017). We treat them as objects of old as if they did not learn; now, they do. The blurring line between relationships with people and things is evident.

It is tempting to think our daily interactions with companies or robots do not really constitute relationships. Yet, our interactions with these non-person entities share many of the characteristics of our human relationships: we think about how they affect our lives, we engage with them, we talk to them and about them, they can be responsive to us, and so on. Examples include becoming frustrated with Alexa when it does not understand you or Siri giving you irrelevant information that is not pertinent to the question you asked.

Given this new reality, we see it is entirely possible to have what is perceived to be an I-Thou relationship with entities or objects that are not people. Conversely, it is also possible—in some contexts, likely (Weinstein, 2009)—to have I-It interactions with people. While we might think having a relationship necessitates a personal counterpart, Buber’s conceptualization helps us see that any “other” with whom we interact may become a *Thou* to the extent that we allow the opportunity for reciprocal engagement, dialogue, and relationship.

Neil Postman (1996) argues that technology affects our relationship with God when we attribute god-like attributes to it:

[P]eople believe technology works, that they rely on it, that it makes promises, that they are bereft when denied access to it, that they are delighted when they are in its presence, that for most people it works in mysterious ways, that they condemn people who speak against it, that they stand in awe of it, and that, in the born-again mode, they will

alter their lifestyles, their schedules, their habits, and their relationships to accommodate it. If this is not a religious belief, what is? (p. 38)

In the next section we examine what criteria we might consider that would allow us to engage in healthy ways with technology (research question 2).

HEALTHY AND UNHEALTHY RELATIONSHIPS WITH NON-PERSON OBJECTS

Humans are created by God and reflect God's image. Our image-bearing identity does not change, even as our society changes around us (Smith, 2000). While God gave us the creation/cultural mandate to appreciate, love, and care for the created world (Bradley, 2019), we have the potential to create or choose either goodness or evil due to the fallenness of the world in which we live. Thus, our relationships with non-person objects can be healthy or unhealthy depending on how we interact with them. Technology can play an amplifying role in interpersonal and non-interpersonal relationships, whether those are healthy or unhealthy. We argue that an appropriate understanding of, and respect for, the "other" in the relationship, reciprocity, and appropriate levels of trust mark healthy relationships. Unhealthy relationships, on the other hand, may inappropriately objectify or idolize the "other." For example, one party is taking more than they give, which could lead to higher or lower trust levels than would otherwise be warranted.

Respect and Reciprocity

When one is in a relationship with an organization or an object, it is important to recognize the value in the "other," but this value is never equivalent to the *imago Dei* that characterizes people. We should treat technologies with respect, not because they are created in God's image, but because they reflect the creativity and work of humans, and because they can contribute to human flourishing. Like technologies, businesses have value, but this value varies based on the instrumental value of what the business does and how it does it, rather than due to the intrinsic nature of business per se. Similarly, brands, products, and ideas should be valued for what they contribute to the world.

One of the potential dangers here is over-valuing the non-personal "other" to the point that it becomes an idol. The first of the Ten Commandments is: "You shall have no other gods before me" (Exodus 20:3). Such idolatry

happens when anything becomes more important than God. It also occurs when we attempt to usurp God's authority in our own actions (Midson, 2017).

There is danger in placing objects above man as this could lead to idolatry. They are not made in God's image but rather spring from the mind and labor of mere humans. Thus, we should not give them positions like humans or like God. Nevertheless, since God calls us to create and develop our world, there is value within objects, which include artificial intelligence and robots. Recent studies have raised concern that mistreating an object that reacts in a lifelike way could impact the general feeling of empathy we experience when interacting with other entities (Darling, 2017). In other words, the denigration of non-human objects, particularly physically embodied objects, may lead to negative outcomes such as the mistreatment of other people, which is antithetical to loving God.

There is a balance in creating and using these subhuman objects. In some ways, they are more capable than we are and can relate to us through our senses of speech and sight. We should not think we are inferior to them, despite their mystery and sometimes our belief and trust in them (e.g., IBM's Watson). These objects are unconscious with flaws, bugs, and limited but powerful capabilities. Thus, we need to understand the lines we draw between human persons and non-persons and how we can more effectively relate to non-persons.

At an extreme, relationships with non-persons may replace human relationships. Previous depictions in cinema such as *Ex Machina* demonstrate an object that is god-like in terror due to its wrath, punishment, and all things opposite of human beings. This is contrasted completely with the depiction of an AI in the movie *Her* (Reed, 2018). "A man designs an operating system to meet his every need" (*Her*, 2013). In the end, just as God destroyed the first creation with the flood (Genesis 6), the lonely programmer deletes his creation and starts over again. Despite this fictitious movie portrayal, experts believe this will be possible by 2050:

One can reasonably expect that a robot will be better equipped than a human partner to satisfy the needs of its human, simply because a robot will be better at recognizing those needs, more knowledgeable about how to deal with them, and lacking any selfishness or inhibitions that might, in another human being, mitigate against a caring, loving approach to whatever gives rise to those needs. (Dormehl, 2014)

Assumptions about Trust

Non-interpersonal relationships can become

unhealthy when we have unfounded expectations of trust in them. Examples include Facebook trusting Cambridge Analytica (van der Schyff, Flowerday, & Furnell, 2020) with user data and Google Maps tracking movement (Hamid & Croock, 2020), despite individuals repeatedly turning this feature off on their smartphones. Trust in relationships has been examined along multiple dimensions of the construct. In their literature review, Castalado et al. (2010) maintain there are five dimensions of trust: the conceptual nature of trust, the subjects of trust, the object of trust, the characteristics of the relational context, and the consequences of trust. Trust presumes or assumes certain characteristics on behalf of parties entering the relationship. The subjects of trust, the trustees (e.g., agents, actors, groups, firms, sellers, etc.), are generally described by their competence, values, and purpose that incorporate expertise, honesty, integrity, benevolence, etc., which are antecedents to trust. Colquitt et al. (2007) express these antecedents as trustworthiness and trust propensity. The object of trust is “actions by the trustor, who will behave in a way that is consistent with his decision to trust, and actions by the trustee, who will act in a way that is assumed to be consistent with the achievement of the trustor’s objectives” (Castalado et al., 2010, p. 663). The relational context of trust underscores the assumption that trust is only bestowed in risky or uncertain situations, and that the trustor puts himself/herself in a vulnerable situation by trusting the trustee. The consequences of trust are the predictability of the trustee’s behavior, and outcomes that are assumed favorable to the trustor’s objectives (Castalado et al., 2010).

Given these assumptions of trust, while humans may have different levels of trust in non-person objects, the boundary of healthy vs. unhealthy non-interpersonal relationships might become apparent when there is a misalignment between the “appropriate,” God-intended state and the actual state of the trustee/trustor in each of the five aforementioned dimensions of trust. For example, with respect to the conceptual nature of trust, if a trustor has too much reliance or belief on the trustee (e.g., an object that has artificial intelligence), the trustee—in this case, a human—may tend to confuse the trustor’s intention (or function) in the relationship. Believing that virtual assistants would provide the “right” option when actually giving the most “selected” option or one based on a person’s preferences would be an example of this situation.

It could be problematic if humans consider non-person objects as beings of competence, values, and purpose

without understanding the limitations of such objects. For example, an AI may be trained on a test set that is limited (Erisman & Parker, 2019). It appears to understand the issues but, in fact, has a very limited and narrow view. With a person, you might get to know them in many situations and come to understand their limitations. Fewer interactions with the object may make us think we understand the object, but we truly do not. Recent research in this area (e.g., Kearns & Roth, 2019) suggest that while some ethical frameworks can be captured in objects, this is a long way from the object behaving ethically in the sense we use for humans. While artificial intelligence may approximate these aspects of the human being, it is questionable whether humans can have the same relationships with non-person objects that do not possess self-awareness and a conscience, as they do with human beings.

In addition, humans with bias and inherent sin created these non-person objects. Objects with the ability to learn from humans could also learn their biases and sinful actions. For example, a chatbot expressed violent intent and anti-Semitism after interacting with online trolls (Heine 2016). Thus, the creator’s actions may have an initial intent of good, but the end-user may turn them into something bad, either intentionally or unintentionally, because of sin.

Non-interpersonal relationships might be unhealthy when humans act upon and react to the actions of non-person objects while not understanding, or acknowledging, that the actions of non-person objects might lack intentionality. Even in cases where non-person objects do show intentionality, such as customer relationship management (CRM) systems, actions may be misleading in the sense that humans may consider the intentions of different entities (e.g., humans and organizations) as the same.

We can imagine various ways in which a non-interpersonal relationship can be unhealthy due to the inherent vulnerability of humans trusting non-person objects. This could range from emotional trust to trusting information will remain private. This vulnerability puts the relationship at risk of becoming unhealthy. Vulnerability might turn into unhealthiness in cases when humans trust the object too much without understanding the limitations of non-person objects in a relationship. This could occur when humans misunderstand the object and thus expect the object to think and act *truly as* a human and when humans act upon objects and expect the counterpart of trust to react in the same way a human reacts.

Finally, all the dimensions of trust—the conceptual nature, the subject, the object, and characteristics of the

relational context—can lead to unhealthy consequences of trust in non-interpersonal relationships. It is noteworthy that we do not have a pessimistic view of trust in non-interpersonal relationships; rather we maintain that non-interpersonal relationships are not the same as interpersonal relationships. Therefore, in non-interpersonal relationships, we should take caution by considering how we trust non-person objects. Trust without prudence may well result in unhealthy relationships (Smith, 2019).

In this sense, we can learn from human experiences to trust and apply this learning to trusting non-person objects. With other humans, trust is earned. Relationships test trust boundaries, and those involved know when trust can be assumed and when it must be questioned based on experience with interactions. In the same way, those working with objects, no matter the object's capability, must test these objects under a variety of circumstances to see where the objects can be trusted. An assumption of trust is no more warranted with an object than with a person. The challenge comes when what the object does is not readily understood. This suggests getting to "know" the object under a variety of situations to begin to understand under what conditions such objects might be trusted.

IMPLICATIONS FOR BUSINESSES

The current climate of trust demonstrates a world broken from sin. The 2018 Edelman Trust Barometer reports trust in institutions in the United States is the worst among 28 countries surveyed (Verschoor, 2018). Trust issues abound, especially in the area of robotics. One concern of the introduction of the robot as our neighbor is its level of intelligence versus limited human capacity. People overestimate the capabilities of technology and may trust them too much, which is a violation of *I-It*. For instance, passengers in self-driving cars might climb into different seats while moving, sleep while commuting to work, or otherwise not pay attention to what the car is doing (Madrigal, 2017). While the car may do the things it has been tested to do in a better, more reliable way than a human driver, what about those situations where it has not been trained? Traffic laws were made for human drivers, which self-driving cars can certainly be programmed to follow. But are there new laws that will be needed based on what self-driving cars may do? As machines improve and humans hand over more power to them, there is risk of failure in situations where the

machine is trusted but not tested. Further, as these objects replace people, humans may regress in the quality and quantity of relationships. This is true because the shallower relationships with objects may both establish a new norm for relationships with people and may take more of a person's time, detracting from the time the person has for human relationships.

Technologies and AI that interact with others in a capacity that used to be human-to-human have already been fully integrated in some large businesses, as well as many medium and small businesses (KPMG, 2019). Given this reality, how might Christian theology help us with businesses that integrate technology into processes? Since AI is partially replacing man's God-given oversight responsibility (Genesis 1:28-30) and creation care (Genesis 2:15), this technology raises several issues, including impure motives, design flaws, and unintended and surprising applications upon release.

When creating these instruments, one should be aware of potential for destabilization, idolatry, corruption, unanticipated consequences, contextual misfit, and isolation. Erisman and Parker (2019) call for us to be in the camp of the wise:

Some will engage early to understand and seek to steer the development of these AI systems in a way that keeps the big picture in mind. For those taking this approach, they need the reminder of being open to new possibilities, aware of potential downsides, and to take care in avoiding premature judgments. They also need to listen to questions from those who don't understand the technology. (p. 104)

This means we do not make ourselves the center; we "live...in this present age" (Titus 2:11-12), and we do this by living and doing while seeking God and praying for God's guidance to come alongside us with a hope to prosper (Jeremiah 29:4-7). Some other practical considerations include intently seeking to be aware of human bias during the AI programming and training. One way is to ask designers not only what the system might be able to do for us, but also what the system might be able to do to us. A second way is to have independent checks on such systems, seeking to test them in ways the original designer may not have thought about. Without these considerations, the technology will be as flawed as humans (Crombez & Dahms, 2015).

Humans have always had the tendency to look for answers they like rather than truth. In 1 Kings 12 we see an example of confirmation bias, where Rehoboam did not listen to the older, wise counsel but instead to the

younger men whom he knew. These young men provided the answer he wanted. Likewise, data used in machine learning should include multiple perspectives in order to understand the nature of the bias coming from such systems. We need to understand what is gained and what is lost by their use and attempt to avoid receiving only the answer we are looking for.

Lastly, companies should incorporate a culture of ethics, starting with the hiring process and asking tough ethical questions from the interview stage, all the way to considering implications in all stages of the research process. In a similar way, businesses should evaluate the non-human objects they bring in, assessing how they will fit within an ethical framework. Within Christianity, sin is not just individual but also communal; thus, work should be done to ensure issues result in minimal damage since the whole organization will be held culpable (Morehead, 2013). This may even include a firm code of conduct and eventually a code of conduct for the industry, just as others have done (Webb, 2019). All three (multi-perspective, risk-reducing, and ethical) principles should be brought to bear on the implementation and use of AI.

One may consider these technologies in the context of an employer-employee relationship. Although AI lacks a soul and humans have more control over this type of creation, similar principles may apply. The systems learn through training and should be created on an ethical foundation. From Scripture, this would include fostering not just the commandment of loving your neighbor (wherein anyone potentially interacting with it is a neighbor) but also attempting to avoid negative attributes in place of positive ones. While it is early in the development of AI systems, some are trying to build ethical behavior into the algorithms from the beginning (Kearns & Roth, 2019). In the spirit of Galatians 5:19-23, with AI we should attempt to both avoid evil and pursue good at the same time.

In this context, recommendations for AI use in organizations would include the following: Reference check the AI before bringing it into the organization. Get to know how it responds in different situations by working with it intentionally. Find the right spot for the AI in the organization. Through assessment, do not be afraid to fire it or go a different direction if the AI creates more harm than good for the company. In addition, the people in the organization need to learn how to respond to this new “member” of the organization when an AI is brought in.

CONCLUSION

This paper extends the literature by expanding upon Buber’s (1958/2000) I-Thou Framework and the Creation Mandate to make the case that there is a spectrum of relational opportunity between humans and non-person objects that have AI capacities. We argued that there are two primary challenges people face in their interactions with such technology. We risk idolizing technology if we treat non-human interfaces as superior to humans. As Christians, our approach to AI should be shaped by a positive understanding of technology but with awareness of its limitations. Conversely, we need to be cognizant that in our interactions with other persons we are engaging with an image-bearing creation of God.

We limited our exploration to AI-enhanced objects. However, similar arguments might be made about our relationships with many non-human entities. For example, we engage in relationships with organizations that use data to make predictions about human behavior. We also have relationships with technology that does not have the capacity to learn from us. Future work could examine our interactions and relationships with these and other non-person objects or beings.

While we focused on examples from literature and media to discuss a theoretical way to approach our relationships from a Christian perspective, it would be interesting to gather data from organizations and individuals to see what currently occurs at the workplace. What are businesses doing about their technology policies with respect to employee use and creative products? What are governments, non-profits, B-corps, and non-governmental organizations doing about the rapid pace of technological development? Why do some people tend to view technology as a means to an end, an amoral avenue, instead of something as part of his or her own development, including as a person?

We conclude by emphasizing that technology has already had a large impact on society and will continue to do so in more invasive ways in the future. Thus, it is crucial Christians view these objects as what they are: objects. They are not formed in the *imago Dei* but are created by humans and will necessarily be flawed as part of a fallen world. We also must keep in mind that we are not machines. We are human beings made in the *imago Dei* (Bradley, 2019). Until the world is fully redeemed, we must use technology wisely and remember that despite their superhuman results and God-like achievements, AI enhanced objects are not perfect nor are they God.

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