

Gender, Necropolitics, and the Nuclear Legacy of Semipalatinsk

Cassandra-Marie Zick, 4th Year

BA Arabic and Politics

Abstract

Nuclear imperialism, or the “domination of one group, nation-state, or ideology by another, through nuclear means,” (Broinowski, 2015 cited in Alexis-Martin, 2019, p. 153) is a modern vehicle of colonialism. For nuclear testing to be justified, the population at risk must be dehumanized to justify asserting a “living death” (Mbembe, 2003) onto them. In this paper, I focus on the Soviet nuclear project in Semipalatinsk, Kazakhstan, using theoretical perspectives, scientific data, and governmental reports in my analysis. I argue that this was a gendered, necropolitical venture, as nuclear testing specifically targeted and harmed Kazakh mothers. I assert that the “coloniality of gender” (Lugones, 2016) was a necessary precursor to necropolitics in the Kazakh Steppe, as it deemed racialized women the least worthy of life and thus expendable. This paper contributes to political scholarship, as it reveals the coloniality behind nuclear intelligence and the violent, gendered dynamics that justify weapons testing.

Introduction

In the last century, colonialism has expanded its scope and has taken on new identities in order to capitalise on modern opportunities to obtain power. Such evolution has manifested in nuclear imperialism, which is “characterized by the capitalist formation, intervention and militarization of space,” as well as the “domination of one group, nation-state, or ideology by another, through nuclear means” (Broinowski 2015 in Alexis-Martin 2019, p. 153). In ventures of extraction and testing, oppressive nations have proceeded with colonial logics that justify the exploitation of certain bodies over others. In this essay, I argue that the Soviet Union engaged in a gendered form of necropolitics in its nuclear project in Kazakhstan. I assert that Maria Lugones’ (2016) coloniality of gender serves as a prerequisite for necropolitics in the Kazakh Steppe. Her framework communicates that the omnipresent gender order we live under today was employed as a colonial tool that created a hierarchy to benefit white, heterosexual men. It devalued white women, positioning them as subordinate to men, but effectively dehumanised women of colour and framed them as undeserving of dignity. Thus, it ranked individuals by their disposability, with white men holding the most value and racialised women holding the least, considering them the most available for inhumane exploitation. In this hierarchy, white women fit in second place, and racialised men in third.

This essay will explore the Soviet nuclear project in Kazakhstan as a gendered-necropolitical venture in three sections. To begin, an understanding of the Kazakh Steppe as one of Mbembe’s (2003) “death-worlds” will be established. These require the coloniality of gender as a necessary precursor to their formation, as individuals must be dehumanised before a sovereign can assert a “living death” (Mbembe 2003) onto them. Secondly, after exposing them to nuclear warfare, the USSR engaged in secretive scientific experimenting on the poisoned Kazakhs. Through Cohn’s (1987) technostrategic

language, we can understand the empirical and detached dialect employed by the scientists as enacting further violence. Not only were the Kazakhs used as data points by the USSR, but the Soviet Union knowingly continued to wreak nuclear havoc upon their land, despite evidence showing significant illnesses in the population. Finally, this essay will return to the coloniality of gender and explore how nuclear research specifically targeted mothers, the most vulnerable population to radiation poisoning. These women were not helped by the USSR but rather treated as reproductive entities to test radiations' effects on fertility and growing foetuses. As will be seen in this essay's conclusion, radioactive necropower has a legacy in Kazakhstan decades later.

A Colonial History

The relationship between Kazakhstan and the USSR must first be understood as a colonial one. To provide a brief amount of context, "in the first half of the 18th century, facing extended wars with their Eastern neighbors from China, Kazakh tribes requested to become a protectorate of the Russian Empire. Through the 19th century, the Russian emperors gradually transformed the protectorate status of the Kazakh Steppes into that of a colony through a series of political and administrative reforms and military interventions" (Aldashev & Guirkinger 2017, pp. 415- 416). This colonialism led to the destruction of the clan system and nomadic pastoral life that the Kazakhs had previously enjoyed, as territorial rulings in 1891 mandated that individuals had to engage in fixed, full-time land cultivation to have property rights (Aldashev & Guirkinger 2017). As a result, extended families in a clan who could previously access the land for certain established seasons were no longer able to use it. From here, clan systems quickly became detached, and families began operating on an, ironically,

nuclear system, with each household providing solely for themselves (Aldashev & Guirkinger 2017, p. 418). This also led many individuals who did not have sovereign farmland to enter the workforce, which is seen to culminate in employment in uranium extraction sectors in the following decades (Aldashev & Guirkinger 2017, p. 422). Thus, colonialism deeply weakened the economic and familial systems in Kazakhstan and led the population to depend on the Soviet-made workforce. From here, the USSR was able to effectively continue its colonial practices in the creation of its nuclear project.

Creating The Death World

To legitimise the violence perpetrated in colonial ventures, such as nuclear imperialism, the sovereign power must categorise those it harms by the worth of their lives. This ranking system is understood by Lugones as the colonality of gender, a hierarchical order inherent to colonialism which methodically places all individuals subordinate to white, male colonisers. It characterises white women as weaker, less intelligent, and ultimately unequal to white men, secluding them from “the sphere of collective authority, from the production of knowledge,” and “from most of control over the means of production” (Lugones 2016, p. 32). However, positioned beneath these women are colonised individuals, who are dehumanised to be effectively exploited. At the intersection of race and gender lies women of colour, who in this ranking do not possess the masculine traits of intellect and strength, nor the feminine characteristics of purity and innocence. Therefore, on what Lugones understands as the “dark” side of the colonial gender order, racialised women have not only been pushed out of the public sphere but reduced to animals. Possessing neither femininity nor masculinity according to the colonisers, they have historically been effectively de-gendered and subjected to the most violent

existence at white male hands.

This “social ladder where whiteness and masculinity are at the top, and racialized women are at the bottom” (Velasco Ugalde 2023, p. 13) creates a dynamic in which violence can be justified upon. As Coates (2025) explains in his review of Mbembe, this ordering creates “hate” and “enmity” for the racialised (and gendered) other, providing legitimacy for the coloniser “to control life and death” for its subjects (Velasco Ugalde 2023, p. 11). Those dehumanised and “shorn of human dignity” (Coates 2025, p. 67) become available to violence. As Kazakhs were already considered sub-human colonised subjects, the shift to exercising nuclear-necropower on them became easy. Expanding off the coloniality of gender’s established hierarchy, necropolitics began to operate and a death-world was created in Semipalatinsk, a steppe in northeastern Kazakhstan. Mbembe’s (2003) death-worlds are “defined by their attempts to contain groups of people who have been consigned to a status less than that of the living. They are spaces proximate to death” (Coates 2025, p. 68). Death, in the Kazakh Steppe, was an omni-present threat and could come at any time for the nuclear subjects. Necropower takes on an additional form in the USSR nuclear project, as after the Kazakhs were exposed to radiation, they became test subjects for the Soviet Union in a necropolitical laboratory.

The Necropolitical Laboratory

While the USSR had multiple “medical offices,” or laboratories, in the Kazakh Steppe, the most famous and notable of those is Dispensary no. 4. In documentation, this site is code named “brucellosis hospital,” (Bauer 2019, p. 501) and information regarding its purpose remained shrouded in secrecy for decades. However, unbeknownst to the affected population, this institution served as the base for “the study of radiation exposure and effects in the areas surrounding the Semipalatinsk nuclear test site” (Bauer 2019, p. 501). This experimentation was documented in the Atchabarov Report, which is immersed with patriarchal empirical language. It “is written in a strictly scientific tone and builds up piece by piece, table by table, graph by graph a documentation of effects to arrive at quite drastic conclusions” (Bauer 2019, p. 499). These findings include “observed alterations in the health of people” due to “chronic radiation disease” (Bauer 2019, p. 500). Despite very clear evidence, the USSR officially rejected this report and decided to continue testing the Kazakh population, without employing any means to address their illnesses.

In the following years, empirical practices created more distance between the researchers and the Kazakhs. Throughout the 1960s and 1970s, scientists embarked on short “expeditions” to the Steppe to assess developing cancer rates of their “epidemiological cohort” (Bauer 2019, p. 502). The researchers became “detached from the lives of those needed to cope with actual radiation exposure, even if they were motivated by the assessment of health risk to the population in the first place” (Bauer 2019 p. 504). The likening of the Kazakh population to data points, alongside the “scientific tone” (Bauer 2019) used in the Atchabarov Report, removed the scientists “from the reality behind the words” and served as a “form of abstraction,” (Cohn 1987, p. 708) distancing them from reality. This dialogue is comparable to technostrategic language used in the U.S. to sanitise and normalise nuclear

weaponry. As Carol Cohn states, employing pragmatic, dispassionate language gives one the sense of control. In her experience observing defence analysts, it created a sense of “cognitive mastery” (Cohn 1987, p. 704) over deadly technology. In the context of Semipalatinsk, such language gave scientists the feeling of superiority over and distance from the Kazakh people, who were equated to manipulatable statistics. The coloniality of gender resurfaces in empirical language, which empowers the researchers and desensitises them from the inhumane experiments they are conducting, and simultaneously reestablishes the Kazakhs as less than human. Continuing with Lugones’ theory, nuclear testing and research is seen to specifically target colonised women.

Exploitation of the Mother

Standing at the intersection of race and gender, subjugated women of colour possess neither masculinity nor femininity in the colonisers’ eyes. Thus, they become de-gendered and therefore available to the most sadistic forms of violence. However, after effectively de-gendering Kazakh women to conduct lethal nuclear tests on their land, the Soviet Union re-gendered them in scientific experimentation. As Lugones explains, under the coloniality of gender, “women racialized as inferior were turned from animals into various modified versions of ‘women’ as it fit the processes of Eurocentered global capitalism” (Lugones 2016, p. 28). Here, this modification of their female identity did not humanise them but rather situated them as reproductive entities holding valuable sources of information in their wombs.

After decades of study on radiation's effects, it has been found that "female adults, children, and pregnancy, in particular, are more susceptible to this damage, making even low doses with supposedly low risk a greater concern" (Folkers 2021, p. 33). Folkers explains this could be due to a connection between oestrogen and radioactivity, which may "have many cancer causation pathways in common" (p. 38). As oestrogen greatly increases during pregnancy, Kazakh mothers were the most vulnerable population to radiation poisoning in Semipalatinsk. Thus, they became valuable research subjects. Soviet scientists, and later those of the former Soviet Union, have conducted many tests on the radiation exposure of both mothers and babies in utero.

Even though access to the Atchabarov Report is not available, there is other published evidence pertaining to the Soviet context. In Belarus, following the Chernobyl nuclear accident south of its border, Dr. Bandazhevskaya and Dr. Bandazhevsky "discovered cardiac disorders developed in children whose bodies contain an average of 10–30 becquerels (Bq) per kilogram (kg) of radioactive cesium" (Folkers 2021, p. 40). "Becquerel" is the international measure for radioactivity, and "cesium" is the byproduct of nuclear weaponry, which emits radiation as it breaks down. These statistics are concerning, as "these doses have resulted in increased frequency of disease, death, and a decline in fertility," (Folkers 2021, p. 40) with a dose of "just over 50 Bq per kg" resulting in total tissue death. Furthermore, testing at Chernobyl found "significantly increased rates of conjoined twins, teratomas, neural tube defects, microcephaly, and microphthalmia among populations" (Folkers 2021, p. 41). While Chernobyl was a site for one, catastrophic disaster, radiation exposure was constant in Semipalatinsk and proliferated for forty years. The Kazakh mother as a colonial target is not treated as a human who should be protected here, but as an undignified other that can be experimented on.

Radioactive Necropower's Legacy: Concluding Thoughts

Radiation can now be understood to specifically target gendered bodies. In the Kazakh Steppe, the population subjected to the most harm was colonised women. Once again, the coloniality of gender forms the basis of a necropolitical understanding of the Soviet nuclear project. To justify their weapons testing, the Soviet Union preserved the gendered and racialised hierarchy that was created to originally colonise the Kazakh population. In the following years, the coloniality of gender then aided in the establishment of a necropolitical lab in Dispensary no. 4. Once aware of the mothers' vulnerabilities to radiation poisoning, the scientists effectively re-gendered Kazakh women simply as reproductive entities for data collection. After extracting information from their wombs, they were left in the radiation zone, uninformed about the impacts to their health. From here, necropower's legacy emerges, as the state forces the morbidly heartbreaking responsibility of raising gravely ill children upon the women. Radioactive necropower succeeds in reducing the Kazakh population through poisoning, and in instilling a deep fear of reproduction amongst its women. Thus, as this essay deduces, the Soviet nuclear project was deeply necropolitical and deeply gendered. For further research, Puar's (2017) understanding of "maiming" in the Palestinian context, and Nixon's (2011) "slow violence," should be applied to dissect the nuclear-necropolitical legacy in Kazakhstan following the dissolution of the Soviet Union.

Bibliography

- Aldashev, G., & Guirking, C. (2017). Colonization and changing social structure: Evidence from Kazakhstan. *Journal of Development Economics*, 413–430.
<https://doi.org/10.1016/j.jdeveco.2016.12.005>
- Alexis-Martin, B. (2019). The nuclear imperialism-necropolitics nexus: Contextualizing Chinese-uyghur oppression in our nuclear age. *Eurasian Geography and Economics*, 60(2), 152–176. <https://doi.org/10.1080/15387216.2019.1645611>
- Bauer, S. (2019). Beyond the Nuclear Epicenter. *Cahiers Du Monde Russe*, 60(2), 493–516.
<https://doi.org/10.4000/monderusse.11271>
- Broinowski, A. (2015). Nuclear Imperialism. In *The Palgrave Encyclopedia of Imperialism and Anti-Imperialism*, 2108–2116. Palgrave Macmillan.
- Coates, O. (2025). *Achille Mbembe*. Routledge.
- Cohn, C. (1987). Sex and death in the Rational World of Defense Intellectuals. *Signs: Journal of Women in Culture and Society*, 12(4), 687–718. <https://doi.org/10.1086/494362>
- Lugones, M. (2016). The Coloniality of Gender. *The Palgrave Handbook of Gender and Development*, 13–33. https://doi.org/10.1007/978-1-137-38273-3_2
- Mbembe, A. (2003). Necropolitics, *Public Culture*, 15(1), 11-40. Duke University Press.
- Nixon, R. (2011). *Slow Violence and the Environmentalism of the Poor*.
<https://doi.org/10.2307/j.ctt2jbsgw>

Puar, J. K. (2017). *The Right to Maim: Debility, Capacity, Disability*. Duke University Press.

Velasco Ugalde, A. L. (2023). Gender and Necropolitics in Mexico. In *Gender-Based Violence in Mexico, 1(1)*, 11–18. Routledge.