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Communication

The Concept of Freedom in Bakunin's Anarchist Thought and Its Relevance in the Context of Future Space Travel and Exploration

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Abstract: In a hypothetical scenario where space travels outside the solar system is possible and affordable, I examine the possible implications of infinite resources and the universalization of freedom in the social and individual spheres. I argue that freedom is the figure of man's emancipation and the supreme end of history, which represents a theme affirming the infinite and indefinite progress of history and science. Also discussed is Bakunin's theory of the critique of contractualism, which denies the idea of a mythical and primordial natural freedom that existed before the constitution of society. Furthermore, I highlight the deep pathos of romantic culture that feeds into Bakunin's anarchist thought and emphasize the relevance of the notion of freedom in the context of future space travel.

Keywords: Bakunin; Anarchism; Space Exploration; Freedom; Space Travel

Introduction

The concept of freedom has been a significant topic in political and philosophical discourse for centuries (Harrison and Boyd, 2018). Many political theorists and philosophers have proposed different ideas and theories of freedom (Neumann, 1953). One of the most prominent thinkers, who contributed to the anarchist idea of freedom is Mikhail Bakunin (Bakunin, 1990). His anarchist concept of freedom offers a unique perspective on the meaning and importance of freedom to human society. In this paper, I will examine the concept of freedom in Bakunin's anarchist thought and its relevance in the context of future space travel (Cockell and Cockell, 2022).

According to "The Sumerian" by S. Noah Kramer (1997), the term "freedom" was first recorded on a Sumerian cuneiform tablet as "ama-gi" which can be translated as "return to the mother." This metaphorical expression signifies a "return to the origins" and is associated with a story of the people's revolt against a tyrannical ruler (Kramer and Rogers D. Spotswood Collection. TxSaTAM, 1963).

Freedom denotes the ability to live, move, and act independently according to one's own will and nature, without being constrained by any form of limitation or restriction. Although societies may have arisen from compulsion, it is also true that individual initiative can give rise to freedom (Two concepts of freedom: View as a single page, n.d.).

Around the world, many sets of paramount public rights known as civil liberty rights, encompassing the likes of personal freedom in all its complexity, freedom of correspondence, religious freedom, press, assembly, and freedom of association, are deemed to embody a host of individual rights, which are designed to shield the individual from the power of a dominant subject or the State. These rights offer individuals independence in the performance of activities deemed lawful under the purview of the law (Emerson, 1964).

In the civil domain, contractual freedom is a concept used to describe the principle that enables parties to determine the content of a contract freely, subject to legal limitations (Rodl, 2013). In Italy, for instance, this principle allows the parties to conclude contracts that are not specifically regulated,

provided that such contracts are aimed at achieving interests worthy of legal protection (Antoniolli and Veneziano, 2005).

Historically, freedom has been defined as self-determination without any internal (passions) or external (State, fate) constraints or limitations. This definition dates back to ancient times. Nevertheless, in the Christian context, freedom is defined in contrast to original sin's inherent corruption and in relation to the concepts of divine grace and providence (Full article: Freedom, sin and the absoluteness of Christianity: reflections on the early Tillich's Schelling-reception, n.d.).

Freedom can be categorized into various types: firstly, freedom can be understood as an unrestrained expression of vitality, where the health of the organism is a primary condition. At a higher level of consciousness, freedom is associated with the spontaneity of tendencies and the realization of desires, often embodied in pleasure according to hedonistic theories (Cohen, 1993). Secondly, freedom can be understood as free will or freedom of choice, which requires the coexistence of multiple motivations and possibilities for action. However, the concept of freedom of indifference, which identifies freedom as indifference to motivations, has been criticized for reducing freedom to gratuitous arbitrariness and pure randomness (Sen, 1988). Thirdly, freedom can be viewed as the realization of rationality, where positive choices are motivated by reason and aimed at achieving rational ends. This is a postulate of practical reason, according to Kant, and is related to the moral will that imposes the law on itself (Five Concepts of Freedom in Kant | SpringerLink, n.d.). Fourthly, Fichte's spiritualistic interpretation of freedom sees it as the realization of individual vocation rather than universal reason. This involves a personal creative effort and is the testimony of inner freedom (Fichte on Freedom | SpringerLink, n.d.). Finally, individual freedom is a concept that emerged in Plato's direct democracy or Anarchy as a manifesto opposed to manifest statism in totalitarian societies (Kornai, 1988).

In accordance with the aforementioned definitions, the absence of freedom is a contributing factor to the oppression of one individual by another (Elias, 2016). The scarcity of natural resources is one motivating factor behind the absence of freedom. In a scenario in which resources can be considered a limiting factor, some members of society may restrict others' personal freedoms to secure a greater share of resources, regardless of the cost to the physical and mental well-being of others (Matthew, n.d.). While the scarcity of natural resources is not the sole reason for limitations on freedom, it may serve as a trigger. In the context of space exploration, this limitation may be alleviated by exploiting *in-situ* resources (Santomartino et al., 2022). If the universe is indeed infinite, as hypothesized, then there would be an infinite number of potentially habitable planets, meteorites, comets, and other celestial bodies, with unlimited resources such as water, rare metals, precious stones, iron, copper, diamonds, etc (McLeod and Krekeler, 2017).

Space exploration by humans has been increasing in recent years, with an ever-growing number of probes and astrobiological studies (Cockell et al., 2020). This interest is not only focused on understanding the origins of life on Earth and in the cosmos but also on supporting human colonization of space, which raises ethical, moral, and social considerations (Cockell, 2001; Santomartino et al., 2022). The ethical implications of space exploration include questions such as how humans will exploit resources on other planets, how many planets they will colonize, how social co-protection will change, how the structural plan will alter, and whether new societies will be created. Additionally, the discovery of non-terrestrial life forms would have significant implications. The use of resources from other planets could limit the use of those on Earth, and the degree of well-being for all of humanity may increase. Many of these questions still need to be answered, and the debate surrounding them is limited. "Will we be free when we have full access to space travel? Will using resources from other planets limit the use of those on Earth? Will the degree of well-being for all humanity increase?".

Discussion

Bakunin's anarchist thought of freedom is based on the belief that freedom is the figure of man's emancipation and the supreme end of history. According to Bakunin, the deepest core of his thought coincides with the deepest core of anarchist thought, which considers freedom as the supreme

2

3

purpose of history and the figure of man's emancipation. He argued that history and science constitute an infinite theme, confirming human society's infinite and indefinite progress. In Bakunin's view, freedom is not a theological purpose but human essence that determines history in and of itself.

In a hypothetical scenario where space travels outside the solar system is possible and affordable, the concept of freedom takes on new relevance. The potential implications of infinite resources and the universalization of freedom in the social and individual spheres would have a significant impact on human society. In such a scenario, every individual belonging to *Homo sapiens* could benefit from its own planet rich in resources. Rare resources, nowadays objects of wars and abuses, would no longer be rare and would no longer be the subject of dispute. If we consider freedom as that envisaged by Mikhail Bakunin, we could consider ourselves truly free.

Space freedom is a human essence: history in and of itself does not have a pre-established end because the latter is imposed by the will of men. To say freedom and the necessity of freedom means to say humanity, in the sense that one defines the other. Freedom in a broad sense, from the bosses, from the corporations, from poverty. Individual freedom to live and die according to the dictates of nature. Man is such because, unlike every other living being, has conquered the notion of freedom by placing it as the primary condition of his ontological identity. But freedom is not only human in the anthropological sense, it is even more so in the social sense since the collective universalization of freedom is the same individual freedom extended to its infinity.

The universalization of freedom represents the social form of the human essence: according to Bakunin, in fact, true individual freedom cannot fail to become, immediately, general freedom. This is the "objective" foundation of freedom, in the sense that, of the various possibilities given to the human being to be what he wants to be, only freedom contains to the end the founding figure of itself because nothing is more universal to it. From the concept of freedom understood as the historical degree of human evolution (the level of freedom establishes the level of humanity), it is possible to derive the anarchist paradigm of the critique of contractualism, that is, the radical denial of the idea of mythical and original natural freedom existing before the constitution of society (Care, 1969). This theory, which runs through all modern political science, from Rousseau to Kant, is for Bakunin eminently false since in every age man must seek freedom not at the beginning, but at the end of history. The isolated man cannot be conscious of freedom, since in order to be free he must be recognized, considered, and treated as such by another man, by all men. "Does man's freedom consist of rebellion against all laws?" No, if it is a question of natural, economic, and social laws, laws not imposed authoritarian, but inherent in things, relationships, and situations which express the natural development as the exploration of the cosmos that could inevitably lead to an autonomous disintegration of all these concepts, worlds and pseudo-societies based solely on the individuality of the individual in his own planetary identity. A planet for everyone, unique natural and social laws built on the individual and on his own will to be free and not imposed authoritarian by a society that is divided according to the relationship between money and social status. In fact, if it is true that necessity makes us aware of all that is not possible to do, it is only freedom that opens up to us the horizon of the infinite possibility of human planning, a horizon where all the fatuous academic and doctrinal schemes of modern idealism drown. The freedom of the man of the future, as for the past belonging to the Bakunian idea, is found both as a means and as an end, and therefore if the foundation of subjectivity is freedom as we have just understood it follows the linear and incontrovertible conclusion that the free society is not the result of the simple human will, but of a libertarian human will that aims at a free and infinite future. At this point, it is evident that according to Bakunin and according to the concept of planetary freedom deriving, freedom is the only effective revolutionary force present and operating in history, past, present, and future. If social and collective development is based mainly on three founding elements: human animality, thought, and revolt, then when these three find themselves colliding in the same historical moment then man will be free. When the social and private economy, science, and the will have reached their peaks of knowledge, then science will no longer be indispensable to relate dialectically to necessity and only the will will be able to project man towards his outcome in need of human, freedom.

From what has been said so far it is evident that there is the deep pathos of the romantic culture that from Hegel to Fichte flows into the Russian anarchist almost seamlessly: like the need for freedom to require an infinite condition. And in this condition equality does not become a starting line but a line of arrival as it is not a question of creating the objective-material conditions for all human beings to enjoy the same possibilities of development and life.

Focusing on the present in view of the future it is evident that the space race, which began in the 60s is growing exponentially, the entry into space exploration of numerous states has strongly shaken the modus vivendi to which the world was accustomed, which most of the attention was towards the international space station. In a few years, space has returned to being a playing field that sees as its ultimate goal the permanence of man in space (Tonietti et al., 2023). In theory, space is understood as the sole domain of human activity, so much so that the Outer Space Treaty of 1967 prohibits any claim to sovereignty over space, the Moon, and other celestial bodies (Dembling and Arons, 1967), which are to be qualified, without exception, as res communis omnium (the legal regime that implies the freedom of exploration and use of outer space by all states, without discrimination, on the basis of equality and in accordance with international law). In space, however, can the common heritage of humankind be applied? If we take the Moon as an example, the agreement or the Moon Treaty (Christol, 1985) provides that the exploitation of lunar resources is regulated, for the benefit of all humanity, through a special legal regime; to date, however, it must be considered that it is technically impossible and economically invalid massive exploitation of lunar resources (Carter, 1992). Still taking the Moon as an example, the exploitation of lunar resources is a much-discussed topic, especially at a time in history like this when space exploration begins to focus on sending human space missions to the Moon and Mars and, in the future, on the surface of other planetary bodies in the solar system (Weiren and Dengyun, 2014). The exploitation of lunar resources could provide, the iron and the oxygen needed to relate the atmosphere and habitat infrastructure to astronauts' needs or provide fuel for spacecraft to and from Earth, or the future Lunar Gateway (Lo and Ross, 2001) and, in the future, to refuel automatic or manned spacecraft intended for travel to Mars or other destinations in the solar system.

In this utopian vision of universal space exploration and colonization, the only obstacle to achieving it is currently the absence of the necessary means. Humans cannot colonize other planets and therefore cannot extract the potential resources available (Thangavelautham et al., 2020). However, the question remains whether the colonization of space will lead to a society that is truly autonomous and free. While it may take hundreds or even thousands of years to fully realize, the theoretical possibility of achieving such a society exists.

Conclusions

The idea of planetary freedom and the Bakunian concept of freedom as the foundation of humanity, both as a means and an end, may seem romantic in the present context. However, in a hypothetical scenario in the distant future, where man has conquered the exploration of the cosmos and potentially every individual belonging to *Homo sapiens* could possess their own planet rich in resources useful for survival, this idea may become a reality. The universalization of freedom as the social form of the human essence would represent the ultimate achievement of humanity, where true individual freedom becomes immediate general freedom. While the realization of this idea may seem far-fetched, it is a reminder that the ultimate aim of humanity should be the attainment of true freedom, where man is no longer subjected to authoritarian laws, and all individuals can live and die according to the dictates of nature in a proto-primitive form. In the future, freedom will be achieved. Everyone will be free due to the abundance of resources, and places. Every individual will be free to express themselves in an unrestricted space where personal liberty shall supersede any form of oppression, government, state, or the law. The abundance of resources becomes a means for a libertarian society, just as the abolition of private property and money becomes a means to the same end.

4

5

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References

- 1. Antoniolli, L., and Veneziano, A. (2005). *Principles of European Contract Law and Italian Law*. Kluwer Law International B.V.
- 2. Bakunin, M. A. (1990). Bakunin: Statism and Anarchy. Cambridge University Press.
- 3. Care, N. S. (1969). Contractualism and Moral Criticism. Rev. Metaphys. 23, 85–101.
- 4. Carter, J. L. (1992). Lunar material resources: An overview. Available at: https://ntrs.nasa.gov/citations/19930007689.
- 5. Christol, C. Q. (1985). The Moon Treaty Enters Into Force. Am. J. Int. Law 79, 163–168. doi: 10.2307/2202679.
- 6. Cockell, C. (2001). "Astrobiology" and the ethics of new science. *Interdiscip. Sci. Rev.* 26. doi: 10.1179/0308018012772533.
- 7. Cockell, C. S., and Cockell, C. S. (2022). *Interplanetary Liberty: Building Free Societies in the Cosmos*. Oxford, New York: Oxford University Press.
- 8. Cockell, C. S., Santomartino, R., Finster, K., Waajen, A. C., Eades, L. J., Moeller, R., et al. (2020). Space station biomining experiment demonstrates rare earth element extraction in microgravity and Mars gravity. *Nat. Commun.* 11, 5523. doi: 10.1038/s41467-020-19276-w.
- 9. Cohen, J. (1993). Freedom of Expression. *Philos. Public Aff.* 22, 207–263.
- 10. Dembling, P., and Arons, D. (1967). The Evolution of the Outer Space Treaty. *Doc. Outer Space Law*. Available at: https://digitalcommons.unl.edu/spacelawdocs/3.
- 11. Elias, M. L. G. G. R. (2016). Reading Freedom from the Theme of Oppression. *Braz. Polit. Sci. Rev.* 10, e0001. doi: 10.1590/1981-38212016000200001.
- 12. Emerson, T. I. (1964). Freedom of Association and Freedom of Expression. *Yale Law J.* 74, 1–35. doi: 10.2307/794804.
- 13. Fichte on Freedom | SpringerLink (n.d.). Available at: https://link.springer.com/chapter/10.1007/978-3-030-26508-3_13.
- 14. Five Concepts of Freedom in Kant | SpringerLink (n.d.). Available at: https://link.springer.com/chapter/10.1007/978-94-009-3639-3_5 .
- 15. Full article: Freedom, sin and the absoluteness of Christianity: reflections on the early Tillich's Schelling-reception (n.d.). Available at: https://www.tandfonline.com/doi/full/10.1080/21692327.2017.1403361 .
- 16. Harrison, K., and Boyd, T. (2018). "Freedom," in *Understanding political ideas and movements* (Manchester University Press), 83–102. Available at: https://www.manchesteropenhive.com/display/9781526137951/9781526137951.00008.xml.
- 17. Kornai, J. (1988). Individual freedom and reform of the socialist economy. *Eur. Econ. Rev.* 32, 233–267. doi: 10.1016/0014-2921(88)90172-9.
- 18. Kramer, S. N. and Rogers D. Spotswood Collection. TxSaTAM (1963). *The Sumerians: their history, culture, and character.* Chicago: University of Chicago Press Available at: http://archive.org/details/sumerianstheirhi00samu.
- 19. Lo, M., and Ross, S. (2001). The Lunar L1 Gateway: portal to the stars and beyond. Available at: https://dataverse.jpl.nasa.gov/dataset.xhtml?persistentId=hdl:2014/40516.
- 20. Matthew, R. A. (n.d.). Resource Scarcity: Responding to the Security Challenge.
- 21. McLeod, C. L., and Krekeler, M. P. S. (2017). Sources of Extraterrestrial Rare Earth Elements: To the Moon and Beyond. *Resources* 6, 40. doi: 10.3390/resources6030040.
- 22. Neumann, F. L. (1953). The Concept of Political Freedom. *Columbia Law Rev.* 53, 901–935. doi: 10.2307/1119178.

- 6
- 23. Rodl, F. (2013). Contractual Freedom, Contractual Justice, and Contract Law (Theory) The Public Dimension of Contract. *Law Contemp. Probl.* 76, 57–70.
- 24. Santomartino, R., Zea, L., and Cockell, C. S. (2022). The smallest space miners: principles of space biomining. *Extremophiles* 26, 7. doi: 10.1007/s00792-021-01253-w.
- 25. Sen, A. (1988). Freedom of choice: Concept and content. *Eur. Econ. Rev.* 32, 269–294. doi: 10.1016/0014-2921(88)90173-0.
- 26. Thangavelautham, J., Chandra, A., and Jensen, E. (2020). Autonomous Robot Teams for Lunar Mining Base Construction and Operation. in 2020 IEEE Aerospace Conference, 1–16. doi: 10.1109/AERO47225.2020.9172811.
- 27. Tonietti, L., Barosa, B., Pioltelli, E., Giovannelli, D., Covone, G., Donato, P. D., et al. (2023). Exploring the Development of Astrobiology Scientific Research Through Bibliometric Network Analysis: A Focus on Biomining and Bioleaching. doi: 10.20944/preprints202305.0739.v1.
- 28. Two concepts of freedom: View as single page (n.d.). Available at: https://www.open.edu/openlearn/mod/oucontent/view.php?printable=1&id=1747.
- 29. Weiren W. U., and Dengyun Y. U. (2014). Development of Deep Space Exploration and Its Future Key Technologies. 深空探测学报(中英文) 1,5–17.

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