

PHILOSOPHICAL AND SOCIAL DETERMINISM: THE VIRTUAL BEING IN A PHILOSOPHICAL RATIONALE

Arjan ÇURI¹, Ilda KASHAMI²

¹ Senior Lecturer, Department of Psychology and Sociology, "The Mediterranean University of Albania"
Tirana, Albania, ORCID No: 0000-0002-9486-6096

² Senior Lecturer, Department of Education, Communication and Competence Skills "The Mediterranean University of Albania" Tirana, Albania, ORCID No:
0000-0001-8084-5094

*Corresponding author: email: curiarjan@gmail.com

Abstract

The present research paper aims to explore some of the basic aspects of the relationship between digital behaviors and the role of critical thinking and philosophy and determinism analysis to define net styles.

The present article's method design is a descriptive qualitative method that intersects transverse aspects of the determinant philosophy and the role of philosophy in defining digitalization in the light of quantic determinism.

Through a process review analysis, we were able to provide a reflective view of consumerism that digitalization brings to the constant formation of the human being.

We recommend therefore the renewal of digital information protocols seeing philosophy and rational cross-thinking as a tool to empower digital behaviors.

Keywords: Digital behavior, Philosophical introspection, Critical thinking, Empowerment, ICT

1. Introduction

Over the last few decades, technical and scientific advancements have impacted human life. Cyberspace is not excluded from technological advancement and improvement. The emergence of value systems and the shaping of human behavior can both be significantly influenced by the Internet (Dhir et al., 2015; Leung, 2014; Amichai-Hamburger & Hayat, 2011).

ICT, or information and computer technology, is being used significantly more frequently, providing a range of opportunities. The internet has impacted the socio-evolutionary form of humanity mainly because of its universal nature and ease of access via linked electronic devices. One of the key reasons in favor of this argument can be provided by the influence of ICT on both fluid and crystallized intelligence and personality characteristics (Niehueser & Boak, 2020).

As more people access the Internet, society has more opportunities to interact, build connections, do business, obtain information with greater ease, and develop a sense of identity on a global scale (Chiaburu et al., 2015).

The current view of the concept of healthy and unhealthy attitudes online has been altered by the creation of new chances for economic and social progress through technology. It also provided the community with new challenges (Shwab, 2016). Cyberspace is a major hub for a wide range of activities, including both new and healthy prospects and novel types of crime like tracking or hacking through encryption or spyware. A philosophical concept of social determinism and virtual existence in the Internet age will be introduced in the current study.

2. The epistemological foundation of Digital Transformation

What epistemological foundations contributed to the current digital transformation? We will begin by describing the development of modern thought to respond to this question. By differentiating between core qualities that can be measured (extension, shape, movement, and amount) and secondary characteristics (color, sound, smell, and taste), modern thought reduces reality by quantifying it. The modernist project, as defined by Galileo, Descartes, or Hobbes, focuses greater priority on the essential, objective characteristics than the subjective ones carried on by the effect of reality upon the mind (Nolan, 2011).

Descartes, like Galileo, embraced the notion that we only possess a mathematical understanding of a substance since the secondary properties are unclear and unreliable for mathematical operations. The subject and object of knowledge would be considered ontologically separated in classical empiricism, which would have linked them epistemologically through a theory of representation (Ramsay, 1998). Locke sought to develop the theory of representational realism to get past the issue of supporting the premise that what exists is a reality apart from conventional conceptions of the subject. Based on the concept, the basic characteristics correspond to objective reality, while the secondary characteristics, which are relational in nature, cannot be considered real.

The new research effort restricted the features of bodies to those that could be explained in terms of mechanics or geometry. While Locke and Boyle's works were first associated with the concept, additional scholars like Hobbes, Descartes, Spinoza, Newton, Leibniz, Hume, and Kant all engaged in the project in different ways (Nolan, 2011). The basic traits would remain consistent with the way things exist. If this idea failed to become definitive, it wouldn't be helpful (Naess, 1985, p. 418). Today, we are faced with this absolutization threat.

The development of a rationale over logical fairness (Kneale & Joergsen, 1952) became achievable through a series of methodical standards that enabled the quantification and measurement of reality. Achieving these standards came by separating foremost, relational, and fictional (secondary, epistemological) components from distinct and obvious ideas. In the words of Thomas Hobbes, thought is like computational mathematics since we secretly add and subtract in our brains. Gottfried Leibniz, a German mathematician, and philosopher advanced the theory that a complete logical language might be constructed and would reduce all thought to computations in the seventeenth century (Russell & Norvig, 2021). Nietzsche assessed the growth of modernism at the end of the nineteenth century as a rise in the drive for power and not reason, something that would eventually give rise to a critical examination of the discourse on modernism (Kneale & Joergsen, 1952). This new concept of knowledge was attentive to what modern philosophy had previously neglected. Neopositivism, also known as logical positivism, constructed a scientific language at the beginning of the twentieth century during their search for purpose with the objective of establishing a new, clear distinction between scientific and non-scientific, subjective, or aesthetic activities (Boeselager, 1964). Scientific efforts were to stick to their own approach, which positivism defined as a testing procedure (Brown, 1989). Karl Popper challenged this approach and proposed falsificationism as an alternative (2002, p. 17).

To emphasize the proneness of knowledge without suggesting skepticism or relativity, Popper deployed the epistemological reasoning of scientific realism and conjecture, where theories never transcend beyond the stage of simply making conjectures (idem). Alan Turing designed the first theory which portrayed the human brain as a computing process, following along with a similar modernity project while expressing it in its most rational form as an approach for gathering information from direct observation. Turing suggested that instead of asking if machines can think, we ought to ask whether they can pass an intelligence test known as the Turing test in his well-known paper "Computing Machinery and Intelligence" (Turing, 1950). rather than providing an extensive and maybe controversial list of prerequisites for artificial intelligence, the esteemed physician proposed a test: have the program engage in a five-minute written dialogue with an interrogator(interlocutor). The interlocutor must decide if the exchange is happening with a person or a

computer program; if the program succeeds in deceiving the caller one percent of the time, then it will succeed in the test. The definition of the scientific method has been an important challenge to the philosophical community despite advances in science and technology (Castillo, 2013). Although there's not much doubt that the scientific approach has been successful in forecasting natural occurrences, it is not readily apparent how (Frega, 2013). Therefore, the subject of the scientific approach continues to be debated: "The philosophical tradition that arises while modern science develops has wondered what the success of this new science lies in, it has wondered about the conditions that have made possible a series of descriptions and predictions of extremely precise natural phenomena. One of the answers has been that the key to success was in the use of their own method. This has in turn been used as criteria for distinguishing between scientific knowledge and non-scientific knowledge. But there certainly has been no agreement as to what that method is natural. One of the answers has been that the key to success was in the use of their own method. This has in turn been used as criteria for distinguishing between scientific knowledge and non-scientific knowledge. But there certainly has been no agreement as to what that method is. Therefore, the question of the method has become a philosophical concern of the first order, and the discussion has even reached our days" (idem). Popper's theory had been undermined by the works of Willard Quine, Thomas Kuhn, Imre Lakatos, and Paul Feyerabend, authors who were continuously researched by scholars (Daston, 2020; Kemp, 2019; Shibarshina, 2018; Brown, 2015; More & Vita-More, 2015). Unlike Popper, Lakatos was skeptical that the removal of peripheral elements from a theory that originated from the paradigm's core brought reservations about the basis of the research program (Lakatos, 1970, p. 99).

No empirical difficulty or anomaly is enough to kill off a paradigm or program. According to some contemporary philosophy theorists, the existence of research hinders the existence of pure forms of perception. There is an amalgam of observation and theory in all perceptions. Our preexisting concepts act as a filter on actual observation, creating a framework where empirical perception is dependent on theory. Theoretical content, or theory-laden, pervades observation. (Kemp, 2019). Without awareness of the use of language, what we experience cannot be independent of conceptual processes (Levon & Buchstaller, 2015). Determinism theories, which are constructed out of postulates and research that might be changeable or numerous, characterize observation. Observational assertions can be heterogeneous from this viewpoint. The philosophy of scientific inquiry started to discuss trust or faith in research programs in the middle of the nineteenth century, along with the credibility of hypotheses. Due to the "intra-theoretical" charge, the crisis of classical physics induces an erosion of trust in the senses (Drieschner, 2021). The notion of objectivity is modified by questioning contemporary philosophical assumptions, resulting in an entirely new understanding of what scientific activity implies. By virtue of retaining a common theory, objectivity has been redefined to encompass acquiescence to interpretations (idem). A consensus, not the reality of the theory, acts as the decisive element for the acceptance of hypotheses. It is difficult to assert that shifting from one paradigm to another indicates advancement in knowledge since doing so removes the demand for another metaphysical frame, which enables us to assess the different approaches. What relationship do these concepts have to procedures? Nowadays, it is difficult to speak of objectivity because of worries regarding the impartiality of the software systems employed by major technological corporations, which has led to an inquiry about different kinds of prejudice that are essentially philosophically based (Hong et al., 2020; Burt, 2016). The distinction between fundamental and secondary characteristics in epistemology has been especially helpful in outlining the difference between intelligence and artificial intelligence. The scientific and technological progress rendered feasible through information technology, computers, and digitalization is especially accountable for the control of quantifiable and measurable components, or a decrease in the globe's scale (Poulsgaard & Malafouris, 2020). With dynamic and digital programs that involved playing chess, performing logical thinking, and resolving algebraic challenges, scholars like Herbert Simon, Marvin Minsky, Arthur Samuel, and Allen Newell achieved remarkable successes. They swiftly came into being as breakthroughs that foreshadowed a future marked by surprising successes. Nowadays, advances in artificial

intelligence and the IC supply us with solutions to current problems and, by means of the search for patterns, they contribute to making our surroundings simpler (Huddk, 2017; Winston, 2016; Struzik, 2015; London, 1980). Artificial intelligence might be considered an interdisciplinary field of science, mathematics, and philosophy. A method of searching that returns several actions in an answer after having an issue as information. Upon finding an answer, we act through the suggested activities (de Boulay, 2001; Russell & Norvig, 2021). The idea of "determinism" has originally developed within the philosophical and scientific field involving the notion of "causality," which is vital when examining the connections between meditation on behavioral, and social shifts and determinism in technology. While determinism and causality are not exactly synonymous within contemporary science, they seem as being complementary in the initial phases of research in science. Indeed, these concepts appear to be blurred before Einstein's relativistic theories, while classical mechanics ruled the world (Born, 2012; Lam & Esfeld, 2012). Various scholars have drawn attention to the distinction between causality (or legalism) and determinism (Swanson, 2017; Groff, 2016; Kupczynski, 2014; Hedström & Ylikoski, 2010; Stapp & Jones, 1977). The philosophical concept refers to existence in its entirety, which includes either technically confirmed "proofs" or untested ones. It is a fundamental, metaphysical kind of determinism, which includes the attribute of being "universal." Though there are specific elements of reality that are subject to quasi-mechanical determination (the phenomenal world) as well as others that are defined by openness and liberty (the noumenal world), intellectuals like Kant denied that reality was universal (Stang, 2012; Brewer & Watkin, 2012; Lee, 2002). In this respect, some authors just advocate determinism in their nature, whereas others advocate liberty and indeterminacy within the "kingdom of spirit and culture": man possesses free choice and is not entirely predetermined (though man may be conditioned). However, that same philosophical idea pervades the scientific idea. In this respect, determinism is a complex topic. The reality that the deterministic hypothesis (whether philosophical or scientific) proceeds to an "elimination of time", "at least most of the time as far as it defines a measure of irreversible processes rather than time as "quality" or "felt time"—is arguably one of the issues that are most intriguing for understanding technological determinism" (Stang, 2012). Furthermore, the assertion that every one of the technological incidents is inherently eternal has been referred to as technological determinism. This indicates that although technology appears to work in an autonomous and parallel domain, it isn't believed to be vulnerable to random events or history. As can be discovered, all determinisms reflect the removal of time and history from actions and procedures. In addition to that, scholars also agree on the notion that both cause and effect are strictly determined by each other, as well as that whatever developed prior determines what occurs later. It may be feasible to remember that, in Ogburn's view, the growth of material culture flowed from such an apparent need, which is related to time but without contingencies (Volti, 2004). Each innovation must exist because it relies on the preceding ones.

3. Technology and the future: humanism, trans-humanism and post-humanism

The word "singularity" was first used in a discussion between Stanislaw Ulam and John von Neumann in 1958. They addressed the way technology was advancing at a rate that was exponential, how this was altering the way people resided, and the fact that we were becoming closer to a singularity where human relations would change forever (Ulam, 1958). I.J. Good stated in 1966 that the appearance of artificial intelligence would lead to a rise in human knowledge. Several other significant scholars adopted, developed, and built upon these concepts (Carter, 2007; Kurzweil, 2005; Bostrom 1998). The singularity, as Kurzweil defined it (2005), will allow humanity to overcome biological limitations. Humans are going to stay alive as long as they choose to conquer anything in their way. Therefore, the peak of the singularity is expected to be a combination of technological advancement and biological thought, generating a universe that transcends our biological origins. Concerned by the dehumanizing effects of technology and trans-humanism, bio-conservatives conveyed their concern "that these advances might undermine our human dignity or

inadvertently erode something that is deeply valuable about being human but that is difficult to put into words or to factor into a cost-benefit analysis" (Kurzweil, p. 203). To rethink people's roles in the new digital era, it would be necessary to revive transcendental philosophy (Drummond, 2019; Baum, 2019; Romano, 2011; Rosenberg, 1975). The basic values and beliefs of the Enlightenment, such as an explanation and the scientific method, individual rights, the possibility, and advantages of progress, and overcoming superstitions and authoritarianism, remain upheld by trans-humanism, according to its advocates, whose also review and improve them considering novel information. The critical form of rationalism, which is deeper, and uncertain has taken the place of searching for the ultimate grounds behind a reason. Due to their scale and complexity, the 4.0 revolution and digital transformation are changing not just how businesses operate and produce goods but also how individuals think (Schwab, 2016). Trans-humanism, a new philosophy that seeks to push human capacities to their boundaries by equipping them with technology, appears to be the intellectual endeavor that drives the evolution of capabilities within this technological context (Bajer, 2017). The concept of trans-humanism has been connected to the humanism associated with the Enlightenment. Yet, seen from this angle, its tenets rely on a particular conception of reason that is supported by fundamental qualities such as the logic of identity, computing factors, and similar units of measurement. These presumptions lead to a certain idea of growth and a conviction that a better future could be constructed through the natural forces of human logic, technology, science, and innovation (Josef & Yohanna, 2020; Bostrom, 2005). Trans-humanists strive to employ technology to overcome the limitations posed by our biological and inherited time, contrary to humanists, who often rely only on education and cultural elegance to enhance the essence of humanity. From the perspective of trans-humanism, humans today constitute only an inanimate representation of a process of evolution that could be altered and influenced (Josef & Yohanna, 2020). Technology enables us to transcend beyond becoming humans and transform into post-humans (More & Vita-More, 2013, p. 4). According to trans-humanism, human nature can become more perfect "using applied science and other rational methods, which may make it possible to increase human health span, extend our intellectual and physical capacities, and give us increased control over our own mental states and moods" (Bostrom, 2005, pp. 202–203). We can effectively advance the state of mankind as an outcome of the fourth Industrial Revolution, or 4.0, which is increasing its efficacy and potential. Nevertheless, the fundamental tenets of this effort entail a particular perspective, a moral position as well, or even a way of thinking (Vial, 2019; Bajer. 2017).

4. Conclusive remarks

Digital innovations have impacted many aspects of how people conduct their daily lives, including their ability to think, feel, and act. The way in which the web has influenced young people and threatened attitudes is particularly concerning. We reached hyper-history once digital technology first appeared. Furthermore, not only are people able to share and absorb huge amounts of information at previously unattainable speeds, yet we are also witnessing an ontological and epistemological transition (Harlamova et al., 2017; Sandkuhl et al., 2020; Sandkuhl et al., 2019). The social or existential worlds are undergoing shifts because of digital technology, which additionally poses certain moral quandaries. Digital tools, if using a neologism, have the power to re-ontologize reality and alter the environment (Sandkuhl et al., 2020). Technology determinism is not supported or implied by information philosophy. Understanding what changed is more important than inventing technological utopias or dystopias. The determinism approach to contemporary ethical issues is frequently emphasized, but issues like privacy and safety in cyberspace solely occur as an outcome of the ontological and epistemological changes that occur. As discussed in the current work, these advances in digital technologies have implications for ethics and moral thinking (ibidem). These alterations recognize that cyber addiction behaviors that impact the sense of being and its philosophical development, require an extensive plan that involves the creation of specific organizational frameworks as well as the establishment,

implementation, and review of technical, legal, structural, and social measures. The approach taken by many stakeholders, such as community-based, pre-university, and university education institutions, social protection structures, etc., and implemented at the national level should be in line with regional and international developments as a unified EU digitalization policy. The Human Rights and Freedom Declaration (Declaration of Human Principles and Rights, art.11- 2003), in addition to technical and economic know-how, civil society readiness, and ease of interaction with organizations and support structures that develop common application standards, must all be valued in macro-social efforts to establish policies and measures for safe navigation. A well-organized curricula protocol that fosters critical thinking and an epistemological philosophy is also suggested by the authors as a good tool for empowering people's understandings of themselves and their behavior toward technological advances.

References

- [1]. Amichai-Hamburger, Y., & Hayat, Z. (2011). The impact of the Internet on the social lives of users: A representative sample from 13 countries. *Computers in Human Behavior*, 27(1), 585–589. <https://doi.org/10.1016/j.chb.2010.10.009>
- [2]. Bajer, J. (2017). Digital transformation needs the human touch. *Strategic HR Review*, 16(2), 91–92. <https://doi.org/10.1108/shr-02-2017-0011>
- [3]. Baum, M. (2019). *Kleine schriften. 1: Arbeiten zur theoretischen philosophie kants* (M. Heinz, Ed.). De Gruyter.
- [4]. Boeselager, W. F. (1964). More writings on neopositivism. *Studies in Soviet Thought*, 4(1), 81–84. <https://doi.org/10.1007/bf01043778>
- [5]. Bohr, N. (1950). On the Notions of Causality and Complementarity. *Science*, 111(2873), 51–54. <https://doi.org/10.1126/science.111.2873.51>
- [6]. Born, M. (2012). *Einstein's Theory of Relativity*. Courier Corporation
- [7]. Bostrom, N. (2005). IN DEFENSE OF POSTHUMAN DIGNITY. *Bioethics*, 19(3), 202–214. <https://doi.org/10.1111/j.1467-8519.2005.00437.x>
- [8]. Brewer, K., & Watkin, E. (2012). Difficulty Still Awaits: Kant, Spinoza, and the Threat of Theological Determinism. *Kant-Studien*, 103(2). <https://doi.org/10.1515/kant-2012-0010>
- [9]. Brown, M. J. (2016). The abundant world: Paul Feyerabend's metaphysics of science. *Studies in History and Philosophy of Science Part A*, 57, 142–154. <https://doi.org/10.1016/j.shpsa.2015.11.015>
- [10]. Brown, D. (1989). Logical Positivism and/or Phenomenology. *Counselor Education and Supervision*, 29(1), 5–6. <https://doi.org/10.1002/j.1556-6978.1989.tb01128.x>
- [11]. Carter, M. (2007). *Minds and Computers*. Edinburgh University Press.
- [12]. Chiaburu, D. S., Cho, I., & Gardner, R. (2015). Authenticity matters more than intelligence and personality in predicting metacognition. *Industrial and Commercial Training*, 47(7), 363–371. <https://doi.org/10.1108/ict-05-2015-0037>
- [13]. Castillo, M. (2013). The Scientific Method: A Need for Something Better? *American Journal of Neuroradiology*, 34(9), 1669–1671. <https://doi.org/10.3174/ajnr.a3401>
- [14]. Daston, L. (2020). Thomas S. Kuhn, *The Structure of Scientific Revolutions* (1962). *Public Culture*, 32(2), 405–413. <https://doi.org/10.1215/08992363-8090152>
- [15]. Dhir, A., Chen, S., & Nieminen, M. (2015). The Effects of Demographics, Technology Accessibility, and Unwillingness to Communicate in Predicting Internet Gratifications and Heavy Internet Use Among Adolescents. *Social Science Computer Review*, 34(3), 278–297. <https://doi.org/10.1177/0894439315582854>
- [16]. M, D. (2021). Understanding Quantum Theory. *Philosophy International Journal*, 4(2). <https://doi.org/10.23880/phij-16000178>
- [17]. Drummond, J. J. (2019). Zahavi, Dan: Husserl's Legacy: Phenomenology, Metaphysics, and Transcendental Philosophy. *Husserl Studies*, 35(3), 265–273. <https://doi.org/10.1007/s10743-019-09241-x>
- [18]. du Boulay, B. (2001). N.J. Nilsson, *Artificial Intelligence: A New Synthesis* T. Dean, J. Allen and Y. Aloimonos, *Artificial Intelligence: Theory and Practice* D. Poole, A. Mackworth and R. Goebel, *Computational Intelligence: A Logical Approach* S. Russell and P. Norvig, *Artificial Intelligence: A Modern Approach*. *Artificial Intelligence*, 125(1–2), 227–232. [https://doi.org/10.1016/s0004-3702\(00\)00064-3](https://doi.org/10.1016/s0004-3702(00)00064-3)
- [19]. Burt, E. A. (2016). *The Metaphysical Foundations of Modern Science*.
- [20]. Good, I. J. (1966). Speculations Concerning the First Ultraintelligent Machine. *Advances in Computers*, 31–88. [https://doi.org/10.1016/s0065-2458\(08\)60418-0](https://doi.org/10.1016/s0065-2458(08)60418-0)

- [21]. Groff, R. (2016). Causal Mechanisms and the Philosophy of Causation. *Journal for the Theory of Social Behaviour*, 47(3), 286–305. <https://doi.org/10.1111/jtsb.12118>
- [22]. Frega, R. (2013). Between Pragmatism and Critical Theory: Social Philosophy Today. *Human Studies*, 37(1), 57–82. <https://doi.org/10.1007/s10746-013-9290-0>
- [23]. Harlamova, M., Kirikova, M., & Sandkuhl, K. (2017). A Survey on Challenges of Semantics Application in the Internet of Things Domain. *Applied Computer Systems*, 21(1), 13–21. <https://doi.org/10.1515/acss-2017-0002>
- [24]. Hedström, P., & Ylikoski, P. (2010). Causal Mechanisms in the Social Sciences. *Annual Review of Sociology*, 36(1), 49–67. <https://doi.org/10.1146/annurev.soc.012809.102632>
- [25]. Hong, C., Jang, J., Heo, J., & Yang, H. J. (2019). Quantum digital signature in a network. *Quantum Information Processing*, 19(1). <https://doi.org/10.1007/s11128-019-2510-4>
- [26]. Huddk, M. (2017). Two Interpretations of Rational Choice Theory and the Behavioral Revolution. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2968845>
- [27]. Joseph, W. Y. (2020). Digital Knowledge Integration (DKI): When Transhumanism (H+) Meets Digital Humanities (DH). *International Journal of Pedagogy, Innovation and New Technologies*, 7(1), 39–49. <https://doi.org/10.5604/01.3001.0014.4456>
- [28]. Lakatos, I. (1970). History of Science and Its Rational Reconstructions. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association, 1970*, 91–136. <https://doi.org/10.1086/psaprocbienmeetp.1970.495757>
- [29]. Lam, V., & Esfeld, M. (2012). The Structural Metaphysics of Quantum Theory and General Relativity. *Journal for General Philosophy of Science*, 43(2), 243–258. <https://doi.org/10.1007/s10838-012-9197-x>
- [30]. London, P. (1980). Artificial intelligence programming. *Artificial Intelligence*, 15(1–2), 123–124. [https://doi.org/10.1016/0004-3702\(80\)90024-7](https://doi.org/10.1016/0004-3702(80)90024-7)
- [31]. Lee, S. K. (2004). The Determinate-Indeterminate Distinction and Kants Theory of Judgment. *Kant Studien*, 95(2). <https://doi.org/10.1515/kant.2004.013>
- [32]. Levon, E., & Buchstaller, I. (2015). Perception, cognition, and linguistic structure: The effect of linguistic modularity and cognitive style on sociolinguistic processing. *Language Variation and Change*, 27(3), 319–348. <https://doi.org/10.1017/s0954394515000149>
- [33]. Leung, L. (2014). Predicting Internet risks: a longitudinal panel study of gratifications-sought, Internet addiction symptoms, and social media use among children and adolescents. *Health Psychology and Behavioral Medicine*, 2(1), 424–439. <https://doi.org/10.1080/21642850.2014.902316>
- [34]. Kemp, G. (2019). The Significance of the New Logic, by W. V. Quine. *Mind*, 129(516), 1320–1327. <https://doi.org/10.1093/mind/fzz057>
- [35]. Kneale, W., & Joergensen, J. (1952). The Development of Logical Empiricism. *The Philosophical Review*, 61(2), 242. <https://doi.org/10.2307/2182920>
- [36]. Kupczynski, M. (2014). Causality and local determinism versus quantum nonlocality. *Journal of Physics: Conference Series*, 504, 012015. <https://doi.org/10.1088/1742-6596/504/1/012015>
- [37]. Kurzweil, R. (2006). *The Singularity is Near*. Penguin Paperbacks.
- [38]. More, M., & Vita-More, N. (2013). *The Transhumanist Reader*. John Wiley & Sons.
- [39]. Naess, A. (1985). The world of concrete contents. *Inquiry*, 28(1–4), 417–428. <https://doi.org/10.1080/00201748508602059>
- [40]. Niehueser, W., & Boak, G. (2020). Introducing artificial intelligence into a human resources function. *Industrial and Commercial Training*, 52(2), 121–130. <https://doi.org/10.1108/ict-10-2019-0097>
- [41]. Nolan, L. (2011). *Primary and Secondary Qualities*. Oxford University Press.
- [42]. Popper, K. R. (2002). *The Logic of Scientific Discovery*. Psychology Press.
- [43]. Poulsgaard, K. S., & Malafouris, L. (2020). Understanding the hermeneutics of digital materiality in contemporary architectural modelling: a material engagement perspective. *AI & SOCIETY*. <https://doi.org/10.1007/s00146-020-01044-5>
- [44]. Ramsay, J. (1998). Problems with empiricism and the philosophy of science: Implications for purchasing research. *European Journal of Purchasing & Supply Management*, 4(2–3), 163–173. [https://doi.org/10.1016/s0969-7012\(97\)00024-5](https://doi.org/10.1016/s0969-7012(97)00024-5)
- [45]. Romano, C. (2011). Challenging the transcendental position: the holism of experience. *Continental Philosophy Review*, 44(1), 1–21. <https://doi.org/10.1007/s11007-011-9165-x>
- [46]. Rosenberg, J. F. (1975). Transcendental Arguments Revisited. *The Journal of Philosophy*, 72(18), 611. <https://doi.org/10.2307/2025125>
- [47]. Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach*, Global Edition. Pearson Higher Ed.
- [48]. Sandkuhl, K., Smirnov, A., & Shilov, N. (2020). Facilitating Digital Transformation: Success Factors and Multi-Aspect Ontologies. *International Journal of Integrated Supply Management*, 13(1), 1. <https://doi.org/10.1504/ijism.2020.10031226>

- [49]. Russell, S. (n.d.). A modern, agent-oriented approach to introductory artificial intelligence | ACM SIGART Bulletin. <https://doi.org/10.1145/201977.201989>
- [50]. Sandkuhl, K., Shilov, N., & Smirnov, A. (2019). Facilitating Digital Transformation by Multi-Aspect Ontologies: Approach and Application Steps. *IFAC-PapersOnLine*, 52(13), 1609–1614. <https://doi.org/10.1016/j.ifacol.2019.11.430>
- [51]. Shibarshina, S. V. (2018). On some conceptual background of Imre Lakatos' thought. *Epistemology & Philosophy of Science*, 55(3), 52–56. <https://doi.org/10.5840/eps201855347>
- [52]. Stang, N. F. (2012). Kant on Complete Determination and Infinite Judgement. *British Journal for the History of Philosophy*, 20(6), 1117–1139. <https://doi.org/10.1080/09608788.2012.731242>
- [53]. Stapp, H. P., & Jones, W. B. (1977). Quantum Mechanics, Local Causality, and Process Philosophy. *Process Studies*, 7(3), 173–182. <https://doi.org/10.2307/44797909>
- [54]. Struzik, Z. R. (2015). The Society of Brains: How Alan Turing and Marvin Minsky Were Both Right. *Journal of Physics: Conference Series*, 604, 012016. <https://doi.org/10.1088/1742-6596/604/1/012016>
- [55]. Shwab, K. (2016). The Fourth Industrial Revolution [World Economic Forum].
- [56]. Swanson, N. (2017). A philosopher's guide to the foundations of quantum field theory. *Philosophy Compass*, 12(5), e12414. <https://doi.org/10.1111/phc3.12414>
- [57]. TURING, A. M. (1950). I.—COMPUTING MACHINERY AND INTELLIGENCE. *Mind*, LIX(236), 433–460. <https://doi.org/10.1093/mind/lix.236.433>
- [58]. Winston, P. H. (2016). Marvin L. Minsky (1927–2016). *Nature*, 530(7590), 282–282. <https://doi.org/10.1038/530282a>
- [59]. Ulam, S. (1958). John von Neumann 1903-1957. *Bulletin of the American Mathematical Society*, 64(3), 1–49. <https://doi.org/10.1090/s0002-9904-1958-10189-5>
- [60]. Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118–144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- [61]. Volti, R. (2004). Social Change with Respect to Culture and Original Nature (review). *Technology and Culture*, 45(2), 396–405. <https://doi.org/10.1353/tech.2004.0107>