

Miloš Agatonović

Full Professor

Academy of Applied Preschool Teaching and Health
Studies University of Kragujevac

ROBOT AUTONOMY AND POST-LABOR UTOPIA

Abstract: *This paper begins with John Perry's thesis that self-location is essential for action, aiming to demonstrate that artificial systems can achieve autonomy, even though they lack consciousness, as long as they are capable of self-location. The argument draws on Jenann Ismael's view that intelligence, as a function of a system's internal structure representing the world, does not merely mirror reality but creates links between the system's internal elements and external space, guiding the body's movement in the correct direction. The notions of intelligence and autonomy in robots are not far-fetched but rather concepts that can be thoroughly developed and realized by constructing information systems capable of solving practical problems independently and acting autonomously. As a result, we can expect autonomous machines to become part of everyday life in the future. Philosopher Nick Bostrom, in his book Deep Utopia: Life and Meaning in a Solved World (2024), explores post-work utopias, envisioning societies that have fully automated, thereby eliminating the need for work. Bostrom's thought experiment of a "solved world" – where all life's problems are resolved, and technological advancement has removed the need for human work, giving people the freedom to shape their lives – overlooks the idea that work is integral to how humans create meaning and values. A future where autonomous machines are*

commonplace raises new questions and challenges, as work plays a crucial role in human self-determination. There is a risk that a world dominated by intelligent and autonomous machines could lead to humans becoming enslaved by their own ideas, both in terms of values and scientific-technological constructs.

Keyword: *robot autonomy, self-location, post-labor utopia, solved world, labor*

1. From Indexical Thoughts to Autonomous Robots¹

According to a certain view in contemporary philosophy, an individual's ability to transform their understanding of the world into action depends on *indexical thoughts*, thoughts that point to, indicate, or refer to something or someone. One proponent of this view is John Perry, an American philosopher who argues that indexical expressions (for example, the personal pronoun "I" or demonstratives such as "this," "that," "here," "there") are essential and irreplaceable in indexical thoughts. Were we to replace these expressions in indexical thoughts with descriptive terms, we would obtain an inadequate explanation of behavior.

Perry provides illustrative examples highlighting the essential difference between the description of the content of a belief and the belief itself, in which indexical expressions cannot be omitted. In his thought experiment "The Messy Shopper" (Perry, 1979), after the shopper (John Perry) noticed that sugar had spilled on the store

¹ See: (Agatonović, 2024).

floor, he believed that some careless customer had caused the mess. However, upon realizing that the packaging of sugar in his own basket was torn, he concluded that he himself was responsible for the spill. The belief that someone spilled sugar and the belief that John Perry spilled sugar differ fundamentally from his belief expressed in the sentence, “I am spilling the sugar.” Upon realizing that he was the one spilling the sugar, thereby changing his belief, Perry also altered his behavior by stopping the spill. The shift to the belief expressed by “I am spilling the sugar” explains the change in behavior. Without this indexical belief, which indicates to the agent their own place, role, and relation to the described situation, the behavioral change would not occur. The component expressed by the indexical in the indexical belief cannot be omitted, as it allows the agent to determine their position, role, and relation to the situation, thereby motivating their action.

Relying on Perry’s view that an agent’s ability to transform their understanding of the world into action depends on indexical thoughts, Jenann Ismael (2007) examines problems related to appropriate responses and the relation to circumstances in system management, circumstances determined by various context-dependent contingent facts (Ismael, 2007: 18). Ismael seeks to integrate intelligence into the natural order, aiming to explain a computational model of intelligence as a component of an embodied system constructed primarily to solve practical problems (Ismael, 2007: 18). She emphasizes that the role or function of the structure representing the world in the agent’s mind is not to mirror nature but to establish a connection between elements of the internal structure and the external environment in order to guide bodily movement in the

correct direction (Ismael, 2007: 18). For the agent to be capable of understanding their surroundings, it suffices to provide a source of information whose states implicitly carry “indexical spatial content” (Ismael, 2007: 18). The content of these states dynamically changes with the agent’s location, enabling behavior to be aligned with their current position. The agent receives only information that is immediately relevant to their actions.

Ismael introduces a distinction between *semantic* and *architectural relations*, whereby semantic relations pertain to the connections among elements within a representational medium, while architectural relations link elements within the representational medium to their referents or to elements of other media that are not part of the same semantic network (Ismael, 2007: 33). Within this framework, the central concepts are *representational media* and *coordination*, where representational media function as channels of information, and the coordination of the media with respect to their referents involves the establishment and maintenance of causal and contextual relations that allow their states to correspond to information in various contexts in which they are employed (Ismael, 2007: 6). Human consciousness and intelligence constitute such a medium, whose role is to generate models of self and situation by linking them through self-locating actions. These models can consist of various elements, while self-location establishes architectural relations between the components of the model and the world (Ismael, 2007: 34).

Paul Teller attempts to explicate Jenann Ismael’s ideas through concrete examples of artificial intelligent systems capable of autonomous action, where such a system is integrated into the “natural order” (Teller,

2011: 768). Teller describes an example of a representational medium that performs a function analogous to indexical expressions and indexical beliefs. Specifically, Teller presents a group of robots that autonomously perform tasks by following instructions that rely solely on third-person representations (Teller, 2011: 767). Teller's robots are equipped with an identification register providing relevant information to the robots, deliberation modules that assess whether a prescribed task should be executed, and perception modules that enable recognition and reporting of particular events. These devices allow Teller's robots to establish semantic relations, encompassing the information the robot collects and interprets *via* these devices, as well as architectural relations, linking the robots and their devices with the environment. Analogous to Perry's "messy shopper" scenario, in a situation where a robot with a punctured package spills sugar, the event is recorded on the information register in the third person, accurately identifying the robot that spilled the sugar. This record triggers a submodule of the action module, namely the "sugar-package repair module," in the robot responsible for the spill (Teller, 2011: 767). Accordingly, Teller concludes that each robot acts appropriately based on the third-person report that a robot with a certain identification spilled sugar, so that the correct robot performs the task of repairing the sugar package without using any indexical information (Teller, 2011: 767). However, Teller's conclusion that robots do not use indexical information is somewhat overstated, since the entire setup is designed so that robots can interpret third-person reports from the information register in a manner that allows them to self-locate. Teller's robots are autonomous, as they act independently, but without the design that enables their

self-locating behavior, such autonomous action would not be possible.

The robot model *Figure*, developed in collaboration between the robotics company *Figure* and *OpenAI*'s artificial intelligence technology, is autonomous and does not rely on an external setup such as a register network or modules. This autonomy is primarily enabled by large language models, which allow not only the understanding of language, whether spoken or in the form of linguistic object recognition, but also the activation of actions based on linguistic components that, in the appropriate context, serve as *triggers* for action. Triggers can include commands, normative statements, questions, or indexical expressions. For example, *Figure* takes an apple from the table in front of it and gives it to its interlocutor upon request. In all actions and the corresponding justifications, *Figure* relates to objects, actions, and the interlocutor, determining its relation through indexical expressions, either explicitly or implicitly. Moreover, *Figure* evaluates its actions using statements that begin with the personal pronoun "I," explaining why it successfully completed the tasks. This does not imply that the robot possesses consciousness, but it demonstrates that it *self-locates* during its actions. Without self-location, action would not be possible: if *Figure* did not have information that it is next to the apple and the interlocutor requesting food, it would not give the apple to the interlocutor.

The necessity of self-location for autonomous robot action is illustrated by the significance of the *simultaneous localization and mapping* (SLAM) problem in robotics. This problem raises the question of whether a mobile robot in an unknown location within an unfamiliar environment can construct a map of that

environment while simultaneously determining its own position. Such movement differs from navigation guided by external systems, for instance, the Global Positioning System (GPS). SLAM enables robots and vehicles to navigate autonomously in environments where external navigation is not possible (Durrant-Whyte & Bailey, 2006).

2. From Autonomous Robots to the Post-Labor Utopia and Beyond

Although the topic of robot autonomy may still sound like science fiction, autonomous robots have already become a reality. As this paper aims to show, autonomy in robots is not an incoherent idea but a concept that can be elaborated in detail and realized through the construction of information systems capable of autonomous action, whether in the form of the simple examples provided by Teller's robots or in the more sophisticated model of the Figure robot. In the future, autonomous robots can be expected to become part of everyday life and even to take over the majority of human jobs. The economist Guy Standing argues that the forthcoming technological revolution, marked by the widespread deployment of robots, will disrupt contemporary life and render it precarious, thereby necessitating the introduction of a system for the distribution of wealth in the form of a universal basic income, which would grant everyone a share in the economic benefits generated by automation (Standing, 2020: 31-32).

Nick Bostrom, in his book *Deep Utopia: Life and Meaning in a Solved World*, discusses *post-labor utopias* as visions of societies that have achieved complete

automation, thereby eliminating the need for labor. According to Bostrom, from the standpoint of technological maturity, a post-labor utopia is a realistic prospect, whereas it would be unrealistic, from the same standpoint, to assume that human labor would remain necessary. Indeed, the post-labor utopia constitutes one of the key milestones on the path toward technological maturity and, ultimately, toward *deep utopia*.

Bostrom distinguishes several kinds of utopia: governance and culture utopia, post-scarcity utopia, the aforementioned post-labor utopia, post-instrumental utopia, and plastic utopia. Governance and culture utopia is a well-ordered society with ideal laws and customs. A post-scarcity utopia is a society of abundance, in which everyone may have plentiful access to goods and services. Through technological development, the post-labor utopia would enable the emergence of a post-instrumental age and of plastic utopia, and subsequently of deep utopia and the solved world. Technological maturity would not only eliminate the need for labor; it would also eliminate the instrumental need for any effort or undertaking whatsoever. (For example, learning would no longer be required, since technology would allow the digital uploading of content into human memory.) Moreover, technological maturity will make possible *autopotency*, the capacity of a being to shape itself according to its own will, thus enabling a plastic utopia in which technological possibilities are identical to physical possibilities (at least locally).

The central question of *Deep Utopia* concerns what the meaning of human life would be in a world in which there is no need for labor, or for any exertion at all, and in which human beings can shape themselves as they please. What reasons would guide human action in such

a world? What goals could a person set for themselves? What would count as value in such a world? In *Deep Utopia*, Bostrom does not provide a single definitive answer to these questions but instead analyzes the concepts central to reflecting on the meaning of human life. The analysis, presented in the dialogical form of a novel in which Professor Bostrom delivers six days of lectures, from Monday through Saturday, constitutes a thought experiment concerning life's meaning, its aims, and its values under conditions of radical technological transformation, complete automation, post-instrumentality, and autopotency. *Deep Utopia* examines the concepts of *interestingness*, *fulfillment*, and *meaningfulness*, asking whether life in utopia can be interesting, fulfilling, and meaningful. Life in utopia may be boring and thus undesirable. It may also amount to a "fool's paradise," a life filled with every possible pleasure yet ultimately incomplete.

Bostrom examines the reasons underlying *interestingness* as a value, positing several hypotheses at its foundation:

- (i) the learning & exploration hypothesis—interestingness arises from the propensity for learning and exploration;
- (ii) the signaling hypothesis—interestingness arises from the signaling of social status;
- (iii) the spandrel hypothesis—interestingness arises from the valuing of other things;
- (iv) the rut-avoidance hypothesis—interestingness arises from avoiding the prolonged performance of the same activity, that is, from the evolutionary usefulness of the aversive feeling of boredom.

Since learning and exploration will no longer be necessary in a post-instrumental and plastic utopia, and since neither boredom nor status signaling will pose a

problem (for example, due to autopotency), interestingness as a value will supervene on other values, in accordance with the spandrel hypothesis. Bostrom introduces the notion of *intrinsicification*, which he defines as the process through which something originally desired as a means toward a goal becomes desirable for its own sake, as an end in itself. Intrinsicification thus explains the value of interestingness, which, according to the rut-avoidance hypothesis, arose as an evolutionary means but came to function as an intrinsic value. Further in the analysis of interestingness, Bostrom introduces additional conceptual distinctions, *novelty* and *diversity*, as well as the distinction between *contained* and *contributed* interestingness, highlighting the relativity and conditionality of the use of interestingness as a value concept. The use of the concept reaches an extreme in the simulation hypothesis, the supposition that the world in which we live is a simulation, where the discussion turns to *cosmic interestingness* or the interestingness of the simulated content of our subjective experiences. According to Bostrom's simulation argument (Bostrom 2003), such simulations may be extraordinarily numerous and subjectively indistinguishable from one another, as each simulated world would be phenomenologically indistinguishable from every other simulation of the same world (see: Agatonović 2023).

In his analysis of the concept of *fulfillment*, Bostrom begins from Joel Feinberg's account, according to which this concept is tied to the realization of a person's potential. On this view, an unfulfilled life is one in which an individual fails to actualize her potential, whether due to poor health, lack of opportunities, or squandered time

and talent. Bostrom argues that the value of fulfillment should, in a broad sense, be achievable under the conditions of a plastic utopia. According to Bostrom, fulfillment can be attributed not only to humans but also to non-human animals, plants, organizations, traditions, and cultural movements. Alongside fulfillment, Bostrom examines the notion of *life richness* as the fullness of lived experience and active participation in its creative processes. In a plastic utopia, experiential richness would be extremely high, since technological maturity would eliminate the distinction between fiction and reality, making it possible for reality to correspond to fiction and for fiction to become reality. Yet even such a life would remain incomplete if it did not involve some *purpose*. Bostrom undertakes a detailed analysis of purpose, characterizing it as anything for the sake of which we exert effort or undertake action. He distinguishes *small* purposes as aims of everyday activities, *medium* purposes as goals requiring costly and long-term commitment (e.g., earning a degree from a good university), and *large* purposes as missions, comprehensive undertakings capable of motivating lifelong dedication. Bostrom then identifies reasons why it is desirable for people to have purposes, especially medium and large ones. First, certain tasks simply need to be performed. Second, having a purpose can benefit psychological functioning and well-being, as it reduces the likelihood of addiction, depression, and boredom.

Third, Bostrom notes non-instrumental reasons:

- (i) purpose gives life content;
- (ii) purpose contributes to the significance of life.

In a post-instrumental age, no tasks would require completion, rendering the first instrumental reason unnecessary. In a plastic utopia, sufficiently advanced

nanotechnology could be as beneficial to a person's well-being as having a purpose, making the second instrumental reason also unnecessary. Thus, in a plastic utopia, what remains is that humans must *create artificial purposes*, which may be identical to the ones we currently hold, in order for life to have content, and that by means of purposes that are agent-neutral and those that are agent-relative, life can be rendered objectively meaningful. Under technological maturity, relevant high-level tasks might include, for example, physical expansion and preparation for interaction with extraterrestrial beings, for which it may be necessary that humans merge with machines. Spiritual or transcendent attitudes and acts may also be obligatory in a plastic utopia, for instance, honoring the deserving, ancestors, or heroes, as well as upholding traditions.

In examining the meaning of life in a utopia, Bostrom begins from Thaddeus Metz's account of a meaningful life, according to which a life is more meaningful when it takes the form of a good narrative, one that avoids repetition in its parts, that is original, and in which the negative parts lead to later positive parts, following a pattern of personal growth or some other structure of an interesting life story. According to Bostrom, meaning in life requires that a person be wholeheartedly committed, whether to a goal, a role, or an ideal, where such commitment fills the person's life and demands time, talent, energy, and perseverance. Moreover, Bostrom considers meaning as a comprehensive transcendent purpose, defining it as follows: a purpose P is the meaning of life for a person S if and only if (i) P is comprehensive for S; (ii) S has a strong reason to accept P; and (iii) that reason is derived from a justificatory context external to the everyday life of S. A purpose P is the meaning of life *simpliciter* if it would be the meaning

of life for nearly everyone. Bostrom provides several categories of life-meaning as examples:

- *Reward*—including religious afterlife, posthumanity (radical technological enhancement of humanity), simulation-based possibilities (if we live in a simulation, life may thereby be rewarded), nirvana;
- *Morality*—consequentialism, deontology, virtue, piety;
- *Zeal*—undertakings (e.g., enabling the poor to access medicine), identity (e.g., being a hero), alliance (for instance, alliance with a divine being), commitment (such as artistic creation).

3. From the Post-Labor Utopia to Alienation

Bostrom assumes that labor and activity are not necessary conditions for a meaningful, fulfilling, and interesting life. Although certain kinds of labor and forms of activity may render a life good, meaningful, fulfilled, and interesting, and may constitute life-purposes or values through a process of intrinsification, they are not, in themselves, indispensable. In an era of technological maturity, a human being may merge with a superintelligent machine, which could serve as that person's meaning of life, that is, as a comprehensive transcendental purpose that contributes to the objective significance of their life, thereby making that life rich, fulfilled, and interesting. Such a human life need not involve any activity whatsoever. Moreover, the meaning of one's life may be realized without one's personal activity. It is important to emphasize that meaning, aims, and values are generally "decoupled" from human labor

and action, whether understood subjectively or objectively. We undertake tasks in order to achieve certain ends, that is, for instrumental reasons; yet in a post-instrumental epoch such ends might be achieved without our engagement, while our activities themselves could become intrinsified ends.

However, Bostrom's assumption may be called into question by asking whether human aims are truly independent of human activity as such. Arthur Schopenhauer maintained that the world is, at its foundation, *Will*, Will without any final aim, purpose, or meaning, and that every event and every action is an expression of this Will. Human behavior, every movement and motion of the body, is determined by the will; thus every aim governing the body's movement is likewise determined by the will. "The will ... manifests itself in voluntary movements of the body, and these are nothing other than visible, individual acts of will, with which they appear directly and simultaneously" (Schopenhauer, 2005: 143). The essence of will is striving without a final goal, without ultimate satisfaction. The restraint of will is suffering, while the attainment of a goal is satisfaction. Since the striving of the will has no final goal, there can be no enduring satisfaction; "there is no measure and no end to suffering," and therefore "all life is suffering" (Schopenhauer, 2005: 356-357). Not even deep utopia could satisfy the striving of the will or eradicate the world's profound suffering.

Friedrich Nietzsche also rejected ultimate purposes in life, holding that "every occurrence in the organic world is an overpowering, an overmastering," and that "[a]ll purposes, all utilities are merely signs that someone's will to power has dominated something less powerful

and imposed upon it the nature of a function” (Nietzsche, 1994). Meaning is thus unstable, even when one speaks of the “purpose” of an organ within the whole of an organism. According to Nietzsche, meaning is only a posterior outcome of the process of overpowering, which underlies the activity of every life- whole in a broad sense, whether individual organisms, social communities, institutions, or traditions (Agatonović, 2017). If the affirmation of life is the aim of life, and the Superman (*Der Übermensch*) is the meaning of the Earth (Nietzsche, 1999: 14), this holds for Nietzsche in a particular sense. The affirmation of life is the formal aim inherent to every life-whole, while only in the case of a concrete form of life does it acquire a specific content derived from the activity of that form of life. The Superman, as an ethical-aesthetic ideal of greatness and heroism, represents the “meaning of the Earth” that transcends everyday life, though it does not imply a transcendent reality or transcendent moral values. In the later stage of Nietzsche’s philosophy, the idea of the Superman as the “meaning of the Earth” is abandoned, and in place of the ethical ideal, a higher type of human is posited. Nietzsche classifies as this higher type the great men and peoples of the past, as well as prominent individuals of his own time, creators, artists, and philosophers, who realized their abilities and talents through culture, education, and self-education, rather than through the external technological means recommended by transhumanists (Agatonović, 2018; Agatonović, 2024).

In the contemporary world, where capitalism represents the dominant economic system, productive activities are separated from their products as ends in themselves, and labor is separated from life. This

phenomenon was described by Karl Marx in his treatise *Wage Labor and Capital* (1849), in which he argued that, within the capitalist organization of production, labor is a commodity that the worker sells in order to live (Marx, 1977, 334). Labor is a vital activity that the worker sells to secure the means necessary for life (Marx, 1977: 334).

“What the worker produces for himself is not silk that he weaves, gold that he extracts from the mine, or a palace that he builds. What he produces for himself is wages, while the silk, gold, or palace are transformed for him into a certain quantity of means of subsistence, perhaps a cotton coat, a copper coin, or a basement apartment. And can the worker, who spends twelve hours weaving, spinning, drilling, planning, building, digging, breaking stone, carrying loads, etc., consider this twelve-hour weaving, spinning, drilling, planning, building, digging, or stone-breaking as an expression of his life, as life itself? On the contrary: life for him begins where that activity ends, at the table, on the inn bench, or in bed. Twelve hours of labor have no meaning for him as weaving, spinning, drilling, etc., but only as earning the means that lead him to the table, to the inn bench, to bed. If the silkworm spun solely to prolong its existence as a caterpillar, it would be a complete wage laborer” (Marx, 1977: 335).

The goal of the capitalist is profit, while the goal of the worker is wages, with labor serving as a means to achieve these ends. The capitalist purchases labor, as he purchases raw materials and tools, from his existing capital in order to increase capital and realize profit. In the aforementioned work, Marx attempts to show that the interests of capital and those of wage laborers are opposed, even though capital and wage labor represent “two sides of the same relation. One conditions the other,

just as the usurer and the spender mutually condition each other” (Marx, 1977: 343). The value of wage labor is inversely proportional to profit: profit increases in the same proportion as wages decrease, and decreases in proportion as wages increase (Marx, 1977: 345). In the pursuit of capital interests and the expansion of profit, “the division of labor necessarily entails a greater division of labor, the application of machinery a greater application of machinery, production on a large scale production on an even larger scale” (Marx, 1977: 348). Marx concludes that the division of labor and the use of machinery will increasingly develop, leading to the simplification of labor, greater competition among workers, and, consequently, the decline of wages.

Moreover, the division of labor, as well as the separation of labor from life, leads to alienation, as observed in more recent interpretations of Marx (see Musto, 2021). In a capitalist society, the worker is alienated in relation to the product of labor, the act of production itself, human species-being, as well as in relation to other humans and to the labor and products of other people (Marx, 1972: 218–222). Only in a communist society can a human being realize themselves as a fully developed being, as argued in the following passage from Marx and Engels’ work *The German Ideology* (*Die deutsche Ideologie*):

“Once the division of labor begins, each individual receives a fixed, exclusive sphere of activity imposed upon them, from which they cannot escape; one is a hunter, fisherman, shepherd, or critical critic, and must remain so if they do not wish to lose the means of subsistence. In contrast, in a communist society, where no one has an exclusive sphere of activity and can develop in any branch, society regulates general

production and thus enables us today to do one thing and tomorrow another: to hunt in the morning, fish in the afternoon, tend livestock in the evening, and critique after dinner, according to our will, without becoming solely a hunter, fisherman, shepherd, or critic” (Marks & Engels, 1974: 33).

4. At the End, Conclusion

The passage from *The German Ideology* is cited by Bostrom as a description of an organizational and cultural utopia, which he considers not to be the deepest level in the development of society toward a solved world. Bostrom assumes that no activity is necessary for a life that is interesting, fulfilling, and meaningful, since machines can perform every task. However, if human goals and values depend on externally imposed technology, these goals and values are alienated from the person’s being, which is determined by an active inner nature that establishes its own goals and values through its activity. Thus, even if robots and machines could autonomously perform the tasks that humans can, which, as we have shown in the first part of this discussion, is not an implausible idea, the human creation of a meaningful life would still be independent of technology and would necessarily involve human activity, physical labor, and education. Complete reliance on external means could undermine rather than improve the human being, as Nietzsche argued regarding the ‘improvement’ of man (Agatonović, 2018; Agatonović, 2024). The use of robots, for instance, could serve a purpose independent of human goals, justified solely to increase their use, production, and sale. Consequently, ideas could be promoted according to which purposes are introduced into human lives merely to drive excessive

utilization, production, and sale of robots. The deployment of robots can indeed benefit humans if it serves general welfare, yet it cannot replace the human activity necessary for a meaningful life. Robots may contribute to living well, but they are neither necessary for this nor essential for a life to be meaningful, fulfilling, and interesting. This raises the question of whether a deep utopia would truly be a place of well-being, or rather a society in which humans are subject to abstract ideas of life's meaning and the machines they have created, without the possibility of determining their own purposes and the meaning of their lives through their own activity, bodily movement, and education.

References

1. Agatonović, M. (2024). Da li je moguća prava autonomija robota? (filozofsko razmatranje). *Napredak*, 5(2), 109-118.
2. Agatonović, M. (2017). *Ničeova etika i kritika morala* (doktorska disertacija). Beograd: Univerzitet u Beogradu, Filozofski fakultet.
3. Agatonović, M. (2018). The Case of Transhumanism: The Possibility of Application of Nietzsche's Ethics and Critique of Morality Today. *Filozofija i društvo/Philosophy and Society*, 29(3), 429-439.
4. Agatonović, M. (2023). The Fiction of Simulation: A Critique of Bostrom's Simulation Argument. *AI & Society*, 38(4): 1579-1586. doi: 10.1007/s00146-021-01312-y
5. Agatonović, M. (2024). Nietzsche contra Transhumanism. Nišavić, I., Mitranić Marinković, N., Krstić, P. (eds). *Posthumanism and Education*:

- Transgression or Interdependence.* London: Transnational Press.
6. Bostrom, N. (2024). *Deep Utopia: Life and Meaning in a Solved World.* Washington, DC: IdeaPress Publishing.
 7. Durrant-Whyte, H., Bailey, T. (2006). Simultaneous Localization and Mapping: Part I. *IEEE Robotics & Automation Magazine*, 13(2), 99-110.
 8. Ismael, J. T. (2007). *The Situated Self.* Oxford: Oxford University Press.
 9. Marks, K. (1972). Ekonomsko-filozofski rukopisi iz 1844. godine. K. Marks, F. Engels, *Dela* (Treći tom). Beograd: Prosveta.
 10. Marks, K. (1977). Najamni rad i kapital. K. Marks, F. Engels, *Dela* (Deveti tom). Beograd: Prosveta.
 11. Marks, K, Engels, F. (1974). Nemačka ideologija. K. Marks, F. Engels, *Dela* (Šesti tom). Beograd: Prosveta.
 12. Musto, M. (ed.) (2021). *Karl Marx's Writings on Alienation.* Cham: Palgrave Macmillan.
 13. Niče, F. (1994). *Sa one strane dobra i zla/Genealogija morala.* Beograd: Prosveta.
 14. Nietzsche, F. (1999). *Sämtliche Werke, Kritische Studienausgabe* (vol. 4). München/Berlin/New York: de Gruyter.
 15. Perry, J. (1979). The Problem of the Essential Indexical. *Noûs*, 13, 3-21.
 16. Standing, G. (2020). *Battling Eight Giants: Basic Income Now.* London & New York: I.B. Tauris.
 17. Šopenhauer, A. (2005). *Svet kao volja i predstava* (prvi tom). Beograd: Službeni glasnik.
 18. Teller, P. (2011). Robots, Action, and the "Essential Indexical". *Phenomenological Research*, 82(3), 763-771.