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Research article

Robot vs Worker

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Abstract

The word “robot” first appeared in 1920 in the play “R.U.R.” by Czech writer Karel Capek. Within a few years, the play was translated into more than 30 languages, contributing to the spread of the new term around the world. The word “robot” was preserved in almost all translations, one of the few exceptions being Alexei Tolstoy’s Russian adaptation entitled “Riot of the Machines” (1924). Although in Russian, as well as in Czech, there is an etymological connection between “robot” and “work (rabota),” the translator Tolstoy abandoned the new term, calling robots “workers (rabotnik),” that is, refusing to give them a separate name and equating them to working people. Although the origin of the word “work” “worker” in Russian (as well as in Czech) is associated with slavery and forced labor, in Soviet times it acquired a brightly positive connotation. If for Capek the difference between robots and people becomes the fault line of the play, their similarity is most important for Tolstoy – the performance of work. Accordingly, the theme of the robot’s rebellion against humans is replaced by the rebellion of workers, whether of natural or artificial origin, against their oppressors.

Keywords: Robot; Worker; Artificial; Philistine; R.U.R.

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Научная статья

Робот vs Работник

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Аннотация

Слово “робот” впервые появилось в пьесе чешского писателя Карла Чапека “R.U.R.” в 1920 году. За несколько лет пьеса была переведена более 30 языков, способствуя распространению нового термина по миру. Слово “робот” сохранялось практически в всех переводах, однако русская адаптация пьесы Алексея Толстого “Бунт машин” (1924) стала одним из немногих исключений. Хотя в русском языке так же как и в чешском этимологически прослеживается связь “робота” и “работы”, автор отказался от нового термина, называя роботов “работниками”, то есть отказывая им в отдельном именовании и приравнивая к работающим людям. Хотя происхождение слова “работа”, “работник” в русском языке (как и в чешском) связано с рабством и подневольным трудом, в советское время оно приобретает ярко позитивную окраску. Если у Чапека линией разлома пьесы становится отличие роботов от людей, то для Толстого важнейшим становится их сходство – выполнение работы. И соответственно тема восстания роботов против людей заменяется восстанием работников, естественного или искусственного происхождения, против угнетателей.

Ключевые слова: Робот; Работник; Искусственный; Обыватель; R.U.R.

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INTRODUCTION

In November 1920 Karel Capek published the science-fiction play “R.U.R.” With it came the first appearance of the word “robot.” The play soon premiered in Aken (1921), Berlin (1923), New-York (1922), London (1923), Paris (1924) (Horakova, 2010) and in Leningrad (1924). By 1923 it was translated into thirty languages, ensuring the widespread popularity of the new term. In almost all translations the original term “robot” was simply taken over and not translated at all. However, there were some exceptions (Čejková, 2021). For instance, “R.U.R.” was performed in Tokyo in 1924 under the title “Jingo Ningen” (Artificial Human) (Robertson, 2014). In Japan, Capek’s robots were experienced as “living” things which underscores that the “robot” as such does not exert any ontological pressure to make distinctions between organic/inorganic, animate/inanimate, human/nonhuman forms. On the contrary, all of these forms are linked to form a continuous network of beings (Kaplan, 2004). In Russia the writer Alexey Tolstoy chose the title “Riot of the Machines (Бунт машин)” for the play, and used the word “Rabotnik (worker)” to designate the robots.

TRANSLATIONS OF “R.U.R.” IN RUSSIAN IN THE BEGINNING OF THE XX CENTURY

The word “robot” first appeared in the title of Karel Capek’s play “R.U.R.” – Rossumových Univerzálni Roboti. “When Karel came up with the idea of a play about minded living machines, he turned to his brother: ‘I do not know (...) how I’ll call these artificial workers. I would call them laborji (Czech laboři from English ‘labour’) but it seems to me that it is too bookish.’ ‘So call them robots,’ suggested Joseph” (Skvorchevsky et al., 2020). In 1921, the abbreviation R.U.R. was deciphered in English as “Rossum’s Universal Robots” without a translation of the last word. In 1922, Otto Pick provided a translation into German, also preserving the word “robot.” He changed, however, the name of the inventors to “Werstand” – probably from the German word “Verstand (understanding or mind)” because in the original version of the play the surname “Rossum” recalls the Czech word “rozum” for mind. That is why the play became known in Germany as “WUR.” In postrevolutionary Russia the situation was a little more complicated. Due to ideological considerations censors did not allow the translation by Evgeniy Georgievich Gerken-Baratinskiy to be printed in 1923. At the same time, the poet, novelist, and playwright Alexey Nikolayevich Tolstoy returned from emigration to the USSR, and agreed with Georgy Alexandrovich Krol¹ on a joint translation of European plays for the Soviet theater (Pervushina, 2021, p. 85). In emigration Tolstoy had been delighted with Capek’s play: “Absolutely ingenious, dynamite in content and dynamic in the power of development of the action” (Nikolsky, 2004, p. 406). He decided to realize the planned work in his homeland and to adapt it to Soviet realities. Previous attempts to translate the play by Isai Benediktovich Mandelstam and Yevgeny Georgievich Gerken were not allowed on the stage for

¹ Director and screenwriter, student of Meyerhold, Krol worked in the film industry since 1919, making films in Finland and Germany, lived in Rome, then moved to Berlin.



reasons of ideological unacceptability. Another translation from the Czech original was prepared by Irina Kallinikova, but hers was seen in the USSR only much later. Thus, the adaptation “Riot of the Machines” was shown to Soviet audiences earlier than “R.U.R.” Also, judging from his notes, it appears that Tolstoy was working with the German translation by Pick, because he also referred to the play as “W. U. R.” Within two months, using Capek's theme and Krol's translation, Tolstoy created his adaptation. In this adaptation Tolstoy decided to abandon the word “robot”, replacing it by the more familiar and understandable word “worker” (Nikolsky, 2004, pp. 406-417).

ETYMOLOGY OF THE WORDS “WORKER” AND “ROBOT”

In the Czech language there are two verbs for labor activity with similar meanings: “pracovati (to work)” and “robiti (to do).” From the latter, a few words are formed with a derogatory connotation: There is “robotiti (to graft, to grub),” also “robota (drudgery, corvee labor),” “rob (slave),” “robotnik (forced laborer),” or “robotny (serf).” Thus, the term “robot” is formed from these derogatory words and conveys their meaning (Skvorchevsky et al., 2020). In Russian, there is a similar verb for work “работать (rabotat)” and a noun form “работа” as well as “раб (slave).”

Thus, the word “robot” would not sound exotic, and was also, as in Czech, associated with the word “work.” However, thanks to or despite this similarity, Alexei Tolstoy abandoned the use of the new word “robot” in favor of the usual “работник (rabotnik, worker).”

This “worker” is a derivative of the verb “работать (rabotat, to work)” which, in turn, was formed from the Old Slavonic word “work,” that is, “bondage,” and the Old Russian “работа (rabota)” which means “slavery” (Semenov, 2003). And in the Old Slavic language, the word “работать (rabotat)” came from the Indo-European dialect, in which the root “orbhos” meant “corvée², work for someone” (Semenov, 2003).

However, in Russian there is also an alternative version of the verb “работать (rabotat, to work).” In pre-revolutionary dictionaries, a sharp distinction was made between two variants of “work”: “работать (rabotat)” and “трудиться (truditsya).” So in the dictionary of Ishmael Sreznevsky (1912), “работа (rabota)” has as its first meaning “slavery, bondage, service,” whereas “труд (trud)” is interpreted as “care, trouble” (Sreznevsky, 1912). Thus, we can say that the peasant worked in his field, and worked in the corvee, whereas free people work, burdened exclusively with their own chores, or as hired laborers.

However, the revolutionary events of 1917 completely changed the attitude towards the word “worker” – be it “работник (rabotnik)” or “рабочий (rabochii),” the latest word for worker which had appeared in dictionaries only from the middle of the 19th century onward (Chernykh, 1999). In the dictionaries of the Soviet period, the word “rabochii” for worker acquired a pronounced positive connotation, adding a quote from Stalin to dictionary entries (Ushakov, 1939): “Rabochii – Under capitalism, the

² In Russia there were peasants belonging to the landowners. They had to work on the land of the landowner – this was called corvee, and they also had their own land, where they worked “for themselves.”



same as a proletarian; in the USSR, a person professionally engaged in physical labor and belonging to the ruling class, who owns the means of production together with the whole people. ‘Soviet society consists, as you know, of two classes, workers and peasants.’ Stalin.”

The absence of a linguistic difference between robots and working people in Alexei Tolstoy's adaptation emphasizes that the main thing is what unites them – the performance of physical work, which in the context of Soviet reality goes from burden to pride. As Günther (2000) points out, “According to the ideology, the hero of socialist labor stands at the top. It is associated with the Promethean tradition of a cultural hero who gives people technical, scientific, artistic, and other achievements” (p. 746).

In the fourth scene of the play *Moray*, the creator of the workers, advertises them by saying: “My universal artificial workers will do all this. They count, write, cook, clean rooms, plow, reap, work on any machine tool” (Tolstoy, 1924/1983, p. 78). In the thirtieth scene, Mikhail dictates a campaign letter to Adam, a worker of the “Adam” series: “Who mines coal and ore, cultivates the land, builds cities, roads, ships, cars, cuts down forests, blocks waterfalls, drains the tundra, breaks granite and marble. Period, question mark... You, you, only you, workers of the Morea” (Tolstoy, 1924/1983, p. 97).

Here one can see the similarity to the poem “Who is the hero?” (1921) by the Russian poet of Soviet times Vladimir Mayakovsky. Hard work is praised and is no longer compared to punishment and hard labor.

“Who is the hero?

The one who is better than others hammers coal underground,
who for ore passed the mountain, –
that hero!” (Mayakovsky, 1969)

The title of Karel Capek's play employs the word “robot” which the Soviet author refused, so it was necessary to come up with a different title. Thus, Tolstoy named his adaptation “Riot of the Machines“, which, on the one hand, emphasized the current revolutionary meaning, and on the other hand, avoided distorting the essence of “work.” After all, by calling the play “Riot of Workers,“ readers could get the impression that we are talking about ordinary workers, working people. And what a machine is, many had an idea, and as the story progresses, the words machine and worker fused. At the beginning of the century, the machine had become poetic. In the collection “Poetry of the Work Strike” of 1918, Alexei Gastev – a poet as well as head of the Central Institute of Labor – wrote about the unity of human and machine: “... it’s hard to understand where the machine is, where the human is. We merged with our iron comrades, we sang with them, together we created a new soul of movement, where the worker and the machine are inseparable” (Gastev, 1924/1971). Moreover, he drew an analogy between humans and machine: “The worker-colonizer goes into the wilds of his own country, firstly, himself, like a deftly oiled, adjusted, automatically regulated machine. Bones-levers, muscles-motors, nerve-impulses – everything in him is active and instrumentally adjusted” (Gastev, 1924/1971). The main feature of Tolstoy's adaptation, which unites



the worker and the working person, is work. For Tolstoy, a worker is a machine capable of performing labor that is often assigned to a person.

ROBOTS/WORKERS AND HUMANS

The plays “R.U.R” and “Riot of the Machines“ are very similar in many ways, but they have an important difference. Initially, this is the ratio of ordinary workers to robots. In the work of Capek, ordinary people are dissatisfied with the appearance of robots as a replacement for their work, and as a result, they are forced out of their jobs: “When the workers rebelled against the robots and began to break them” (Capek, 1966). In Tolstoy’s version, on the contrary, workers support the robots. They see themselves in them and see the same oppression on the part of the masters, therefore they fight together against the oppressors, and not against each other. “Do you think your workers are submissive? We will teach them to hate you too,” says one of the workers (Tolstoy, 1924/1983, p. 78).

In Alexey Tolstoy's play “Riot of the Machines,“ the author introduces a very interesting new character. At first glance, this is an ordinary uncomplicated entertainer, whose task is to announce the play “And today's play, in my opinion, is very unpleasant, terrible. I would never waste money and time to have my hair stand on end for an entire evening. And look what the author is doing here” (Tolstoy, 1924/1983, p. 73). But what is so special about this? Here one needs to pay attention to the fact that this character does not have a name but is simply called “The Philistine.” While a name gives a person a fixed personality, this character acts as a collective image in which everyone could see themselves.

As the plot develops, the Philistine in every possible way promotes dialogue with the audience, agitating for active participation in the play. For the people in the audience events are not in the past or in a fictional world, but happen now, in fact, and the Philistine, not willing to endure them, enters himself into the course of things. He is a conductor between the world of real things and the world of works. His goal is to immerse spectator in what is happening.

The Philistine’s attitude towards robots is consumerist. Having bought a robot for himself (“I bought it for my last pennies, – and called it Vas’ka”), he sends the machine to find money, orders it to bring him his wife Faina, scolds it. Here, the nature of the Machine is revealed by the fact that the robot steals wallets on the tram when asked to bring money. But their relationship is most vividly described at the very first meeting: He deceives the robot by taking away his watch: ““What is your name? Citizen! ... What is deception?” ‘I’ll explain to you now...’”. The robot-worker is clearly surprised. This shows that machines, although they are analogues of workers, have no life experience of their own, that they are absolutely helpless in front of ordinary society which is represented by the Philistine.

There is another interesting moment of the play connected with this character. During a riot of workers and a meeting on the street with one of them, trying to justify himself and getting himself out of a difficult situation, the Philistine calls himself “artificial,” since he does not have a pass allowing him to move freely: “I don't even



understand this word. What documents, permits? I am artificial, I work like a dog, the damned exploiters drink blood from me. Today he could not stand it, he rebelled with weapons in his hands” (Tolstoy, 1924/1983, p. 103). To summarize, needing a verbal definition of the difference between a man and a machine, both of which are called “workers“, the Philistine points out the difference in origin: “I was made, comrade, in Moscow, at the first Soviet factory, Presnensky district” (Tolstoy, 1924/1983, p. 103). The word artificial is also used by Čapek when describing the creation of robots: “And to manufacture artificial workers is the same thing as to manufacture gasoline motors” (Čapek, 1920/1961), but it is in Tolstoy's world that this becomes the only difference, since it is impossible to distinguish people and robots in the world of Tolstoy. We have to assume that this difference existed in Čapek, at least it could be easily determined, for otherwise the extermination of people would not have been so simple. Interestingly, however, while according to the text of Čapek's play, robots were a biochemical invention and did not differ in appearance from humans, the many visualizations of robots in most cases did not follow this canon – neither the illustrations in books nor the theatrical performances (Fig. 1-2) (Khorakova, 2010; Krausova, 2016).



Fig. 1. “A robot kills its creator,“ London installation photo caption (1923) (Krausová, 2016, p. 82)



Fig. 2. Adaptation of R.U.R. on British television BBC (1938) (Krausová, 2016, p.72)

Čapek recorded this fact and even objected to this form of robots. In the article “Robot Author Illuminated,” published in *Lidové noviny* on June 9, 1935, he wrote: “The world needs mechanical robots because people believe in machines more than they



believe in life; they are more fascinated by technical miracles than by the miracle of life” (Čapek, 1935).

Since the word “robot” is not mentioned on the pages of Tolstoy, the notorious “worker” becomes something more only during a riot. It can be assumed that this is due to the development of robots, their transition from weak-willed human slaves to active participants in the uprising against their enslavers. Robots think, robots counteract, something of their own appears instead of a programmed behavior. In the scientific world, the word “artificial” in relation to a machine did not appear until 1956, when it was first used in the title of a conference at Dartmouth College (Garvey & Maskal, 2020, p. 287). John McCarthy is credited for coining the phrase “artificial intelligence” in the proposal written by John McCarthy, Marvin Minsky, Claude Shannon, and Nathaniel Rochester for this event (Moor, 2006).

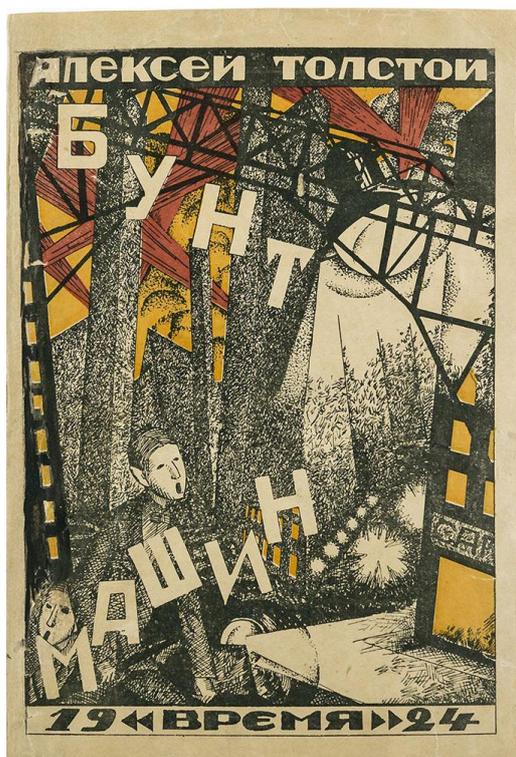


Fig. 3. Cover of Tolstoy's book “Riot of the Machines” (1924) (Tolstoy, 1924)



Fig. 4. Poster for the play “Riot of the Machines” at the Bolshoi Drama Theater (Leningrad, 1924) (Vershinin, 2021)

Through the Philistine, the author makes it clear to the Soviet reader what artificial people are. It becomes clear that people and robots were different as well. In turn, Alexey Tolstoy is different. Seeing in the workers ordinary people equal to



themselves, the workers could not distinguish them from their own kind, because they both worked with their own hands for someone. Despite the title of the book and of the theatrical performance, the visual interpretation of the robot in “Riot of the Machines” does not involve machines, does not draw on mechanical or metallic characters (fig. 3, 4).

In Čapek's play, the decline of culture and the inaction of people lead to the uprising of robots who have realized their superiority. By addressing humans with hatred as slave owners, robots spawned an entire genre of “robot uprisings.” Robertson notes that “Čapek's graphic portrayal in R.U.R. of the end of bourgeois humanity at the hands of a violent robot-proletariat helped to shape Euro-American fears about robots that persist to this day” (Robertson, 2014, p. 574).

“You are not like robots. Not as capable as robots. Robots do everything. You only order. Produce superfluous words” (Čapek, 1961). Tolstoy's workers stage an uprising under the revival of agitation on the part of the workers, and this turns into a class upheaval, a decision against his creation by a man like Čapek. This can be seen in the scene of Mikhail's campaign letter: “Who mines coal and ore, ... there is only one right to the land: to breathe air and digest the patented cakes of Morea”. I want to know why you [the robot Adam calls to Michael, his creator] are dictating this letter to me. Yesterday Sunday you dictate letters to me and secretly send them to the mainland. I want the workers of Morea to realize their strength, I want your strength to come into action ... – says Mikhail” (Tolstoy, 1924/1983, p. 97).

CONCLUSIONS

Robots are interesting because they merge humans and machines. In Čapek's play, their technical, inhuman and, therefore, undivine character comes to the fore. For Alexei Tolstoy, on the contrary, the main thing is their resemblance to people. The author decided to abandon the word robot, and chose a more familiar worker, because it shows the similarity of workers and “rabortniki” (robots). The hallmark of each is to get the job done. Aristotle considered a slave as an instrument of action (Aristotle, 1254a), and as Brudny (2009) notes, the fact that humans did not want to work played a very crucial role in the history of humanity. In relation to robots, this gave rise to an artistic tradition of describing the rebellion of robots at a certain stage of their development against their creators. However, in the middle of the 20th century, the robot became “a thoroughly SF creature, a marvel of technology whose roots in dehumanized and exploited labor were muted” (Vint, 2021). In the Russian version of Čapek's plot, the similarity of a human and a robot comes to the fore, up to their indistinguishability, but this association is militant, against a common enemy.

For current discussions of AI, Tolstoy's decision questions or undermines a philosophical commonplace, namely the notion of an ontological faultline between the natural and the artificial. Perhaps, other divisions are more pertinent even as they cut across familiar dichotomies. The distinction between autonomy and heteronomy, between self-determination and determination by others pertains to natural as well as artificial workers. This may have repercussions for recent discussions of the moral



rights of robots. Jacob Turner (2019) suggests considering humans as first AIs based on ancient Sumerian, Chinese, and biblical sources reporting their creation from inanimate materials (p. 4).

Robots are gradually entering our daily lives and becoming more intelligent, sensitive to the environment and people. They are more and more like us, and someday the moment might come when it is necessary to assign rights and freedom to robots. Perhaps, if this does not happen, the fate of the play's protagonists awaits us. So perhaps, humanity is faced with the task of preventing this uprising and not turning technical progress into a war, into a “Riot of the Machines.”

REFERENCES

- Aristotle. (1944). *Politics* (H. Rackham, Trans.). Perseus Hopper. Archive. <http://www.perseus.tufts.edu/hopper/text?doc=urn:cts:greekLit:tlg0086.tlg035.perseus-eng1:1.1254a> (Original work published 350 B.C.E)
- Brudny, A. (2009). Will, Ego and Evidence. *UCA Academic Review*, 2, 45–54.
- Čapek, K. (1935). Autor Robotů se Brání [The Author of the Robots is Defending Himself]. *Lidové Noviny*, 9(6).
- Čapek, K. (1961). *R. U. R. (Rossum's Universal Robots)*. Oxford U.P. (Original work published in 1920)
- Čejková, J. (2021). Robots: The century past and the century ahead, an Introduction to the 2021 ALIFE conference? *The 2021 Conference on Artificial Life*. https://doi.org/10.1162/isal_e_00468
- Chernykh, P. Ya. (1999). Rabochii [Worker]. In *Historical and Etymological Dictionary of the Modern Russian Language. Vol. 2* (p. 92). Russian Language. <http://www.slovorod.ru/etym-chernykh/pdf/russ-hist-etym-chernykh-2.pdf>
- Günther, H. (2000). Archetypes of Soviet Literature. In H. Gunter & E. Dobrenko (Eds.), *Socialist Realist Canon* (pp. 743–784). Academic Project.
- Garvey, C., & Maskal, C. (2020). Sentiment Analysis of the News Media on Artificial Intelligence Does Not Support Claims of Negative Bias Against Artificial Intelligence. *OMICS: A Journal of Integrative Biology*, 24(5), 286–299. <https://doi.org/10.1089/omi.2019.0078>
- Gastev, A. (1971). *Poeziya Rabocheho Udara* [The Poetry of the Working Stroke]. Fiction. (Original work published in 1924) <https://traumlibrary.ru/book/gastev-poezia-rab-udara/gastev-poezia-rab-udara.html>
- Horakova, J. (2010). *Robot Jako Robot* [Robot as a Robot]. KLP Praha.
- Kaplan, F. (2004). Who is Afraid of the Humanoid? Investigating Cultural Differences in the Acceptance of Robots. *International Journal of Humanoid Robotics*, 01(03), 465–480. <https://doi.org/10.1142/S0219843604000289>
- Krausová, B. (2016). *Visual Interpretation of Karel Čapek's R.U.R* [PhD thesis, University of South Bohemia in České Budějovice]. https://theses.cz/id/5waal7/Vizuln_interpretace_dla_Karla_apka_R.U.R._DP_Lu_cie_Krau.pdf



- Mayakovsky, V. (1969). *Lublu. Izbrannaya Lirica* [I Love. Selected Lyrics]. Detskaya Literature.
- Moor, J. (2006). The Dartmouth College Artificial Intelligence Conference: The Next Fifty Years. *AI Magazine*, 27(4). <https://doi.org/10.1609/aimag.v27i4.1911>
- Nikolsky, S. (2004). K Istorii Znakomstva s Pyesoy Chapeka “R.U.R.” v Rossii [Linguistics and Literary Criticism. To the History of Acquaintance with Chapek's Play “R.U.R.” in Russia]. In T. I. Vendina, V. K. Volkov, & M. A. Robinson (Eds.), *Slavic almanac* (pp. 406-407). Indrik. <https://cyberleninka.ru/article/n/k-istorii-znakomstva-s-piesoy-chapeka-r-u-r-v-rossii/viewer>
- Pervushina, E. (2021). *Istorii o Muzah i Zhenah Russkih Poetov i Pisatelej. Istorii o Muzah i Zhenah Russkih Poetov i Pisatele* [Love in the Silver Age. Stories about muses and wives of Russian poets and writers. Joys and experiences]. Centerpolygraph
- Robertson, J. (2014). Human Rights vs. Robot Rights: Forecasts from Japan. *Critical Asian Studies*, 46(4), 571–598. <https://doi.org/10.1080/14672715.2014.960707>
- Semenov, (2003). Rabotat [To work]. In *Etymological dictionary of the Russian language*. UNVES. <https://gufo.me/dict/semenov/работать>
- Skvorchevsky, K., Sergeev, A., & Kovalev, N. S. (2020). From the Golem to the Robot and Beyond to the Smart Prostheses. In *Advances in Artificial Systems for Medicine and Education II. AIMEE2018 2018. Advances in Intelligent Systems and Computing, vol. 902* (pp. 355–365). Springer. https://doi.org/10.1007/978-3-030-12082-5_33
- Sreznevsky, I. (1912). Rabota [Work]. In *Materials for the dictionary of the Old Russian language according to written monuments. Vol. 3.* (p. 2). St. Petersburg. <http://www.ra-s-ved.ru/DATA/sreznevskyslovar3.pdf>
- Tolstoy, A. (1924). *Bunt Mashin: Fantasticheskie Stseni* [Riot of the Machines: Fantastic Scenes]. Time.
- Tolstoy, A. (1983). *Lyubov Zolotaya: Sbornik Pyes* [Golden Love: Collection of Plays]. Mystetstvo.
- Turner, J. (2019). Introduction. In *Robot Rules: Regulating Artificial Intelligence*. Palgrave Macmillan. https://doi.org/10.1007/978-3-319-96235-1_1
- Ushakov, D. (1939). Rabochii [Worker]. In *Explanatory Dictionary of the Russian Language, Vol. 3.* State foreign publishing house and national words. <https://gufo.me/dict/ushakov/рабочий>
- Vint, S. (2021). *Science Fiction*. The MIT Press. <https://doi.org/10.7551/mitpress/11841.001.0001>
- Vershinin, A. (2021, June 3). How to Avoid a Robot Riot. *SPbdnevnik*. <https://spbdnevnik.ru/news/2021-06-03/kak-izbezhat-bunta-robotov>



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