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The Marxist Approach to Nature: The Case of Wolves in the Soviet Union*

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Abstract. This article analyzes the orthodox Marxist theory of nature as a philosophy of nature, based primarily on the later works of Karl Marx and the works of Friedrich Engels, as well as its role as a Soviet State ideology of mastering nature. We argue that Soviet Marxists viewed nature as a product of human labor. Labor, in turn, was considered a continuation of the natural order and the fulfillment of nature's full potential. At the same time, labor led to a "struggle with nature". This motif of battle against nature appears almost universally throughout Soviet ideological texts. To analyze how the ideological interpretation of nature by Soviet Marxists was implemented in practice, we examine the wolf extermination campaigns carried out in the Soviet Autonomous Soviet Socialist Republic of Yakutia and the Soviet Socialist Republic of Lithuania and consider them as part of the Soviet Marxists' ideological approach to the transformation, control, and subjugation of nature.
Keywords: Marxism, Soviet Yakutia, Soviet Lithuania, wolf, extermination, mastering nature.

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Marksistų požiūris į gamtą: vilkų atvejis Sovietų Sąjungoje

Santrauka. Šiame straipsnyje analizuojama ortodoksinė marksistinė gamtos filosofija ir sovietų valstybės gamtos valdymo ideologija (tai daugiausia susiję su vėlesniais Karlo Markso darbais ir Frydricho Engelso kūriniais). Ši ideologija pasireiškė didelio masto projektais, tokiais kaip Stalino gamtos pertvarkymo planas. Straipsnyje parodoma, kad sovietų marksistai gamtą laikė sovietinio žmogaus „darbo“ produktu. Pats darbas buvo traktuojamas kaip natūralios tvarkos tęsinys ir gamtos potencialo realizavimas. Tačiau tuo pačiu metu darbas veda į „kovą su gamta“, o ši kova su gamta atsiranda beveik visoje sovietinėje gamtos ideologijoje. Sovietų Sąjungos visuomenėje politika ir net gamtos mokslai buvo organizuojami pagal valstybės ideologinę gamtos interpretaciją. Analizuodami, kaip sovietų marksistų ideologinė gamtos filosofija buvo įgyvendinta praktiškai, palyginame Jakutijos ir Lietuvos sovietinėse respublikose vykdytas vilkų naikinimo kampanijas. Šiuos pavyzdžius pateikiame kaip sovietų marksistų ideologinio požiūrio į kovą su gamta, jos transformaciją ir kontrolę išraišką.

Reikšminiai žodžiai: marksizmas, sovietinė Jakutija, sovietinė Lietuva, vilkų naikinimas, kova su gamta.

Introduction

The Soviet ideological stance of mastering nature was an integral part of the modernization process of the entire Soviet Union, considered by Soviet Marxists to be a key component in the construction of socialism. This socialist goal was to be achieved through technological progress, the development of infrastructure, increased scientific knowledge, the rational design of the social order, and a greater control over nature[1]. In the Soviet Union, the ideal of mastering nature mostly manifest-

[1] Peter Schweitzer, Olga Povoroznyuk and Sigrid Schiesser, “Beyond Wilderness: Towards an Anthropology of Infrastructure and the Built Environment in the Russian North,” *The Polar Journal* 7, no. 1 (2017): 58–85, DOI: https://doi.org/10.1080/2154896X.2017.1334427; Mark B. Tauger, “Modernisation in Soviet Agriculture,” in *Modernisation in Russia since 1900*, eds. Markku Kangsaspuro and Jeremy Smith (Helsinki: Studia Fennica Historica, 2006), 84–102; Andy Bruno, *Making Nature Modern: Economic Transformation and the Environment in the Soviet North*, PhD Dissertation (University of Illinois at Urbana-Champaign, 2011); Nicholas B. Breyfogle, “Toward an Environmental History of Tsarist Russia and the Soviet Union,” in *Eurasian Environments: Nature and Ecology in Imperial Russian and Soviet History*, ed. Nicholas B. Breyfogle (University of Pittsburgh Press, 2018), 3–20; Marc Elie, “Desiccated Steppes: Droughts and Climate Change in the USSR, 1960s–1980s,” in *Eurasian Environments: Nature and Ecology in Imperial Russian and Soviet History*, ed. Nicholas B. Breyfogle (University of Pittsburgh Press, 2018), 75–94.

ed itself through large-scale projects, such as the Great Construction Projects of Communism and Stalin's Plan for the Transformation of Nature[2]. The former included plans to essentially reverse the directions of the Pechora and Vychegda Rivers, with the objective of utilizing their water for agricultural needs[3], and plans to grow large quantities of vegetables in greenhouses across the Arctic tundra[4], as well as many enormous, landscape-transforming infrastructural projects, such as the White Sea – Baltic Canal (a.k.a. Belomorkanal), the Volga – Don Canal, the Baikal – Amur Railway Mainline, and massive industrial plant complexes in Magnitogorsk and Norilsk, as well as mines in Vorkuta and elsewhere[5]. The latter project foresaw the creation of nearly six million hectares of new forest – an area greater than that of all the forests of Western Europe combined – in the form of windbreaks along the rivers of the Russian South and the perimeters of the collective farms. These constructions sought to stop the dry Central Asian winds, to cool and dampen the climate of Southern Russia and make it more suitable for agriculture, while also eliminating the periodic droughts that had afflicted the steppe for decades[6]. All these projects expressed the constructivist vision of the communist future characteristic of a certain time in Soviet history[7]. Even though many of these plans were already abandoned by the time of Stalin's death in 1953, the constructivist vision of nature remained. The campaign of systematic extermination of wolves in the Soviet Union, which we will discuss here, should be considered one of these large-scale Soviet projects enacted for the transformation of nature.

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2 Stephen Brain, "The Great Stalin Plan for the Transformation of Nature," *Environmental History* 15, no. 4 (2010): 670–700, DOI: 10.1093/envhis/emq09.

3 Philip. P Micklin, "Soviet Plans to Reverse the Flow of Rivers: The Kama-Vychegda-Pechora Project," *Canadian Geographer* 13, no. 3 (1969): 199–215.

4 Ivan Solonevich, *Rusija konclageryje* (Vilnius: Briedis, 2019), 398–399; Andy Bruno, *op. cit.,* 102–103.

5 Paul R. Josephson, *The Conquest of the Russian Arctic* (Cambridge, MA and London: Harvard University Press, 2014).

6 *Ibid*.

7 Peter Schweitzer et al., *op. cit*.

In this article, we aim to discuss how Soviet ideologists used orthodox Marxism to develop and implement the idea of mastering the imperfect and chaotic natural environment, which was to be transformed according to the needs of the modernizing Soviet society and the emerging Soviet man. We will do so by closely examining the specific case of the wolf extermination campaign in the Soviet Union, whichprecisely reflected this ideological stance.

We consider Marxism to be orthodox when it relies more heavily on the later works of Karl Marx, especially on *Capital*[8] and on the *Communist Manifesto*[9], as well as on the works of Friedrich Engels in their entirety. However, orthodox Marxists either ignore or downplay the philosophical importance of Marx's early works, such as the *Economic and Philosophical Manuscripts of 1844*[10]. The direct application of this orthodox Marxist philosophy was one of the pillars of the Soviet approach to nature.

Early Soviet ideas about what is this thing we call 'nature' stem from the Stalinist interpretations of Marxism and from the Marxist orthodoxy in a more general sense. During the Stalinist era, Soviet ideologists often held that humanity by nature is enslaved by natural processes through our bodily needs. Humans gain freedom from this biological serfdom and fully constitute themselves as people only by human labor, that is, by creating a new modern world while reducing nature to a mere resource that was to be systematized, rationalized, controlled, and extracted by human labor. In his magnum opus *Capital*, Karl Marx described the labor process as a force which stands between man and nature – labor was a mediating force and the main means of interaction between the two. Therefore, labor for Marx, at least in his later years, was both a human action and a condition for human existence. At the same time, Engels, in an article titled *The*

8 Karl Marx, *Capital.* Vol. 1 (1995). Access online: https://www.marxists.org/archive/marx/works/download/pdf/Capital-Volume-I.pdf.

9 Karl Marx, Friedrich Engels, *Manifesto of the Communist Party* (2000a). Access online: https://www.marxists.org/archive/marx/works/1848/communist-manifesto.

10 Karl Marx, *Economic & Philosophic Manuscripts of 1844* (2000b). Access online: https://www.marxists.org/archive/marx/works/1844/manuscripts/preface.htm.

Part Played by Labor in the Transition from Ape to Man[11], claimed that labor was a driving force of evolution which caused the emergence of the human species. Therefore, labor was shown by Engels as a force that produces a man – the worker. By relying on these ideas, the Soviet orthodox Marxists considered labor as a driving force of nature itself, and human intervention in natural environments was not seen as destructive towards nature by definition. On the contrary, labor was seen as a force which improves nature. Any human interference in the natural world was ideologically treated by Soviet Marxists as a fulfilment of the things that are meant to be in the first place. According to this perspective, human work became an extension of nature's natural order, leading to the construction of socialism, which foresaw the transformation of nature. Paradoxically, Soviet ideologists considered human labor as a continuation of the natural process and, at the same time, labor led to a "struggle with nature", in which humanity establishes itself and creates the necessary conditions for its continuation[12]. This motif of a battle against nature is found almost universally, in nearly all the Soviet textbooks on Marxism.

During the first half of the 20th century, the Soviet interpretation of Marxism, along with its attitude towards nature, penetrated the applied sciences. This process especially affected biology, game management, agronomy and forestry, since the major figures that helped to redefine applied sciences in the Marxist terms worked in these specific fields. Since human-wolf relations (which we will examine here) constituted part of the forestry science, these relations were inevitably influenced by this shift. The Soviet figures Trofim Lysenko and Ivan Michurin played key roles in this transformation. Michurin, for example, once

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11 Friedrich Engels, *The Part Played by Labor in the Transition from Ape to Man* (1996). Access online: https://www.marxists.org/archive/marx/works/1876/part-played-labor/index.htm.

12 Naumas Ickovičius, *Žmogaus viešpatavimo gamtai filosofiniai pagrindai* (Vilnius: Valstybinė politinės ir mokslinės literatūros leidykla, 1959), 14; Viktoras Afanasjevas, *Filosofijos žinių pagrindai* (Vilnius: Mintis, 1970), 169; D.I. Danilenko, P.K. Galdiajevas et al., *Pradinis filosofijos kursas* (Vilnius: Mintis, 1967), 164; Alla Bolotova, *Conquering Nature and Engaging with the Environment in the Russian Industrialized North,* PhD Dissertation (Rovaniemi: University of Lapland, 2014), 3–19, 73.

wrote: "Only on the basis of the teachings of Marx, Engels, Lenin and Stalin can science be fully reconstructed"[13]. He propagated intervention into the actions of nature to "greatly accelerate the form-building of new species and to bend their constitution in a direction most useful to [Soviet] man"[14]. Moreover, both Michurin and Lysenko rejected the scientific theories and methods stemming from Darwinian evolution, as well as genetics, universally accepted by Western scholars, who considered Lysenko and Michurin either as plain charlatans, pseudo-scientists, or, at best, scientists with dubious reputations[15]. In the Soviet Union, however, they were seen as scientists of the top tier. Being personal acquaintances of the highest-ranking Communist party members, they had a huge impact on the Soviet policies which administered relations with nature. The ideals of "intervention into nature's activities" and "a struggle against nature" started to appear in various forms of ideological representation as early as the first post-revolutionary decades[16]. They were fully conceptually developed and gained their full momentum with Lysenko's rise to power in 1927.

To demonstrate how the ideological principles of the Soviet struggle against nature were implemented into practice, we took the wolf extermination campaigns carried out in the USSR as a vivid example. The wolf can be seen as a highly intelligent, elusive, persistent, adaptive and procreative predator species, also as a symbol of untamed and wild nature, in relation to which the Soviet ideological exclamations of mastering nature were highly concentrated. As such,

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13 Ivan Michurin, *Selected Works* (Moscow: Foreign Languages Publishing House, 1950), 487.

14 *Ibid*., 247.

15 Walter Gratzer, *The Undergrowth of Science: Delusion, Self-Deception and Human Frailty* (Oxford and New York: Oxford University Press, 2000); Valery N. Soyfer, *Lysenko and the Tragedy of Soviet Science* (New Brunswick: N.J. Rutgers University Press, 1994); Vance Kepley, "The Scientist as Magician: Dovzhenko's Michurin and the Lysenko Cult," *Journal of Popular Film and Television 8*, No. 2 (1980): 9–26; David Joravsky, *The Lysenko Affair* (Chicago & London: The University of Chicago Press, 1986); David Joravsky, "The First Stage of Michurinism," in *Essays in Russian and Soviet History* (Leiden: Brill, 1963).

16 Alla Bolotova, *op. cit.* (2014), 45.

wolves embodied opposition to the Soviet view of a controlled nature subjugated by human labor to serve the modernized Soviet society. Wolves in the Soviet discourses on nature were depicted as useless pests causing economic damage to the Soviet industrial livestock farming and wild game hunting, and were declared to be outlaws, enemies of the Soviet State, which had to be harshly eradicated[17].

Specifically, here we will analyze the wolf extermination campaigns organized in the former Lithuanian Soviet Socialist Republic (LSSR)[18] and the Yakut Autonomous Soviet Socialist Republic (YASSR)[19]. We seek to show how the uniform political system and the Soviet ideology were utilized in a mass wolf extermination cam-

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17 Aivaras Jefanovas and Donatas Brandišauskas, "Wolves as Enemy of the Soviet State: Policies and Implications of Predator Management in Yakutia," *Journal of Ethnology and Folkloristics 17*, no. 2 (2023): 80–99, DOI: https://doi.org/10.2478/jef-2023-0019; Dmitriy I. Bibikov and Feliks Shtilmark, "Vrag naroda ili pushnoy zver?", *Gumanitarnyy Ekologicheskiy Zhurnal* 13, no. 3 (2011 [1993]): 29–32; Mikhail Pavlov, *Volk* (Moskva: Agropromizdat, 1990), 11; Dmitriy I. Bibikov, *Volk. Proiskhozhdeniye, Sistematika, Morfologiya, Ekologiya* (Moskva: Izdatel'stvo Nauka, 1985), 5.

18 Between 1940–1941 and 1944–1990, Lithuania was occupied by the Red Army and was incorporated into the Soviet Union, becoming one of the Soviet Republics – the LSSR. On the eve of the dissolution of the Soviet Union, Lithuania regained its independence in 1989 becoming the Republic of Lithuania. The LSSR covered 65,300 km² area (more than 40 times smaller than YASSR) with highly agriculturalized lands interspersed with some forests which covered only 22.6% of the territory, and the territory was populated by three million people (10 people per km²). Lithuania traditionally relied on agriculture and cattle husbandry. See also: Janina Prūsaitė, *Lietuvos TSR Canidae šeimos žvėrys*, PhD Dissertation (Lietuvos TSR mokslų akademija, Zoologijos ir parazitologijos institutas, 1961), 29; Stanislovas Tarvydas, *Lietuvos TSR fizinė-geografinė apžvalga* (Vilnius: Valstybinė politinės ir mokslinės literatūros leidykla, 1958).

19 After the Russian Revolution, Yakutia was reorganized by the Soviet regime in 1922 into the Yakut Autonomous Soviet Socialist Republic (YASSR). Yakutia remained under the Soviet regime until the fall of the USSR in 1991, after which it was reorganized as the Republic of Sakha, a part of the Russian Federation. YASSR covered 3,000,000 square kilometers (an area comparable to India) of continuous taiga and tundra landscapes, with mountain ranges, permafrost, and a population of only one million (0.31 person per square kilometer). The traditional economy of the inhabitants of Yakutia has been based on livestock raising and hunting. YASSR was the site of some of the most radical and diverse industrial measures applied in the systematic mass extermination of wolves by Soviet game management authorities, including techniques such as poisoning and the use of helicopters and planes for hunting. See also: Piers Vitebsky, *Reindeer People: Living with Animals and Spirits in Siberia* (London: Harper Collins, 2005), 38.

paign, regardless of the geographic location or historical and cultural differences between the socialist republics.

The data on wolf hunting and population management in Soviet Yakutia were collected by Aivaras Jefanovas during a 10-month ethnographic fieldwork session (2018–2019) in Arctic Yakutia, as part of a broader research project examining Tungus-speaking Eveny hunters and reindeer herders and their interactions with wolves. In addition to participant observation as the primary data collection method, the study included 22 open-ended interviews with wolf hunters and game managers from Northern villages and cities, focusing on wolf hunting methods and the dynamics of human-wolf interactions in Yakutia. Within the scope of the study, the author retrieved archival materials from the *National Archives of the Republic of Sakha* (Yakutia), including Soviet documents, reports, and institutional correspondence on wolf extermination policies from 1892 to 1972.

In analyzing the wolf management policy in Soviet Lithuania, both authors conducted interviews with two former game managers and a zoologist, all of whom were members of the Lithuanian Hunters' Association and participated in wolf hunting in the Soviet times. To examine wolf management in Soviet Lithuania, Aivaras Jefanovas accessed materials from the *Lithuanian Central State Archives*, including documents, correspondence, and reports from the Directorate of Game Management under the Council of Ministers of the LSSR, covering the period from 1947 to 1962.

1. Orthodox Marxism and the Idea of Human Rule Over Nature

A popular Soviet writer Maxim Gorky, who was also an active Bolshevik, a member of the Central Committee of the Communist Party and a close friend of Lenin, once wrote:

> Apart from life, which nature has given us along with animals, birds, fish, insects, *along with wolves and rats*, nightingales and frogs, ruffs and snakes, bees and lice – nature has given us nothing. We ourselves

> have taken – and we continue to take – from it everything we need. In ancient times little people – we – ate plant roots, tree bark and worms. Bread, sugar and everything that we eat now were found, taken and processed by ourselves, without the help of nature, by the power of our mind[20]. [emphasis is ours]

Being in the same sphere "along with wolves" was certainly not satisfactory for the Soviets. Thus, the process of extracting "everything that we need" from nature gained a primary ideological role[21]. Some readers may object to us by stating that positivism, a belief in technological progress and the subjugation of nature for the benefit of mankind, was characteristic of the entire Western civilization of that era. To some extent this is true. However, we will try to show that even in the general context of the early to mid-20th century, the Soviet ideologists held exceptionally negative attitudes towards wild nature, and, specifically, towards wolves as a manifestation of wildness. This stance was mostly conditioned by orthodox Marxism. Nature in this type of Marxism was treated as incompleteness or imperfection, which is completed/perfected through the application of the force of labor. Soviet Marxists emphasized that the main (however, not the only) way for this labor force to manifest itself was through the efforts of the human body, and especially through the bodily efforts of the working class. Thus, human labor was seen by the Soviet ideologists as a force which allowed nature to reach perfection. This also meant that natural processes and the natural environments were not seen as self-sufficient or capable of fully existing, or at least of reaching their best capabilities without the labor being involved. For this reason, the negative stance toward nature was rooted in the orthodox Marxist view of natural processes as non-acceptable imperfection.

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20 Maxim Gorky, *O 'malen'kih' ljudjah i o velikoj ih rabote* (Sobranie sochinenij v tridcati tomah, T. 25, 1949). Access online: https://traumlibrary.ru/book/gorkiy-pss30-25/gorkiy-pss30-25.html (Accessed on: 08 April 2024).

21 See also Alla Bolotova, *op. cit*. (2014), 45–47; Alla Bolotova, "Colonization of Nature in the Soviet Union: State Ideology, Public Discourse, and the Experience of Geologists," *Historical Social Research* 29, no. 3 (2004): 104–123, DOI: https://doi.org/10.12759/hsr.29.2004.3.104-123.

Even though labor played a key role in the orthodox Marxist approach to nature, the exact relation between these two ideas was very complex and had some paradoxical qualities. In the *Capital*, for example, Marx described the labor process as a force which stands between man and nature: labor was a mediating force and the main means of interaction between the two. Being neither a fully human (cultural) process, nor a natural one, labor was a mix of these things. It also transcended economic configurations and social arrangements of the society – labor was not conditioned by anything but itself. In Marxist terms, labor as a force transcended both the economic base and the superstructure. This means that labor for Marx was not a socially conditioned process as we are used to think of it; instead, it was an ever-present part of human life, and perhaps more similar to the life itself. To put it in Marx's own words:

> [Labor is a] human action with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting *exchange of matter between man and nature*; it is the everlasting nature-imposed *condition of human existence*, and therefore is independent of every social phase of that existence[22]. [emphasis is ours]

Essentially, labor had a twofold essence: it was seen as a human/cultural process, but at the same time it was seen as a process of nature. As a human process, labor manifested itself through "the fight against the nature" and through the application of nature to our own needs[23]. Meanwhile, as a non-human process, labor was seen as a driving force of evolution which caused the emergence of the human species. According to Engels, for example, the development of hands (an adaptation to perform various labor-related tasks) led to the growth of the brain in primates, which led to the emergence of the human species. In the words of Engels himself, "the hand is not only

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22 Karl Marx, *op. cit*. (1995), 130.

23 See also Naumas Ickovičius, *op. cit.,* 14; Viktoras Afanasjevas, *op. cit.,* 169; D.I. Danilenko, P.K. Galdiajevas et al., *op. cit.,* 164.

the organ of labor, it is also the product of labor"[24]. Engels tried to expand these ideas by writing the *Dialectics of Nature*, in which he attempted to situate the principles of Marxism (historical materialism, the dialectical relations and labor as a principle) in nature itself[25], but the work was left unfinished. It is of key importance to note that here, as well as in orthodox Marxism in general, labor was something that existed before man[26]: primates and other animals could labor, and by laboring they gradually evolve into humans.

This means that traces of former labor could be present almost everywhere in nature, and, for Marx and Engels, there was no 'pure nature' beyond labor, as labor was in every being. It showed itself even without a direct participation of the laborer, and even without this laborer being among the living: labor does not necessary – strictly speaking – need a laborer. However, in Marxism, it most vividly manifests itself through the "man's superintendence", and especially through the working class. Through this innate relation to nature, the laborer, on the one hand, became a driving force of nature's self-realization, whereas, on the other hand, the laborer was "closer to nature" and closer to the natural order of things. He was, as it were, a modern version of Rousseau's peasant: a healthy and strong person who was in touch with his own essence and his inner being – a role model for the rest of society. For this reason, what the working class did in nature was considered intrinsically valuable and good, and therefore ecological anxiety was fundamentally incompatible with the early Soviet ideology and its version of Marxism. Bearing this in mind, we should not be surprised that the Bolshevik rhetoric connected the creation of a new kind of society and a new kind of people with the transformation of the natural environment[27]. Precisely such a course was set by the Soviet leaders: "Under socialism a man will become

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24 Friedrich Engels, *op. cit.* (1996).

25 Friedrich Engels, *Dialectics of Nature* (1998). Access online: https://www.marxists.org/archive/marx/works/1883/don/index.htm (Accessed on: 08 April 2024).

26 Karl Marx, *op. cit*. (1995), 129.

27 See also Alla Bolotova, *op. cit.* (2014), 46.

a Superhuman, changing the courses of rivers, the heights of mountains and nature according to his needs and, after all, changing his own nature", as proclaimed by Lev Trotsky in one of his essays[28]. This creation of a "new Soviet people" had to be based on the regulation of nature and on the bringing of order to a chaotic natural world[29]. Nevertheless, the new 'Soviet people', just as the labor process itself, was highly physiological[30], and perhaps even a biological category. This philosophical/ideological emphasis on the labor force created a very specific Soviet version of modernity, which engulfed nearly every aspect of human lives.

In this context, the extermination of wolves in the Soviet Union could be seen as the purification of the 'wrong' nature. Wolves were seen by the Soviet authorities not only as pure pests damaging the agricultural economy, but also as the imperfect manifestation of nature. The predators' function – regulation of wild game populations and maintenance of their good condition – would be substituted by man with the help of science, thus allowing the proper selection and breeding of animals beneficial to the Soviet society[31].

2. The Soviet Natural Sciences as the Means for the Development of Marxist Nature

Natural sciences, especially applied biology and agricultural science (which had a significant impact on Stalin's nature transformation projects[32]) played a major role in the Soviet modernization. We must emphasize that Soviet natural scientists, although not always, often operated on ideological or even pseudo-scientific levels and

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28 Lev Trotsky, *Literatura i revolyutsiya* (Moskva: Gosudarstvennoye izdatel'stvo, 1924).

29 *Ibid*., 73–75.

30 Jurga Jonutytė and Giedrė Šmitienė, *Gyvatės kojos: negalios samprata gyvenimo pasakojimuose* (Vilnius: Lietuvių literatūros ir tautosakos institutas, 2021), 237.

31 See also: B.I. Razumovskiy, *Okhota na volka. Molodomu okhotniku* (Moskva, 1981).

32 Kirill O. Rossianov, "Editing Nature: Joseph Stalin and the 'New' Soviet Biology," in *Isis 84* (1993), 728–745; Stephen Brain, *op. cit*.

were highly influenced by the official State version of Marxism. Many of them directly incorporated Marx' and Engels' teachings into their own writings. For example, the famous Soviet biologist Ivan Michurin, after directly quoting Engels' dialectics, once wrote: "This principle [i.e. Engels' version of Marxist dialectics] has always been and remains the basic principle of all my work. It has been emphasized in all of my numerous experiments <…>"[33]. Michurin was profoundly influential[34] during his lifetime, and he was far from being the only one to choose this path[35]. Trofim Lysenko, for instance, sought to develop a cooperation-based alternative to the natural selection of organisms, while downplaying any role an individual could have – and emphasizing groups – to liken the idea of a species to the Marxist idea of a class. Lysenko offered a cooperation theory that was very reminiscent of Marxist class-struggle if it were applied to all living beings. According to this theory, plants behave as if they have a vested interest in helping their own plant groups thrive, and they are even capable of self-sacrifice in the interest of these groups. He argued that some wheat plants 'choose' to die for the prosperity of the field. He called this process 'self-thinning'[36]. These ideas have obvious similarities to the revolutionary class in Marxism and self-sacrifice for the revolutionary cause. Lysenko and his followers also pursued the idea that living organisms, especially plants, can be 'trained' by external forces (with the most prominent of those being labor) to change the nature of their species within a single generation. He took this idea from Michurin who once claimed that he managed to create a melon-squash hybrid[37]. The right conditions, in Lysenko's

33 *Ibid*., 181.

34 For example, his hometown was renamed Michurinsk in his honor while he was still alive.

35 We choose to call them 'figures' to avoid the word 'scientists'. It should be noted that Lysenko, Michurin, and Williams gained their fame largely from the endorsement they received from high-ranking members of the Communist Party and the Soviet press, mostly for non-existent achievements.

36 Trofim Lysenko, *opt. cit*., 498.

37 William DeJong-Lambert, *The Cold War Politics of Genetic Research: An Introduction to the Lysenko Affair* (London and New York: Springer, 2012), 8–9.

theory, could work wonders – as he once even claimed that warblers give birth to cuckoos due to diet changes. In this Soviet pseudo-scientific theory, nature's possibilities for change were almost infinite: nature was perceived as a set of raw materials from which, with the force of human labor, anything could be assembled from the same pieces and later rearranged into something else. By relying on the idea of the all-powerful force of labor, Soviet scientists started to find miracle transformations of nature everywhere they looked:

> V.K. Karapetyan and others found seeds of rye in wheat plantings and of barley in rye plantings. Branched wheat was found formed from soft wheat and *T. polonicum* from *T. turgidum.* Cabbage had been generated from rutabaga and rape seeds. The parasitic plant broomrape (*Orobanche cumana*) had appeared on sunflower plants and hazel branches on hornbeam trees. Spruce trees had given birth to pine, and vice versa. In all cases, no precise data or even scientific descriptions were given, the fact of such transformations was simply declared. Lysenko himself topped them all – in several lectures and speeches, he announced that warblers had given birth to cuckoos[38].

Finally, at a session of the VASKhNIL[39] (July 31 – August 7, 1948), which was organized under the direct supervision of the Communist Party, Lysenko proclaimed Michurin's victory: "Long live the Michurin teaching, which shows how to transform living nature for the benefit of the Soviet people! Long live the Party of Lenin and Stalin, which discovered Michurin for the world and created all the conditions for the progress of advanced materialist biology in our country"[40]. This speech was edited by Stalin himself, thus establishing the victory politically[41]. From that point on, any deviation from Michurin and Lysenko's line resulted in dire repercussions. Biolo-

[38] Valery N. Soyfer, *op. cit.*, 210.

[39] i.e., the All-Union Lenin Academy of Agricultural Sciences.

[40] Trofim Lysenko, *Soviet Biology: Report by Lysenko to the Lenin Academy of Agricultural Sciences* (2002). Access on the internet: https://www.marxists.org/reference/archive/lysenko/works/1940s/report.htm (Accessed on: 08 April 2024).

[41] Kirill O. Rossianov, *op. cit.*

gists who held on to non-Lysenkoist ideas, such as adhering to genetics and/or a more scientific version of Darwinism, were either expelled from work, as was the case with many biologists in LSSR[42] or, in the more extreme cases, they were imprisoned for the rest of their lives, as in the case of Nikolai Vavilov. This cemented the Marxist interpretation of nature as the only viable option.

This influence of the Marxist interpretation of nature is clearly seen in the early works of zoologists concerning investigations on the wolf biology. For example, in 1961, the first dissertation on wolf morphology, biology, ecology, distribution and abundance in the Lithuanian SSR was defended by Janina Prūsaitė. It was one of the first of such scientific works in the USSR[43]. Prūsaitė noted that: "the economic role of predators is determined by the benefits they bring and the damage they cause. In this regard, the meaning of the wolf is quite clear: the wolf is a harmful predator to be eradicated"[44].

Many research institutions in the Stalinist and early post-Stalinist USSR were established to study the natural processes to speed up the pace of economic production[45]. At the same time, many scientists were forced to follow the Soviet economic policy of nature exploitation. Soviet biologists, for example, quite often had to conduct scientific research aimed primarily at finding new pests among the wild animals[46].

At this point we must mention that, from the mid-1960s, the discourse of mastering nature (including the wolf extermination issues) gradually became a little toned-down. In 1964, the year when Nikita Khruschev was ousted from power, Andrei Sakharov, who was then

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42 See also: Dalia Blažytė-Baužienė, "Lysenkizmas ir Lietuva: kampanijos įtaka aukštojo mokslo sovietizavimui", *Lietuvos istorijos metraštis 2* (2010), 150; Aurika Ričkienė, "Botanists in Lithuania during the Michurinist Campaign," *Endeavour 41*, no. 2 (2017), 52, https://doi.org/10.1016/j.endeavour.2017.03.004.

43 Dmitriy I. Bibikov, *op. cit.* (1985), 7.

44 Prūsaitė, *op. cit.* (1961), 202.

45 Peter Schweitzer et al., *op. cit.*

46 Vladimir Boreiko, *V zashchitu Volkov* (Kiyev: Kiyevskiy ekologo-kul'turnyy tsentr, 2011), 33.

a famous nuclear physicist working on the Soviet nuclear weapons program, spoke out against Lysenko in the General Assembly of the Academy of Sciences of the USSR. Sakharov said:

> <...> he is responsible for the shameful backwardness of Soviet biology and genetics in particular, for the dissemination of pseudoscientific views, for adventurism, for the degradation of learning, and for the defamation, firing, arrest and even death of many genuine scientists[47].

This speech marked a change of tendencies in the Soviet approach to nature. Within the next year, the works of Lysenko were publicly denounced by many Soviet biologists and zoologists[48]. Having this in mind, however, we have to note that these changes did not radically transform the general ideological line of struggle against nature[49], as Michurin, for example, was still glorified as a genius even a decade later[50]. This shift to a more moderate, thought-through and calculated version of combat against nature could be linked to the stage of developed socialism[51]. Some new developments in nature management were allowed, but they also at least partially included the same old ideas of man's struggle against the nature, even if the general discourse on nature was – so to speak – a little revised[52]. This gradual shift from relentless fight against nature to a calculated supervision of nature can be seen in the increasing Soviet scientific knowledge of wolves. Although scientific biological data on wolves was scarce

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47 Jay Bergman, *Meeting the Demands of Reason: The Life and Thought of Andrei Sakharov* (Ithaca and London: Cornell University Press, 2009), 109.

48 See also: Barry M. Cohen, "The Descent of Lysenko," *Journal of Heredity 56*, no. 5 (1965), 229–233; Barry M. Cohen, "The Demise of Lysenko," *Journal of Heredity* 68, no. 1 (1977), 57.

49 Lysenko was an important part of this ideological doctrine, which passed from Engels to Michurin to him and further. Nevertheless, he was only a part of this doctrine; thus, his fall did not signify the fall of the entire ideological corpus.

50 M. Rozentalis, *Filosofijos žodynas* (Vilnius: Mintis, 1975), 287.

51 On the stages of socialism, see Caroline Humphrey, "Karl Marx Collective: Economy, Society, and Religion in a Siberian Collective Farm" (Cambridge: Cambridge University Press, 1983), 93–94.

52 Alla Bolotova, *op. cit.* (2014), 73–75.

in the early post-War USSR[53], more scientific investigations on the biology and ecology of predators in various republics of the USSR were carried out by Soviet zoologists during the 1960s. Examples of such research include the works by I.G. Gurskiy[54] in the European part of the USSR, A.N. Filimonov[55] in Kazakhstan, and Anatoliy N. Kudaktin[56] in the Caucasus. The accumulation of scientific data shed some light on the ecological role of wolves in, for example, eliminating weak and sick animals, preventing the spread of diseases and balancing wild ungulate populations and thus preventing pastures from depletion[57]. This allowed, at least partially, the Soviet scientists[58] to more openly discuss questions of nature conservation and the rational use of wild animals, including the predators[59], and, by doing so, to gradually deviate from Engels-Michurin-Lysenko's line in biology. Introduction of changes in wolf regulation between the 1970s and 1980s through more scientific approaches and rational

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53 Dmitriy I. Bibikov, *op. cit.* (1985), 5–9.

54 I. G. Gurskiy, *Volk yuga Evropeyskoy chasti SSSR*, PhD Dissertation (Odessa, 1969), 28.

55 A.N. Filimonov, *O vozmozhnoy selektsionnoy roli volka v period otela saygi*. *Ekologicheskiye osnovy okhrany i ratsional'nogo ispol'zovaniye khishchnykh mlekopitayushchikh* (Moskva: Nauka, 1979), 142–143.

56 Anatoliy N. Kudaktin, *Sootnosheniye chislennosti kopytnykh i volka v Kavkazskom zapovednike*. *Kopytnyye fauny SSSR* (Moskva: Nauka, 1975), 199–200.

57 See also: Mikhail Pavlov, *op. cit*. (1990), 11–13; Janina Prūsaitė, "Vilkas", in *Lietuvos fauna, Žinduoliai,* ed. Janina Prūsaitė (Vilnius: Mokslas, 1988), 173.

58 Dmitriy I. Bibikov, "Ekologiya, povedeniye i upravleniye populyatsiyami volka," in *Sbornik nauchnykh trudov*, ed. Dmitriy I. Bibikov (Moskva, 1989); Dmitriy I. Bibikov, *op. cit.* (1985); Dmitriy I. Bibikov, N.G. Ovsyannikov, and A.N. Filimonov, "The Status and Management of the Wolf Populations in the USSR," *Acta Zoologica Fennici* 174 (1983): 269–271; Dmitriy I. Bibikov, "The Wolf in USSR," in *Wolves. Proceedings of the First Working Meeting of Wolf Specialists and of the First International Conference on the Conservation*, ed. H.D. Pimlott (Stockholm, Sweden: IUCN Publications, 1975), 29–36.

59 The attitudes toward predators as part of the natural-biological process in nature were revised with the creation of a law for the protection and use of wildlife that came into force in Russia in the 1980s. The law restricted hunting of large predators – polar and brown bears, snow leopards, tigers, lynxes, as well as falcons – that had previously been accused of depleting game resources. The introduction of this law is linked to a shift in the Soviet views on nature, signifying a partial turn toward more nature-conservation-based ideas. See Dmitriy I. Bibikov, *op. cit*. (1985), 7.

management practices (instead of the mass extermination ideas) resulted in the wolf population rise in the USSR[60], including in both the LSSR[61] and the YASSR[62].

Despite all that, the late socialist ideas of nature management were still framed by the discourse of mastering nature, which was now supposed to be done through the rational use of natural resources and by balancing interests in economy between different stakeholders of society. The natural role of wolves was still critically and harshly debated in the USSR by game managers and wolf hunting enthusiasts, as well as by farmers who usually supported the idea of radical extermination of wolves[63].

Nevertheless, in both the early and late periods of socialism, the Soviet administrative-governmental apparatus and bureaucracy considered the implications of scientific ideas as an important component of the industrialization processes and socialism development[64], at least as long as these ideas did not contradict the official Soviet ideology on nature. In the following sections of this article, we will

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60 Luigi Boitani, "Wolf Conservation and Recovery," in *Wolves: Behavior, Ecology, and Conservation*, eds. Mech L. David and Luigi Boitani (University of Chicago Press, 2003), 317–341; Mikhail Pavlov, *op. cit*. (1990), 12–13; Dmitriy I. Bibikov, *op. cit.* (1985), 7–8.

61 Linas Balčiauskas, "Wolf Numbers and Distribution in Lithuania and Problems of Species Conservation," *Annales Zoologici Fennici 45* (2008): 329–334, DOI: https://doi.org/10.5735/086.045.0414; Janina Prūsaitė, *op. cit.* (1988).

62 Viktor Sedalishchev and Valeriy Odnokurtsev, "Rol' volka v biotsenozakh i okhotnich'yem khozyaistve Yakutii", in *Materialy 5 mezhdunarodnoy nauchno-prakticheskoy konferentsii "Klimat, ekologiya, sel'skoye khozyaistvo Evrazii"*, eds. Yu.E. Vashukevich, A.P. Demidovich, V.S. Kambalin, D.F. Leont'yev, S.M. Muzyka and V.O. Salovarov (Irkutsk, 2016), 255–261; Yuriy V. Labutin and V.P. Vshivtsev, *Volk* (Moskva: Nauka, 1985), 539–543.

63 Leonid P. Sabaneyev, *Okhotnich'i zveri* (Moskva: Fizkul'tura i sport, 1988); V. Azarov, Yu. Kurochkin, "Vertolety protiv volka", *Okhota i okhot, khoz-vo* 10, No. 8 (1980); V.V. Kozlov, *Volki lesostepey Sibiri i ikh istrebleniye* (Krasnoyarsk, 1966); Mikhail Pavlov, "Sovershenstvovat' mery bor'by s volkom", *Okhota i okhot, khoz-vo 9* (1983): 8–9; Mikhail Pavlov, "Vozrodit okhotu na volka", *Okhota i okhot, khoz-vo 8* (1978), 11.

64 See also: Denis J.B. Shaw, "Mastering Nature through Science: Soviet Geographers and the Great Stalin Plan for the Transformation of Nature, 1948–53", *The Slavonic and East European Review 93* (2015), 120–146, DOI: https://doi.org/10.5699/slaveasteurorev2.93.1.0120; Alla Bolotova, *op. cit*. (2014), 42.

examine how Soviet institutional functions, responsible for the nature management and its transformation, were organized. We will do so by utilizing the examples of the battle against wolves in the LSSR and YASSR.

3. Manufacture of Dead Wolves

An all-Union political program was developed by the Soviet State for the systematic extermination of wolves in the USSR and, as we have mentioned above, it should be considered as part and a way of expression of the Soviet Marxists' ideological approach to nature. We argue that, in Soviet modernist thinking and its rationalization, nature was categorized as either useful or useless for the Soviet society. If the ratio of harm or uselessness, in Marxist rationality, outweighed the economic benefit, then an entire species could be exterminated or at least greatly reduced, thereby denying its existence in nature and any natural role that comes with it. This was the case with the wolf as the manifestation of chaotic and adverse nature, represented in the Soviet discourse as an enemy that must be vanquished by the "heroic Soviet people" building the modernized Soviet world[65].

Particularly negative attitudes towards wolves were voiced, and the most intensive campaigns of extermination against them were carried out in the USSR during a stage of intensive socialism construction which lasted until about the mid-1960s. We shall focus on this period particularly (but not entirely) as it was a vivid manifestation and a good example of the Marxist ideological stance on mastering nature. During this stage, the industrialization process and construction of Soviet farms[66] across the USSR resulted in increased

[65] For further reading, see Aivaras Jefanovas and Donatas Brandišauskas, *op. cit*. (2023).

[66] We use the general term 'Soviet farms' to include state farms (Sovkhozy) and collective farms (Kolkhozy). *Sovkhozy* were considered State property in the USSR, whereas *Kolkhozy* were cooperative/collective enterprises owned by their members. See Aimar Ventsel, *Reindeer, Rodina and Reciprocity: Kinship and Property Relations in a Siberian Village*, PhD dissertation (Martin-Luther-Universität Halle-Wittenberg, 2004), 23.

numbers of livestock – an economic base for many rural areas in the Socialist republics. As a result, attacks by wolves on livestock became a justification for the Soviet authorities to launch extensive wolf eradication campaigns[67]. Moreover, wolves were blamed by hunters and game managers for the depletion of wild fauna and considered the main competitors for wild ungulates. For instance, Juozas Sokas reflected in his book of the wolf extermination methodology in the LSSR as follows: "the interests in livestock protection, as well as hunting management, which are successfully built on the socialist basis, require the extermination of wolves. In the early post-War years, the Soviet government announced the obligatory extermination of wolves. <…> Extermination of wolves became the duty of all hunters"[68].

As part of the Soviet Marxist ideological stance on nature management, the policy of systematic extermination of wolves was implemented through the bureaucratically well-organized apparatus of Soviet institutions. The governmental bodies in the LSSR and YASSR were subjected to the centralized planned system. All of the Soviet industry was organized around five-year plans[69], and wolf extermination campaigns were also performed according to the plans which foresaw the budget, the measures and the numbers of wolves to be culled[70]. The central governing body in Moscow – the Directorate of Hunting and Nature Reserves under the Council of Ministers of the Russian Soviet Federated Socialist Republic (Central Directorate) – implemented the Soviet State politics in game resource management, including the spread of anti-wolf ideology, and methodically led the extermination of wolves throughout the USSR. The game management institutions established in the Socialist republics of Lithuania and Yakutia

67 See also: Dmitriy I. Bibikov, *op. cit*. (1975).

68 Juozas Sokas, *Kaip naikinti vilkus* (Vilnius: Medžioklės ūkio valdyba prie Lietuvos TSR ministrų tarybos, 1949), 3.

69 For further reading, see Caroline Humphrey, *op. cit*. (1983), 92.

70 NARS, F. R55, Op.16, D.61 (1936); F. R50, Op.10, D.190 (1929–1934); LCSA, F. R1767, Ap. 1, No. 1 (1947–1949).

followed the main guidelines for the extermination of wolves and reported to the Central Directorate for its implementation. Standardized instructions for the extermination of wolves were set across the USRR, for instance: "Instructions for the Extermination of Wolves in Agricultural and Hunting Lands" (approved by the USSR Ministry of Agriculture on 22 April 1969), "Instructions for the Extermination of Wolves with the Drugs for Euthanasia of Animals" (approved by the Central Directorate on 23 December 1977) and "Instructions for the Use of Barium Fluoroacetate for the Extermination of Wolves" (approved by the Central Directorate on 28 May 1960)[71]. Of course, the game management authorities in the Soviet republics had a certain degree of agency in making decisions on their own, especially in adapting the USSR practices of wolf extermination to the local conditions. However, there was constant correspondence between the Central Directorate and the Socialist republics that reported on their progress and results in the extermination of wolves[72].

In socialist Yakutia, the main governmental body of great importance in wolf control was the Game Management Authority, established under the Council of Ministers of the YASSR (YGMA). Some of the main responsibilities of YGMA were the application of predator extermination measures, the establishment and implementation of economic measures to stimulate wolf hunters, and the spread of the wolf-extermination ideology. Locally in the Yakutia districts, the wolf extermination measures were executed by the hunting inspectors, as well as by specially established institutions of wolf hunters – the *volchatniki*[73]. The Soviet farm workers – fur hunters, reindeer

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71 Vladimir Boreiko, *op. cit.*, 10–11.

72 NARS, F. R976, Op.3, D.33 (1965); LCSA, F. R1767, Ap. 1, No. 29 (1956); F. 649, Ap. 1, No. 144 (1961–1962).

73 The term *volchatnik* (singular) comes from the Russian word 'volk' (wolf) and refers to a person who specializes in wolf hunting. The profession of *volchatniki* (plural) was established in the Soviet times as a response by the Soviet Government to the high levels of livestock predation by wolves. For further reading, see Aivaras Jefanovas and Donatas Brandišauskas, "Contemporary Wolf Hunters in the Taiga of Sakha (Iakutiia)," *Sibirica: Interdisciplinary Journal of Siberian Studies* 23, no. 2 (2024), 1–31, DOI: https://doi.org/10.3167/sib.2024.230201.

herders, and horse and cattle breeders – were all organized by the directorates of Soviet farms into wolf hunting units, which usually consisted of four or five men supplied with transport and the traps and shotguns needed[74].

Similarly to the rest of the socialist republics, a Directorate of Game Management under the Council of Ministers of the LSSR[75] (LGMA) was established in Lithuania in 1947. It focused on the regulation of hunting resources and the enrichment, protection and use of hunting fauna[76] which were depleted in post-War Lithuania mostly due to uncontrolled poaching[77]. The means of protection of huntable fauna included the systematic extermination of wolves. They were proclaimed as the main pests of livestock farming, and also were blamed by the game managers and hunters for harming the recovery of wild ungulates. According to zoologists[78], the uncontrolled wolf population during World War II in Lithuania increased rapidly, reaching a peak immediately in the post-War years. Based on the wolf census data, it was estimated that there were more than 1,723 wolves in Lithuania in 1948[79]. LGMA, as one of its first and most pressing issues, declared an official struggle against the wolves. Furthermore, in 1947, the Hunters' Association of the LSSR was organized, which

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74 F. Dvorianov, *Bor'ba s volkami* (Penza: Izdaniye upravleniya po delam okhotnich'yego khozyaystva pri Penzenskom oblispolkome, 1948), 10–11.

75 In 1957, the Directorate of Game Management under the Council of Ministers of the LSSR was reorganized into the Committee on Nature Protection under the Council of Ministers of the LSSR, which was again reorganized in 1978 into the State Nature Protection Committee of the LSSR. See Lina Abraitytė, *Medžiotojo vadovas* (Vilnius: Mintis, 1980).

76 It should be noted that rural forested areas, fields, and water bodies in the LSSR were administratively divided into hunting grounds and game reserves. Formally, these areas and the wildlife were under the authority of the socialist State. Game management should be understood as open-air farms for breeding and hunting wild game. Hunters were given State-assigned permissions, along with obligations to take measures against predators, as well as to hunt wildlife and deliver meat according to Government demands.

77 LCSA, *op. cit.* (1947–1949).

78 Janina Prūsaitė, *op. cit.* (1961), 46–47; Linas Balčiauskas, *op. cit*.

79 Linas Balčiauskas, *op. cit*.

was supposed to cooperate with LGMA in managing and protecting the wild fauna and battling against wolves[80].

Annual plans for the extermination of wolves were established by LGMA and, in 1947, obligatory participation in the eradication of wolves for hunters was introduced as well as monetary bounties for this task[81]. The systematic extermination of wolves was organized in the LSSR by establishing State hunting inspections in all districts, and each inspector was responsible for organizing wolf hunting units consisting of 10 hunters (most hunters were collective farm workers or laborers) led by a chief hunter[82]. State hunting inspectors regularly reported to the LGMA the census of wolves in a given district, the number of culled wolves, how many hunts were organized, and what methods of wolf extermination were used. In 1948, for instance, LGMA declared that the hunting inspectors organized 485 wolf hunts with the involvement of all (5,669) hunters officially registered in the LSSR, and, as a result, 375 wolves were destroyed out of 400 planned by LGMA[83]. These statistics on wolf culling were of high importance for the LGMA game managers, who constantly monitored the dynamics of wolves and the effectiveness of methods in the destruction of predators. This also showed a high level of priority assigned to the wolf issues. The flagging technique (surrounding the area with wolves with a line of red flags) was considered by the LGMA[84] as the most effective way for wolf hunting in the LSSR, which was also a method traditionally used in Russia[85]. The majority of the wolf population in the LSSR was culled by flagging and collective driven hunts with beaters and dogs, but other methods, such as luring wolves with bait, imitating wolf howls and

80 LCSA, *op. cit.* (1947–1949).

81 Juozas Sokas, *op. cit.*, 6; LCSA, *ibid.*

82 LCSA, *ibid.*

83 *Ibid.*

84 *Ibid.*

85 See also: Mikhail Pavlov, *op. cit*. (1983); Nikolay A. Zvorykin, *Chto dolzhen znat' okladchik* (KOIZ, 1931); Nikolay A. Zvorykin, "*Okhota na volkov s flagami*" (Moskva: Izdaniye zhurnala *Okhotnik,* 1925).

the killing wolf cubs in dens were also applied[86]. As a result of the systematic wolf extermination from 1949, the wolf population in the LSSR decreased and reached the lowest ever number of 100 wolves in 1965–1970[87].

Whereas the applied traditional wolf hunting methods in the LSSR were effective, wolf hunting in Yakutia was always a difficult task due to the vast permafrost landscapes on the taiga, tundra and mountains, as well as the severe cold and wind, the short winter days and lengthy polar nights, all of which significantly reduced the efficiency of wolf pursuits. Nevertheless, the most intensive struggle against wolves in Yakutia was implemented in 1956–1959. During this period, 700–1000 wolves were killed per year, and they were almost completely eradicated in several districts[88]. To battle wolves in the adverse Yakutia landscapes, two highly industrialized methods, namely, aviation and poisoning, were applied by YGMA on a large scale[89]. The poisons – strychnine and barium fluoroacetate – were mass-manufactured in Soviet Russia for the killing of agricultural pests and for predator control[90]. Strychnine was commonly used in Yakutia until about the 1930s, and barium fluoroacetate from about the 1960s[91]. The poisons were very strong and effective in killing wolves and other predators, e.g., a quantity of 2.9 kilograms of strychnine was sufficient to kill 7000 wolves[92], thus only 0.4 grams was enough to kill a wolf. Inserted into bait, both poisons were disseminated in big quantities by hunters, herders and farm workers across the vast landscapes of Yakutia, this way also at the same time

86 LCSA, F. R1767, Ap. 1, No. 28 (1955).

87 Linas Balčiauskas, *op. cit*. (2008); Janina Prūsaitė, *op. cit*. (1988), 170.

88 Viktor Sedalishchev and Valeriy Odnokurtsev, *op. cit.* 255–261; Vasiliy Yadrikhinskiy, *Sposoby istrebleniya volkov* (Yakutsk, 1998); Dmitriy I. Bibikov, *op. cit*. (1985), 539–543.

89 See also: Vasiliy Yadrikhinskiy, *op. cit*. (1998).

90 Aivaras Jefanovas and Donatas Brandišauskas, *op. cit*. (2023).

91 NARS, F. R976, Op.3, D.82 (1968); F. R976, Op.4, D.34 (1972).

92 NARS, F. I12, Op.1, D.10656 (1892–1896); F. R84, Op.1, D.45 (1920–1921); F. R55, Op.16, D.52 (1928).

polluting the environment with highly hazardous chemicals[93]. As a side effect of the application of poisons, falcons, crows, rodents, sables, wolverines, foxes and other mammals, including domestic dogs, died in large quantities after eating poisoned bait[94]. By contrast, these poisons were not used for predator control in Socialist Lithuania: being an agricultural country, the Lithuanian Government considered it too risky to contaminate soils and agricultural production with the poisons, thereby threatening humans[95].

Another frequent and widespread method for wolf eradication was the aerial shooting of wolves from helicopters and small airplanes, this coming into use in the USSR in about 1950[96] and thereafter widely applied in the YASSR[97]. Airplanes were more effective in tundra areas where wolves were unable to hide in the open terrain, while helicopters were used in mountainous and taiga areas, to make difficult maneuvers while pursuing wolves. Aerial shooting of wolves was more costly than the other methods (poisoning, trapping, shooting wolves on the ground), and it required tons of fuel to be allocated to the airports in the Arctic regions of Yakutia for this specific purpose[98]. However, most of the contacts in Yakutia (game managers, hunters, herders) considered shooting from helicopters to be the most effective way of wolf control in the harsh Yakutia environment. For instance, according to a YGMA report in 1968, the aerial shooting of wolves cost 36,739 rubles, this accounting for 74% of the annual budget allocated for predator control[99]. As a result, 75 wolves (34% of the total cull of 277 wolves) were culled during the flights in the 1968 spring months (March and April) across the YASSR[100].

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93 Aivaras Jefanovas and Donatas Brandišauskas, *op. cit*. (2023).

94 Regarding the hazard of poisons, see also: Dmitriy I. Bibikov, *op. cit*. (1985), 571.

95 Personal communication with a former game manager of LGMA.

96 Mikhail Pavlov, *op. cit*. (1990), 175–176.

97 NARS, *op. cit.* (1968).

98 NARS, *op. cit.* (1965).

99 NARS, *op. cit*. (1968).

100 *Ibid*.

Meanwhile, helicopters were not used in the LSSR by game managers for the aerial shooting of the wolves because of the country's relatively small area (comparing to the Siberian parts of the USSR) and its relatively flat, evenly populated agricultural terrain and, moreover, the fragmented sets of forest interrupted by vast agricultural fields. Therefore, it was believed by the LSSR authorities that shooting wolves from helicopters could cause great risk to people working in the forests and fields (personal communication with a former game manager of the LGMA). Furthermore, there was no need to use costly flights for wolf shooting in Lithuania as the traditional hunting methods, such as flagging, were deemed effective.

The given examples point to the Soviet-Union-wide system of the wolf population control, which was built on similar principles to the modernist Soviet industrial facilities. It had an organizational hierarchy and labor division, as well as resource management and a productivity encouragement system. In some sense, the wolf extermination could be compared to an open-air factory where human labor produced the culled wolves. To improve the imperfect nature manifested in the shape of wolves, in the Marxist view, the Soviet Government applied wolf extermination methods by investing a huge amount of financial and human resources into its implementation. Wolf extermination became a mechanistic, systematic, rational and methodological process. In wolf extermination, as in other industrial branches in the USSR, completing a task on (preferably, even before) a deadline was rewarded through a bonus system[101]. Failure to complete one's assigned task on time usually means forfeiting bonuses, which may have constituted one-third or more of an individual's income in the USSR[102]. The rewarding of the wolf hunters for the fulfilled plans of wolf elimination, in general, could be seen as a widespread principle of the strategy of stimulating human labor in the industrial Soviet Union.

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101 For the reward system in the USSR, see Charles E. Ziegler, "Soviet Images of the Environment," *British Journal of Political Science* 3, no. 15 (1985): 372–373, DOI: https://doi.org/10.1017/S0007123400004233

102 Charles E. Ziegler, *op. cit.*

4. Encouraging the Productivity of Wolf Hunters

To activate the Soviet people to exercise the means of wolf eradication, the Governments of both the LSSR and the YASSR established a variety of rewards and encouragement measures. In the Soviet farms, for example, in order to enhance achievements in labor, officials gave out prizes and bonuses, awarded people with valuable presents, medals or diplomas of honor, and mentioned them on honor boards or in honor books[103]. In socialist Lithuania, hunting inspectors were required to regularly deliver to the LGMA a list of the most active and outstanding (while emphasizing the origin from a 'working-class' family) wolf hunters, to whom gratitude was publicly expressed, thereby promoting the prestige of wolf hunters[104]. Additionally, in order to involve the Soviet people into wolf extermination as much as possible, the game management authorities of the Socialist Republics organized socialist competitions for the best results achieved among hunters, hunting clubs, and even farms[105]. In a 1965 competition for the best wolf hunters in the YASSR, prizes were announced: 300 rubles for those who had culled no less than five wolves and 150 rubles for those who had hunted down no less than three wolves[106]. Additionally, for each exterminated wolf, the Soviet farm directorate would pay to a hunter 50 rubles and give a reindeer or a foal. The YGMA would also give a personal license for a moose[107], which was in short supply as most moose meat was reserved for State needs. However, the most important means used to encourage the Soviet people to engage in wolf hunting was that of bounties. For instance, in 1980s, the bounties for culled wolves in the YASSR were as follows: 150 rubles for an adult female wolf, 200 rubles for a female wolf taken together with cubs, 100 rubles

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103 For rewards in Soviet farms, see Caroline Humphrey, *op. cit*. (1983), 110–111.

104 LCSA, F. R1767, Ap. 1, No. 15 (1951).

105 NARS, *op. cit.* (1936).

106 NARS, *op. cit.* (1965).

107 *Ibid*.

for an adult male wolf, and 50 rubles for a wolf cub[108]. This was a significant stimulation to boost wolf hunting, as, by using these bounties, people could earn as much as the average monthly salary in the USSR. According to Michael V. Alexeev and Clifford G. Gaddy[109], the average *per capita* income in the Soviet Union during the 1980s, based on legal income estimates, was 127 rubles in 1985 and 147 rubles in 1988. In the LSSR in 1947, the rewards for hunting wolves were as follows: 150 rubles for a wolf cub, 300 rubles for an adult wolf, and 1,500 rubles for a female wolf with three cubs[110]. Again, these figures could be equal to or even exceed the average wages[111] of workers in USSR. For instance, Alec Nove[112] shows that the average monthly wage in the Soviet Union was 375 rubles in 1940, and it increased to 573 rubles by 1945 for all categories of workers and employees.

Not only hunters, but also peasants, shepherds and schoolchildren were encouraged by the LGMA to assist in joint wolf hunts and search for wolf dens in order to wipe out wolf cubs[113]. However, according to our contacts – a former game manager, as well as a salaried hunter in the Hunters' Association of the LSSR – some farmers, villagers and even hunters during the Soviet times in Lithuania were hesitant to remove wolf cubs from dens, since it contradicted their moral stance and ethical code towards living beings in general

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108 V.V. Semenova, *Pravila okhoty v Yakutskoi ASSR* (Yakutsk: Yakutskoye knizhnoye izdatel'stvo, 1989).

109 Michael V. Alexeev and Clifford G. Gaddy, "Trends in Wage and Income Distribution Under Gorbachev: Analysis of New Soviet Data," *Berkeley-Duke Occasional Papers on the Second Economy in the USSR 25* (1991).

110 Juozas Sokas, *op. cit.*, 6.

111 Following the Soviet ruble reform of 1961, a new ruble currency was issued at a conversion rate of *1 new ruble* for *10 old rubles*. At the same time, all prices, wages, and other forms of income were reduced to one-tenth of their previous levels. Therefore, the value of bounties for wolves before and after 1961 should be assessed in the context of this change. See also: Morris Bornstein, "The Reform and Revaluation of the Ruble," *The American Economic Review* 51, no. 1 (1961): 117–23, http://www.jstor.org/stable/1818912.

112 Alec Nove, *An Economic History of the USSR* (Harmondsworth: Penguin, 1969), 285.

113 Juozas Sokas, *op. cit.*, 14.

(personal communication). Sokas also admitted[114] that, in 1948, for example, hunters did not kill a single wolf cub in a den. Therefore, at least sometimes, the high bounties for wolves could not efficiently encourage people to go against their moral principles.

Along with Socialist competitions in wolf hunting, the Soviet authorities and hunting organizations in Lithuania and Yakutia used large-scale events, such as holding special seminars, to share experiences in the fields of wolf trapping, killing wolf cubs in dens and poisoning[115]. Considering these campaigns, it may seem that the local people were either not familiar with the wolf extermination methods or else were reluctant to use them, and, because of that, game managers were concerned about the motivation of the people. Indeed, in Socialist Yakutia, indigenous people (mostly hunters and herders) rarely hunted wolves at all, and thus the Government of the YASSR had to take care of the extermination of predators as well as take measures to educate people in the practice of wolf extermination[116]. Sokas[117] also admitted that wolf extermination methods in Socialist Lithuania were not well known among hunters, and therefore the best practices in culling wolves had to be adopted from other Soviet game managers and wolf hunters-specialists (presumably those who were more directly related to the Soviet ideas of mastering the nature). According to a report of the LGMA[118], there were no books or literature on wolf extermination ways in Lithuania prior to the advent of socialism, except for a few articles in periodicals[119]. Sokas[120] wrote the first book on wolf extermination in the LSSR by borrowing materials mostly from Nikolay A.

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114 Ibid.

115 See also Vladimir Boreiko, *op. cit*., 11; NARS, *op. cit.* (1965); LCSA, *op. cit.* (1956).

116 NARS, *op. cit.* (1929–1934).

117 Juozas Sokas, *op. cit.*, 5.

118 LCSA, *op. cit*. (1947–1949).

119 Jurgis Elisonas, "Mėginimas vilkų žalai, 1927 m. ir 1928 m. Panevėžio apskr. padarytai, apskaičiuoti", *Medžiotojas* 6 (1929): 12–15; Jurgis Elisonas "Šuo vilkas (*Canis lupus L.*)", *Žemės ūkio akademijos metraštis* (1927), 191–248.

120 Juozas Sokas, *op. cit.*, 5.

Zvorykin[121] – the Soviet naturalist-hunter commonly cited in the wolf hunting literature. He suggested multiple ways of wolf extermination which were widely applied across the USSR in organizing open-air hunting farms[122]. The ideology of wolf extermination was also reflected in the LGMA annual reports, which documented the distribution of books, journals, and articles on wolf control methods in the local press and their dissemination among hunters. For instance, LGMA noted that copies of 213 books on "how to exterminate wolves" were sold in the LSSR in 1951. The same year, the local Soviet press in Lithuania published an article "Let's Exterminate Wolves" in the "Red Ploughman", "Tomorrow's Communism" and "The Victory of Communism". Another article "Wolf, Pest of Livestock, Let's Exterminate Wolves in Dens" was issued in the "Stalinist"[123].

In the USSR, wolf hunting methods were widely described and propagated in a series of hunting books and articles[124] by Soviet hunters-game managers, such as Leonid P. Sabaneyev[125], Mikhail P. Pavlov[126], V.V. Kozlov[127], and Zvorykin[128]. Naming themselves as wolf hunting specialists – *volchatniki* – the Soviet hunters disseminated the negative attitudes toward wolves, thus propagating their ideas aligning with the Marxist ideology of battling against the adverse nature. It seems that they were more concerned with propagating the policies of wolf extermination rather than truly showing wolf issues as being rationally, scientifically and economically based. It was

121 Nikolay A. Zvorykin, *Volk i bor'ba s nim* (Moskva: KOIZ, 1936); Nikolay A. Zvorykin*, Brigadnaya okhota s flazhkami* (Moskva: KOIZ, 1935); Nikolay A. Zvorykin*, Okhota na volkov* (Moskva: Vsekolkhotsoyuz, 1930).

122 In the USSR, the organization of wildlife management and hunting was understood as farming, similar to cattle breeding on farms, with one key difference: hunting was organized in open-air farms or, in modernized nature, where wild animals were counted, additionally fed, protected from predators, poachers, and diseases, and harvested.

123 LCSA, *op. cit.* (1951).

124 See also Janina Prūsaitė, *op. cit.* (1961), 8.

125 Leonid P. Sabaneyev, *op. cit.*

126 Mikhail Pavlov, *op. cit.* (1983).

127 V.V. Kozlov, *Volk i sposoby ego istrebleniya* (Moskva, 1955).

128 Nikolay A. Zvorykin, *op. cit*. (1936).

more likely to be based on pseudoscience[129]. As Charles E. Ziegler[130] aptly stressed, when environmental decisions were taken in the Soviet Union, it was claimed that these decisions were 'rational'. Dozens of books, articles and official decrees referred to the 'rational' use of nature or the economic 'efficacy' in utilizing natural resources[131]. However, in reality, these environmental decisions frequently were more political rather than 'rational', if we were to consider 'rational' in the terms of benefits vs. damages.

Moreover, the need for the extermination of wolves in the LSSR (as well as the YASSR) was systematically incited and justified not only by the hunting and general press, but also by special radio programs disseminating hatred of wolves, as well as exaggerating the fear of wolves and calling for a war against them[132]. The aforementioned Soviet authors on wolf hunting usually replicated and amplified similar content of wolf extermination ways and, in total, more than 20 methods of hunting wolves could be listed[133]. Typically, such literature began with statistics on the wolf population growth and the subsequent calculations of the economic damage caused by wolves to the Soviet farming and also game management. This was supposed to provide a rational and economically based approach to the wolf eradication issues. Additionally, rumors were circulated about rabid wolves attacking humans, further reinforcing negative perceptions of these predators[134]. Sokas[135] also declared that "according to statistics, three people out of 1,000 die if a rabid dog bites them, but 100 people out of 1,000 will die from a

129 See also Vladimir Boreiko, *op. cit*., 31–32.

130 Charles E. Ziegler, *op. cit.*

131 *Ibid.*

132 NARS, *op. cit.* (1965); LCSA, *op. cit.* (1951).

133 Mikhail Pavlov, *op. cit*. (1990), 173.

134 B. L. Cherkasskiy, "Roles of the Wolf and the Raccoon Dog in the Ecology and Epidemiology of Rabies in the USSR," *Reviews of Infectious Diseases 10* (1988), 634–636; S.U. Stroganov, *Carnivorous Mammals of Siberia* (Israel: Program for Scientific Translations, Jerusalem, 1969); G.A. Novikov, *Carnivorous Mammals of the Fauna of the USSR* (Israel: Program for Scientific Translations, Jerusalem, 1962); V.N. Kaverznev, *Volki i ikh istrebleniye* (Moskva: KOIZ, 1933).

135 Juozas Sokas, *op. cit.*, 6.

rabid wolf bite." However, what kind of statistics he used in this claim remains unclear. In Lithuania, in the period from 1900 to 1937, there were many accounts of people having narrow escapes after being 'attacked' or chased by wolves[136]. There were 19 people mentioned as being bitten by wolves with rabies in Lithuania[137]. However, many of these stories were based on rumors and may have had an uncertain basis[138]. The well-known Soviet Russian zoologist-game manager Pavlov[139] wrote that hundreds of people were reported as being attacked by wolves in the 19th century Russia. It seems that the author attempted to demonstrate that wolf attacks on humans were happening on a regular basis. It is not clear, however, if these cases concerned rabid or non-rabid wolves and if the people involved ultimately died or not[140]. John D.S. Linnell and others[141] expressed doubts if Pavlov was an objective and unbiased observer as he was a hunter-game manager, and wolves were unwanted vermin for him. Materials about wolves, used by the Russian Soviet authors-hunters such as Pavlov[142], were not highly based on scientific approach, but rather on a strong anti-wolf ideological basis[143].

It was not uncommon, however, among the Soviet authors writing on wolf hunting to convert the wolf diet into economic damage. This way, they elaborated the myth of wolf gluttony. For instance, I.N. Serzhanin[144] argued that a wolf consumes 24 kg of meat at one time. G.P. Dement'yev[145] tried to convince his readers that two

136 John D.S. Linnell, R. Andersen, Z. Andersone, L. Balciauskas, J.C. Blanco et al., "The Fear of Wolves: A Review of Wolf Attacks on People," *NINA Oppdragsmelding* 731, no. 1 (2002): 21.

137 *Ibid.*

138 *Ibid.*

139 Mikhail Pavlov, *op. cit*. (1990), 136–169.

140 John Linnell et al., *op. cit.*, 25.

141 *Ibid*.

142 Mikhail Pavlov, *op. cit*. (1990).

143 See also Vladimir Boreiko, *op. cit*., 31–37.

144 I. N. Serzhanin, *Mlekopitayushchiye Belorusskoy SSR* (Minsk, 1955).

145 G. P. Dement'yev, *Volk* (Moskva, 1933).

wolves could eat an entire calf at one time. Meanwhile, Sokas[146] gave an example of wolf damage caused to livestock and game management as follows: "[T]here were counted at least 1,500 wolves in Lithuania in 1948. One wolf yearly consumes about 1 ton of meat. This calculation means that 1,500 wolves will eat 1,500 tons of meat. One kilogram of meat is valued at 10 rubles, so the potential damage to Socialist economy from wolves would amount at 15 million rubles."

Similarly, the game managers of the YGMA in 1965 stated that "every wolf causes damage to livestock husbandry as well as to hunting management by annually consuming 1.5 tons of raw meat, and this costs the Socialist state 10–15 thousand rubles yearly"[147]. However, the myth of wolf gluttony was denied by biological investigations[148].

As we can clearly see, the Soviet authorities and hunters considered wolves not as a self-evident part of nature, but as an obstacle, the 'wrongly working' element. Even the consumption by wolves of their natural prey, wild game, was considered as damage to nature, built and functioning according to the Soviet Marxist laws, that is, for the needs of the Soviet society. There was no place for wolves in the modern Soviet world, and Soviet hunters, farmers, bureaucrats and biologists discussed the status of wolves while asking whether the wolf was necessary in nature at all, and also what the use of wolves was for nature and the Soviet people, this way giving the wolf the status of an outlaw, the worst rival of humankind[149].

Conclusions

Our analysis of the Marxist theory reveals that Orthodox Marxism – both as a philosophical framework and as the ideology of the Soviet State – proposed a distinct modern perspective on nature, closely

146 Juozas Sokas, *op. cit.*, 5.

147 NARS, *op. cit.* (1965).

148 Janina Prūsaitė, *op. cit*. (1961), 60; Dmitriy I. Bibikov, *op. cit.* (1985), 334–336.

149 See also Mikhail Pavlov, *op. cit*. (1990), 5–6; Dmitriy I. Bibikov and Feliks Shtilmark, *op. cit*. (2011 [1993]); Vladimir Boreiko, *op. cit*., 9–14.

tied to the concept of labor. Contrary to common opinion, we have demonstrated that labor in Marxism is not merely a defined human activity but is viewed as a force *extending beyond humanity*. In contrast to Marxist claims, labor was not considered a strictly material phenomenon. Rather, it was treated as a metaphysical term, encompassing the forces of nature and surpassing any manifestation of the actual natural world. By embodying these forces, labor was seen as a world-forming and world-creating power. Labor in this worldview was not limited to human efforts, even though the most obvious manifestation of labor was the bodily actions of the working class. Nature was seen, at least in part, as a product of labor, which itself was understood as a continuation of the natural order and the realization of nature's full potential. Human beings, particularly the working class, were viewed as uniquely linked to this force, regarded as its most prominent embodiment and destined to lead nature toward the realization of its full potential.

In the Soviet Union, Marxism functioned as an ideocracy which was shaping society, politics, and even the natural sciences according to the State's ideological interpretation of nature. Disciplines such as biology, zoology, forestry, and agricultural sciences played a crucial role in Soviet modernization projects. With the involvement of Soviet academic figures like Lysenko, Michurin, and others, these sciences underwent a process of radical ideologization. In this process, Engels' dialectics of nature, Marxist views on nature and labor, and the concept of labor itself were integrated into the science. Therefore, the version of nature, as developed by Michurin and Lysenko, became a continuation of the Marxist theory of nature, with a certain emphasis on the applied/practical aspects of these ideas. This ideologized science received strong political support, notably from Stalin. In an environment where free thought and speech were severely restricted, and where any opposition was harshly punished, Soviet scientists helped establish the Marxist view of nature as (an) unquestionable truth. They developed theories on how human labor could improve nature, aiming to help it reach its full potential. The

glorification of labor and humanity's ability to alter the natural world justified invasive practices against natural environments and destructive approaches toward species, such as the wolf.

Accordingly, we examined how wolf extermination campaigns were carried out in the Soviet republics of Yakutia and Lithuania as part of Stalin's large-scale projects which aimed to control and transform nature for the needs of modernizing the Soviet society. The relationship between the Soviet people and wolves became ideologized through the Marxist thought, often portraying wolves as a symbol of imperfect nature opposing the Marxist ideal of a mastered nature. Soviet authors, game managers, and hunters contributed to the establishment of the Michurin and Lysenko ideological paradigm by propagating hatred of wolves, amplifying extermination methods, and calling for a war against wolves through mass media. Wolves were labeled by the Soviet Government as enemies of the Soviet State and the most harmful pests, warranting systematic eradication. To achieve this, the Soviet Government established a wolf population management system modeled on industrial principles, with hierarchical organization, division of labor, and productivity incentives. Wolf extermination was often conducted on a mass scale, by using methods like shooting from helicopters and poisoning. Examples from both Soviet republics illustrate the implementation of the Soviet Marxist ideology, demonstrating its pervasive influence across society and nature, with the wolf as a symbol of untamed nature being no exception.

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