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DOES TECHNOLOGY POSE PROFOUND MEANINGS BEYOND THE OBVIOUS?

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Abstract

Technology and social responsibility is an issue of extreme importance for our time, especially as AI scientists and academics expressed deep concern over the potential impact of AI in their open letter of March 2023. Our paper focuses on debates over two basic questions: 'Is it possible to live without technology in our digital age?' and 'Does technology carry deeper profound meanings beyond its application as an instrument for betterment of our life?' We first present a general observation, then some reflections on efforts to answer these questions by referring to available data in literature, the web, views of individual thinkers expressed in books and academic or popular news outlets. These may reveal our understanding of the impact of technology, our reliance on smart phones and the internet, as well as human reliance on technology to enhance communal responsibility or the lack thereof.

Keywords: *Modern Technology; Impact of Technology; Traditional Technology; Meaning and Life Fullness.*

Abstrak

Teknologi dan tanggung jawab sosial merupakan isu yang sangat penting di era kita saat ini, terutama setelah para ilmuwan dan akademisi kecerdasan buatan (AI) mengekspresikan kekhawatiran mendalam mereka mengenai dampak potensial AI dalam surat terbuka mereka pada Maret 2023. Artikel ini berfokus pada perdebatan seputar dua pertanyaan dasar: 'Apakah mungkin hidup tanpa teknologi di era digital kita?' dan 'Apakah teknologi memiliki makna yang lebih dalam di luar penggunaannya sebagai alat untuk memperbaiki kehidupan kita?' Kami pertama-tama menyajikan pengamatan umum, kemudian beberapa refleksi tentang upaya menjawab pertanyaan-pertanyaan ini dengan merujuk pada data yang tersedia dalam literatur, web, pandangan pemikir individu yang diungkapkan dalam buku-buku dan media akademik atau populer. Hal ini dapat mengungkapkan pemahaman kita tentang dampak teknologi, ketergantungan kita pada smartphone dan internet, serta ketergantungan manusia pada teknologi untuk meningkatkan tanggung jawab komunal atau sebaliknya

Kata Kunci: *Teknologi Modern; Dampak Teknologi; Teknologi Tradisional; Makna dan Kesejahteraan Hidup*

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مستخلص

التكنولوجيا والمسؤولية الاجتماعية قضية بالغة الأهمية في عصر المعاصر الحالي، خاصة بعد أن أعرب خبراء الذكاء الاصطناعي والأكاديميون عن قلقهم العميق بشأن تأثيرات الذكاء الاصطناعي في رسائلهم المفتوحة في مارس 2023. تركز مقالتنا على مناقشة حول سؤالين مهمين: "هل يمكننا العيش بدون التكنولوجيا في العصر الرقمي؟" و"هل للتكنولوجيا معنى أعمق وأشمل من استخدامها كأداة لتحسين حياتنا؟" يقدم الباحث في البداية ملاحظات عامة، ثم بعض التأملات في محاولة للإجابة على هذين السؤالين بالإشارة إلى البيانات المتاحة في الأدبيات المختلفة، والمواقع الإلكترونية، وآراء المفكرين المقدمة في الكتب والمجلات الأكاديمية، ووسائل الإعلام الشعبية. يمكن أن يكشف هذا عن الفهم لتأثير التكنولوجيا، واعتماد الانسان على الهواتف الذكية والإنترنت، واعتقادهم بأن التكنولوجيا يمكن أن تعزز المسؤولية المشتركة أو العكس.

الكلمات الرئيسية: التكنولوجيا الحديثة؛ تأثير التكنولوجيا؛ التكنولوجيا التقليدية؛ المعنى والسلامة الحياتية.

A. Introduction

Studies show that the recent English term ‘technology’ embraces “conflicting meanings.” One is connected to the issue of its genealogy as a purely Western conception, as Eric Schatzberg has indicated in his *Technology: Critical History of A Concept*.[1] He traces this concept from the Indo-European root *tek*, which means “weaving sticks together” and the Greek *techne* with its broadened specialized meaning “know-how,” being knowledge of how to make things which otherwise did not exist. Schatzberg specifies that Aristotle (d. 322 BCE) distinguished *techne* as a form of knowledge to make an art or a craft from *phronesis* as moral knowledge or knowledge of how to act wisely, and from *episteme* as knowledge of the eternal. These three types of knowledge exist in a hierarchy: knowledge of how to act is better than knowledge of how to make, just as knowledge of the eternal is better than knowledge of how to act. This hierarchy led to the distinction between means and ends: the latter might be valued, while the mere means for achieving the objective might not, resulting in the understanding of *techne* as “morally neutral.”[2]

Reviewing Schatzberg’s *Technology*, Francesca Bray and Barbara Hahn argue that the modern concept of technology is “not the product of an exclusively Western

[1] Eric Schatzberg, *Technology: Critical History of A Concept* (Chicago & London: University of Chicago Press, 2018).

[2] Schatzberg, *Technology*, 22; Jon Agar, “What Is Technology?” *Annals of Science* 77, no. 3 (2020): 377-382, https://www.tandfonline.com/doi/epdf/10.1080/00033790.2019.1672788.

intellectual genealogy."[3] Rather, it is a creation of many world cultures and intellectual traditions "whose manifestations took shape concurrently in many multiple centers."[4] Although many national languages now obviously utilize a transliteration of the Western term 'technology' (as is the case of Indonesia with the word *teknologi*, or *teknoloji* in Turkish), technology as a modern concept has always been a global currency, "a global assemblage."[5] As such technology embodied and continues to represent complex shifting topographies and networks of interactions and influences, even violent enactments. This composite landscape is clearly demonstrated by the experience of Japan and China, the two countries Bray and Hahn studied. It presents not only the close connections of technology as a concept to the state, to politics, and to the geopolitical order, but also the "deep pre-Western-influence genealogies of technology as concept, expressed in languages quite distinct from the interwoven Greco-Latin etymologies."[6]

Bray and Hahn show that the Japanese word *gijutsu* (with *jutsu* meaning art) and Chinese *jishu* for 'technology' carry ideological meanings and imperial visions with extremely complex history and intellectual and political tapestries. These composite "ideologies and imaginaries of technology" create a "comprehensive technology of culture" in the case of Japan, and "useful knowledge" or "useful technology" in the case of China.[7] Unlike in the West where early on technology is associated with progress, innovation, and material achievements, in the East "useful technology" is an art with great insights serving as a force and an instrument for stabilizing political order and social cohesion. Yet, the conceptual rupture occurred in the late nineteenth century when the industrial sector and technology was "specifically identified as the source of a nation's wealth and power," promoting Western technological training and education while maintaining Chinese and Japanese cultural values. Bray and Hahn emphasize that the notion of Europe's exceptional role in the genealogical development of modern technology as a concept must be rejected. This idea echoes us of Arun Bala's *The*

[3] Francesca Bray and Barbara Hahn, "'The Goddess Technology Is A Polyglot': A Critical Review of Eric Schatzberg, Technology: Critical History of A Concept," *History and Technology* 38, no. 4 (2022): 275-316, https://www.tandfonline.com/doi/full/10.1080/07341512.2023.2196795.

[4] Bray and Hahn, "The Goddess Technology."

[5] Bray and Hahn, "The Goddess Technology."

[6] Bray and Hahn, "The Goddess Technology."

[7] Bray and Hahn, "The Goddess Technology."

Dialogue of Civilizations where he argues against European exceptionalism in the birth of modern science.[8]

The second debate over technology treated here is the conception of technology that Schatzberg divides into two different approaches: the cultural and instrumental. Many people today narrowly view technology only in terms of its instrumental manifestation, especially the current popular comprehension of its being merely digital innovations. However, Schatzberg reminds us that technology has a long and complex history presenting tensions between observers and practitioners of technology, consisting of every aspect of human culture and craft from tool-making to medicine. The tension occurred from the time of Greek thinkers to those of the Renaissance and down to the nineteenth century. As indicated above the ancient Greeks held the knowledge of know-how represented by artisans or technicians in low esteem, and defined mechanical practices as mere means toward ends. Only in the twentieth century did the modern notion of technology emerge when scholars and practitioners alike presented technology with three definitions: technology as applied science, as the knowledge and practices of the industrial arts, and as "technique, or instrumental reason."[9] Schatzberg declares that in spite of the modern pervasive use and talk of technology, our understanding of it remains obscure and messy.[10] In this long history of tensions and debates, especially in our modern comprehension of technology, the instrumental approach to technology has had the upper hand resulting in the removal of human agency from the discourse of industrial modernity.[11] Consequently, the instrumental conception of technology has divorced it from human culture and deprived it of its own moral compass. Schatzberg thus invites thinkers to liberate technology from those who try to reduce it to instrumental reason (the process of finding the best means to a specific end) and to rehabilitate it by creating technology conducive to a more human future.[12]

[8] See Arun Bala, *The Dialogue of Civilizations in the Birth of Modern Science* (New York: Palgrave Macmillan, 2006). Bala points to the contributions of China, India, and Islam to the formation of the Euro-American sciences.
[9] Schatzberg, *Technology*, 212.
[10] Schatzberg, *Technology*, 1.
[11] Schatzberg, *Technology*, 1.
[12] Schatzberg, *Technology*, 232-235; Agar, "What Is Technology?"; Bray and Hahn, "The Goddess Technology."

B. Discussion

The Possibility and Impossibility of Life Without Technology

It is now time to answer our first question: "Is it possible to live without technology in our digital age?" This question requires serious reflection. A general perception is that no one can live meaningfully without technology since it "has become a very big part of our life." This is particularly true of younger generations who "are born with the idea that it's impossible to live without all our modern high-tech equipment."[13] These are the "digital natives" who possess little or no memory of the world as it existed before smart phones, with Generation Z born after 1996 being the first generation to have never known the world without the internet.[14] Other members of the general public also seem to embrace technology. My home country of Indonesia, for example, had 202.6 million internet users in January 2021 with internet penetration at 73.7 percent. It identified 170 million social media users or 61.8 percent of the total population in the same period. Also, there were 345.3 million mobile phone connections, which is equivalent to 125.6 percent of the total population, suggesting that many Indonesians own more than one mobile phone.[15] These figures continue to increase. Some other countries have even higher internet penetration with Saudi Arabia, Norway, and United Arab Emirates at 99 percent, while Singapore, Malaysia, and Australia at 96 percent. This phenomenon indicates that many people in the world embrace technology, including those residing in the developing world. In general, people are "unable to contemplate any other mode of life except one dependent on an array of modern technologies."[16]

However, there are others who reject technology, or are more reflective about technological "invasion" of their lives for various reasons. One famous case is the Irish writer Mark Boyle of *The Guardian* who rejects industrial-scale technology for ecological reasons. Although not everyone can "go and live in the woods," he thinks that resisting gadgets and the internet may help us reconnect with nature or even change the world. Boyle further asserts that urban industrial life is "too simple, and thus repetitive and boring." He emphasizes that

[13] Termcoord, "Can We Live Without Technology?,"*Terminology Coordination* (2014), https://termcoord.eu/2014/10/technology-addiction/.

[14] Kim Parker and Ruth Igielnik, "On the Cusp of Adulthood and Facing An Uncertain Future: What We Know About Gen Z So Far," *Pew Research Center* (May 14, 2020), https://www.pewresearch.org/social-trends/2020/05/14/on-the-cusp-of-adulthood-and-facing-an-uncertain-future-what-we-know-about-gen-z-so-far-2/; Monica Anderson and Jingjing Jiang, "Teens, Social Media and Technology 2018," *Pew Research Center* (May 31, 2018), https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/.

[15] Simon Kemp, "Digital 2021: Indonesia," *Datareportal* (February 11, 2021), https://datareportal.com/reports/digital-2021-indonesia.

[16] Tarik M. Quadir, "How Technology Affects Man and His Environment," in *Voices of Three Generations: Essays in Honor of Seyyed Hossein Nasr*, eds. M. H. Faghfoory and K. O'Brien (Chicago: Kazi Publications, Inc., 2019): 271-298; Willem H. Vanderburg, *Living in The Labyrinth of Technology* (Toronto & London: University of Toronto Press, 2005): xiii.

when "you're connected to wifi you're disconnected from life."[17] His reflection highlights that technology, especially digital technology, distracts human beings from a normal life where real social connections and natural encounters are an essential element of our daily routines. Other thinkers have also associated technology and its hand-maid modern science with environmental degradation,[18] while Seyyed Hossein Nasr and Charles Taylor refer to this destruction as the "rape of nature."[19]

Furthermore, technology may prevent many from the opportunity to reflect on the wonders of creation and to ponder "Big Questions" as we are "too busy" and constantly preoccupied with our machines and tablets.[20] Surely, people will not voluntarily return to the old lifestyle and "cottage economies," but they should at least understand that "progressing" forward "means techno-dystopia followed by ecological meltdown."[21] The danger of technology manipulation by the powerful is also a concern: "If the elite is ruthless they may simply decide to exterminate the mass of humanity."[22] The level of brutality with the application of algorithms in the current Gaza war is a fresh example: Israeli forces targeted Palestinians with the aid of AI to effect "the mass killing of civilians."[23] Others have questioned technology because it transforms human working and social conditions as manifested by the increase in employee surveillance and the "exploitation by gig labour platforms."[24] These rejecters are dubbed as Neo-Luddites or new followers of Luddism, referring to the 19th century English textile workers who destroyed weaving machines in protest for better working conditions.[25] Some others call these technology critics "refuseniks"

[17] Mark Boyle, "My Advice after A Year Without Tech: Rewild Yourself," *The Guardian* (March 19, 2018), https://www.theguardian.com/commentisfree/2018/mar/19/a-year-without-tech-debt-gadgets-reconnect-nature.

[18] Tarik M. Quadir, *Traditional Islamic Environmentalism: The Vision of Seyyed Hossein Nasr* (Lanham: University of America Press, 2013): 2; fn 7, 33-34.

[19] Seyyed Hossein Nasr, *In Search of the Sacred: A Conversation with Seyyed Hossein Nasr on His Life and Thought with Ramin Jahanbegloo* (Santa Barbara & Denver & Oxford: Praeger, 2010), 197; Charles Taylor, *A Secular Age* (Cambridge & London: Belknap Press of Harvard University Press, 2007): 53.

[20] Asna Husin, "Pertanyaan Besar: Pidato Pengukuhan Guru Besar Prof Asna Husin," *Serambi News* (March 14, 2023), https://aceh.tribunnews.com/2023/03/14/pertanyaan-besar-pidato-pengukuhan-guru-besar-prof-asna-husin.

[21] Boyle, "My Advice"; Nasr, *In Search of the Sacred*, 197-198; Quadir, *Traditional Islamic Environmentalism*, 7.

[22] Bill Joy, "Why The Future Doesn't Need Us," *WIRED* (April 1, 2000), http://www.wired.com/wired/archive/8.04/joy_pr.html.

[23] Robert Tollast and Thomas Helm, "Israeli Military AI System Led to Mass Killing of Civilians, Alleges Report," *The National News* (April 5, 2024), https://www.thenationalnews.com/news/mena/2024/04/04/israel-lavender-ai-gaza-air-strikes/#:~:text; Sulaiman Hakemy, "Israel, Gaza and AI Machines: Is This the Automation of War Crimes?" (April 05, 2024), https://www.thenationalnews.com/opinion/2024/04/05/israel-gaza-ai/.

[24] Jathan Sadowski, **"I'm A Luddite. You Should Be One Too,"** ***The Conversation*** **(August 9, 2021),** https://theconversation.com/im-a-luddite-you-should-be-one-too-163172.

[25] Sadowski, **"I'm A Luddite";** Emily Kitazawa, "People Are Rejecting Technology—What Are Their Solutions?" *Shortform* (October 18, 2022), https://www.shortform.com/blog/rejecting-technology/; Pew Research, "Some Luddites/Refuseniks Will Commit Terror Acts," *Pew Research Center* (September 24, 2006), https://www.pewresearch.org/internet/2006/09/24/scenario-7-some-ludditesrefuseniks-will-commit-terror-acts/.

or "people who do not want to participate in the actions routinely expected of a particular social group," or they are "technoskeptics."[26]

The negative connotation given to these critics by technology enthusiasts clouds the real concerns raised by many experts and thinkers about the destructive consequences of technological advances to our common humanity. An American computer engineer Bill Joy, the co-founder and chief scientist of Sun Microsystems who co-authored The Java Language Specification, wrote in 2000 that the human-level computing power is an instrument enabling "the construction of the technology that may replace our species." He predicted then that this advance could occur in twenty to thirty years. Joy sees that the 21st-century technologies – genetics, nanotechnology, and robotics (GNR) – are more dangerous than the previous century's weapons of mass destruction: nuclear, biological, and chemical.[27] Twenty years later, a similar concern is echoed by technology experts and Artificial Intelligence gurus as stated in their March 2023 letter, "AI systems with human-competitive intelligence can pose profound risks to society and humanity."[28] The danger is intensified as "A.I. labs [are] locked in an out-of-control race to develop and deploy ever more powerful digital minds that no one – not even their creators – can understand, predict, or reliably control."[29] This powerful system equipped with "large language models" and trained on the whole of the internet "reflects human behavior, human norms, the good, [and] the bad about us."[30] It is "a better learning algorithm than what the [human] brain has." This super intelligent machine can get out of control and manipulate humans. It can destroy humankind and their civilization.[31] Reiterating the same concern, the Godfather of AI Geoffrey Hinton warns that this existential threat is "more urgent" than that of climate change. As these machines "achieve greater intelligence than humans" they may "take control of the planet."[32]

While their hypothesis is largely related to the destruction of our corporeal world, there are yet others who view the current advancement of technology in the context of human cultural meltdown. Willem H. Vanderburg, a scholar with "three degrees in engineering" and

[26] Pew Research, "Some Luddites."

[27] Joy, "Why The Future."

[28] Futureoflife, "Pause Giant AI Experiments: An Open Letter," *Future of Life Institute* (March 22, 2023), https://futureoflife.org/open-letter/pause-giant-ai-experiments/.

[29] Futureoflife, "Pause Giant AI Experiments."

[30] **Seth Dobrin, "**The Potential Dangers as Artificial Intelligence Grows More Sophisticated and Popular," ***Interview with Geoff Bennett of the*** *The NewsHour* (April 5, **2023),** https://www.pbs.org/newshour/show/the-potential-dangers-as-artificial-intelligence-grows-more-sophisticated-and-popular.

[31] **Dobrin, "**The Potential Dangers."

[32] **Geoffrey Hinton, "**'Godfather of AI' Discusses Dangers the Developing Technologies Pose to Society," ***Interview with Geoff Bennett of*** *The NewsHour* (May 5, **2023),** https://www.pbs.org/newshour/show/godfather-of-ai-discusses-dangers-the-developing-technologies-pose-to-society; Martin Coulter, "AI Pioneer Says Its Threat to World May Be 'More Urgent' Than Climate Change," *Reuters* (May 5, 2023), https://www.reuters.com/technology/ai-pioneer-says-its-threat-world-may-be-more-urgent-than-climate-change-2023-05-05/.

another in social sciences and humanities, in his *Living in the Labyrinth of Technology* refers to the current development of technology and science as "humanity's third megaproject."[33] This was preceded first by involving the creation of *logos* that gives names, meanings, and values and symbols to human experience; and the second the creation of societies that transforms social and natural worlds as well as human awareness, creating a human social whole distanced from the natural world. The third megaproject emerged about two hundred years ago was the "creation and growing use of a universal science and technology" in tension with *logos* and traditional cultures, bringing about "mass societies" characterized by urban living and environmental degradation. This technological megaproject "makes, breaks, and transforms relations between people, between people and their society, and between that society and the biosphere."[34] It causes the loss of connectedness and the inability of recognizing that everything depends on everything else.[35] This megaproject fragments human life as it rejects its values and meaning since technique has no meaning and value. It weakens human civilization and undermines the accomplishments of the *logos* and social cultures.[36]

Writing for the *New York Times* Theodore Roszak reiterates a similar concern: "Quality is in the mind, not the machine," and "the computer contributes nothing essential to the life of the mind. No, not even all the information that comes gushing out of the World Wide Web." The machine can in fact get in the way of significant intellectual pursuit for "all the greatest thoughts were thought before computers."[37] Besides, this liberating technology has turned into a "deluge of chaos" for the information it generates no longer has any relation to solving problems, and thus the relation between information and action has been severed. "It comes indiscriminately, directed at no one in particular, disconnected from usefulness; we are glutted with information, drowning in information, have no control over it, [and] don't know what to do with it."[38] Consequently, we "no longer have a coherent conception of ourselves, and our universe, and our relation to one another and our world."[39] The most significant part of this cultural drowning is that many people, especially our youth, think it is normal, thus contributing to the rapid loss of tradition and culture. It is for these cultural and

[33] Vanderburg, *Living in The Labyrinth*.
[34] Vanderburg, *Living in The Labyrinth*, 4-5.
[35] Vanderburg, *Living in The Labyrinth*, 7, 12.
[36] Vanderburg, *Living in The Labyrinth*, 470-473, 482; Nasr, *In Search of the Sacred*, 213.
[37] Theodore Roszak, "Shakespeare Never Lost A Manuscript to A Computer Crash," *The New York Times* (March 11, 1999), https://archive.nytimes.com/www.nytimes.com/library/tech/99/03/circuits/articles/11quil.html.
[38] Memoria, "Informing Ourselves to Death," *Memoria Press* (April 16, 2019), https://www.memoriapress.com/articles/informing-ourselves-to-death/.
[39] Memoria, "Informing Ourselves"; Seyyed Hossein Nasr, *Islam, Science, Muslims, and Technology: Seyyed Hossein Nasr in Conversation with Muzaffar Iqbal* (Islamabad & Lahore & Karachi: Dost Publications, 2009): 94-96.

corporeal reasons that Schatzberg argues for the rehabilitation of technology making it morally sensitive and culturally receptive for the purpose of humanity.

Everything we stated above indicates that people are divided in their views of technology. Generally, the majority think that it is almost impossible to live without technology and digital equipment as these instruments are an essential part of one's daily life. As technological enthusiasts, they are in need of the best and the latest form of technological devices and compete for more advanced technological innovations in any way possible. Others advise that we should be more cautious about the impact of technology on human corporeal, cultural and spiritual existence and thus promote technological responsibility. This responsibility lies for the most part on the inventors of technology, government entities, corporate sponsors of technological innovations, and customers who utilize technology. Yet others hold the view that humans can live with simple tools and traditional devices while recognizing that this "old" form of lifestyle is not for everyone. They view that although this is the richest and the most meaningful way of living, it is not the most comfortable, especially in the wake of our reliance upon modern life.

Technology and Its Deeper Meanings

With the above concerns in mind, we now turn our attention to the second question: "Does technology carry deeper meanings beyond its application as an instrument for betterment of human life?" To answer this question we shall focus primarily on the Islamic perspective, although we will invoke non-Muslim authors in support. Every part of technology has both positive and negative consequences, while critics also highlight the great advantages of technology, including the AI systems. Hinton, for example, emphasizes that this super intelligent technology has a "huge positive potential" for good. "It's going to be tremendously useful in medicine. ... You can make better nanotechnology for solar panels. You can predict floods. You can predict earthquakes. You can do tremendous good with this."[40] However, our concern here is not about the instrumental application of technology but rather its non-instrumental relevance in the form of meaning and value affecting the physical, cultural, and spiritual life of men and women on our planet.

What is meaning? Meaning "resides in one's felt connection with something greater than one's self, a larger whole, a more feeling part of a context, be it social, religious, or whatever." It is the opposite of social fragmentation and "the breakdown of experienced life

[40] **Hinton, "**Godfather of AI."

context and a loss of meaning" caused by "the rise of nihilism."[41] Meaning is also described in the context of life in which one engages in "worthwhile activities" with "good inner states" in order to create a good and meaningful life.[42] Charles Taylor refers to this notion of meaning as the sense of "fullness" experienced by both believers and non-believers.[43] "Fullness" is a certain kind of moral and spiritual shape that gives a sense of richness when individuals experience life to be "fuller, richer, deeper, more worthwhile, more admirable, more what it should be." It is a "lived experience" involving an understanding of one's life and "what it's like to live as a believer or an unbeliever." Fullness is sometimes glimpsed through the power of intuition creating a sense of peace, wholeness, joy, and fulfillment.[44] Taylor's argument is reflected in the 2018 survey by the Pew Research Center of the ways Americans find a meaningful life. This study demonstrates that Americans realize satisfaction and fulfillment in their family, career, or being in nature, with religious faith falling below these categories.[45] Taylor and many others uphold that belief in God and religion in general gives believers a sense of meaning and an objective for existence. Religion presents reality as a connected whole consisting of the physical world of the macrocosm and the microcosm, as well as the unseen realm which includes the angelic dominion, and the Ultimate Reality. Modernity clearly denies the unseen because it is not empirical data that can be objectively quantified and independently verified through scientific experiments.[46] Similarly, modern science rejects the existence of any deeper meaning or profound purpose of our physical existence for a similar reason.

In contrast, Muslims have faith in the unseen and thus find meaning in their religion.[47] From an Islamic perspective the meaning and purpose of life is centered in God, and God alone is the locus of human fulfillment. Christians and followers of other faiths who view religion to be important may also put weight on connecting with God and living a religious life. However, this vision has been eclipsed in the West due to the rise of other competing

[41] Kenneth W. Stikkers, Intro. to Max Scheler, *Problems of A Sociology of Knowledge*, trans. Manfred S. Frings (London & Boston: Routledge & Kegan Paul, 1980): 2; William C. Chittick, *Science of the Cosmos, Science of the Soul: The Pertinence of Islamic Cosmology in the Modern World* (Oxford: Oneworld Publications, 2007): 12-13; Quadir, "How Technology Affects Man."

[42] Clifford Williams, *Religion and the Meaning of Life: An Existential Approach* (Cambridge: Cambridge University Press, 2020): 5-6.

[43] Taylor, *A Secular Age*, 4-6.

[44] Taylor, *A Secular Age*, 5.

[45] See Pew Research, "Where Americans Find Meaning in Life," *Pew Research Center* (November 20, 2018b), https://www.pewresearch.org/religion/2018/11/20/where-americans-find-meaning-in-life/#.

[46] For a brief account on the convergent and divergent views between science and religion, consult Smithsonian's "Science, Religion, Evolution and Creationism: Primer." *What Does It Mean to Be Human?* (2024), https://humanorigins.si.edu/about/broader-social-impacts-committee/science-religion-evolution-and-creationism-primer.

[47] Pew Study on American Muslims indicates that sixty-five percent of the followers of the Islamic faith view religion to be "very important" in their lives declining slightly from the 2007 and 2011 surveys with sixty-nine percent and seventy-two percent respectively stated that Islam is "very important" to them (Pew Research, "Religious Beliefs and Practices," *Pew Research Center* (July 26, 2017), https://www.pewresearch.org/religion/2017/07/26/religious-beliefs-and-practices/.

beliefs and fresh orientations of life such as science,[48] a new modern lifestyle, and the internet,[49] or disagreeing with church positions on social issues.[50] No empirical study I am aware of treats Muslim's view of life fulfillment; however, numerous surveys demonstrate that global Muslim communities remain attached to their religion.[51] The majority of Muslims[52] including those living in the West remain committed to their faith;[53] and thus their understanding of meaning and purpose of life is still inspired by the Qur'anic message and the values of Islam. One of the important objectives of life according to the Qur'an is to worship God and to seek His good-pleasure: "I did not create … mankind but to worship Me."[54] This may result in a sense of humility, gratitude, feeling of awe, and a sense of joy and fulfillment. All of these notions are a manifestation of the upright connection with the Absolute or the true Owner of creation, and must be reflected in the horizontal relations among humans and between humans and nature.

Humility is a reflection of one's sincere devotion and truthful submission, which is the core meaning of the word *islam*. Gratitude is an act of acknowledging and a form of thankfulness for favors, mercy, and goodness bestowed upon humans. Gratitude is the cornerstone of Islamic faith, being the opposite of *kufr* (ingratitude and disbelief). Such vertical thankfulness must be implemented in horizontal gratitude for fellow humans and the rest of creation displayed in the sense of generosity (*karamah*) and mercy (*rahmah*), both being two qualities of the divine. The feeling of awe (Ar. *'ajb* or *ta'ajjub*) involves the state of reverence and wonder generating an attitude of devotion and investigation. According to classical tradition, awe is the beginning of philosophy and speculative inquiry, while the Qur'an speaks of the remembrance of God and the contemplation of the wonders of the creation as "signs for men of understanding."[55]

Finally, finding meaning in life is connected to one's experiencing happiness and sense of fulfillment. Islamic tradition speaks of joy in this world and happiness in the afterlife,

[48] Taylor, *A Secular Age*, 4.

[49] Ronald F. Inglehart, *Religion's Sudden Decline: What's Causing It, and What Comes Next?* (Oxford: Oxford University Press, 2021); Pew Research, "In U.S., Decline of Christianity Continues at Rapid Pace," *Pew Research Center* (October 17, 2019), https://www.pewresearch.org/religion/2019/10/17/in-u-s-decline-of-christianity-continues-at-rapid-pace/.

[50] Pew Research, "Being Christian in Western Europe," *Pew Research Center* (May 29, 2018a), https://www.pewresearch.org/religion/2018/05/29/being-christian-in-western-europe/.

[51] Inglehart, *Religion's Sudden Decline*, 15-16, 85-86, 100; Pew Research, "The World's Muslims: Religion, Politics and Society," *Pew Research Center* (April 30, 2013), https://www.pewresearch.org/religion/2013/04/30/the-worlds-muslims-religion-politics-society-overview/; Pew Research, "Religious Beliefs."

[52] While Muslims remain attached to their religion, their view on the adoption of the *Shari'ah* as the law in their respected countries varies from one region to the next; people in South Asia, Southeast Asia, and the Middle East support the idea, while those in Europe and Central Asia are against it (Pew Research, "The World's Muslims").

[53] Dalia Mogahed and Azka Mahmood, **"**American Muslim Poll 2019: Secondary Analysis," *Institute for Social Policy and Understanding* (November 14, 2019), https://www.ispu.org/muslims-more-private-religious-devotion-less-public-religious-assertiveness/.

[54] The Qur'an, *al-Dhariyat* 51: 56.

[55] The Qur'an, *Al 'Imran* 3: 190-191.

with the latter being everlasting felicity and the ultimate goal of every believer. Happiness in this world functions as a mean to achieve eternal bliss. "Otherworldly happiness is of a higher order, and cannot be identical to worldly joy," with joys in this world consisting of blameworthy happiness and praiseworthy type.[56] Rejoicing in corporeal material bounties purely for the sake of worldly acquisition is a blameworthy value, while delighting in it as a gift from God and for the benefit it brings for oneself and others is praiseworthy worldly happiness.[57] Similarly, seeking knowledge in order to have power to manipulate nature or one's fellow humans is a negative value. Such blameworthy joy of pursuing knowledge may become a sinful act when the results of that knowledge yield destruction and deceit. However, seeking knowledge in order to increase one's understanding of God, nature, and oneself, and whose results are good for both the seeker and the world, is not only an act of positive happiness but also a form of active worship (*'ibadah*).

This brief overview of the meaning and purpose of human life from an Islamic viewpoint aligns with the critique of modern technology articulated earlier: that this technology is void of meaning and value. Therefore, to find the profound meaning of technology we must not look into its modern application, but rather in the pre-modern existence of tools and "prolongation of hands." The reference to traditional technologies as "tools" is due to the fact that the working of these technologies, even the relatively complex systems of "the windmill, the watermill, and the mechanical clocks of the day were not nearly as difficult to understand as almost any modern technology" of "machine."[58] Tarik Quadir distinguishes modern technologies from its traditional application in this way. First, modern technologies are the product of the eighteenth century onward, while traditional technologies have been known to humans throughout history. Second, the workings of modern technology are difficult to understand except by experts, while traditional technologies are relatively easy to comprehend. Third, modern technologies have been powered by fossil fuel, steam, and electricity, while traditional technologies were powered by human limbs, animals, or wind and water. Fourth, the pace of modern technologies are too fast and incomparable to the human pace, while the pace of the function of a traditional technology is comparable to a human pace. Finally, modern technologies and their products – including the artificial creation, extraction, and distribution of chemicals – have been largely destructive to our

[56] Yasien Mohamed, "The Idea of Happiness in the Qur'an," Y*aqeen Institute for Islamic Research* (September 12, 2019), https://yaqeeninstitute.org/read/paper/the-idea-of-happiness-in-the-quran.

[57] Mohamed, "The Idea of Happiness."

[58] Quadir, "How Technology." Hereafter we rely primarily on this article.

natural world, while the harm to the environment by the use of traditional technologies has been relatively benign.[59]

The difficulty of understanding modern technology is a major reason for its being controlled by a selective few, yet its impact on socio-cultural disconnectedness and religio-spiritual fragmentation of life is felt the world over. Many adopt modern technology believing that it leads them to a similar progress of the societies that have created this technology. The material comfort and immediate benefits provided by the machine are very attractive and appealing. However, many are unaware of social loneliness, cultural annihilation, and spiritual fragmentation caused by such technology. At present, every society is in a race to catch up in order to achieve "progress." This is reflected in the fact that "Modern societies across the world love machines for enabling them to maintain their consumerism. They may go to mosques, churches, and temples, and they may pray and fast. Yet they are increasingly unable to contemplate any other mode of life except one dependent on an array of modern technologies."[60]

Unlike modern technology, traditional technologies of tools "were an extension of our hands, senses, and other parts of our body and which, like the body, were subservient to the soul."[61] The issue of subservience to the soul is important from an Islamic viewpoint. Islam is based on the principle of the supreme unity of God (*tawhid*) requiring Muslims not only to affirm His Oneness but also to sustain one's "individual soul in its Center" making the individual soul in conformity with "the will of God Who resides in one's heart."[62] *Tawhid* "is the axis around which all that is Islamic revolves."[63] Muslims understand that knowledge of *tawhid* or divine unity is primordial and *a priori* implanted in the soul of humankind prior to creation, which is known as *fitrah*.[64] This primordial knowledge is the blueprint and the essence of human nature.[65] The "unitary perspective of Islam … refuses to distinguish between the sacred and the profane, … between religious acts and secular ones, or between prayer and work" requiring that all human activities must always connect to the sacred.[66] It promotes a specific worldview that understands the nature of the universe as the creation

[59] Quadir, "How Technology."
[60] Quadir, "How Technology."
[61] Nasr, *Islam, Science, Muslims, and Technology*, 94; Quadir, "How Technology."
[62] Seyyed Hossein Nasr, *The Heart of Islam: Enduring Values for Humanity* (New York: HarperSan Francisco, 2002): 197; Quadir, "How Technology."
[63] Nasr, *The Heart of Islam*, 3.
[64] The Qur'an, *al-A'raf* 7: 172; *al-Rum* 30: 30.
[65] For excellent studies on *fitrah*, consult Yasien Mohamed, *Human Nature in Islam* (Kuala Lumpur: A. S. Noordeen, 1998); Syamsuddin Arif, "Rethinking the Concept of Fitra: Natural Disposition, Reason and Conscience," *American Journal of Islam and Society* 40, no. 3-4 (2023): 77-103.
[66] Seyyed Hossein Nasr, *Traditional Islam in the Modern World* (London & New York: Kegan Paul International, 1987): 37; Quadir, "How Technology."

comprising the signs of God according to which all human reflection and actions take root. [67] In this sense, the act of tool-making in traditional technology and its utilization falls within this Islamic religious framework. This type of technology carries a number of profound meanings beyond its application as an instrument for the betterment of life. Three of these significations are presented below.

One of the deep meanings that can be deciphered in traditional technology is the sense of unity and connectivity of creation. It strengthens one's inner religious awareness of a relation between God, nature, and humans who are "making" or "molding and remolding materials and objects drawn from the world."[68] When people utilize tools of traditional technologies, they have total control over them. They are aware of what tools can accomplish and how they work. The quality of work productions almost entirely depends on the knowledge, the skill and the dedication of the human worker. These technologies allow the workers intimate contact with the materials they work on, since working with tools permits the freedom for close observations and direct bodily contact with both tools and material. Intimate knowledge of the material and the tools are essential for creativity and creative productions.[69] This creative production and intimacy with tools and utilized materials strengthens human relations with their environment and is a constant reminder of their Creator. It forges a direct link between a workers' faith and their work and between workers and God. This is highlighted by Muslim's belief that any positive act of a believer is an active form of worship (*'ibadah*) just as prayer and fasting are. Working with tools, similar to implanting knowledge, is a form of active worship of the subservient soul. In short, "the very nature of traditional technologies (tools) enables a mode of work and lifestyle that has a unifying effect on the user and his or her relationship with the world."[70] It also connects the workers with God Who created the materials being shaped and reshaped to produce transformed products.

The **second** profound meaning attached to traditional technology is the sense of beauty and ethics. Muslims believe that one of the most beautiful names of God is *al-Jamal* (Beauty) or *al-Jamil* (Beautiful), as stated in a Prophetic tradition (*hadith*): "God is Beautiful and He

[67] The Qur'an, *al-'Imran* 3: 190; *al-Ra'd* 13: 3. The following verses (*al-Nahl* 16: 11, 12, 69; *al-Anbiya'* 21: 32; *al-Shu'ara* 26: 2; *al-An'am* 27: 93; *al-Jathiyah* 45: 3; *al-Dhariyat* 51: 20) also speak the reality of the universe as the signs (*ayat*) of God.

[68] Nasr, *Traditional Islam*, 35; Quadir, "How Technology," see note 8.

[69] Quadir, "How Technology."

[70] Quadir, "How Technology."

loves beauty."[71] Divine beauty is reflected in His creation where humans are its supreme quality. The notion of divine beauty became a foundation of practical spirituality displayed in Islamic civilization, especially among the Sufis. Humans must reflect divine beauty in all manifestations to the maximum possible, and this spirit could be seen in many segments of Islamic traditional life and experience. Seyyed Hossein Nasr highlights that since the human being is "made in the image of God,"[72] he "has an inherent love for beauty," and his love for beauty drives him to wish to make things beautiful.[73] The traditional tools not only allow human beings to be free and creative but also that freedom and creativity can be expressed in most beautiful things they make. Therefore, the act of making was always viewed as a form of art in the pre-modern technological era, and the Arabic word *sina'ah* with its Persian equivalent *sana'at* reflects the dual meaning of the term to signify both "technology" and "art." Such significance has been largely eclipsed in the modern era of machine technologies.[74] As we have seen the notion of technology as an art was also apparent in both Japanese and Chinese cultures.

The great Swiss scholar of Islamic traditional science and sacred art Titus Burckhardt (d. 1984) emphasizes the connection between art and human craftsmanship in Islam: "art can never be dissociated … from a craft (*san'ah*)" and humans take profound pleasure in their beautiful productions.[75] Ivan Illich also recognizes the sense of satisfaction human workers find allowing their freedom and creativity while working with traditional tools.[76] This urge for beauty inspires them to produce their productions beautifully in order to give them deep satisfaction and profound sense of fulfillment. Nasr states that "love for beauty benefits the producers spiritually" and "brings into play a virtue of goodness" enabling the soul of the person who creates it deep religious and spiritual fulfillment.[77] That beautiful production also gives pleasure to others who are touched by it, connecting the maker and its users. Burckhardt states: "Before the world of Islam was invaded by the products of modern industry, no object left the hands of a Moslem craftsman without being endowed with some beauty" whether they were intended for rich customers or the poor ones. "The reason for this

[71] For a personal reflection of this *hadith*, consult Asna Husin, "God Is Beautiful and Loves Beauty: A Muslim Reflection," in *Deep Beauty: Experiencing Wonder when the World in on Fire*, eds. Rosemary Winslow and Catherine Lee (Norwalk, Connecticut: Woodhall Press, 2020): 308-312.

[72] This comes in the canonical books of Hadith by al-Bukhari (d. 256/870) and Muslim (d. 261/875): "Allah created Adam in His image." The same notion is also found in the Hebrew Bible (Genesis 1: 127): "So God created humankind in his image, in the image of God he created them; male and female he created them."

[73] Nasr, *Islam, Science, Muslims, and Technology*, 113-114; Quadir, "How Technology."

[74] Nasr, *Islam, Science, Muslims, and Technology*, 111; Quadir, "How Technology."

[75] Titus Burckhardt, *Mirror of the Intellect: Essays on Traditional Science and Sacred Art*, trans. William Stoddart (New York: State University of New York Press, 1987): 227; Quadir, "How Technology."

[76] Ivan Illich, *Tools for Conviviality* (New York: Harper & Row, 1973): 20; Quadir, "How Technology."

[77] Nasr, *Traditional Islam*, 43; Quadir, "How Technology."

remarkable fact is that beauty is inherent in Islam itself; it flows from its innermost reality, which is Unity (*at-tawhid*) manifesting itself as justice (*'adl*) and generosity (*karam*). These three qualities of unity, justice and generosity are also the fundamental aspects of beauty."[78] All four properties of unity, justice, beauty, and generosity are also divine qualities that can be imitated to the utmost human level. Beauty and ethics are reflected in the action (*'amal*) of making and producing, as artisans manufacture their handsome productions and lovely creations.

Finally, the traditional technology of tools reinforces the role of humans as the *khalifah* "representative" or "successor" of God on earth. It is understood that the *khalifah* is given the trust of stewardship to care for the world and to represent the divine will. To do so humans are given *a priori* knowledge and freedom to act responsibly.[79] They are also provided with divine guidance and opportunities for *a posteriori* knowledge guided by revelation brought by prophets and sages who teach them to live a moral life and fulfill their responsibility for their own human betterment and the good of the world. As God's representative on earth, human beings share divine qualities such as creativity, and "manifest God's qualities to the extent they surrender and live" according to His command.[80] Because everyone leaves the mark of one's qualities on what one makes, surely his or her work "reflects God's qualities to the extent that one lives according to God's will."[81] As stated before, working with tools and intimacy with materials gives workers the freedom to engage in the way one intends and provides him with an opportunity for close observations, two important ingredients for fulfilling *khalifah* status. From the Islamic viewpoint, satisfying this trust is a true form of submission and devotion since the purpose of humankind on this earth is to worship God (*'ibadah*).

Islamic tradition defines worship in an encompassing manner to include every positive deed of the individual, provided that one acts with sincere intention and constant consciousness of God. When people work with traditional tools of molding and remolding materials, they are also thinking, feeling, and contemplating which involves their whole person. This is contrasted with the logic of mechanical modern technology that severs ties with human self and ultimately with the divine. "The more complex the machine he uses, the

[78] Burckhardt, *Mirror of the Intellect*, 213.

[79] The Qur'an describes the human being as *khalifat Allah fi l-ard* (the representative of God on earth) endowed with *a priori* knowledge (*al-Baqarah* 2: 30-31). For the interpretation of these verses, refer to Abu Ja'far Muhammad b. al-Hasan al-Tusi, *Tafsir al-Tibyan*, ed. and cort. Ahmad Habib Qasir al-'Amili, vol. 1 (Najaf: Maktabah al-Amin, 1381/1962): 137-142; Abu Ja'far Muhammad b. Jarir al-Tabari, *The History of al-Tabari: General Introduction and From the Creation to the Flood*, trans. Franz Rosenthal, vol. 1 (New York: State University of New York Press, 1989): 266-274.

[80] Nasr, *Islam, Science, Muslims, and Technology*, 113-114; Quadir, "How Technology."

[81] Nasr, *Islam, Science, Muslims, and Technology*, 119; Quadir, "How Technology."

more the role of the self of the worker is diminished."[82] In the context of traditional technology, the heart, the intelligence, and the self of the human participant are integral components in the act of making. It reinforces their knowledge and skills of know-how, their "creativity and spiritual content of work,"[83] and their constant remembrance of the Creator, the true Maker and Possessor of all that is available for their making and refashioning. This is an active act of worship and a form of devotion: devotion to one's work, to the materials utilized, to one's customers, and ultimately to God. This spiritual connection strengthens relations of human workers not only with God the Creator but also with their fellows and the environment. In other words, as they dedicate their lives to God through tool making and its application for productions, they also forge positive relations with their fellow customers and those who are in touch with their work. This activity surely strengthens their position as the servant of God and as His representative on earth.

C. Conclusion

Our study on the profound meanings of technology beyond its instrumental function for the enhancement of human life seeks to answer two questions: first, examining the possibility or impossibility of existence without advanced technology; and second, the issue of technology's deep meaning. With regard to our first concern we find that people are divided over the importance of technology. Most individuals enthusiastically embrace technological innovations and new devices for their instrumental functions, and are unaware of their fragmenting impact on social, cultural, and spiritual aspects of human life. A second group comprises scholars and technological gurus who counsel a more reflective use of technology and encourage a greater technological responsibility. The third group consists of individuals who hold that people may live a simple life without modern technology, although it is more challenging and uncomfortable.

Our second question on the deeper meaning of technology concentrates on the Islamic perspective by examining the traditional technology of tools, since modern technology is often seen to be lacking in meaning and value. In pre-modern technology, tools function as a prolongation of human limbs and carry a number of symbolic meanings. Three are given: one is strengthening the sense of unity (*tawhid*) connecting human workers with God, with other humans, and with nature from where the materials for molding and remolding are taken. The second symbolism of traditional technology is its connection with beauty and ethics. The

[82] Quadir, "How Technology."
[83] Nasr, *Islam, Science, Muslims, and Technology*, 113; Quadir, "How Technology."

principle of unity or *tawhid* manifests itself in justice, generosity, and beauty, with all three being qualities of the divine. As God's image, humans have an innate desire for beauty driving them to create beautiful objects and artifacts. Thus, beauty was the hallmark of Muslim craftsmanship before the introduction of modern technology. The third symbolism of traditional technology is its connection with the role of humans as *khalifat Allah fi l-ard* (God's representative on earth). This refers to the trust and responsibility of humans to protect and nurture the world (including themselves) with dignity and uprightness. Working with traditional tools allows human workers to be conscious and mindful of their position as both the representative of God on earth and His servant. This is possible since traditional technology demands that the human worker participate in work as a whole person involving one's entire faculties of self and intellect, and through his use of technology the worker fulfills his trust of nurturing and protecting the world around him. In short, strengthening the unity of the creation, the amplification of beauty and ethics, as well as the fulfillment of stewardship trust are among the most important meanings and symbolism exhibited by Muslims when they engaged with traditional technology.

Understanding such important symbolism and values attached to traditional technology by Muslims, one may ask: "How should they engage modern technology if they intend to preserve the teachings of their faith about meaning?" A concise response to this concern must reflect on the reality that the majority of Muslims, like the rest of humanity, fall within the group of technology enthusiasts. They love their machines and digital devices, but are unaware of the social and spiritual fragmentation caused by modern technology. Thus, education and awareness about the benefits and harm of modern technology must be circulated widely. Since it is almost impossible to live a "cottage" life, Muslims must embrace a balanced existence. To do so they should first reject the non-transcendent worldview and uphold their religious understanding about unity and the connectivity of creation. With regard to technology, they should strengthen their human agency and follow the cautious middle road promoted by their enlightened thinkers and Western technological gurus who endorse technological responsibility. They should work to engage technology inventors, corporations, governments, and the media in order to advance transparency and reliability. They must understand that this is part of their task as God's *khalifah* on earth. They should also recognize that this may be an extremely challenging intellectual and spiritual undertaking, but everyone wishing to safeguard their life, faith, and civilization should take this road. From an Islamic perspective this is part of the greater *jihad* (struggle) of our time. I do not mean *jihad* in the sense of militant activity (which is the lesser *jihad*), but rather the intellectual and

spiritual exertion starting with the *jihad* against one's lower self. If every Muslim can restrain their desire from excessive use of technology and promote balanced conduct, they would perform their greater struggle. It is difficult to see Muslims achieve this goal without a clear understanding of this problem. The good news is that Muslims are not alone in this *jihad*. They should form partnerships with other communities in common efforts to advance a holistic worldview and a more spiritually meaningful lifestyle.

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