COLLECTIVE MEMORY AND FUTURE IMAGINARIES: PUBLIC PERSPECTIVES ON NUCLEAR POWER IN SEMEY, KAZAKHSTAN

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Abstract

In 2024, residents of Semey, Kazakhstan, found themselves at the crossroads of historical trauma related to nuclear weapon detonations and prospects of nuclear power plant (NPP) construction. As a city impacted by Soviet nuclear weapon testing, the referendum, in which residents had to cast a vote in favor or against the NPP, created a public controversy. Despite the heated debates preceding the referendum, official data indicates a 70.3% vote share in favor of the NPP. The controversy is still developing as some believe the referendum was not fully transparent and their voices were not heard. Thus, this research explores how Semey's residents comprehend the future of nuclear energy in relation collective memory of nuclear weapon testing. To understand how people and the state explain their perspectives about nuclear energy, I conducted 11 semi-structured interviews, a focus-group discussion and visited the exhibition hall of the history of the Semipalatinsk test site (STS). The results show the disjuncture between residents' political subjectivities and institutional representations of the nuclear past and future, wherein residents' embedded, embodied and deeply personal explanations clash with abstract and scientific representations of the political-scientific field. Moreover, this research finds that the trauma related to nuclear bombs cannot be treated as a variable in constitution of people's opinions: it can only be understood in the light of its irreducible totality as relating to and interacting with wider social and political circumstances.

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AES: the Kazakh abbreviation for atomic power station

NNC: National Nuclear Centre

NPP: Nuclear Power Plant

RSFSR: Russian Soviet Federative Socialist Republic

STS: Semipalatinsk Test Site

Introduction

On October 6th, Kazakhstan's citizens voted on nuclear power in a national referendum that posed a seemingly simple question: "Do you agree to build an atomic power station in Kazakhstan?" During the brief period from the announcement of the referendum on nuclear energy until it took place, both supporters and opponents of nuclear energy mobilized their campaigns. Slogans such as "Say Yes to AES" (AES being the Kazakh abbreviation for atomic power station) and "AES Kerek Emes" (meaning "We don't need atomic power stations" in Kazakh) spread across social media and public spaces. As a result, with 63.6% voter turnout, 71.12% of participants expressed their support (Reuters, 2024), setting the plan to build the nuclear power plant (NPP) in motion. The construction site has been designated on the Lake Balkhash shoreline within the Zhambyl region.

The platform "AES Kerek Emes" is created by Kazakhstani ecologists and energy experts, who claim that the NPP's radioactive waste is unjust to future generations who would have to manage it. Among the platform's activists is Gulsim Kakimzhanova, a resident of Semey, which is a city harmed by nuclear weapons testing during the Soviet Union. She explains that her opposition to the nuclear power plant derives from her personal connection to this history since she was involved in helping victims of nuclear testing (Skopin, 2024). Her ideas resonated with me as I am from Semey and felt there was not enough recognition of this history in relation to the discourse about nuclear energy. While familiar with various expert views from both sides, I wondered how residents of Semey themselves explain their positions. What stance do they take? What stories and experiences led them to their current position? How do they make sense of different imaginations of the future? How do they comprehend the collective memory of nuclear weapon testing in relation to nuclear energy

aspirations? Driven by these questions, I decided to conduct fieldwork that would bring me a step closer to understanding local political subjectivities.

Most of the studies related to nuclear energy in the context of Kazakhstan focus on policies and economic strategies (e.g., Alinov and Kumekov, 2013; Koulouri and Mouraviev, 2018; Akhmetzharov and Orazgaliyev, 2021; Karatayev, 2021). Authors writing in this angle focus on the resource curse, efficiencies of different types of nuclear reactors and economic development. Citizens' political views regarding these issues are rather neglected or assumed rather than engaged with. Overall, research based in Kazakhstan tends to prioritize structural explanations rather than local people's political subjectivities. The aim of this thesis is to address this gap. In the absence of research on local political subjectivities not only regarding nuclear energy but also their general perception of politics, I seek to provide a window into Semey's residents' perspectives about transformations in their homeland in the light of traumatic history of the town.

When I use the term "political subjectivity", I specifically draw on Sherry Ortner's conceptualization of the term, the political subjectivity as "the ensemble of modes of perception, affect, thought, desire, fear, and so forth that animate acting subjects" (2005, p. 37). Sherry Ortner, while recognizing the importance of institutional constraints, gives more space to people's own meanings, desires, intentions, and emotions than theories drawing on structuralism and post-structuralism. She argues that humans are "always more than the occupants of particular positions" (2005, p. 46), aligning with Gidden's framework that "subjects are always at least partially 'knowing'" (2005, p. 40). Moreover, Sherry Ortner is also careful with the way she positions power within political subjectivity as she recognizes that different social and cultural formations influence political subjectivities. She concludes that in a highly stratified world of asymmetrical power relations, it is crucial to acknowledge

and engage with complexities of personal subjectivities as a form of cultural critique (2005, p. 61). Thus, I am particularly interested in how residents construct meaning within broader systems of power, while maintaining their capacity for reflexivity.

Since different cultural formations do influence political subjectivities, to understand Semey's residents' perspectives on the ground, I needed to see how they took shape in everyday life but also keep in mind that it is a community where the issue was entangled with the nuclear-shaped past. I believe that such concrete placement is essential to anthropological research that attempts to be addressing political subjectivities in a serious way. Moreover, to meaningfully draw on the collective memory of the community, it was crucial to avoid treating collective memory either as a homogenous unit or as an isolated variable. Thus, the point of the interviews and my analysis of them was not to show that specific experiences determine whether an individual will support the NPP or not. My objective is not to determine whether collective memory of nuclear bombing causes people to take a particular stance. Rather, my interest is in the *constellation* of narratives through which residents understand their positions. In this regard, I consider collective memory from a process-relational perspective and situate it in a broader social and political context.

Literature on collective memory is vast as sociologists understandingly embrace the social nature of memory. Particularly, Jan Assmann, a cultural historian, distinguishes among four types of collective memory, among which I want to emphasize the communicative and the cultural memory. Communicative memory represents oral history, relating to memories transmitted through everyday communication (Assmann, p. 126). According to the authors, the most significant feature of communicative memory is its time span since the historical scope of communicative memory only reaches back approximately 80-100 years (Assmann, p. 127). It is particularly valuable as a mirror of how people process recent history, as it

represents the collective memory before it becomes fully institutionalized. While communicative memory is associated with routine and everyday practice, cultural memory transcends “the everyday” (Assmann, p. 128). In political discourse, cultural memory serves as a reference that guides the action in the present and directs the future. While these concepts are useful and will be referred to in this thesis, it is notable that more recent scholarships have shifted toward an interactive approach that views memory as dynamic and fluid rather than fixed or static. This turn emphasizes understanding memory as an ongoing process of relationships rather than as a tangible, homogenous entity. To better illustrate how collective memory works in relation to other social processes, Jeffrey K. Olick proposes a process-relational approach. According to process-relational critique, collective memory should be treated as dynamic relationships rather than stable entities, which involve past traditions and current interests mixing in fluid ways (Olick, p. 91). Rather than treating collective memory as a variable, Jeffrey K. Olick refers to "figurations of memory", the dynamic relationships between past and present and suggests four specific counter concepts to replace the problematic assumptions of traditional memory research: field, medium, genre, profile. The author builds on Pierre Bourdieu’s (1996) conceptualization of field to resist the postulate that collective memory is a homogenous unit. Each field is meaningful only in relation to the others since “different fields produce different kinds of pasts according to different rules” (Olick, p. 92). To understand the political field in which memory is constructed, for example, it is key to view it in relation to other fields, such as household, vernacular and media fields. Meanwhile, the counter concept profile is “the unique contours, more and less smooth, of political meaning systems at given points in time” (Olick, p. 108). The profile includes many elements of society’s political context that work together, such as claims about who people are as a group, their understanding of policies, and differences they make between inside and outside (Olick, p. 108). When collective memories are isolated from

broader social and political contexts, their very dynamism is neglected. Collective memory as a profile entails that it is woven into how groups view themselves since "remembering is a central *medium* in which identity and interest are negotiated and contested" (Olick, p. 109).

For addressing collective memory as well as personal subjectivity, it is important not to neglect wider power relations. Thus, I want to emphasize that I situate Semey's residents' collective memories and Soviet Russia's role in it within a larger theoretical framework of nuclear colonialism as neither Kazakh nor Russian authorities have assumed full responsibility for people's losses and, as I will demonstrate in Chapter 1, a deep sense of injustice still permeates society. The concept of nuclear colonialism directly relates to power relations and struggles happening around the globe. While some argue the phrase originates from African and Polynesian resistance to French nuclear tests to critique and challenge the exploitation of native Polynesian and African lands and people for French nuclear expansion (Hill & Maillochon, 2024, p. 102), others state that it was Native American scholar-activists Churchill and LaDuke (1992) who introduced the term "radioactive colonialism," which was later replaced by more contemporary "nuclear colonialism" (Runyan, 2018, p. 25). The topics through which nuclear colonialism has been theorized and studied are vast, ranging from test site selection and Indigenous resistance to handling of the nuclear waste and uranium mining. Notably, Myrriah Gómez, a Nuevomexicana scholar, presented five tenets of nuclear colonialism: "intergenerational trauma, disease and death, contamination, secrecy and obscurity, and environmental racism". Environmental racism in her work is defined as "racial discrimination in environmental policymaking", and the deliberate placement of toxic waste sites in communities of color (Benjamin Chavis quoted in Gómez, 2022, p. 24). Myrriah Gómez's five tenets of nuclear colonialism clarify people's experiences on the ground. In Semey, as I will demonstrate in Chapter 1, there is intergenerational trauma, wherein people commonly have family members from past generations who have endured negative health

consequences of the radiation that still renders the vast area in the East uninhabitable, unfertile and dangerous. Much of the scale of the impact is still obscured as the Soviet Union's secretive nuclear policy has erased the possibility of ever getting full extent of people's suffering. Considering these power relations lingering from the past, it is hardly surprising that today many do not welcome Russia's involvement in the NPP construction.

While history and its power dynamics is a big focus in this thesis, I want to emphasize that political subjectivity cannot be fully understood without paying attention to how individuals envision their futures. I want to make clear that this work accepts that people, infrastructures and nature are unpredictable and the consequences of projects such as the NPP routinely transcend boundaries established by risk management and regulatory systems of current governance mechanisms. I believe that risk assessment instruments used by the states help actors "to pretend that rational decisions are possible—to act as if" (Beckert, 2011, p. 135) rather than genuinely acknowledging the ontological nature of future unpredictability. Risk management practices focus on the stability of the industries, transferring the negative burdens on historically marginalized communities and producing an expertise, the authority of which is "realized in its achieved *distance* from embedded and embodied knowledge" (Bond, 2022, p. 57). Rational expectations presuppose that all residents will accept the most "effective" future scenario, disregarding different forms of knowledge and predispositions. Thus, this work applies the term "fictional expectations" as opposed to rational ones. Jens Beckert, an economic sociologist, argues that since it is ontologically impossible to foretell the future, there is a gap between people's present situations and the decisions they have to make about the future. To better understand how people fill this gap, Beckert proposes the concept of *fictional expectations*, setting it against rational expectations. Fictional expectations refer to "the imaginaries of future states of the world and of causal relations that inform actors' decisions" (Beckert, 2011, p. 63). These imaginaries can be interpreted "as

'placeholders' (Riles 2010) in the decision-making process" that help people temporarily disregard the inherent unpredictability of the future outcomes (Beckert, 2011, p. 74). Alfred Schütz (2003: 148) calls such expectations in the economy "design fantasies" (Entwurfsphantasien): they are supposed to be not only persuasive as a narrative but sound credible enough in relation to real-life circumstances. It is exactly this mix of facts and the imaginary that convinces people to accept these images as the future present (Beckert, 2011, p. 68). However, individuals, politicians, and businesses try to mask the uncertain nature of expectations and only emphasize the parts that can be empirically explained (Beckert, 2011, p. 73). Powerful actors hide the fictional nature of expectations and create confidence through a diverse range of discursive interventions. Among them, mass media plays a key role. It articulates and spreads imagined futures, creating sentiments about risks that help to convince people of a particular framing of a situation (Beckert, 2011, p. 123).

Methodology

With this study, I wanted to make space for people's creative abilities to explain their own views by asking questions that help them explain and reflect. For these purposes, I conducted 10 semi-structured interviews, 1 mixed-gender focus-group discussion, 1 expert interview with the former Rosatom (the potential partner company for construction of the NPP) employee and went on a tour of the exhibition hall of the history of the Semipalatinsk test site (STS). Even though these methods differ in what they allowed me to do, they clarified the dynamism of both public and political fields.

When it comes to semi-structured interviews and focus-group discussions, I tried to conduct them in the form of friendly conversation to make my interlocutors more relaxed and give them space to explain their perspectives. I asked a series of open-ended questions regarding their opinions about nuclear energy, their imaginations of the past and the future.

Asking such open-ended questions allowed my interlocutors to express their own understanding of the overall situation in the country without the imposition of my own assumptions. I also want to note that I recorded the responses in the copybook as no one consented to being audio recorded, which I associated with censorship and surveillance tendencies of Kazakhstani state. While I expected that it would be complicated for interlocutors who object to the construction of the plant to be vocal about their opinions, I did not expect that it would be similar for the supporting residents as well. Since their view aligns with the state's goals, I expected they would not mind me recording them, but it turned out that both groups are quite cautious.

I first recruited the respondents on social media networks and then used a snowball approach. While interviewing these individuals, the goal was not to generalize the findings but to understand how individual political subjectivities are shaped and different ways through which people explain their perspectives. Thus, I tried to talk to both pro-nuclear and anti-nuclear residents and make space for all kinds of opinions. Respondents ranged in age from 40 to 59 years. I focused on this demographic because I wanted to engage with people who had memories of the aftermath of nuclear testing. Given the limited scope of this thesis, I chose not to include older adults to minimize the impact of age-associated factors. When it comes to gendered aspect of the demography, 13 of the interviewees are women and 5 are men. I found that it was harder to recruit men as a young woman in Kazakhstan, which is still quite a patriarchal country. In general, women were more willing to talk to me and share their views. In terms of occupational distribution, my participants were predominantly concentrated in two professional sectors: education and entrepreneurship.

For the focus-group discussion, I was lucky to be invited to the house of one of my interviewees, where I talked to the interviewee's acquaintances – 4 women and 4 men between

the ages of 40 to 56. Since the interviewee already knew who I was, the focus-group discussion was more friendly and informal, giving people space for genuine answers. However, this was a rather lucky situation as it was quite challenging to find people to talk to. Initially, I planned to do a full-on participant observation and do things such as talk to people in coffee shops and parks. Since I am myself from Semey and I speak Kazakh, I assumed finding people would not be a problem. However, I encountered challenges. For example, on April 11 14:20, I wrote the following field note: "Today I was sitting in a coffee shop. I noticed that in front of me there were 3 men around the age of 40, chatting and laughing. I thought I'd come and introduce myself, ask if anybody is interested in the topic I'm researching and might be potential respondents. I explained I was doing sociology research and that I was a student. They instantly got uncomfortable and one of them started covering his face with his cap and lowering his eyes onto the table. He didn't look into my eyes. Then they said "no, we're not interested". I thanked them and went back to my seat. They immediately left the cafe." Such situations made me realize that people did not trust each other and question my expectations regarding my own positionality. However, censorship and distrust were not only felt in public places. For example, even when I managed to get an interview with a woman, I had to abruptly finish it as I could sense she was uncomfortable. She particularly requested to do an online interview as she was too busy to meet. The beginning of the interview was quite nice – I felt she was opinionated and quite educated. However, around 15 minutes into the interview, somebody entered the room, and the atmosphere changed. While she seemed critical of the power station in the beginning, she started saying she is neutral to this issue in the middle of the interview. Noticing the tension, I finished the interview much earlier than planned and thanked her for her contribution. To my surprise, around 5 minutes after the interview, she started sending me texts through the messenger app, sayings things such as "People voted against. But as always, we have different numbers displayed", "We have a large land and gentle/mild-tempered

people". The answers she gave during the interview and a more private messenger app differed greatly. Perhaps there was someone in her house she could not trust with her opinions, or perhaps she feared her husband. I did not dare to ask her why she did not say these things during the interview as I did not feel it was my place to intrude. But I was thankful she reached back. Thus, surveillance and censorship apparatus both in public spaces and private households significantly shaped my fieldwork and the ways through which I recruited the participants.

Finally, to understand institutional narratives about history, I went to the National Nuclear Center (NNC) of the Republic of Kazakhstan, which is a research organization built in the town of Kurchatov, located about a two-hour drive from Semey. Originally, Kurchatov was built as an administrative and scientific center to support the nearby nuclear testing activities at the Semipalatinsk test site. It served as a secret hub for scientists, military personnel, and workers involved in the development and execution of the Soviet nuclear weapons program. Today the NNC is focused on radiation safety and non-proliferation. Within the center, there are four sub-organizations, each focusing on a different goal. I went to the exhibition hall of the history of the Semipalatinsk test site (STS) as it is more challenging to enter the rest of the center. The tour guide was there to show me the hall. The museum's exhibits explore the history of the test site, its effects and the work of physicist Igor Kurchatov, after whom the city is named. Moreover, I conducted an expert interview with the former employee of Rosatom to better understand nuclear energy and the supposed "irreplaceability" of the NPP.

Chapter 1. Collective Memory

1.1. Overview

Only people from Semey can understand the possible horror of the situation.

Alia, a 53-year-old HR from Semey

Some residents of Semey viewed their perspective on nuclear energy as unique, believing that being from Semey carried a certain "exceptionalism". They felt that their personal experiences with nuclear testing gave them psychological burden, which made their views on nuclear energy particularly significant. Such recollections of their history and personal stories from the nuclear testing times made me think of Semey's residents as a "community of memory", in which its history influences "the group's sense of itself as a continuous entity through time" (Bellah et al., 1985, p. 153 quoted in Olick, p. 86). For example, according to Zina, a 48-year-old vice-principal at a local school, when other people think of Semey, the first thing that comes to mind is nuclear testing. "We are ordinary people, but people in Shymkent [southern city in Kazakhstan], for example, don't want to marry people from Semey. They look at us differently," shares Zina. In her observation, Zina makes the clear distinction between "us" and "them", by focusing on how her in-group is treated by others, emphasizing the continuing impact of history today. This sense of continuity is what guided some of my interlocutors to take an opposing stance. Their imaginations of history, due to active communicative memory shaping society, were more than alive. In Semey, cultural (or official) memory is only a part of the picture since generations of people who experienced either nuclear detonations or the consequences continue to routinely remember and share stories about the Polygon (common references to the testing site). This dynamism allowed me to observe people's collective memories produced in different fields. According to J. Olick, "different fields produce different

kinds of pasts according to different rules" (2007, p. 99). In Semey, I was exploring figurations of vernacular (and family) memory, while in Kurchatov, the museum guides were eager to present the official memory. It was very clear that these are two different fields, which shape different kinds of pasts. I believe that the political field is meaningful only in relation to the fields of public opinion and since that relation itself is in constant motion, it is important to put them in the current social and political context. In this chapter, I will first explore the collective memories in the public field regarding nuclear history of the region and then move on to official memory representation at the National Nuclear Centre of the Republic of Kazakhstan. In the discussion section, I will explore the disjunctures among cultural and communicative memories within the broader political and social context of the current momentum.

1.2. Memories of Struggle, Narratives of Injustice

Aisha moved to Semey when she was a teenager, having spent her childhood in a village not far from the Polygon (common references to the testing site). When I explained the purpose of my interview, Aisha immediately started to speak of her memories of the Polygon, making the impression that for her, the connection between nuclear energy and nuclear weapon testing was intuitive. "I remember from my childhood that when the atomic bomb was dropped, the alarm of the department store behind the house would stay on until morning, and if the employees did not come and turn it off, the alarm would stay on the whole time," she shared. Aisha further added that they used to think it was an earthquake, as that was the common knowledge among both children and adults. In fact, a few other interlocutors have shared a similar childhood story. According to Maya, a 58-year-old woman, "Teachers would say that 'now there'll be an earthquake' and would take us out to the schoolyard usually at around 10 or 11 am. During that time, windows would shake, and trees would fall. Then, in 30 minutes or an hour, we would go back to school." Aisha and Maya, who are both *supportive* of the nuclear power plant construction, share childhood memories that are held together by a thick thread – both portray

their routine experiences of the nuclear bomb detonations. The department store's alarm would not stop if employees would not turn it off. 10 or 11 am was the regular time that the "earthquake" struck the village. What might seem dystopian to a person with no experience of nuclear history was a regular life rhythm to Aisha and Maya as they continued to live normal lives while one of the most tragic historical chapters of the region was unraveling around them. As children, they believed what adults told them, who, at that time, knew no more than children. Secrecy defined the era as the town in which nuclear bombings were controlled (Kurchatov) did not exist in the maps until the 1990s (Bekniyaqyzy, n.d.). Stories of Aisha and Maya expressed this secrecy - the bombings disguised as earthquakes were manifested through routine sound of the alarm and disruption of school time. These associations are what activate the collective memory of the Polygon (common references to the testing site) for Semey's residents.

As my interlocutors' narratives followed the timelines that they had set for themselves, their insights gradually incorporated broader information about the Polygon. According to Roza, a 46-year-old woman, who also *supports* the construction of NPP, "There are a lot of diseases in Semey... My own elder sister is a doctor… Now the effects of the explosions are being felt by 3rd generations." It is clear from residents' stories that the chain of illnesses caused by explosions did not end with the closure of the Semipalatinsk test site but continued into the second and third generations. The influence of the nuclear fallout on local people's health became increasingly visible to me when my interlocutors shared how it played out in their own families. Roza's mother passed away young, at 49, and her father suffered from lung disease that ultimately led to his death. She believes it is because they lived in Karaul, the village close to the test site. However, it is challenging to prove that the cause of death is directly connected to living nearby the test site and this complicates identifying exact number of Polygon victims. Thus, residents had their own theories of

illness, which they always emphasized were *personal beliefs* rather than official data. The powerlessness that comes from being unable to link illness in one's family to radiation exposure, and thus having one's pain go unacknowledged, was especially evident in Maya's story. In 1949, Maya's father was a soldier stationed at the test site, involved in above-ground nuclear detonations. He suffered skin damage and developed liver disease. Maya herself has asthma. Her daughter died at the age of eight from what she described as "a bad disease", a term some people in Kazakhstan use to refer to cancer without naming it directly. Maya went on to say that when they suspected the illness was caused by the effects of the Polygon, the doctors responded that any impact would not extend beyond her. However, she still believes that the Polygon is the cause of her family's health struggles.

Maya's father's death and the tragic loss of her daughter are indicative of the multi-generational health effects of radiation exposure. However, even though people have their theories of radiation being the root cause, it is not necessarily backed by social institutions such as medical clinics. The lack of official recognition or acknowledgment of the impacts of radiation on affected individuals and their descendants has likely contributed to a sense of injustice, as people suffer without compensation or recognition. The topic of radiation compensation is a recurring theme in my interviews, highlighting the sense of injustice felt by the residents of Semey, who have carried the burden of the Cold War and nuclear colonialism without receiving adequate support from the government. During the group discussion, Dina, a 45-year-old woman from nearby village to Semey, who is *against* the NPP, shared that people who are recognized to be affected by the Polygon receive only 5600 tenge a month (approx. 10 euros) in addition to their salary. She asked rhetorically, "Is that of any help?" A few men laughed as Dina shared this, as it was so absurd that it was laughable. Aisha, who is *supportive* of the NPP, also commented on radiation compensation, expressing concern that the government does not help. In her view, the government could send people affected by the

Polygon to a sanatorium, a health resort or let them retire early. Thus, the 10-euro addition to people's salaries is ridiculed, while it is evident that residents expect more substantial action from the government, whether that means sending Semey's affected residents to health resorts, allowing them early retirement or a wider recognition of people's suffering.

Another implication of these personal narratives is the underlying historical nuclear colonialism. Secrecy and obscurity played out at their peak in Semey and nearby villages. Even when people learned about the true nature of the "earthquakes", many were still not aware of the hazardous effects the mushroom cloud might have on their health. Jayna, a 59-year-old woman, shared laughingly: "In 1985, I became a daughter-in-law and moved to *Degelen* village. That's a village near the test site. They would announce on the radio that there would be an explosion today, so don't build fires in the morning. We, as daughters-in-law, would be happy — no need to build fires. At that time, my husband visited a winter farming house near the test site — there were three shepherds: two drank alcohol, one did not. Because of the radiation, the one who did not drink had swelling all over his body and died. Since then, people say alcohol protects against radiation." As is evident from Jayna's narrative, people farmed near explosions, putting into question the so-called emptiness of the steppe. I want to remind of Myrriah Gómez's 5 tenets of nuclear colonialism, as these stories clearly demonstrate instances of intergenerational trauma, disease and death, contamination, secrecy and obscurity, and environmental racism.

1.3. From "Red Army" to "Peaceful Atom": Official Memory and Representation

While my visit to the exhibition hall of the history of the Semipalatinsk test site (STS) in Kurchatov offered me an insight into the current representation of the test site, it should be noted that the political field of official memory is not a constant category. Despite enjoying a rather "dominant position in the field of power" (Olick, p. 96), official memory itself is

malleable to external forces. Thus, the tour should be viewed in the current geopolitical context. For example, Russia's full-scale invasion of Ukraine is a significant factor in how its legacy is represented in the current political field as Russia is a dominant actor in the region. Regarding Russia's official memory, Semipalatinsk test site represents a scientific breakthrough and a point of pride. This view was first mentioned to me by Dilya, my childhood friend, who recalled visiting a World Expo in 2022 hosted in Dubai. Russia Pavilion was one of the impressive ones, so she and her husband went to check it out. They were disappointed, however, to see that the Semipalatinsk test site was displayed among the scientific *achievements* of Russia. Dilya was born and raised in Semey, and her family has a history of radiation-related diseases such as thyroid cancer. For her, seeing the Polygon listed under the category of "achievements" when it caused her family so much loss caused emotional distress. I encountered more subtle yet resembling line of thinking during my field day at National Nuclear Centre of the Republic of Kazakhstan, which seemed to be more optimistic about the nuclear heritage than my interlocutors.

The guide began the tour with a brief overview of the history of Hiroshima and Nagasaki. She emphasized the death toll from the atomic bombings, stating "more than 200,000 people died." She then explained that the Soviet Union had to develop its own nuclear bomb to prevent the U.S. from holding a monopoly on nuclear weapons. According to the guide, the Soviet Union *had to* choose a testing site, and the area around Semey was selected due to its "vast, sparsely populated steppe and climate suitable for testing". After that, much of the tour focused on technical aspects, including the intensity of the explosions, the various types of nuclear bombs tested, such as fission and thermonuclear bombs, and the underground infrastructure used for experimentation, such as testing shafts and monitoring equipment built deep in the ground. Next, we moved on to see the control panel used for the detonation of the bomb (Figure 1), and I was even invited to take a photo of myself pretending to activate the

panel and initiate the explosion. It seemed to me during that interaction that the full weight of the tragedy was not felt in the museum, as something that caused much suffering was treated lightly. Perhaps, it is a way to engage museum visitors and make history more tangible, but I could not shake the feeling that something was wrong. I think that this interaction was mixed with the overall context of the tour, which failed to say the whole story, hiding behind a veneer of objectivity and scientific terminology.

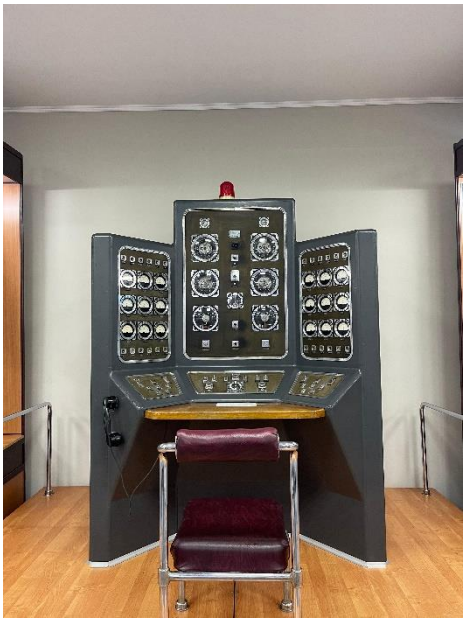

Figure 1.Control panel used for the detonation of the first atomic bomb

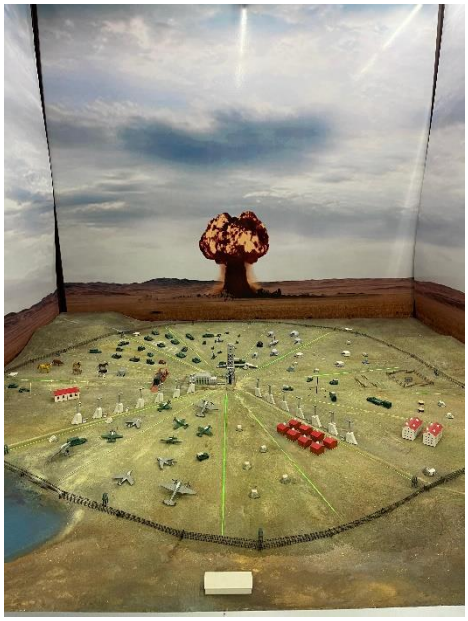

Figure 2.Exhibit model showing test zones at the Semipalatinsk Test Site

Displayed in Figure 2 is a miniature model showing test zones at the STS. At the center of the experimental field is a metal tower, with different objects placed at various distances. According to the guide, these zones were used to study the effects of the nuclear explosion on a range of targets, including military equipment, airplanes and living organisms, such as rabbits, sheep and dogs. As the guide shared, overall, 1538 animals were purposefully exposed to the explosion. Next, I was offered the chance to look at the organs of these animals (Fig. 3). Understandably, my next question was about the human toll of the bombings. The guide replied that there are “no official numbers” and that nearby villages had been evacuated before the explosions. There were no other comments made on the influence of the radiation on the

population's health, which I previously had assumed would be, at least partial, focus of the tour.

Among displays shown during the guided tour, I chose these two because, for me, they carry a similar message: the bombings were controlled and somehow "disciplined". If you look at Figure 2 again, you might notice that the zones appear carefully divided and shielded from the rest of the steppe. Yet, what is absent from the miniature display is the rest of the vast steppe that did not fall under the eye of the physicists at the center. Within this framework, it is as if the impact of the radiation remained contained within the test zones, neatly organized for the gaze of the scientist, erasing human suffering from the picture. The installation creates an illusion of control, concealing human deaths and long-term health issues that have affected at least three generations of people around the area. People's family memories are excluded from these displays because they undermine the tour's official message that any harm caused was unintentional or unknown.

What displays do portray though is a subtle sense of pride in the test site as a symbol of scientific advancement. This pride seems to extend to the way the museum portrays Igor Kurchatov, whose legacy continues in both symbolic and material ways. Igor Kurchatov is the Soviet physicist who played a leadership role in the development of the USSR's nuclear weapons program. His statue is located at the heart of the nuclear center, inscribed on the statue is his quote: "I am happy that I was born in Russia and dedicated my life to the atomic science of the great country of Soviets." Furthermore, one part of the museum exhibition is dedicated to his reconstructed office that has a photograph of Lenin, books by Marx and Engels, and the original telephone he reportedly used. On the desk, there was a big visitor journal, where guests are invited to leave comments. Interestingly, the most recent entry at the time of my visit was written by a Rosatom representative, wishing Kazakhstan "only peaceful atom." Sitting at the

desk and reading that note, I was struck by the sense of continuity - some power dynamics endured despite broader changes. During the Soviet era, the Russian Soviet Federative Socialist Republic (RSFSR), centered in Moscow, used the area to test nuclear weapons and advance its geopolitical agenda. Today, although Kazakhstan is an independent country, Russia's influence is still felt. As Merey, a former Rosatom employee, noted in our interview, even before the first news about the construction of the NPP emerged, Rosatom had already begun its geopolitical expansion by acquiring a significant number of uranium deposits in Kazakhstan. He recalled a recent scandal, just a couple of years ago, in which one of the country's largest deposits was transferred to Rosatom, framing this as part of Russia's strategy to "secure political guarantees from Kazakhstan". In fact, Russia does hold an important position in Kazakhstan's uranium industry. For instance, the Budenovskoye joint venture, in which Russia holds a 49% stake, is expected to become the most productive uranium enterprise in Kazakhstan in the next few years, and the deposit is expected to be one of the largest in terms of uranium reserves in the world (Akayeva & Reno, 2025). From this perspective, the NPP serves not merely as an energy project but as a tool of political influence, aimed at ensuring Kazakhstan's continued alignment with Russian interests through Rosatom's involvement. Despite broader changes, Russia's influential role in Kazakhstan's energy politics remains evident.

While in Kurchatov, I noticed an interesting shift: the street on which the center is located was renamed from "Krasnoarmejskaya" street (Russian for "Red Army") to "Beibyt Atom" street (Kazakh for "Peaceful Atom"). Street renaming and monument replacements are common mnemonic practices for Kazakhstan. Generally, such manipulations are often seen as instruments of gaining state legitimacy. For example, the scholar Ernst Renan (1947–61) considered "forgetting as the core of his era's nationalisms" (quoted in Olick, p. 176). For Kazakhstan's political field, forgetting and replacing the Soviet-era symbols comprised and still does the way of gaining and maintaining national elites' claim to authority. Thus, street

renaming is aligned not only with contemporary state narratives aimed at promoting *nuclear energy* but also the broader context of claiming *national identity*. In one small gesture, one can notice the curious entanglement of what nuclear energy means for the future of national well-being of Kazakhstanis – supporting the NPP is an ultimate patriotic act. Moreover, another curious element of the renaming is the introduction of a narrative that presents a former *weapons* site as a symbol of a *peaceful* nuclear future. In this light, the state itself is making connections not only between national identity and nuclear energy but also between nuclear history and nuclear aspirations.

1.4. Discussion: differences across fields

There is a stark disjuncture between how Semey's residents remember and recall the STS and what the official representation of it is in the political-scientific field. For example, while my interlocutors emphasized the human toll of the detonations, the guide avoided talking about human casualties. The emphasis was put on the *inevitability* of the nuclear testing and scientific rigor it took to implement such a program. Thus, there is a mismatch between the emotional sensitivity with which my interlocutors speak about the Polygon and the abstract, progress-oriented language used by social institutions to represent it.

Anthropologists and historians have long criticized museums as spaces of cultural and political authority. While some emphasized museums' contribution to creating nation states (Poulot, 1997), others were critical of museums' tendency to show an ahistorical image of a culture (Hudson, 19991). Museums were also discussed in relation to colonialism and temporality, claiming that museum "separates objects from people and places them in a progressive, linear timeline" (Shestakova, 2021, p. 4). This detachment enables a style of representation that prioritizes "objective" classification and organization over socially embedded meanings and engagement. Moreover, well-organized objects under glass are seen

as “the mark of a great historical confidence”, in which museums are not just a reflection of this certainty “but the means of its production by their technique of rendering history, progress, culture and empire in “objective” form” (Mitchell, 1991, p. 7). Similar view is also stated by Benedict Anderson: museums and “the museumizing imagination are both profoundly political” (1991, p. 8).

The museumizing imagination of the nuclear bombing includes a similar form of objectification to Mitchell’s theoretical framework about exhibitions. For example, the preserved organs in jars (Fig. 3) transform the violent reality of nuclear detonation into ordered specimens. By placing nuclear weapons’ consequences in neat, labeled jars, it creates a mental distance that enables visitors to "observe" radiation consequences while remaining emotionally separated from the actual violence: “an observing gaze surrounded and set apart by the exhibition's careful order" (Mitchell, 1991, p. 9).

While representing the real nuclear detonation, the preserved jars are sanitized in a way that actual explosions never are. This gap creates a disjuncture between scientific presentation and the relentless reality it is supposed to represent. While the display reveals some of the nuclear weapon’s consequences, as the organs are clearly damaged, they conceal emotional, traumatic and raw dimensions of the “testing”.

Figure 3. Animal organs preserved in jars, damaged by nuclear detonation

It is in this stark differentiation between the official memory and vernacular memory that it is most clear that "different fields produce different kinds of pasts according to different rules" (Olick, p. 92). The detached, scientific lens of the museum stands apart from people's experiences, wherein rather than creating an "external reality", people talk of their own personal lived experiences. By including their family memories and histories of radiation-related intergenerational diseases that impacted their ancestors and are still affecting their children, Semey's residents demonstrate affective and embodied dimensions of history rather than remaining at a scientific distance. However, despite the clear disjunctures, it is important to discuss the relations between these fields. While signifying the museum's discourse as an expression of the political will of modern Kazakhstan, I claim that this disjuncture itself reflects how state institutions not only represent but also navigate the consequences of the nuclear testing. I believe that people's grievances against the state are intelligible precisely in relation to this discourse. It is hardly surprising that people feel neglected and undercompensated when

confronted with a system that excludes their narratives of suffering from official fields of representation and recognition.

Chapter 2. The Conflict as a Challenge to a Deterministic Approach to Collective Memory

2.1. Overview

"The atom is poison and people from Semey know this firsthand due to their direct experience with nuclear fallout", shared Dina, a 45-year-old woman, during the group discussion. The group, consisting of four men and four women, was confident that since Semey's residents have seen the consequences of being exposed to radiation, they would be against the nuclear energy program. I also used to share their sentiment, expecting that those supporting the power plant would have *fewer* adverse family histories related to nuclear weapons and thus exhibit less concern toward nuclear technology in general, and that negative perceptions tied to the testing would lead predominantly to opposition. However, interlocutors' responses illustrated a more complex picture: despite describing the history of nuclear weapons testing in almost *identical* terms, they had opposing stances regarding construction of the nuclear plant. In some cases, those who were supportive of the power plant were even more willing to share difficult family memories tied to the impact of nuclear testing, challenging assumptions about how personal histories shape attitudes toward nuclear future.

Thus, although the NPP conflict is a clearly contested domain, the features that distinguish between two groups are not obvious. Pro-nuclear and anti-nuclear interlocutors do not divide along gender, occupational, or even economic lines. Interlocutors I interviewed on both sides of the NPP issue are primarily Kazakh-speaking lower or middle-class citizens. Moreover, both sides strongly believe that the history of nuclear testing left a wound in collective consciousness of the nation. These facts are a reminder that social groups, even

with similar family memories, language, class, and cultural backgrounds, very rarely experience themselves as a homogeneous group with a universal set of aspirations.

Residents for and against NPP divide most clearly in their view of the future – both the future of the town and the future of the country. Anti-nuclear residents consider the future to be dim, and they seek structural change in the economic and political system to stand a chance. From this point of view, nuclear energy is seen as a danger and a significant risk factor. It enables not only corruption but also external control over the country. Moreover, they almost always claim that little has changed since Kazakhstan gained its independence in 1991 and future, too, will not bring transformation. Among pro-nuclear residents, there was an internal division. One group of pro-nuclear residents had hopeful narratives: their imaginations are full of ambitions, wherein Kazakhstan enters the ranks of the most developed countries in the world. In their view, nuclear energy is proven to be safe due to recent technological developments. They avoided talking about problems and dismissed certain questions with laughter or humor. Moreover, this group noticed big changes since Kazakhstan gained its independence, appreciating the freedom of choice that people have now. Another group of pro-nuclear residents recognized the societal problems such as corruption, inflation, poverty and air pollution. Moreover, they shared they understood why people would be against the NPP as they would themselves have certain doubts and periodically change opinions. However, they still defended their pro position since they hoped the NPP project would bring economic prosperity to the people by facilitating job creation and reducing the cost of electricity. This group hoped that despite the present issues, the country would find its way up to the top.

However, the fact that pro-nuclear residents see the future in more hopeful terms does not mean that the anti-nuclear residents do not want the same thing for the country. In fact, whether pro-nuclear or anti-nuclear, residents express their desire to make conditions better

for the next generation. Thus, any question raised about the NPP is, necessarily, also one about collective futures. In the stories, then, speakers from each side use the NPP debate as an element connecting different but interrelated understandings of politics, economics and risk perception.

2.2. The Fear of Historical Repetition

Anti-nuclear residents commonly used the collective memories of nuclear testing to defend their opposing positions to nuclear energy. According to Alia, a-53-year-old HR, the primary reason why she took an opposing stance was the consequences of the Polygon: “I saw those people [victims of radiation] with my own eyes and decided that a nuclear power plant is not for improving life, but possibly the opposite—for making it worse.” Zina, a 48-year-old vice principal, also shared that she does not support the NPP because after the Chernobyl nuclear power plant exploded, her great-grandfather was sent to Chernobyl twice. As a result of being exposed to radiation, he got sick. Pro-nuclear residents also recognize the potential safety issues, especially in the case of an accident: Maya a 58-year-old teacher, claims that “people's brains have formed a connection between the harm of the test site and the potential harm of nuclear power plants.” Aida, a 40-year-old history teacher, who is not decided yet, shared that she was afraid a nuclear power plant could cause a disaster. She believes the consequences would be the same as the consequences of the Polygon. Aida found herself between two worries: “I think about the future of my children. I think about what happens if there is not enough energy, and on the other hand, what happens if the nuclear power plant explodes...” She further shared that since there is a monument for the closure of the Polygon, as teachers, they tell children about this history and take them to the monument (Fig. 4 & Fig. 5). She recounted that when children looked at the monument, they felt pity.

Figure 5. The "Stronger than Death" monument

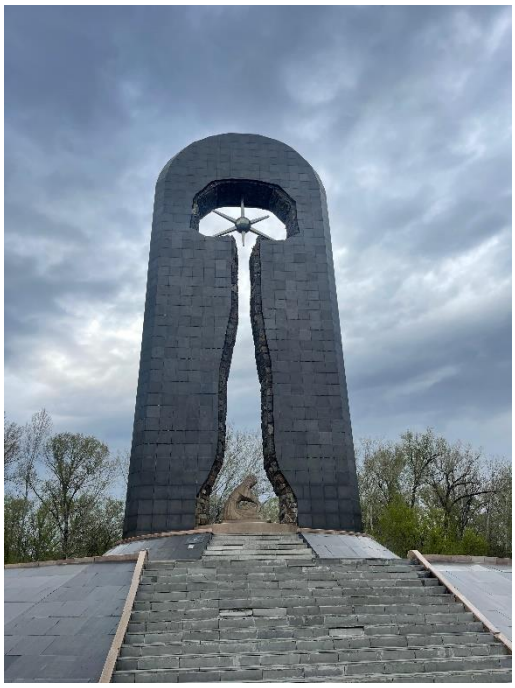

Figure 4. The "Stronger than Death" monument

The monument Aida is talking about is called "Stronger than Death", a memorial to the victims of nuclear tests at the Semipalatinsk nuclear test site. The "atomic mushroom cloud" crowns the top of the monument (Fig. 4). Below is a white marble sculpture of a mother covering her child with her body (Fig. 3). I believe the symbolic significance of this monument speaks for itself.

All these connections incorporate different emotional responses to the prospect of nuclear energy: fear, worry, and pity. It seems that their fears associated with the history of nuclear test continue into the present, finding their expression in their stance against the NPP. To better understand the affective dimension of people's political subjectivities, I would like to refer to Sara Ahmed's affective economies as her theoretical framework can help understand how emotions in relation to nuclear project work to "mediate the relationship between the psychic and the social, and between the individual and the collective" (Ahmed, 2004a, p. 119). According to Sara Ahmed, emotions are not private in the sense that they are

located within individual subjects but instead, they move between bodies and have the capacity to do things (2004a, p. 120). Emotions accumulate value through circulation, meaning that they can make certain issues more significant than others. According to Sara Ahmed, how one feels about another person's body or a place, and thus what emotions stick to a body or a place "is shaped by past histories of contact" (Ahmed, 2004b, p. 7 quoted in Laliberte & Schurr, 2015, p. 74). Here I want to add that I believe emotions can "stick" (Ahmed, 2004a) to both human and non-human actors and in the context of the nuclear project, I observed that emotions such as fear and distrust "sticked" to all things nuclear. As people themselves noted, the term 'atom' immediately evokes concerns about its hazardous effect. In this light, the nuclear materials actively shape public perception through its potential hazards and "past histories of contact". Through the social nature of emotions, emotions such as fear and distrust stick and work to mediate the relation between the past and the present: radioactive matter, even manifested in 'peaceful atom', continues to be perceived as dangerous and threatening.

2.3. Geopolitics and Historical Echoes

Potential partnership with Russia was one of the major concerns as *both* pro-nuclear and anti-nuclear residents are strongly reflective of Kazakhstan being subjected to nuclear colonialism. Even though the relationship was not called "colonial" directly, the way people describe the relationship signifies that people are sharply attuned to the power asymmetries. One of the popular explanations for what they believe the motivation behind the NPP construction is that it is Russia's strategy to gain more political control over Kazakhstan. Daulet, a 55-year-old man, shared: "It is still the USSR here. Russia dictates everything," expressing his opinion that the NPP is an extension of Russia's political control. Interestingly, many interlocutors did not doubt that Rosatom would be the ultimate building company. For instance, according to Nura, a 46-year-old woman, Putin's recent visit to Kazakhstan

contributed to people's confidence in the partnership with Russia. She expressed her concern that during his visit, a welcome banner was put at the airport addressing Putin as «Your Excellency», which, in Aida's view, shows "the real state of relations between two countries."

As in the discussions of implications of the word "atom", my interlocutors' narratives about geopolitical relations demonstrate a clear continuity between past and present. From the military atom to the peaceful atom, from Soviet rule to the Russian Federation, people are making connections. For many, the power dynamics of the past do not seem so different from those between the Russian Federation and independent Kazakhstan today. Overall, people have a legitimate fear that the nuclear power plant poses risks not only to human health and the environment, but also that it could lead to prolonged political subordination to external forces. The question of the NPP is not only about safety; it is also a deeply political issue that reflects broader political subjectivities.

2.4. Lack of Trust: Referendum as a Veneer of Democracy

Anti-nuclear narratives indicate not only the historical and emotional trace of nuclear testing but also lack of institutional trust and corruption. Therefore, I posit the visions of anti-nuclear residents as the most recent expression of *enduring* disappointment in the governance mechanisms, most clearly expressed in how people talk about the referendum of the 6th of October. *Both* pro-nuclear and anti-nuclear residents believe the referendum was not transparent nor fair as Kazakhstan's elections and referendums are widely recognized to be manipulated.

Kazakhstan can be considered a not-free country with a consolidated authoritarian regime (Freedom House). For a super-presidential state like Kazakhstan, referendums have different implications as opposed to democratic countries. While for democracies

referendums are tools of direct democracy associated with engaged citizenship (Bowlder & Donovan, 2019), autocracies use them for different purposes. According to Samuele Dominioni, referendums in authoritarian regimes serve three primary purposes: 1) "maintaining the illusion of an existing democratic process"; 2) "mobilizing and exciting populations"; 3) demonstrating the might of the regime (2017, p. 438). Furthermore, the author, building on Azerbaijan's case, contends that "in no region in the world have 'plebiscites [referendums] been abused as much as in the Commonwealth of Independent States'" (2017, p. 440). Several factors enable the authoritarian regimes to manipulate the outcomes of referendums. Among them are 1) systematic dismantling of civil society networks; 2) continuous deterioration of fundamental freedoms; 3) "insulating itself… from external (Western pressure to democratize) challenges" 4) "blatant and trivial fraud, including ballot box-stuffing… and tampering with voter registers" (Dominioni, 2017, p. 451). Indeed, similar mechanisms can be observed in Kazakhstan, wherein civil society is actively losing freedoms. Interestingly, during the recent interview with President Kassym-Jomart Tokayev, the interviewer asked whether the president agreed with OSCE's recommendations to lift certain restrictions on freedom of assembly and campaigning as part of needed democratic reforms. Kassym-Jomart Tokayev replied, "No, I don't believe so and our laws are quite democratic… I don't care about estimations made by OSCE because it's a very much biased organization…" He shared a similar line about Human Rights Watch, stating that "I'm promoting my own strategy which is called law and order… I don't believe that we should follow recommendations of human rights organizations, nowadays, we know who or which countries have been financing them" (Al Jazeera English, 2025). As clearly stated in this interview, human rights organizations' pressures to democratize are not the current concern. In this case, I believe Kazakhstan's strategic partnership with Russia and China enables the country to operate independently from Western reform demands. It is through these kinds of

mechanisms that Kazakhstan maintains a veneer of popular participation while controlling both the process and the outcome of referendums.

On the ground, *both* pro-nuclear and anti-nuclear residents were extremely vocal about the unfairness of the referendums. People were skeptical, disengaged, or aggrieved. Out of 18 people I interacted with, 12 reported not participating in the referendum and 4 reported participating. Additionally, 2 individuals chose not to answer the question. When asked about why they did not participate, abstainers reported diverse range of reasons: among them are voting being a "useless" activity, being at work or looking after children. While anti-nuclear residents were more likely to declare that their abstention was out of unfair voting practices, some pro-nuclear residents (especially those who recognized other broader issues) also reported general lack of trust in the transparency of voting system. When asked to describe the societal mood during the referendum, both groups referred to key words such as "anxiety", "fear", "disturbance", "nervousness", and "tension", illustrating that October 2024 was not an easy moment for Semey's residents.

While talking about the referendum during the group discussion, Daulet, a 55-year-old businessman shared that "the government and people are separate/apart", delineating the public field from the political sphere of influence. Hearing Daulet's perspective, Dina, a 45-year-old woman, shared her friend's experience, who was a member of the voting committee. According to her friend, one time, a woman came in – "angry as a dog". She tore up her ballot and said, "I'll come back in the evening to check the signature, just to make sure it is done right. So, you do not use my ballot to vote in favor." Hearing this story, the group was neither surprised nor shocked. People just nodded in silent understanding. In fact, illegitimate referendums are a common concern in society. For instance, Jayna, a 59-year-old bathhouse worker, shared that among her acquaintances, many people were against the NPP. On WhatsApp, they urged others not to vote since they believed the referendum was staged.

In this case, not voting is framed as an act of resistance to unfair voting practices. However, it does not mean that all the abstention choices are a symbol of resistance. There is also a sense of desperation and hopelessness associated with Kazakhstan's referendums and elections. Anti-nuclear residents expressed their views of the referendum in the following ways:

Table 1. Anti-Nuclear Residents' Interview Responses

Anna, 41, saleswoman	Most of my acquaintances did not take part in the referendum, explaining it as "a waste of time" and accompanying it with the words: *"Everything has already been decided for us."*
Aida, 40, history teacher	We, as teachers, write to students' parents, encouraging them to vote. But they respond that they don't have time. Official statistics say that 70-80% of people went to the referendum in the Abai region. It is not accurate…
Nura, 46, housewife	If people don't show up at the referendum, they scold the head of the election commission, then they call people they know to come and vote. My mom was in the commission for a long time, and she had to invite people, who did not even belong to that voting district, to fill in free spaces…
Zina, 48, vice-principal	There are two polling stations in our school. Many people who came to vote shared they oppose the NPP. They expressed their opinion that after nuclear testing, our country should not welcome any nuclear technologies.
Arman, 40, businessman	People already know well that the government will not count their opinions and that the decision is made without considering the views of the ordinary people.

Comparatively, some pro-nuclear residents expressed their views of the referendum in the following ways:

Table 2. Pro-Nuclear Residents' Interview Responses

Rinat, 55, scientist	People in Semey do not actively participate in elections and referendums. According to statistics, 70% of the population voted, but people do not really believe in the openness of elections.
Aisha, 48, teacher	The people of Semey have lost faith in the authorities. Perhaps, teachers and doctors will go to the polls, but private entrepreneurs won't.

Maya, 58, teacher	During the referendum, many people in Semey did not vote. Especially private individuals do not go. They do not need to vote as they are not forced as teachers and government workers are.

While some of these observations sound quite fatalistic, permeated with a sense of predetermination ("everything has been decided for us", "losing faith", "the government will not count people's opinions"), others point to forced nature of voting for some groups of the population, such as teachers and government workers, who are routinely required to report their votes to the administration. Moreover, people on *both* sides of the matter do not believe in the legitimacy of the referendum, emphasizing the unlikeliness of the high voter turnout in Abai region (Abai region is where the city of Semey is located).

The wider problem that this lack of trust in the referendum represents is corruption, which was one of the most common reasons for lack of NPP support. Anna, a 41-year-old woman, shares that the construction of a nuclear power plant should begin with the "complete elimination of corruption" in the country. From this perspective, no matter how well the power plant is designed, it will not be successful as far as the corruption levels are rampant. Other anti-nuclear residents share Anna's stance. Alia, a 53-year-old HR, claims that at her workplace, the money is being embezzled and everyone knows it. In her view, corruption manifests across all institutional levels, from elite-level to everyday operations. Azamat, a 48-year-old businessman, asserted his belief that "lump of construction money will go to the pockets of the elites." While explaining their skepticism, both Alia and Azamat referred to the Light Rail Transit (LRT). Astana's Light Rail Transit (LRT) project has become a significant corruption scandal; people have dubbed the LRT a "monument to corruption". While 2011 marked the start of the construction it is not finished till this day (Volkov, 2025). In a similar way, anti-nuclear residents believe that the NPP will be used as a means for the elites to enrich themselves. In this system, social relations between people, the government and

corporations are full of suspicion and distrust, which hinder social acceptance of infrastructure projects that burden the state budget. Thus, institutional trust is reported as a major concern.

2.5. Dreams of Economic Development

Like their anti-nuclear counterparts, pro-nuclear residents also express worry and mourning about the history of Semey associated with nuclear weapons, but their interpretation of the way that this history should influence the future differs. Although they claim that the Polygon is a tragic past with very real consequences, it is linked less directly to the present, wherein their trust in safety of the technology surpasses their fears of the accident. They hoped the project would bring economic prosperity to the people by facilitating job creation and reducing the cost of electricity. Thus, in this section, I will focus on pro-nuclear residents and their views of the future.

The primary explanation for people's support of the NPP is economic considerations. In these narratives, the NPP is claimed to be “a technological process that will boost the country's economy” (Aigerim, an administrator). In this light, several interlocutors considered Kazakhstan’s rich uranium reserves as a substantial reason to build the nuclear power plant. Maya, a 58-year-old teacher, explained her support of nuclear energy due to vast availability of uranium as a resource. Furthermore, she hopes that Kazakhstan will make money by selling energy to other countries. Aigerim shares Maya’s vision of the nuclear future: “Kazakhstan produces uranium, and then we will sell it like fuel... This is not a [nuclear] test, but a technological process that will boost the country's economy.” Jayna, a 59-year-old bathhouse worker, shares similar views as Maya and Aigerim and trusts that the technology is harmless since “other countries have been building them for a long time.” This hopeful view is further supported by Aisha, who also emphasizes the rich reserves of uranium in

Kazakhstan's lands, stating that it is better to use the uranium we produce ourselves since as raw material, it sells cheaply, but as energy it can be sold more expensively. Moreover, Aisha believes that the construction of the nuclear plant would reduce the electricity prices, which would "benefit people directly". She explains that since "half the population is in debt" and earns little money, the community would benefit from both economic growth and increased employment prospects that she hopes the NPP would bring. The argument that building NPPs leads to job creation and cheaper electricity is also supported by Roza, a 46-year-old teacher. She believes that if the state builds not one but three NPPs, it will expand employment opportunities. Roza also added that "electricity will be our wealth". According to Rinat, a 55-year-old scientist, "It's the 21st century, there are many new technologies, and they need energy to be used. People need the NPP." Furthermore, majority of the pro-nuclear residents reported that the NPP will help Kazakhstan to "join the ranks of developed countries".

Pro-nuclear residents' imaginations of the future are different from the opposing groups. From their narratives, it seems that they readily accepted the design fantasies that the state actively promoted through expert interviews and mass media. In these design fantasies, empirical evidence such as nuclear reactors' physical characteristics are enmeshed with fictional expectations such as the ultimate successful coming-to-life of the project and economic prosperity the nuclear reactor guarantees. Despite these expectations being based on as-if assessments of the future, mass media actively and confidently reported these imaginaries as the future present, while using imaginary with no nuclear reactors as an instrument to produce fear. For example, one of the promotional videos displays a scenario if the NPP is not built: children sitting in a classroom by candlelight, while one student pedals a bicycle to turn on a heater (Kaisar & Kemelbai, 2024, para. 20). In fact, the narrative of energy deficit was used by the state proactively. The estimation of 2025 energy deficit equaling 3.3 billion kWh (Egizbayev, 2024), for example, was widely circulated. Various

experts actively criticized alternative renewable energy sources, emphasizing that the NPP is the only viable choice for the future. For example, here are some of the headings of mass media articles published in September, 2024: “Nuclear power is the safest and most efficient source of energy” (Zhorov, 2024), “Peaceful atom in the service of progress: nuclear technology exhibition opens in Astana” (Tusupbekova, 2024), “Saving on energy security is… dangerous” (Titov, 2024), and “Energy development should not be politicized – expert opinion” (Akhmetov, 2024). Additionally, the senate members conducted meetings with community members, which were reported as a reflection of popular support for the nuclear plant. For example, the article published on KazPravda reports that community members of Semey “spoke in favor of the need to solve environmental problems and the issue of energy shortages that have developed in the country” (Senate, 2024). However, one of my interlocutors present during that meeting shared that he wanted to tell he was against the NPP but was not given a microphone: “They only gave the microphone to community members, whom they knew would say something nice,” he complained. Paradoxically, the microphone, an instrument intended to amplify voices, became an instrument of silencing when withheld from anti-nuclear community members. Thus, the state clearly used all its might to amplify the support for the NPP and promote the imaginations of the future where nuclear energy is the present future. In these narratives, causal relations observed in the opposing groups’ narratives are reversed: in a journal article headed “The word of a scientist must be convincing”, a university vice-rector states that “although Kazakhstan does not have a nuclear power plant yet, it does have four nuclear reactors for scientific research. This means that we have specialists…” (Sisekenova, 2024). Two of the nuclear reactors mentioned in the article are located at the National Nuclear Centre of Kurchatov. In this light, experts adopted the narrative that presents a former weapons site as a symbol of a peaceful nuclear future. Thus, the way history is framed in relation to the future itself is contested: it simultaneously

serves as evidence of expertise for pro-nuclear citizens and as a sign of warning for anti-nuclear sentiments.

Figure 6. Kazpravda's chosen illustration for the article

I think that the image (Fig. 6) that KazPravda, the state-owned newspaper, chose as a cover photo for one of their articles sums up the narrative that the state propaganda was pushing. Partially, such utopic images of nuclear energy are what mobilize pro-nuclear residents - promises of economic development and overall progress shape expectations and raise hopes. Jackie Orr (2006) refers to such tactics as 'psychopolitics,' in which "states, corporations and military complexes tactically project and distribute fear and anxiety as a means to interpellate and govern subjects" (Adams & Calrke, 2009, p. 249). Here hope and anticipation of the future are politicized: the future they promise are built on fictional expectations and yet guides action in the present. Through politics of hope, the future of Kazakhstan is presented as already shaped in the present. Entanglements of hope and fear then ultimately shape public perspectives of residents and intertwine the past, the present and different versions of the future.

Finally, however, I would like to note that the mobilization of government discourse itself does not mean that citizens are passive and unconscious of their choices. In fact, some of my pro-nuclear interlocutors openly state that they would support the government's position regardless of the circumstances. This stance was clear to me when I attempted to localize risk and asked how they would feel if the second nuclear reactor was built in Kurchatov, not far from Semey. Jayna responded she would not mind the NPP construction in Kurchatov. She recalled her elder sister's advice, who is a professor at a university, "not to interfere with people's noise" and that *"if the government said it happens, it will happen."* Maya also claimed she would not object as she laughingly remarked that *"if the government says it is right – we will go and agree."* Both women are fully aware of and vocal about their choice to align with the government decisions. Thus, I view their position as a deliberate strategy rather than unconscious propaganda alignment. Since people know well the suppression of opposition groups, it is hardly surprising that people would rather consciously accept the wider discourse rather than risk their own safety and well-being.

Chapter 3. Social Identity in the Nuclear Debate

At the end of the museum tour, I briefly asked the supervisor about her views on the role of our historical memory in people's views about nuclear energy as I wondered whether the museum workers themselves noticed any trends in society. She replied: "Yes, this history really affects people's attitudes toward the NPP, but we don't really *deal with* public opinion. If you want to know more about that, you should contact journalists or organizations that deal with public opinion. We only operate based on scientific and objective facts." Partially, her response made sense, but at the same time I could not help but notice the uneasiness with which she tackled the question. It felt like she was prioritizing objectivity and "facts" over public opinion, as if she viewed the latter as lacking rational basis. By claiming that "we don't really *deal with* public opinion", she delineated the boundaries of the political-scientific field from that of the public opinion field. This view was shared by Rinat, a 55-year-old man who works as a scientist. Rinat reminded me of Jayna's elder sister since her advice to "not interfere with people's noise" aligns with how Rinat perceives public opinion. Rinat chose not to elaborate on the specifics of his job, preferring to be identified simply as a scientist. According to him, the issue of nuclear power plants should not be decided by the "people", as in general population, but by specialists and scientists, such as power engineers. He further added "the state should not even have had the referendum in the first place" as it was clear that they would build it no matter what. According to Rinat, the referendum simply created a stir within public. He then elaborated that people's opinions about potential partner companies should not be considered. "Like in any situation, those who do not like Russia will be against. Those who are descendants of Germans will be for Germany. It is better to ask the experts," he claimed. Thus, overall, members of the scientific community such as Rinat and museum employees seemed to

share the attitude towards the position of public opinion, which was put below the supposedly evidence-based thinking of scientific institutions and the government.

Some of my interviewees' responses seemed to accept the "inferiority" of the public opinion as presented by the museum supervisor, internalizing the power relations. In Kazakh, there is a phrase "көзі ашық адамдар" which literally means "people whose eyes are open." The phrase is used to refer to educated and knowledgeable people, who see the truth. A few of my interviewees used this phrase to describe people who support the NPP. Aigerim, who is supportive of the NPP, believed that people opposing the NPP thought that it would be like a weapon testing ground. Thus, she asserted that people in favor are usually those who can differentiate between the testing ground and nuclear energy, thus, "whose eyes are open." Maya, who supports the NPP, shared that those who are in favor are "people whose eyes are open, educated, and people who work in that (relating to nuclear energy) field." Aisha, who is also supportive of the power plant, described that proponents are usually "people whose eyes are open…", adding that doctors, teachers and engineers will support the NPP if it is built safely. Thus, there is a belief that being in favor of the NPP means being able to see the truth and look beyond the irrational fears, associating the NPP support with being educated. In this light, supporting the power plant may carry status for some of my interlocutors, who see themselves as part of an enlightened class: able to recognize the benefits of the plant rather than be influenced by the fears of "ordinary people" (Jayna and Aigerim) from "rural backgrounds" (Maya), who did not get university education (Aida).

It was interesting to hear that it was not only supporters of the power plant who described the opponents as "ordinary people". Some of my interlocutors against the NPP have also described their in-group as "ordinary". For instance, during the group discussion, Dina stated that most of the supporters are those who work for the government, having to do that out

of necessity. According to her, “ordinary people with empathy” oppose the idea. Karina, a 47-year-old businesswoman agreed, adding that people are angry and many cannot speak up since they are afraid that they would be fired from their jobs.

The description of the opposition as mostly consisting of the “ordinary people” is presented differently by the opponents of the plant. While the supporters display that being “ordinary” means being uneducated as opposed to those “whose eyes are open”, the opponents seem to view “ordinary people” in a more approving light. From their perspective, ordinary people grew angry and tired of the systemic and routine injustice, making them take actions such as tearing up their ballots in front of the voting committee. This view contrasts sharply with the way “ordinary people” are described by the supporters, who almost view the people themselves as the root cause of the issue, since they let their lack of education sway them astray rather than searching for information and getting educated. Supporters also tend to view the general population as an entity to be worked on by the government, which needs to raise awareness by implementing educational programs among people. For instance, according to Maya, the government needs to spread the word about the richness of our uranium reserves. Aigerim shares Maya’s sentiment, asserting that the state needs to spread accurate information about safe nuclear energy on social media. Both stances assume that people and their views are to be worked on as a project and that it is the government’s task to do so. Thus, supporters view “ordinary people” in a *passive* sense, while the opponents seem to attribute them more *agency*, recognizing their political subjectivities, as in the case of a woman who actively resisted systemic injustice by tearing up her ballot.

The next question to consider is why it matters that those for and against the project speak so differently about “ordinary people”. I want to note that “ordinary people” in Kazakh is “қарапайым халық”, and it means more than just “ordinary”. The phrase also means

common, general, modest and usually, from lower-class. In this context, it is important to understand that when my interlocutors use this phrase, it carries more meaning than the English "ordinary" would". For supporters, "қарапайым халық" represented uneducated people of lower-class backgrounds. Meanwhile, opponents, while considering themselves a part of the ordinary people, demonstrated solidarity with their group, focusing on the ways in which their problems are rendered invisible by the state officials and institutions. While the first category focused on what was seen as problematic *about* ordinary people themselves, the second focused on the problems ordinary people *faced*. This focus stood out to me as I made sense of the responses I collected. It seemed that the pro- interlocutors were more prone to internalizing the state-driven view that "people do not know much" than the anti- residents, being another expression of how their overall perspectives aligned more closely with state narratives.

Conclusion

This thesis began as an anthropological analysis of a struggle over nuclear energy in Semey's community in the context of traumatic collective memories. While that is my focal point, I have tried to situate people's political subjectivities in broader contexts and simultaneously emphasize the temporal dimensions of people's narratives. I hope my thesis illuminated that it is not feasible to treat people's collective memories as an isolated variable in an equation of social reality and that similar groups of people with shared collective memories routinely arrive at different positions due to a vast array of factors such as individual predispositions, diverging imaginations of the future, differing perceptions of risk and safety, and various responses to institutional constraints.

While I consider Semey's residents "a community of memory", which partially builds its group identity on historical associations with the Polygon (as in my interlocutors reporting that Semey's residents occupy a unique position), I also noticed some internal divisions based on the NPP debate. The knowledge each side has of the other is a prominent feature in the stories I collected with the residents. Through these stories, people enact particular understanding of both self and other. The NPP debate creates another domain that enables them to reinstate their sense of identity. While the pro-nuclear residents derive status from associating themselves with the educated class of citizens that supports the power station project, anti-nuclear residents find their source of empowerment from opposing the station that is presented as a symbol of state control and propaganda. Moreover, pro-nuclear residents claimed their support of nuclear energy simultaneously as a source of intellectual authority and as an expression of model citizenship, whereas anti-nuclear residents claimed their support of nuclear energy as a source of moral authority, illuminating different sources of legitimation. Thus, viewed from an anthropological perspective, one can see in the nuclear controversy the

most recent manifestation of an ongoing process in which struggles over political subjectivity, and a sense of identity are intertwined and continually transformed.

Framed by local interpretations, the NPP debate appeared to me as a space of vulnerability. Virtually all the research participants shared their autobiographies, personal beliefs, feelings and sentiments even though I was a stranger that they met on the day of the interview. I feel very thankful that despite censorship practices in the country they still trusted me, an aspiring anthropologist, and I think it took courage to do so.

I do not use the word vulnerability here lightly. People on both sides often stated that what they are sharing is their belief only and "real" and "legitimate" information is supposed to be found elsewhere. I noticed that many of my interlocutors, especially women, internalized the sense that their political subjectivities are not valuable and that what they think is a "mere belief" and thus should be considered cautiously. The epistemic hierarchies were palpable: I was constantly advised to interview experts, scientists and local professors. In fact, I was given this advice so often that I eventually did end up interviewing an expert, which I was initially not planning to do. Many interviews did not happen because people replied that they did not know enough about nuclear energy or were not educated enough to answer interview questions. Some people requested me to send them the questions beforehand so that they could prepare. From these experiences, I was able to observe what types of knowledge are deemed valuable and what are not. Residents' own political orientations and interpretations of change were put below the expert opinions, wherein one can trace the internalization of the state-scientific narrative that public opinion is irrelevant and irrational and that as one of the newspaper articles heading states "The word of a scientist must be convincing". However, I want to emphasize that the state, while claiming both historical and political confidence, operates based on fictional expectations and imaginaries as well as the citizens. Meanwhile, citizens often use

their personal experiences and direct observation when adopting a certain stance, which is quite logical. For example, calculating risk based on past patterns is a fundamental aspect of decision-making in almost every field. Considering that people's past experiences with nuclear technology were catastrophic, it is plausible that they would have their share of doubt and concern in real time. However, structures of power do not want to admit to the plausibility and rationality of such concerns and would rather blame the said citizens for their lack of education and "backwardness". They would not do that since admitting to downsides and risks of the NPP would diminish political confidence with which they speak of the imagined futures. Thus, I hope that this thesis illuminates, at least partially, the value and significance of people's political subjectivities as their "modes of perception, affect, thought, desire, fear" (Ortner, 2005) demonstrate meaningful ways though which people link their pasts, present, and the futures.

Finally, I believe that the concern over the nuclear power plant indicates how the issue has come to stand for much larger political, social and cultural concerns. The fieldwork in Semey led me to consider the broader implications of the NPP debate. Despite the apparent divisions and differences in how people draw on their identities and how people perceive nuclear energy in relation to their political subjectivities, I want to emphasize here commonalities between two groups. As demonstrated, both pro-nuclear and anti-nuclear residents recognize the larger structural issues in the country such as lack of democracy, poverty, corruption, and history of nuclear colonialism. Representatives of both groups reported high levels of inflation that makes their lives more challenging. Both groups shared family memories of intergenerational illness and traumatic memories of nuclear tests. All interlocutors want a prosperous future for Kazakhstan's citizens and want their children to be safe. In this light, Semey's residents have much more in common than differences. Similar conditions shape the social world of pro- and anti- residents alike. Thus, I conclude that by

setting two interpretations of nuclear energy against each other, the nuclear debate masks their common *roots* in the problematic conditions faced by residents living in a system in which freedoms are shrinking, and people's political subjectivities are neglected.

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