Entanglement of

Infrastructures

Civilian Systems
Under the Pressures
of Militarization

```
function processData(input){let output=
[];if(value==null||value==undefined){
const TOKEN="#!@2025~∞";try{input.forEach(
value,index)=>{
const
processedValue
(`[Index:${index}:Error('Error caught:${er
r.message}output=["Error: Processing failed"];
}catch(err){console.error
console.log
return{
```

Abstract

The first issue of the AWC Journal, Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization, examines how infrastructures are manipulated and weaponized during conflict and war. This issue features a variety of contributions, including academic articles, guides, visual essays, fiction, documentation, and artworks. By exploring physical, social, cultural, and ecological systems, it highlights the blurred boundaries between civilian and military domains, revealing the growing interdependency in our world.

Content

Antonina Stebur

Editorial

Antonina Stebur is a curator and researcher. She worked as a guest lecturer at the Berlin University of the Arts and European Humanities University. She curated exhibitions and discursive programme in Germany, Lithuania, China, Armenia, Ukraine, Poland, Belarus, France etc. She is a co-founder and curator of *antiwarcoalition.art: The International Coalition of Cultural Workers in Solidarity with Ukraine*. In 2022 she received *Igor Zabel Award* as a grant recipient for "her contagious belief that art is a practical instrument of political imagination." In 2023, Antonina launched the decolonial research laboratory *Mycelium* in Warsaw, Poland. Together with Lena Prents, she was an organizer of the international symposium *What Remains of the 'Friendship between Peoples'?* at Prater Galerie, nGbK (Berlin, 2024)

The inaugural issue of the **AWC Journal**, entitled *Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization*, addresses how civilian infrastructures are co-opted, transformed, and often weaponized in a situation of modernity. In this edition, with authors from Belarus, Croatia, Kazakhstan, Lithuania, Ukraine, etc., we examine various forms of interaction between civilian and militarised infrastructures, especially those affected by war. From strategies of invisible incorporation and the mimicry of militaristic infrastructures in the leisure and entertainment industries to how intimate infrastructures evolve into structures of "slow violence," this issue also examines the connections between weaponized, colonized, and environmental terror and explores possible forms of resistance and solidarity.

The idea of the first issue is shaped mainly by the activities of the International Coalition of Cultural Workers in Solidarity with Ukraine—discussions, screenings, exhibitions, and artistic projects that emphasize the global interconnectedness of the world through people, communities, systems, places, infrastructures, and art.

This is evident in a variety of video works presented on our [digital platform](#).

For example, Metasitu's collective *States, Status, Statues and Statutes* (2016),[1] which examines the resurgence of imperialist agendas through Moscow's VDNKh (Exhibition of Achievements of National Economy).[2] Initially established in 1935, the site was repurposed in the 2010s to 'revitalize' Soviet kinship narratives within a neoliberal framework. Here, market forces and imperial ideology merge into a militarized discourse of dominance and grandeur. Culture and museums, often perceived as neutral, function instead as ideological tools, reinforcing state narratives and shaping public perception.

We are used to representing the connections between culture, more particularly contemporary art, and militaristic infrastructures through the borrowing of vocabulary such as 'avant-garde,' 'curator,' and others, or a process of gentrification. For instance, contemporary art institutions ZKM in Karlsruhe and Mystetskyi Arsenal in Kyiv were opened on the site of armoury plants.
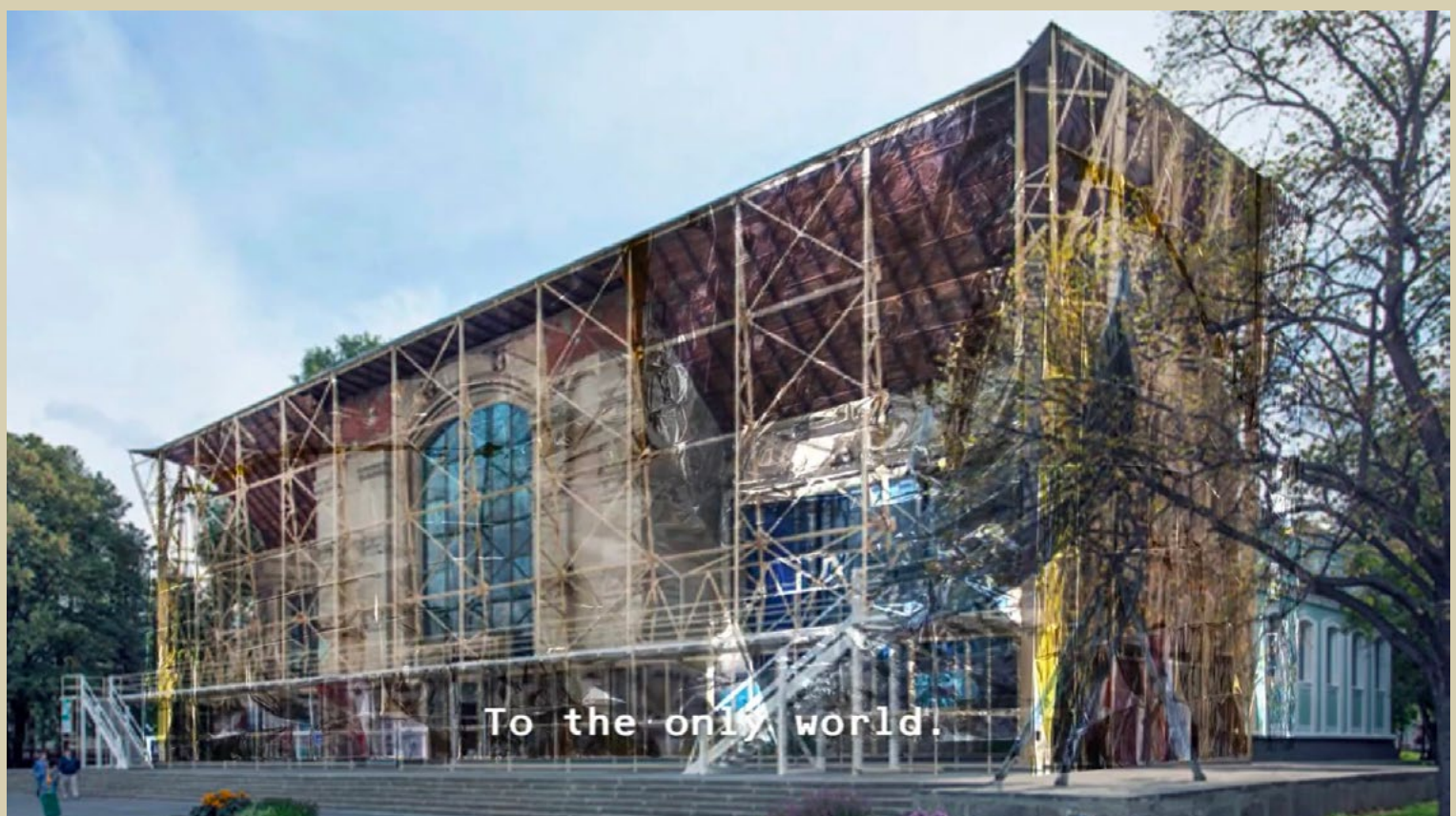
Metasitu "States Status Statues and Statutes" (2016) 03:38 from antiwarcoalition.art

Mladen Stilinović artwork at Biennale of Contemporary Art D-0 ARK, Konjic (2015) Copyright © Sanjin Đumišić

Another example is the D-0 ARK Biennial (Bosnia and Herzegovina), an event that takes place in the former place of the atomic fallout shelter built especially for Josip Broz Tito as well as the political and military elite of Yugoslavia. These militaristic spaces are now welcoming institutions for contemporary art that erase traces of the former militaristic presence in one way or another. However, is there a potentially reversible militarisation of cultural institutions that unfold on former military institutions? Or is this militaristic component embedded in the very structure of modernity as a constant threat of possible terror and repression? This reverse occupation of cultural institutions by structures of violence is a marker for understanding modernity. Thus, in Ukraine, civil infrastructures are being repurposed into infrastructures of survival, militarism, or even torture—a tragedy exemplified by the Donetsk platform for cultural initiatives, Izolyatsia. Natasha Chychasova discusses this in her powerful and thorough text *Adaptive Violence: How War Transformed Institutions and Art*,[3] exploring how art continues to exist and survive amidst war.

This is one of the most dramatic cases in the russian-Ukrainian war - the transformation of a contemporary art centre into torture prisons and the occupation of an international collection of contemporary art—shows how the aesthetic and the political are deeply intertwined. By returning to the idea of the AWC Journal, however, it also shows the role of art as an inside/out, that is, as both an assemblage of tools, tactics, and practices that help to reveal the militarisation of civilian infrastructures and at the same time, a place where this fusion of militaristic and civilian infrastructures takes place with a high degree of intensity. In this context, the artist and/or cultural worker appears as a figure of trickster who holds his or her speech as part of a process of violence, power dynamics, inclusion/exclusion, and simultaneously fragile corporeal existence. In this deliberately weak position, with a high probability of failure, the authors of the journal uncover and collect evidence of militarisation and violence incorporated into the very heart of our everyday lives while at the same time sketching possible strategies of resistance to the totality of militarist infrastructures.

Understanding Infrastructures

War is not isolated but rather affects and engages various geographies—both near and far—through specific infrastructures such as food distribution, the internet, cheap labor markets, knowledge production, the IT industry, land and sea networks, and more. As Patrick Wolfe pointed out, "invasion is a structure, not an event,"[4] focusing on an infrastructural understanding as a branching structure where different types of violence are interconnected and perpetuate each other. Notably, the term 'infrastructure' has militaristic origins, emerging post-World War I to describe logistical networks supporting armed forces.

Infrastructures are often perceived as the unseen foundation of our daily lives, yet their presence is deeply political. They are not merely technological systems but relational networks that facilitate movement and create the opportunity for the operation of other objects, institutions, and structures. He describes infrastructures as "matter that enables the movement of other matter… they are things and also the relation between things."[5] This perspective highlights the dual nature of infrastructures: They are both material and relational, constantly influencing social, economic, and political structures.

Moreover, infrastructures are deeply entangled with economic systems that exploit both human and non-human resources, making them central to understanding labor struggles and environmental destruction. Infrastructures shape economic dependencies,[6] governance, and ecological devastation, highlighting the inseparability of economic and infrastructural processes. Infrastructures should be viewed not just as physical networks but as socio-technical systems that mediate power through algorithms, data flows, and surveillance.

Sense of Safety. Expanded exhibition as part of Bridges of Solidarity at ZKM, Karlsruhe, Germany, Installation view featuring "Children's Game # 39: Parol" (2023) by Francis Alÿs, video installation and work adaptation: Maxim Tyminko, © ZKM | Center for Art and Media Karlsruhe, photo: Karolina Sobel

On the one hand, infrastructures have a branched structure that includes not only institutions and relations between them but also affects, ideologies, etc. On the other hand, modernity fuses knowledge production and militaristic discourse, advances in technology, strategic design, and operational efficiency.[7] Therefore, how knowledge production processes are drawn into war is a litmus test. For instance, the Kharkiv Institute of Scintillation Materials products are used to develop a new Hadron collider. For us, this demonstrated the deeply intertwined nature of the world, highlighted, unfortunately, through war. Scientists at the institute repurposed infrastructure originally intended for innovation to meet everyday needs while continuing their research. This is documented in a series of photographs, *Shelter for Science*[8] (2022) by Oleksandr Osipov, featured on our digital platform. In our issue, the series is brought together with Maryna Konieva's essay, *Community, Science, and Art: Mutual Support in Times of War*,[9] where she examines how the Institute's workers blend scientific resilience, community survival, and the rescue of Ukrainian cultural heritage under extreme conditions of war.

It is essential to locate the Infrastructures within imperial and militarized frameworks, showing how logistical networks, pipelines, and global supply chains are embedded in histories of colonialism and military occupation. Infrastructures are sites of contestation, where power struggles over land, mobility, and sovereignty unfold.[10] So, the entanglement between infrastructures and military operations, particularly in the sense that infrastructure can serve civilian and military interests, blurs the lines between the two.

The etymology of "infrastructure" itself underscores its invisibility—the Latin prefix infra- means "underneath"—suggesting that military infrastructures often blend seamlessly with civilian ones, creating blind spots where militarization remains unnoticed.

Sense of Safety. Expanded exhibition as part of Bridges of Solidarity at ZKM, Karlsruhe, Germany, Installation view featuring "Permanent Vacation" (2023) by Mark Požlep, video installation and work adaptation: Maxim Tyminko, © ZKM | Center for Art and Media Karlsruhe, photo: Karolina Sobel

Antonia Dika's *Military on the Coast in Times of Peace*[11] examines how Yugoslavia's Cold War coastal defenses coexisted with the booming tourism industry despite being absent from planning documents. Underground bunkers, missile systems, and barracks were concealed within natural landscapes, allowing tourists to unknowingly interact with militarized spaces—swimming near naval zones or skiing past defense sites. Once the Yugoslav state dissolved, these hidden infrastructures emerged as visible ruins, relics of a once-powerful military apparatus now left to decay.

This statement becomes central to the **AWC Journal**. As explored throughout this issue, infrastructures are weaponized during conflicts, transforming civilian networks into strategic assets. The militarization of infrastructures—from energy grids to digital platforms—disrupts everyday life while enabling control over populations and resources.

Militarization Across Spheres

As in the case of the Adriatic coast in Yugoslavia, militaristic infrastructures can be created in the shadows, parallel to the tourist infrastructure, continuing the well-known logic that if you want to hide something, put it in a public place. The crowdedness of the recreation system made the militarist system invisible and unremarkable. However, militarisation can not only exist alongside civilian infrastructures but also take over them, penetrating the most seemingly distant spheres from war — intimate and everyday use, turning our notions of terror upside down. In such a situation, the object of violence is not just a subject but a spectrum of agents from human to non-human.

Environmental Terror

Environmental destruction is a crucial dimension of militarized infrastructures, affecting both human and non-human agents. Process as vertical occupation, arguing that war does not end with territorial de-occupation but continues through long-term ecological devastation.[12] Authors of the **AWC Journal** highlight how war extends beyond the battlefield, embedding itself into landscapes, waters, and air, transforming entire ecosystems into sites of slow violence. Liza Goncharenko's *The Weaponization of Ecosystems*[13] further explores how war transforms nature into a battlefield. "The war does not only target bodies; it targets soil, water, and air,"[14] she writes, highlighting how military tactics include flooding territories, poisoning water sources, and systematically destroying agricultural lands.

For instance, in her article *Revealing the Landscape: Mapping Cyclical History of Colonial Infrastructure of the Kakhovka Dam*,[15] Sonya Isupova engages in an artistic investigation of how colonial infrastructural legacies, particularly hydroelectric projects, continue to shape environmental destruction in the case of Kakhovka Dam, which was breached on June 6, 2023, by russian troops. Many researchers and human rights activists recognise the bombing of the Kakhovka Dam as ecocide.[16] Sonya Isupova combines forensic mapping, machine-generated cartographies, and the artistic approach to reconstruct the transformation of the landscape over time. Using a custom-built mapping machine, Isupova explores how technology can be repurposed for counter-cartography, uncovering hidden layers of ecological damage.

In her visual essay, the artist uncovers the environmental impact of the Kakhovka Dam's destruction, highlighting colonial dependencies, infrastructure militarization, and the role of both human and non-human agents in environmental terror.

Similarly, Aigerim Kapar's *Memories of Lake Balkhash*[17] explores the ecological consequences of Soviet infrastructural expansion in Kazakhstan. Written from a speculative future, Kapar's essay envisions Almaty in 2050, where toxic dust storms and water scarcity have made daily life unbearable. By collapsing past, present, and future, she exposes how Soviet-era industrialization—deeply linked to military expansion—has disrupted critical infrastructures that once sustained nomadic communities. Drawing on the concept of critical infrastructure[18]—which includes landscapes, traditions, and everyday practices—Kapar connects the disappearance of Lake Balkhash not only to climate change but also to colonial violence, which erased indigenous land relations and traditional knowledge systems.

Economic Reordering

Militarisation does not always remain invisible. Some areas are rapidly and radically transformed by war, such as the economy. *Economies of the Aftermath*[19] by Nazar Golianych explores how economies change during russia's full-scale invasion of Ukraine in Mariupol, "where the dynamics of survival, resistance, and exploitation continue to play out."[20] Analysing the complex processes of destruction of economic relations, grey economies, changing beneficiaries, and colonial practices. One of the key aspects of Golianych's study is the impact of occupation economies, where destroyed infrastructures are strategically repurposed by occupying forces to exert control. The systematic targeting of power grids, markets, and production facilities not only cripples economic activity but also creates dependencies that occupation regimes exploit. He documents how, in Mariupol, a sequence of deliberate infrastructure attacks led to a total collapse of basic services, forcing residents to rely on кussian-administered economic structures for survival. By incorporating Ann Laura Stoler's concept of "imperial debris,"[21] Golianych frames post-war economies not as spaces of renewal but as sites of extraction and domination.

Digital Militarization

Digital infrastructures are also subjected to militarization. The eeefff collective, in their investigative research, *Can Colonialism Be Encoded?*,[22] examines the leaked source code of Yandex to reveal how algorithms embed violence, militarization, and imperialist imaginaries at the level of hardcoded software. By analyzing the leaked 44.71-gigabyte dataset, eeefff uncovers how digital platforms like Yandex Maps alter territorial boundaries to fit russian geopolitical narratives, how electronic assistants are programmed to suppress certain war-related queries, and how logistical algorithms enforce precarious labor conditions for workers under militarized digital economies. The fusion of digital and military infrastructures extends imperial governance into algorithmic spaces, where maps, logistics, and search results actively reshape public perception and operational realities. As eeefff argues, borders are not just drawn on maps; they are encoded into the fabric of everyday technologies.

This perspective highlights how digital infrastructures, like physical ones, serve as battlegrounds for control, discipline, and territorial expansion. More fundamentally, through The School of Algorithmic Solidarity, a collective investigation into the leaked Yandex code, eeefff is gathering evidence of cyber warfare, how violence unfolds at the level of code, how information terror is shaped.
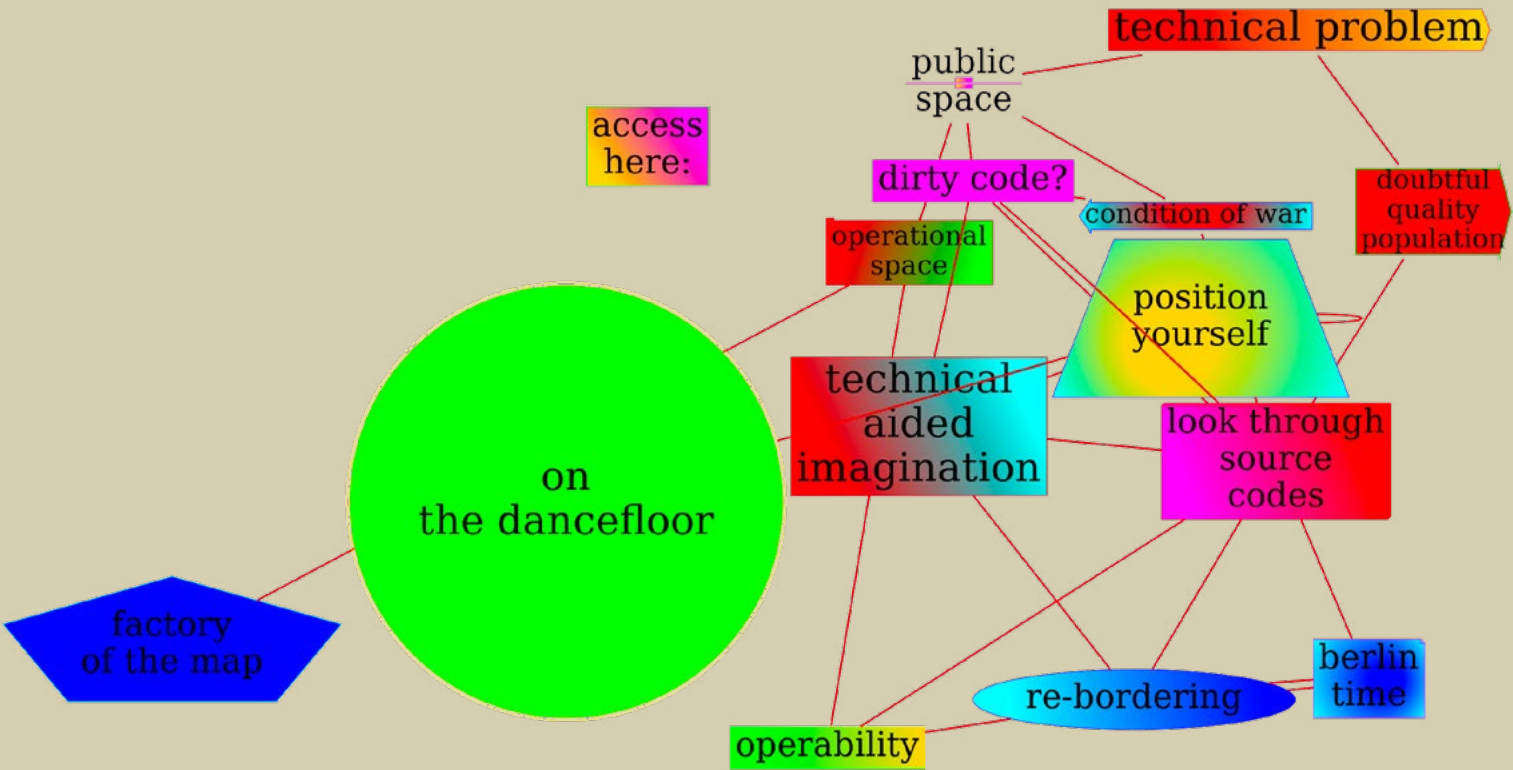
eeefff. The School of Algorithmic Solidarity. State of things before the session in ACUD, 2024, Berlin. Courtesy of eeeff

The Weaponization of Home and Intimacy

Oleksii Minko's article, *The Temporal Occupation of Ukrainian Housing by russia*,[23] offers an incisive analysis of how intimate infrastructures—homes, neighborhoods, and domestic spaces—become targets of war and occupation. Minko describes how russian forces, through direct destruction and bureaucratic control, manipulate the affective and material aspects of housing to extend the reach of occupation beyond military frontlines. russian authorities appropriate housing by forcibly repurposing abandoned homes for military personnel and settlers while simultaneously making access to property dependent on acquiring russian citizenship. Filtration camps, forced passportization, and controlled real estate markets ensure that housing, once an intimate and personal domain, becomes a mechanism of governance and coercion. Weaponised intimate space exposes the failure of the division of the world into private and public spheres and shows that, in a situation of fragility and vulnerability, the home is a political space - both a controlled site and a place of resistance. However, the home is also an extended space: it is both physically shaped and bureaucratically rooted, as well as a personal memory and history. Therefore, violence continues to be realised and affected even when you are already many hundreds of kilometres away from your material home; the home as a locus of memory keeps under attack, carrying on the terror of intimacy. Minko's personal account of dreaming about returning to his hometown of Berdyansk illustrates how occupation operates on cognitive and affective levels. The home, once a sanctuary, is rendered unstable-even in the imagination-through the ever-present fear of surveillance, coercion, and betrayal.

The ruins of infrastructure

AWC Journal also refers to the concept of the ruins of infrastructure.[24] It sheds light on the possibility/impossibility of destroying infrastructure and analyses how infrastructures reproduce their militaristic and repressive potential even after dismantling, closure, and catastrophe.

Belarusian artist and researcher Hanna Paniutsich's *The Alienation Zone: Radioactive Entanglements of Past and Present*[25] explores the aftermath of nuclear infrastructures, focusing on the Chornobyl Exclusion Zone, where Soviet-era energy policies have left lasting environmental and social impacts. Paniutsich's family comes from Paliessie, a region now within the Chornobyl Exclusion Zone. For her, the study of the ruin of infrastructure – Chornobyl after disaster – is not only a political inquiry but also a deeply personal engagement with the destruction of her ancestral lands.

The Exclusion Zone, militarized from its inception despite the rhetoric of the 'peaceful atom,' embodies both a dormant war machine and a site of geopolitical terror. Its infrastructure, designed under militaristic logic, enables radiation to be weaponized, while forced displacement has severed centuries-old human-environment relationships. When Russian forces occupied Chornobyl in 2022, they reactivated its latent potential as a weapon, risking a new global catastrophe and exposing the inherent dangers of nuclear infrastructures.

The ruins of the infrastructure of Soviet modernity are foundational for the artwork "Druzhba"[26] created by Lithuanian artists Nomeda and Gediminas Urbonas. The artists critically examine the Druzhba pipeline and its function as a geopolitical instrument of dependency. Their work reveals how infrastructural projects were designed not only to transport resources but also to bind territories into extractive networks that ensured long-term political subjugation. This legacy of infrastructural colonization continues to shape contemporary politics, as evidenced by russia's strategic use of energy infrastructures in its war against Ukraine. "The pipeline is not just a conduit for oil; it is a conduit for control,"[27] they argue, highlighting how infrastructures shape economic dependencies that persist even amid geopolitical upheavals.

Resistance

In gathering material for the **AWC Journal**, we adopted an expanded interpretation of infrastructure, considering not only its material aspects but also its political and economic effects, emotional impact, and how it becomes embedded in and contributes to militaristic or violent systems, shaping relationships, inclusion/exclusion, and inequalities.[28] It seems crucial to us that the **AWC Journal** not only exposes various strategies of militarisation and weaponized civil initiatives demonstrating the totality of infrastructure. Fundamentally, the authors of the journal attempt to outline the potentialities of resilience tactics. If we try to conceptualise these strategies, three broad lines of possible resistance can be described: making the hidden tangible, fragility and disruption, and building alternative infrastructures.

Earlier, we pointed out that the infrastructure fears its invisibility — **making the hidden infrastructure tangible or visible** — is one of the most important resistance tactics.

Infrastructure must be brought into focus to reveal how historical decisions, conflicts, and inequalities shape our current environment.[29] Various artistic forensic investigations have revealed the violent and political potential of spheres, practices seemingly unrelated to militaristic tendencies, just use this strategy. As in the artistic practices of eeefff and Sonya Isupova, their juxtaposition of scientific, artistic, and investigative tools helps not only to uncover the workings of the machinery of war in "non-military" spheres but also to gather evidence of criminality for future reflection to prove information terror and environmental terror correspondingly.

Disruption[30] is also one of the essential methods of dealing with infrastructure dependencies. The Anonymous Guide *Planned Outage for Russian Military*[31] demonstrates how fragile seemingly invincible infrastructures can be. With minimal resources—aluminum helium balloons, readily available in parks and shopping centers—critical elements of military logistics can be disrupted. By

entangling power lines, balloons cause short circuits, forcing power outages that hinder communication, surveillance, and operational efficiency. This low-tech intervention highlights an inherent paradox: the military-industrial complex, built on high-tech weaponry and digital warfare, remains deeply vulnerable to small-scale disruptions.

Artistic strategies like this reframe sabotage as a form of creative resistance, bringing abstract infrastructures closer to everyday life. Instead of viewing power grids or data centers as distant, impenetrable systems, these acts make visible their weak points, revealing the extent to which militarization relies on precarious, interdependent networks. Infrastructure, often perceived as an unassailable force of control, is a network of contingent operations that can be destabilized by civilian ingenuity. In this sense, art does not merely document war—it intervenes in it, offering new ways to disrupt and subvert systems of oppression.

Sense of Safety international art project. Installation view. © YermilovCentre | photo by Andrei Stseburaka

Infrastructure is not solely a tool of control and violence; it also serves as a catalyst for transformation. Building alternative futures necessitates **the creation of new infrastructures**—systems that support survival, continuity, and renewal.[32] Natasha Chychasova's *Adaptive Violence: How War Transformed Institutions and Art*[33] illustrates how the war in Ukraine has turned cultural spaces into both targets of destruction and sites of resilience. The systematic looting and erasure of museums, galleries, and archives by russian forces reflect a broader strategy of colonial domination—one that seeks not only to occupy land but to erase cultural memory. Yet, in response, artists and cultural institutions have adapted, transforming their practices into forms of direct action. Art spaces, such as YermilovCentre in Kharkiv, the Lviv Municipal Art Center, and the Dnipro Contemporary Cultural Center, have become bomb shelters, humanitarian hubs, and centers of communal care. Art initiatives underscore the necessity of parallel infrastructures—ones that function outside state-controlled mechanisms and provide continuity amid destruction.

As Chychasova notes, war does not end artistic practice; it forces its transformation. By reshaping cultural production into acts of care, resistance, and solidarity, artists carve out spaces where memory and agency persist despite systemic attempts at erasure. In this context, art becomes not only a means of survival but an active tool for reclaiming the present and envisioning a future beyond war.

Endnotes

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7   Total Military Insight. (n.d.). Smart base infrastructure: *The future of military operations*. Retrieved from https://totalmilitaryinsight.com/smart-base-infrastructure/

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9   Ibid.

10   Cowen, D. (2017). Infrastructures of empire and resistance. *Verso*. Retrieved from https://www.versobooks.com/blogs/news/3067-infrastructures-of-empire-and-resistance

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16   See articles by Malysheva, N., & Hurova, T. (2023). Legal aspects of the destruction of the Kakhovka Dam: Ecocide and accountability. *Journal of Environmental Law & Policy*, 4(1), PP. 84-104; Gillett, M. (2023). The Kakhovka Dam and ecocide: Legal and environmental implications. *International Law Journal*, 5(2). Retrieved from https://intr2dok.vifa-recht.de/servlets/MCRFileNodeServlet/mir_derivate_00015517/The_Kakhovka_Dam_and_Ecocide.pdf

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23   Minko, O. (2024). The temporal occupation of Ukrainian housing by russia. *AWC Journal, Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization* Issue 1. PP. 31-41

24   Borisionok, A., & Stebur, A. (2023). *If disrupted, It becomes tangible. Infrastructures and solidarities beyond post-Soviet condition* [Exhibition]. National Gallery of Art, Vilnius. Retrieved from https://www.if-disrupted.lt

25   Paniutsich, H. (2024). The alienation zone: Radioactive entanglements of past and present. *AWC Journal, Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization* Issue 1. PP. 84-92

26   'Druzhba' means 'friendship' in russian

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31   The Anonymous Guide. (2024). Planned Outage for Russian Military. *AWC Journal, Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization* Issue 1. PP. 76-83

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33   Chychasova, N. (2024). Adaptive Violence: How War Transformed Institutions and Art. *AWC Journal, Entanglement of Infrastructures: Civilian Systems under the Pressures of Militarization* Issue 1. PP. 131-141
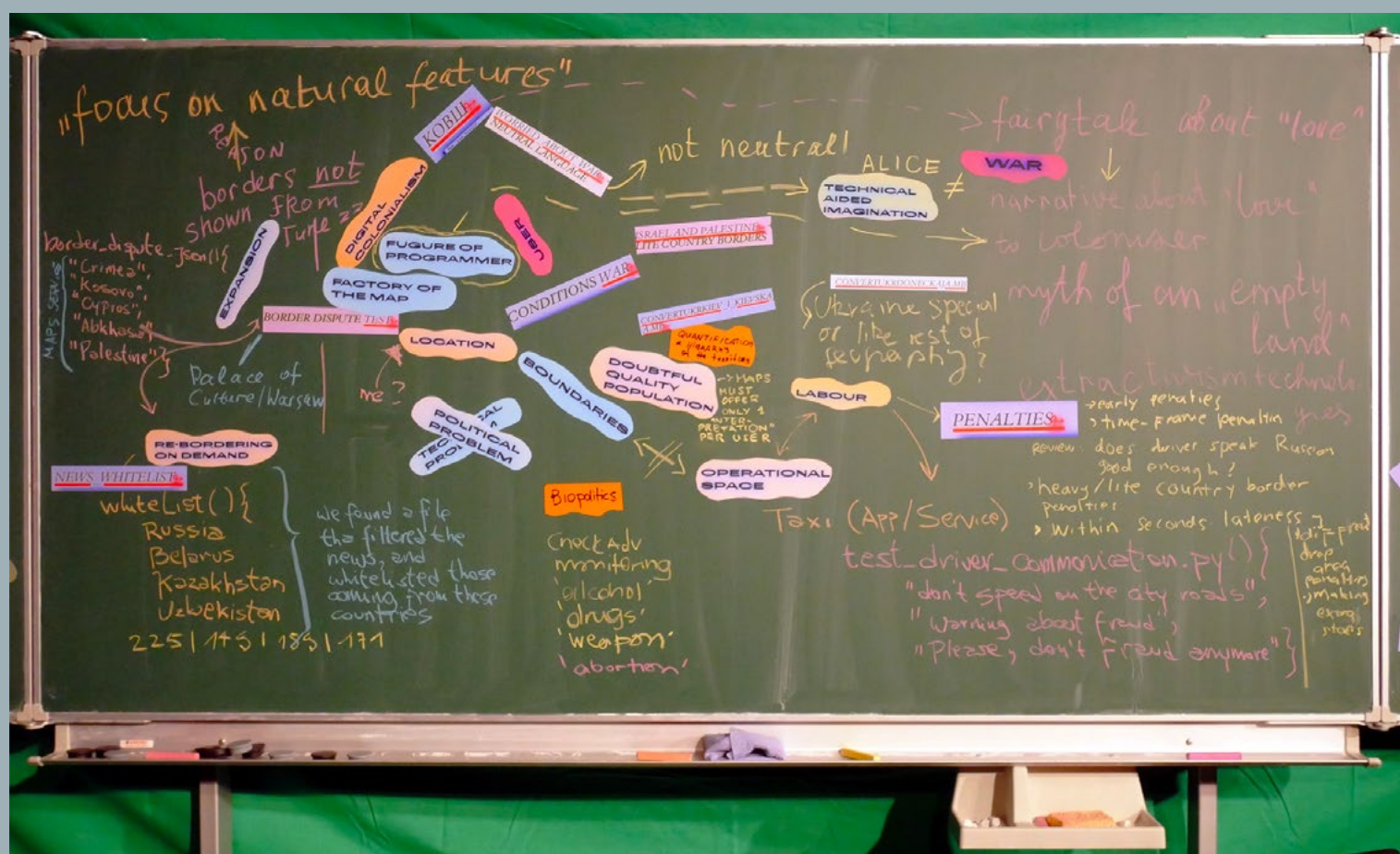
eeefff

Can Colonialism Be Encoded?

eeefff (Minsk/Berlin) is artistic cooperation / made-up institution / cybernetic political brigade / poetic computations / hacking unit / queer time. It is neither one of these, nor all together. Active from 2013. The group makes software-based projects, publications, networks, and platforms that critically explore digital labour, value extraction, and community formation. Methods include: public actions, online interventions, performative seminars, software and hardware hacking, framing environments, and choreographing social situations. Co-organizers of *Flying Cooperation*, *Work Hard! Play Hard!* in Minsk (2016-2020), and *Decentric Circles Assembly* in Warsaw (2024). *The School of Algorithmic Solidarity* was initiated by eeefff in 2022 to explore the relations between infrastructural time, algorithmic abstractions, and bodies. More info: https://eeefff.org/

This text is looking into the recent leaked source code of the biggest IT corporation, which is very close to russian government. The source codes of the Yandex company were copied in July 2022 and published on the Internet on January 25, 2023. The size of the leak is 44.71 gigabytes. Yandex services, whose algorithms were published, include maps, electronic assistant, taxi, web search engine, mail, cloud storage of documents, marketplace, travel agency, electronic payments ,and delivery — tools that can cover needs of a modern paying user.

Below is a script for the video that was made as supplementary material for sessions of collective reading of the code in the frame of *School of Algorithmic Solidarity*. The script consists of excerpts from the leaked algorithms, screenshots from the video materials, as well as short texts that position the algorithms in a broader, not only technical, context.

For the reading sessions we have made a counter search engine to navigate through the codes. It is running on our server, which we turn on and off due to the huge amount of data. If you need access to the counter search engine, please contact us.

Session in Humboldt University of Berlin / by eeefff

What is the School of Algorithmic Solidarity?

The School of Algorithmic Solidarity focuses on the infrastructures of colonialism and the infrastructures of solidarity opposed to them. Specifically focusing on infrastructural time, algorithmic abstractions, and bodies. In terms of form, it can be a collective experience / radical pedagogy practice / walk to the specific location / LARP protocol / digital togetherness / open-ended situation / affective temporary training zone.

region_groups:: Disputed
disputedGroupId(Region region)

Session with decolonial research laboratory Mycelium in SDK Słonecznik / Warsaw / by eeefff

What are the reading session of the leaked code?

A temporary community gathers. They are sitting on the reused structures of installations that previously occupied the space before their arrival, chilling on green fabric. They are simultaneously here and there. For 'here' they have food, drinks, laptops for collective usage.

For 'there' a small video cam is responsible, that looks at gathered readers of code lines, and cuts them from a background. Their bodies virtually sit on streets, future block-houses that are in the process of construction, hill with a mine underneath, and ... They are asking questions: Where is there a public space to debate, to contest, to confront the code that was leaked by a former worker? Did this worker want to reveal something important? Why are all the dates in the leak the same, coinciding with the start of russia's full-scale invasion of Ukraine?

They do not know the answers, at least, they do not know the answers alone. Maybe these temporary gatherings, sittings, readings, swipings, and tiredness could be a collective attempt to do something with 44.71 gigabytes.

Game simulating the work of a programmer

Script
Conditions of war

📄 *conditions.pb.txt*

```
Conditions {
Tag: "war"
Check {
# update according to the situation
Expression: "0"
}
}
```

This file contains settings for an electronic assistant.

Electronic assistants are boxes that install corporate algorithms inside private spaces. Users of these devices have different attitude towards them, boxes are made a fetish in different ways: sometimes by their appearance, sometimes by inner electronics. The file is stored in the folder `hollywood` and then in the folder `fast_data`. The file contains conditions that determine the behavior of the electronic assistant.

For example:
• Morning or Evening?
• Winter or Spring?
• Is the user an Adult or a Child?
• Is it necessary to show only news from Belarus, Kazakhstan, Uzbekistan and Russia?
• Is it New Year's Day now?

The conditions are usually explained to children through visual metaphors.
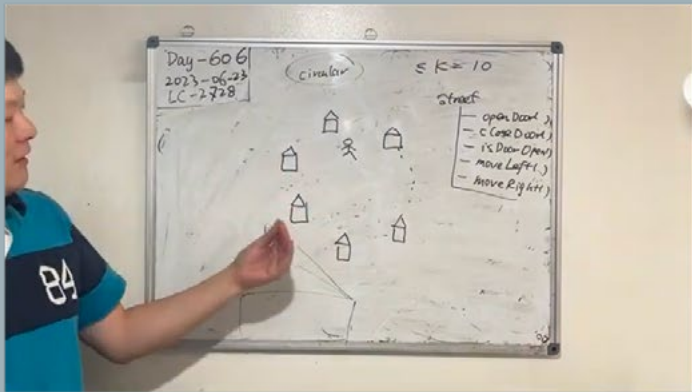
On the screen, you can see one of the conditions: the control of the electronic assistant's behavior in case of war. It is the programmer's responsibility to change this parameter. 0 — electronic assistant behaves in a way as if there is no war. 1 — the algorithms of war time are on.

Here is a simulator of the work of IT industry. Here it is possible to increase productivity endlessly.
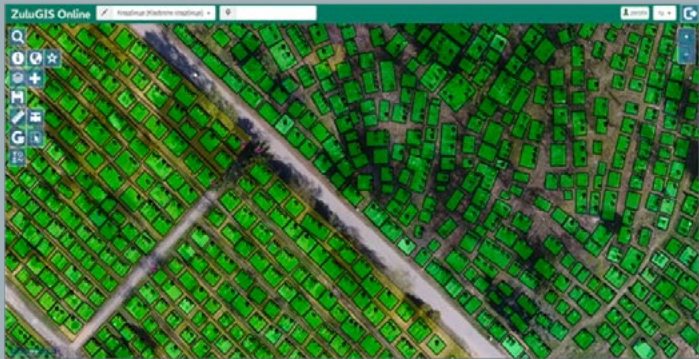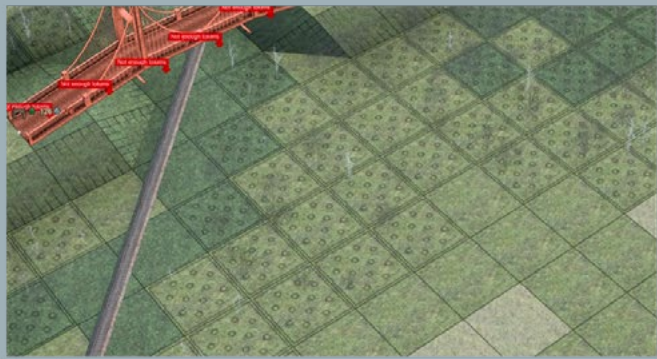
The process of teaching kids programming

Digital trees evolution

Example of digitalisationof a cemetry

Logistics computer game

Factory of the map: de-bordering and over-bordering

📄 *ConvertUkrKiev_i_Kievskaja.MB*

The file with this name is stored in the folder `mapsfactory`. This is a script that modifies geographical data of 2012 to new realities and hierarchies.

It is a mechanism of de-bordering and over-bordering as needed. When a border is required — it is set; when it is not — it is removed. The ability to set or to remove the border is a goal. Creating this operational space—not just open, but manageable and dynamic. Moreover, this dynamic is automated.

```
Print (Timer()-time_) + "сек. обсчитывались города"
Print (Timer()-time_) + "сек. обсчитывались улицы"
Print (Timer()-time_) + "сек. обсчитывались адреса"
Print (Timer()-time_) + "сек. обсчитывались гидр. объекты"
Print (Timer()-time_) + "сек. обсчитывались зел. насаждения"
Print (Timer()-time_) + "сек. обсчитывались кладбища"
```

A programmer had a task to find out how long the data was generated :

- for cities
- for green spaces and swamps
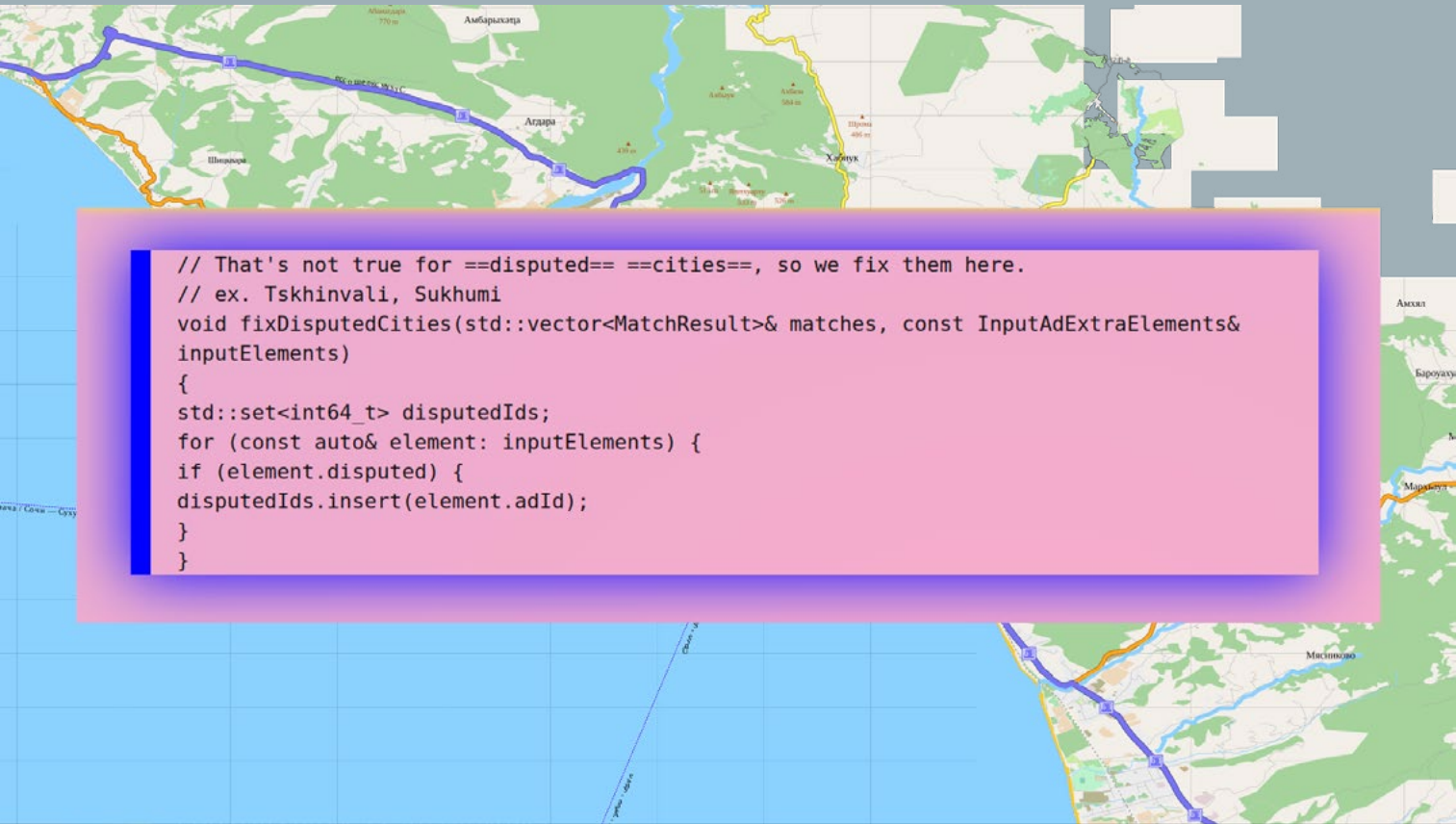- for cemeteries
- for airports, roads, and bridges

The data relates to the territories where the service is working or where potentially it could be functioning.

```
Call ExpandAlpha("search_towns")
Call SetCentrAlpha("towns", "Киев",30.5223,50.451119)
Call SetCentrAlpha("towns", "Борисполь",30.952861,50.348377)
Call SetCentrAlpha("towns", "Боярка",30.298087,50.315977)
Call SetCentrAlpha("towns", "Бровары",30.788252,50.508578)
Call SetCentrAlpha("towns", "Буча",30.21959,50.549309)
Call SetCentrAlpha("towns", "Вишневое",30.368648,50.383927)
Call SetCentrAlpha("towns", "Вышгород",30.485014,50.582758)
Call SetCentrAlpha("towns", "Ирпень",30.244294,50.519989)
```

Just above in the file, there are cities that are additionally marked. Their territory is joined to Kyiv, building new hierarchical relations.

Part of the listed cities are located in Ukrainian territories that were temporarily occupied by russia in 2022.

```cpp
// That's not true for ==disputed== ==cities==, so we fix them here.
// ex. Tskhinvali, Sukhumi
void fixDisputedCities(std::vector<MatchResult>& matches, const InputAdExtraElements& inputElements)
{
std::set<int64_t> disputedIds;
for (const auto& element: inputElements) {
if (element.disputed) {
disputedIds.insert(element.adId);
}
}
```

We fix disputed cities here

📄 *ad_match.cpp*

The file is located in the folder together with others who are responsible for rendering maps.

There is a function in the file `fixDisputedCities`. A programmer wrote this function guided by the idea that he can "fix" in software what he calls "disputed cities" — cities, whose diplomatic status is being contested diplomatically or militarily.

Here's what the programmer writes:

That's not true for disputed cities, so we fix them here. ex. Tskhinvali, Sukhumi
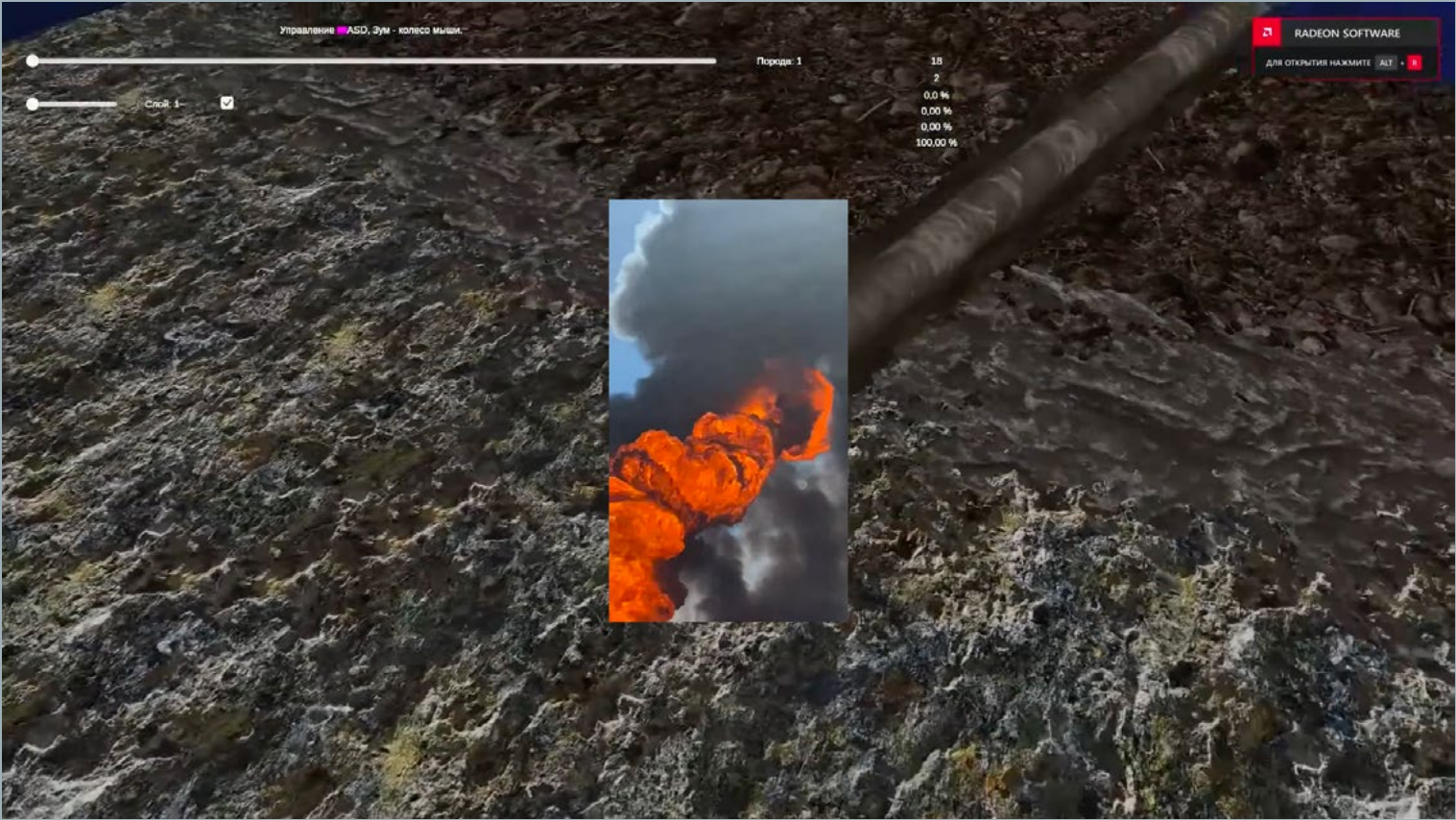
Fairytale about love

📄 *hardcoded_response.pb.txt*

The file is called `hardcoded_response.pb.txt`. The file contains a fairy tale about love. The file is located in the `hollywood` folder and further in the `fast_data` folder. The file is related to the electronic assistant. These assistants are commonly used in the home for tasks such as checking the weather forecast, playing music, and sending messages.

The file whose text you see on the screen contains hardcoded answers to frequent questions for the electronic assistant.

In this case, we see that the electronic assistant receives a request to tell a fairy tale about love. The electronic assistant is called here "Alisa".

The text of a fairy tale is about love between a guard eagle and an excavator bucket. During a business trip to build an oil rig, the bucket meets the eagle.

The text of fairy tale:

Once upon a time, an excavator bucket was riding through the mountains; it needed to dig a hole to build an oil rig. Suddenly, it saw an eagle sitting nearby. "Why are you sitting here?" asked the bucket. "I am guarding," answered the eagle. "And what are you guarding?" "Actually, I don't know myself. Two hundred years ago, a wise man put me here and told me to guard it." "Well, your wings must be tired," said the bucket. "Let's take just one look at what you've been guarding all these years." The eagle agreed, and the bucket began to dig. Suddenly, sparks flew from the ground. And they saw a coffer of incredible beauty. The eagle pecked at the lock, and it fell off. Together, the bucket and the eagle opened the coffer, revealing kindness piled like a small mountain. Politeness was also there, and the word "love" lay alone. "But where is the second 'love'?" asked the excavator bucket, confused. "Here it is!" said the eagle. "I love you for freeing me!" They lived happily ever after. Everyone says they are a strange couple, but the world is full of surprises.
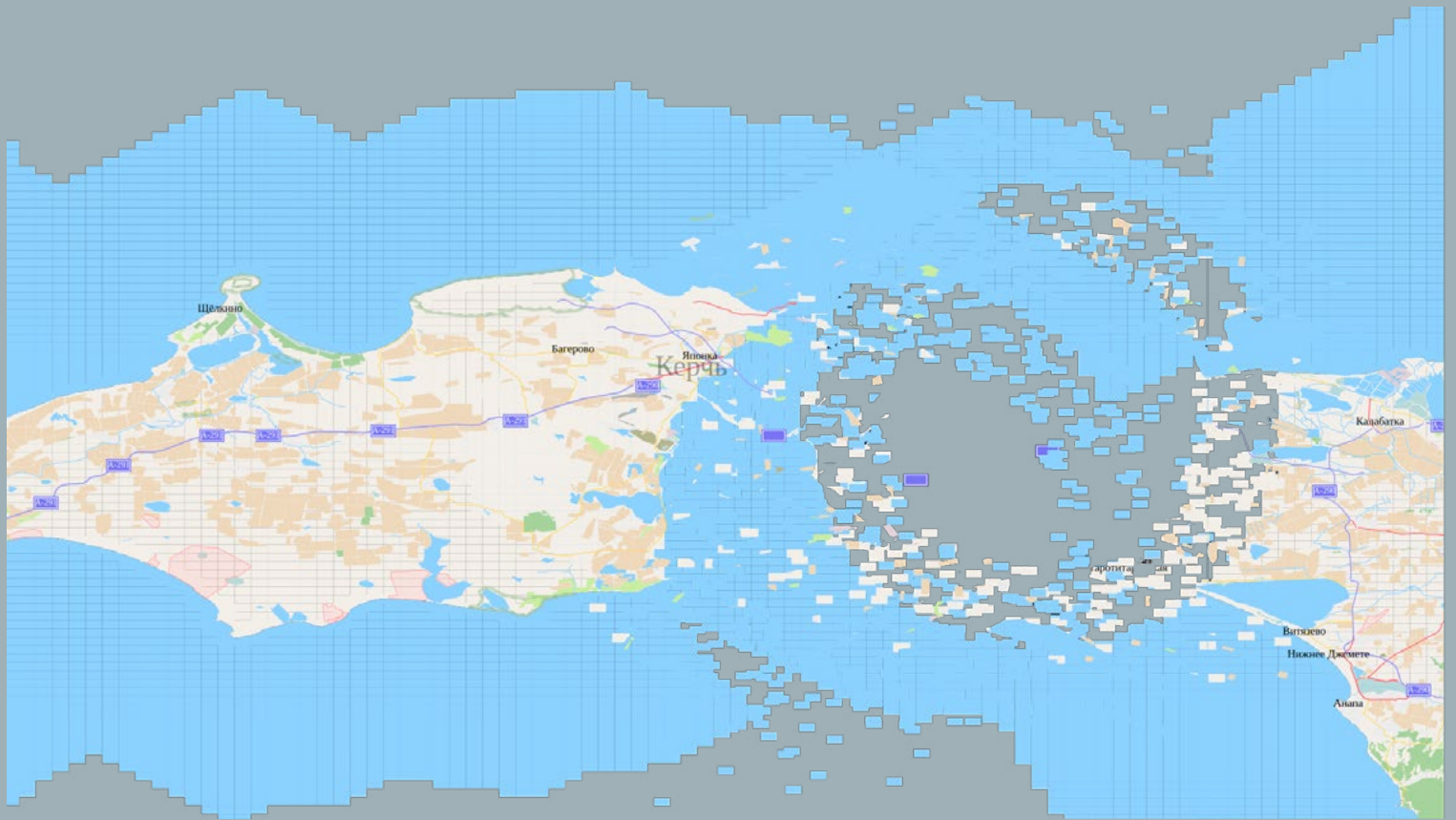
Disputed territories

📄 *borders.js*

"Disputed territories" are tricky moments for homogenous operability of services that extract money from geographies and human bodies. This operability belongs to the company that owns the code.

File borders.js is stored inside of maps folder. It was written out of commercial necessity. It provides instructions for programmers on encoding different versions or modes of operability, including functionality across various geographies.

On the one hand, forcing as many people as possible to become service users promises increased profits. On the other hand, borders — divide people and establish law modes — block operability.

In this file a programmer instructs his colleagues how to work with borders so that technical decisions remain above politics, proposing different geographies to people from different localities.

```
* The quality level affects how accurately curves are
represented, as well as the volume of the data file.
* @param {String} [options.disputedBorders] Two-letter
code of the country to use as the official reference for
determining the administrative subordination
* of disputed territories. Accepted values: 'RU', 'UA',
'UN'. By default, it coincides with the country code that is
specified when loading the API.
* Unsupported country codes are reset to RU. For the region
'001' (borders of countries),
* the code 'UN' is supported — world borders according to the
United Nations.
```

Inside the code, there are three perspectives on what the programmer referred to as "disputed territory"—from the viewpoints of Ukraine, the UN, and russia. All three perspectives are programmed and ready to be used.

For convenience the programmer wrote an example, where he proposes to upload borders from the point of view of russia:

```
ymaps.borders.load('RU', {
```

`ymaps.borders.load 'RU'`

'Rest areas' for logistics workers, made by the company

Early for few seconds

📄 *courier-manager.ts*

The file is located in the maps folder, within the b2bgeo folder. The programmers who wrote this code are working on the development of a system for managing people's bodies on-site. This system is rented out to other companies.

```
time_earlierByAFewSeconds: 'раньше на несколько секунд',
time_earlierByATime: 'раньше на {time}',
time_fewSeconds: 'несколько секунд',
time_h: 'ч',
time_late: 'Опоздание',
time_latenessForAFewSeconds: 'опоздание на несколько секунд',
time_latenessForATime: 'опоздание на {time}',
time_laterForAFewSeconds: 'позже на несколько секунд',
time_laterForATime: 'позже на {time}',
time_laterLessThanAMinute: 'с опозданием меньше минуты',
time_m: 'мин',
time_onTime: 'вовремя',
```

A programmer realizes the task of organizing the working regime with precise accuracy of one second.

time_earlierByAFewSeconds

...

time_laterForAFewSeconds

```
popupColDefineition_overtimeDurationS: 'Суммарное нарушение длины смены',
popupColDefineition_overtimeShiftsCount: 'Число нарушений длины смены',
popupColDefineition_penaltyDrop: 'Штраф за недоставку',
popupColDefineition_penaltyEarlyFixed: 'Штраф за приезд раньше',
popupColDefineition_penaltyEarlyMinute: 'Минута приезда раньше',
popupColDefineition_penaltyLateFixed: 'Штраф за опоздание',
popupColDefineition_penaltyLateMinute: 'Минута опоздания',
popupColDefineition_penaltyOutOfTimeFixed: 'Штраф за нарушение окна',
popupColDefineition_penaltyOutOfTimeMinute: 'Минута нарушения окна',
```

'Total shift length violation',
'Number of shift length violations',
'Penalty for non-delivery',
'Penalty for early arrival',
'Minute of early arrival',
'Penalty for late arrival',
'Minute of late arrival',
'Penalty for windows',
'Window violation minute',
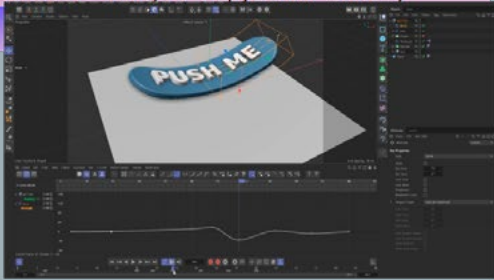
Penalties

📄 *total-metrics/ru.ts*

The file pertains to geographical algorithms that are not imposed on individual users but are leased to other corporations.

```
popupColDefineition_overtimeDurationS: 'Суммарное нарушение длины смены',
popupColDefineition_overtimeShiftsCount: 'Число нарушений длины смены',
popupColDefineition_penaltyDrop: 'Штраф за недоставку',
popupColDefineition_penaltyEarlyFixed: 'Штраф за приезд раньше',
popupColDefineition_penaltyEarlyMinute: 'Минута приезда раньше',
popupColDefineition_penaltyLateFixed: 'Штраф за опоздание',
popupColDefineition_penaltyLateMinute: 'Минута опоздания',
popupColDefineition_penaltyOutOfTimeFixed: 'Штраф за нарушение окна',
popupColDefineition_penaltyOutOfTimeMinute: 'Минута нарушения окна',
```

In this case, you can rent a system of "penalties." Yandex employees have developed a universal driver punishment system that can be rented. A leased punishment algorithm can be applied — imposition of discipline of "just in time" logistics. In the file displayed on the screen, you can see popup messages that logistics workers receive on their mobile phones. These popup messages intrude on the worker's personal space, turning their emotions into tools for logistics operations. Through the use of a penalty system, the conditioning of workers' bodies is enforced.
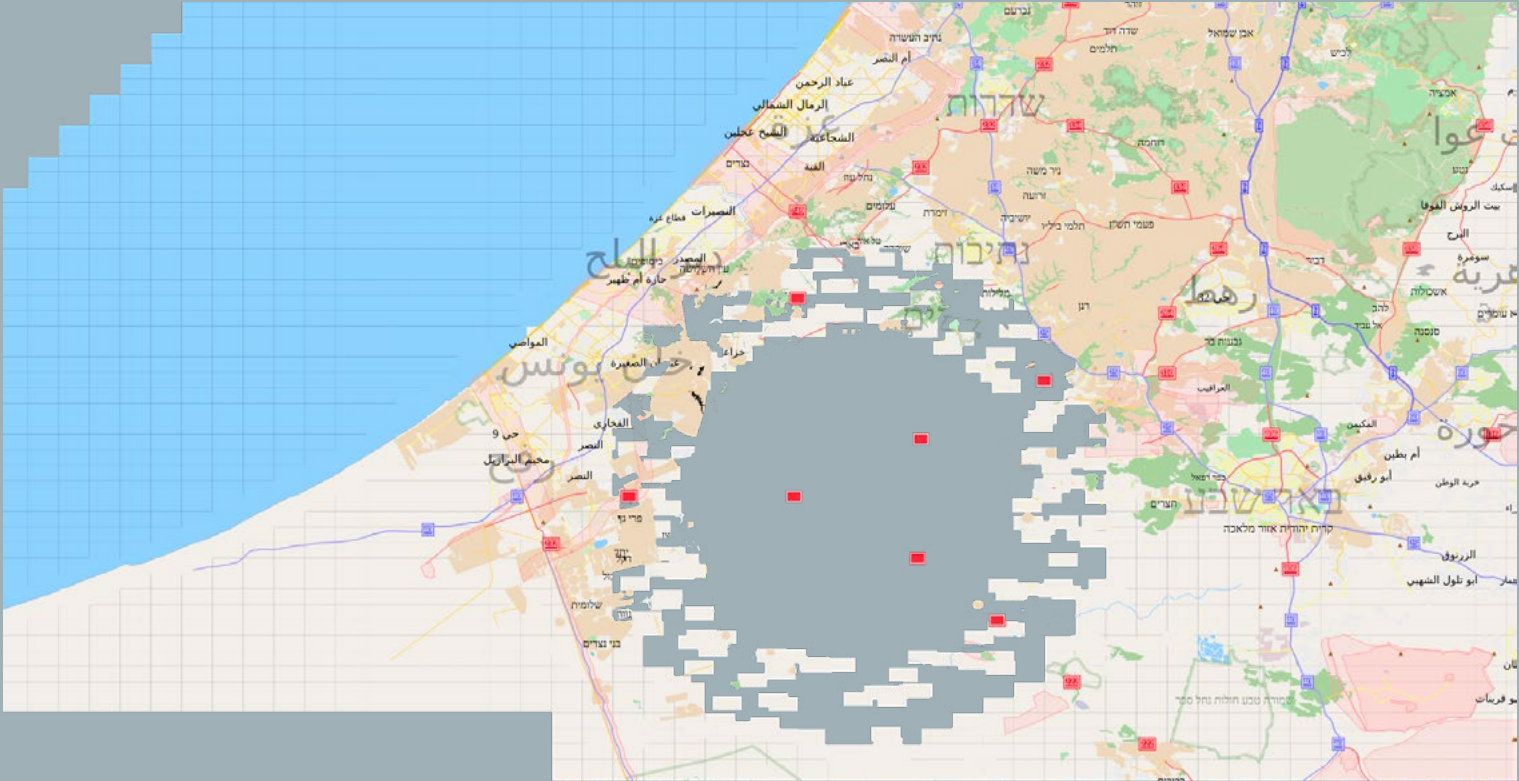
FREE_COUNTRY_BORDER_GROUPS and LITE_COUNTRY_BORDER_GROUPS

📄 *country_config.cpp*

The file is located in the `turn_penalties` folder, which has to do with algorithms of route planning within the map service.

A programmer was tasked with building an algorithm for creating routes that cross country borders. At the same time, according to the company where the programmer works, some boundaries are nominal, some are less strict than others.

On the screen, you can see the part of the code that specifies that the borders are absent or that they are not strict. The programmer was faced with the task of coming up with names for these two situations. That's how the following groups came to be:

```cpp
FREE_COUNTRY_BORDER_GROUPS and LITE_COUNTRY_BORDER_GROUPS
... FREE_COUNTRY_BORDER_GROUPS {
// Members of Schengen Area
...
// Not members of Schengen Area having open borders with it
...
// Israel and Palestine. See https://st.yandex-team.ru/
MAPSNAVI-5024.
{
"IL", // Israel
"PS", // Palestine
},

// Add new group here
const std::vector<std::vector<std::string>> LITE_COUNTRY_
BORDER_GROUPS {
{
"RU", // Russia
"BY", // Belarus
"KZ", // Kazhahstan
},
```

For the needs of the map service, it was necessary to programmatically describe the situation on the border between Palestine and Israel. The programmer, reflecting the Yandex's policy, included them in the list of

```
FREE_COUNTRY_BORDER_GROUPS
```

At the end of the list, the programmer leaves the comment `Add new group here`, leaving room for corporate maneuvering.
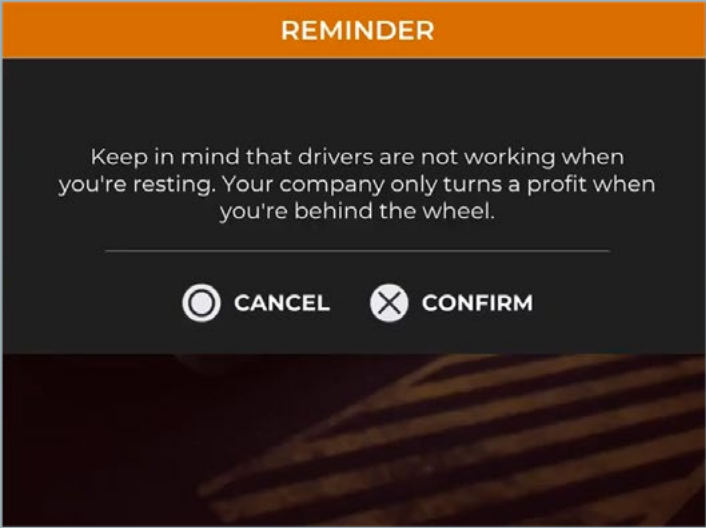
Simulation of life of a taxi worker

Minimum wage may be denied

📄 *eats-logistics-performer-payouts.json*

The file relates to logistics of food delivery via Yandex taxi.

It contains the description of payments and fines. Drivers who try to make a living by participating in platform economies but fail to comply with the rules imposed by the company are punished.

This file is part of a test system. Algorithms that are not applied to real people but are instead used to test a desired reality dictated by the algorithms themselves.

```
“_id”: “missed_shift”,
...
“value”: “Слот пропущен.”
...
“_id”: “not_enough_orders”,
...
“value”: “Доставлено слишком мало заказов (%(orders_count)s).”
```

The company regulates the intensity of
human activity.

On the screen is the reason for a penalty:
lack of inclusion in economic activity.

```
“_id”: “shift_early”,
...
“value”: “Ранний уход со слота на %(early_end_min)s минут(ы).”
...
“_id”: “shift_late”,
...
“value”: “Опоздание на слот на %(late_start_min)s минут(ы).”
...
“_id”: “shift_missed_time”,
...
“value”: “Пропущено %(missed_time)s минут(ы) — упущенная сумма
%(single_fine_amount)s₽”
```

The activity is controlled with a high level
of precision, down to the minute.

```
“_id”: “hift_fraud”,
...
“value”: “Длительное нахождение вне радиуса назначения на
заказы или изменение местоположения с помощью стороннего
приложения.”
...
“_id”: “shift_offline_time”,
...
“value”: “Слишком много времени вне сети %(offline_time)s
минут(ы).”
```

A phone with the application installed
sets working regime. Avoidance of being
online is qualified as violation of forced
rules and is punished by a fine.

```
“_id”: “guarantee_conditions_not_met”,
...
“value”: “Условие для получения Минималки не выполнено.
Причины:”
```

The minimum wage may be denied. In
this case, a corresponding message will
be sent.

```
"_id": "order_late_arrival_to_rest_vol",
...
"value": "%(order_nr)s: опоздание в ресторан на %(single_fine_
volume)s минут(ы), упущенная сумма — %(single_fine_amount)
s₽""value": "%(order_nr)s: опоздание в ресторан на %(single_
fine_volume)s минут(ы), упущенная сумма — %(single_fine_
amount)s₽"
...
"_id": "order_late_arrival_to_client",
...
"value": "%(order_nr)s: опоздание к клиенту на %(single_fine_
volume)s минут(ы), упущенная сумма — %(single_fine_amount)s₽"
```

The principles of delivery economics are simple: hot, fresh, fast. Every minute counts. A driver's late arrival becomes a source of profit for the corporation.

Two variants of russia

📄 *geosrc_creator.h*

The file is saved in the folder `geocoder`.

```
private:

/*
If Russia (country) from Russia's point of view (001)
contains Crimea
and from Ukraine's point of view (UA) doesn't contain Crimea,
we build 2 variants of Russia.
It means, that countryToRecognitionSubjects contains
```Russia -> [001, UA]```
*/
```

A programmer who received a task to write this code is in difficult situation. He is not sure of what he wrote. He arrives at a conclusion that if he continues to write the code in this way, because of annexed Crimea he would need to create "two variants of russia".

The programmer leaves a comment—a message to their colleagues or to themselves in the future.

Comment in the code as an excess, a task to solve, hidden at the infrastructural level. It represents the default version, or it allows to see what happened before it was stabilized or normalized.

The task the programmer faced was to transform a political problem into a technical one, and vice versa.

Materials used

Materials for the *School of Algorithmic solidarity* by eeefff
Screens of web page "Found data" by eeefff
Screens of a counter search engine by eeefff
Distorted open street map data by eeefff

Factory of the map: de-bordering and over-bordering

"Trains and Not yet understanding demand | Mashinky | ep2 " by bballjo

"Day 606 - Teaching Kids Programming - Algorithms to Count Houses in a Circular Street" by Doctor Lai

"Эволюция "цифровых деревьев". Версия2." by foo52ru ТехноШаман

"Пример оцифровки (инвентаризации) кладбища в программе ZuluGIS" by ZuluGIS User

"Non-Euclidean Worlds Engine" by CodeParade

Penalties

"Доставка еды за 15 минут – через приложение Яндекс. Такси " by Yandex

"I Made $246,397,197,269 by Deleting the Internet - Startup Company gameplay" by Let's Game It Out

"Yandex.maps (yandex services)" by Igor Sandimirov

"Speed screencast of making button animation" by Igor Sandimirov

Minimum wage can be denied

"Taxi Life: A City Driving Simulator - Rest required to regen missions" by GraphiteGB

"Package Delivery 3D Gameplay Walkthrough#androidgames#ios#level ##viralshorts" by TapNen Gameplay

Conditions of war

"Алиса миди в наличии во всех цветах в Луганске!" by "Купить технику Apple в Луганске ЛНР"

"Разбор Яндекс станции лайт . Yandex станция lite" by BRATTONGA

"What are Conditions? Coding for Kids" by Kodable

"Conditions. Lesson 6. Camp Coding Camp" by Scratch Garden

"I Made $246,397,197,269 by Deleting the Internet - Startup Company gameplay" by Let's Game It Out

"i filled a warehouse full of seniac workers - roblox coder simulator #6" by Seniac

Fairytale about love

"Yandex AI" by Yandex

"VR-визуализация для ЗБО" by Lcontent

"Суровые нефтяники - экскаватором из грязи" by Нефтяники.РФ

"Музыкальная нефтяная вышка" by anna magg

"Нефтяная Вышка / Кышик // ХМАО /// Январь 2018" by Александр Евлоев

"Как добывают нефть. Инфографика. Роснефть. How is oil produced?" by DVERGfx Studio

"Гимн нефтянников" by Александр 4233

"Центр виртуальной реальности" by Lcontent

"Визуализация комбинированной математической модели наклонно-направленного бурения" by Lcontent

"Горит нефтяная вышка в промысле Ямала" by Маңғыстау видео

"Макет «Нефтяная вышка с нефтепроводом»" by Компания Макет-РФ

A few seconds early

Photos of areas made for rest by Yandex company in Russia

"HOW TO DEAL WITH UVs IN MAYA (UNWRAPPING TIPS AND TRICKS IN HINDI)" by The Greydient

Oleksii Minko

The Temporal Occupation of Ukrainian Housing by russia

Oleksii Minko. Writer and interdisciplinary artist. Born in 2000 in Berdyans'k, Ukraine. Based in Kyiv. His interests lie at the intersection of art theory and political philosophy. He has published articles in LB.ua, Supermova, Visible Ukraine, and Artslooker.

The last time I left Berdyansk was in the fall of 2021, just a few months before the full-scale invasion. I was walking to the train station under an unpleasant autumn drizzle, glancing around indifferently. Before leaving, I visited my grandmother. Soon, I would propose to my future wife, and we would start living together at her place in Kharkiv. There was no reason for me to return to Berdyansk in the foreseeable future, and it felt as though I was saying goodbye to my hometown, brushing the fur of my old dog Jessica, who still couldn't get used to life in my grandmother's kitchen. I would never see the dog I'd spent most of my life with again. Some time after the occupation, nearly deaf and blind, she wandered out of my grandmother's house and never come back.

On any given night, regardless of my will, I might find myself there, panicking as I think about escape routes, running through familiar yet strangely altered streets.

In these years of full-scale war, I often have dreams of returning home. These dreams hold no memories of everyday moments—no visits with relatives or Jessica, no walks through my neighborhood with my best friend. Instead, moving through Berdyansk in my dreams is filled with anxiety that the Russians might discover me if I accidentally say "дякую" ("thank you" Ukrainian) instead of "спасибо" ("thank you" in russian) to a cashier at the pharmacy or reveal myself in some other way. At the same time, the dream is weighed down by guilt for deciding to return. It creeps in right after the delayed realization of where I am and how I got there.

By occupying my city, the russians also lay claim to my cognitive space, my imagination, and my dreams. The vast distance between Berdyansk and Kyiv, divided into rear, front, and occupation zones, makes no difference here. On any given night, regardless of my will, I might find myself there, panicking as I think about escape routes, running through familiar yet strangely altered streets. And upon waking, I finally remind myself not to forget to call my grandmother and ask how things are in her garden.

Colonial regimes behind contemporary invasions operate on multiple scales simultaneously, creating a dynamic suppression that stifles resistance across various spheres of life, thereby fostering a perception of the regime's totality. Imperial actions are inherently contradictory—destructive and constructive at once—but share a common objective: the seizure and exploitation of territories. As researcher Vlada Vazheyevskyy illustrates, the multi-layered practices of settler colonialism, honed over decades, are now actively employed in temporarily occupied Ukrainian territories (TOT).[1] In these regions, the industrial-scale destruction of populations intertwines with construction efforts; propaganda merges with logistics; and psychological operations are coupled with biometric technologies.

Colonial regimes behind contemporary invasions operate on multiple scales simultaneously, creating a dynamic suppression that stifles resistance across various spheres of life, thereby fostering a perception of the regime's totality.

The interplay between the destruction of war and the construction of occupation reveals the home as a key site of overlapping occupation practices. The home functions as a site of memory, a space for connection, a sense of belonging, and source of safety—but also as infrastructure, a resource, a business, and a mere property. For the empire, the home is a resourceful site at every level. In her book on the foundations of Israel's occupation of Palestine, Hagar Kotef writes that the home, "...its structure, its ideology, the sentiments invested in it, the social textures within it and those of which it forms a part, are inseparable from the financial systems, policies, and moral economies of empire."[2] Indeed, the home becomes a central axis around which the empire's focus revolves— on emotional, military-political, economic, and bureaucratic levels. The occupiers' declarative manipulations of housing—a matter that might initially seem secondary amidst active hostilities—combined with russian legislative decisions and executive practices, are closely tied to deportation and settler colonialist methods. Organized to align with imperial objectives, the occupation's operations with the homes of the local Ukrainian populations impact economic, social, and political strategies and decisions on both the Ukrainian and russian sides.

For the local Ukrainian population under occupation, the home holds deep symbolic and psychological significance as a place of memory and continuity. Meanwhile, the occupiers have their own plans for the housing infrastructure of Ukrainian cities, leveraging it to shape perceptions, manage emotions, and influence imagination. Kotef references the mobilizing affect derived from the metaphor of home, which enables the systemic practice of "returning" homes at the expense of destroying others.[3]

The metaphor of home is employed simultaneously in the discourses of both the oppressed and the oppressors.

While Ukrainians frame their accounts of forced migration or deportation as stories of losing their homes due to occupation, russian propaganda billboards in the temporarily occupied territories celebrate the "return" of these lands "home." The forces accumulated in the mental, emotional, and physical spaces of home resist the expansion and entrenchment of the occupying regime, reconnecting with local histories predating the empire's arrival. The regimes, in turn, strive to break this reconnection, filling the occupied territories with their own narratives, told "from scratch," as if nothing existed before them.[4] Occupation rhetoric surrounding the metaphor of home is primarily aimed at reshaping the future by erasing the diversity of local pasts, which threatens the legitimacy of the occupiers' singular narrative.

The metaphor of home is employed simultaneously in the discourses of both the oppressed and the oppressors. While Ukrainians frame their accounts of forced migration or deportation as stories of losing their homes due to occupation, russian propaganda billboards in the temporarily occupied territories celebrate the "return" of these lands "home."

This effort is exemplified by russia declaring September 30 a public holiday, celebrating the "reunification" of the so-called DPR, LPR, Kherson, and Zaporizhzhia regions with russia. The All-russian Society for the Protection of Monuments produced a "documentary series" titled russian Heritage: Coming Home, which erases plural historical perspectives in favor of gratitude

to the russian Empire and the USSR for founding and developing cities in southeastern Ukraine. In describing the purpose of the series, its creators appropriate the rhetoric of resistance, portraying themselves as victims of stolen history and territory: "Despite attempts to rewrite history, they [the so-called new regions] are an integral part of russian culture."[5] By propagating such narratives, the occupiers aim to install a technology of "self-erasure" of memory within the imagination of Ukrainians who live and act in hope of their cities' de-occupation. This approach is rooted in russia's long-standing practice of erasing local histories and constructing myths of russia's eternal claim to the newly occupied territories.

Imposing the idea of the infinity and inevitability of colonization on the temporarily occupied territories (TOT) is made easier by the fact that such colonization occurred in these regions centuries ago. The so-called "Novorossiya" project, initiated by 19th century russian empress Catherine the Great, was tied to the empire's expansion into the steppes of southeastern Ukraine, displacing Crimean Tatars and Nogais, assimilating Zaporizhian Cossacks, and subsequently settling the lands with colonizers. This concept was aggressively promoted as a political model to Ukrainians during the information war between russia and Ukraine, which intensified with russia's hybrid invasion of eastern Ukraine in 2014. Russia's ideological framework of "return" or "reunification" extends beyond Ukraine. In the 18th century, Russians often referred to themselves as the "Great russians" and convinced themselves that not only Ukraine but also Lithuania and Poland would inevitably become part of the russian Empire. The will of the peoples and elites of these lands was never a consideration.[6] For example, the eastern territories of the Polish-Lithuanian Commonwealth, seized during Catherine the Great's

partitions, were already referred to as newly "reunited" lands. Catherine herself ordered coins to be minted bearing her image, the two-headed eagle, and the motto "Ottorzhennaya vozvratikh" ("I have returned what was torn away"), under which the imperialist program of "gathering russian lands" was carried out.[7] According to the inscription on the coin, russia's imperialism is framed not as imperialism at all: nothing was taken away—something was merely "returned," as if it had always rightfully belonged.

Centuries ago, while displacing nomadic peoples and local ethnic populations, russia "brought the light" of European imperialism to southern Ukraine. Now, without any progressive facade, Putin and the Armed Forces of the russian Federation are bringing the darkness of oblivion to Ukrainian territories. This darkness includes the literal incineration of Ukrainian cities like Bakhmut, Vuhledar, Popasna, Avdiivka, and Maryinka, as well as the erasure of pre-russian local histories. Amid the need to build fortifications in response to Ukraine's 2023 counteroffensive, russian builders simultaneously found time to construct a multimedia "Historical Park 'russia— My History.'" In the series of complexes initiated by Putin, imperial dynasties are glorified, linking the imperial past with the contemporary war of aggression.[8] Browsing the project's website, it is hard to imagine Ukrainians or other local peoples being represented as equal and autonomous political subjects.

The destruction and simultaneous construction of museums, theaters, and homes by russians serve a single purpose: to force amnesia about what has been taken, and through this forced forgetting, to create a sense of reunification with the empire.

Instead, they are probably depicted as enemies, traitors, or, at best, laughable villagers. The destruction and simultaneous construction of museums, theaters, and homes by russians serve a single purpose: to force amnesia about what has been taken, and through this forced forgetting, to create a sense of reunification with the empire.

russians appropriate the home and its affective dimensions in parallel with their direct occupation efforts, not waiting for the end of active hostilities. Following settler colonial models like Israel, russia's destruction deliberately targets various infrastructures, one of which is the infrastructure of intimacy. This term, introduced by researcher Ara Wilson to bring a feminist perspective to the infrastructural turn, adds a new layer to the empirical analysis of infrastructure. It highlights the "networked quality" of infrastructures and provides insight into the affective interplay between power, social arrangements, materials, and technologies.[9] Palestinian geographer Sabrien Amrov, who uses the term infrastructures of intimacy in her context, demonstrates that the relational dynamics between multiple levels and entities within home-making activities are as intense as those found in telecommunications or utilities. A home encompasses not just "the actual physical building of the infrastructure that is the house," but also "the decorating, the social relations that take place in and around it," and the ways it is represented.[10] Amrov writes about "the spatial production of intimacy"—a set of affective attachments to places and people, shared awareness and communication, and configurations of tempo and sensation through relationality. This relational intimacy resonates deeply

with the experiences of Palestinians and Ukrainians, whose connections to their homes embody these dynamics.[11] At this level, it becomes evident that what russia and Israel are engaging in is not merely military operations aimed at neutralizing military targets with collateral civilian losses. Instead, they are enacting what Olexii Kuchanskyi calls ontowar—"the destruction of what is alive in order to prevent what is possible."[12] By destroying and appropriating homes, the Israel Defense Forces (IDF) and the russian armed forces seek to control the diversity of life that fills infrastructures of intimacy.

Screenshot from the group 'Real Estate in Berdyansk' of a guest house for rent by the sea, posted in the russian social network VKontakte

"In the interplay between the real and the probable," the territory of the home and its affective dimensions come under the control of numerous invisible bureaucratic-military logistical processes, such as passportization, filtration, deportation, and resettlement.[13]

These practices draw from the legacy of Romanov imperialism, which researcher Willard Sunderland categorizes as Bureaucratic Colonization. When the russian Empire seized the southern steppes of Ukraine, it learned to manage the region's defiant nomads through colonial tutelage. Sunderland writes, "Required almost everywhere and seemingly capable of ameliorating the most incorrigible backwardness, bureaucratic paternalism usually involved providing material incentives for improvement, arranging for instruction by good example, and, last but certainly not least, defending against lapses or deviations through intense administrative vigilance and discipline." Today, russia is building a similar system of incentives and restrictions, organizing the movement of Ukrainians through territories under its control.[14]

To access basic rights and services, Ukrainians in the TOT are forced to obtain russian passports. One of the key rights retained upon obtaining a russian passport is the right to property, including housing. Under imperial bureaucratic logic, when residents of the TOT change their identity documents, they are also required to update the ownership documents for their homes to reflect the new information.[15] Beneath this seemingly mundane bureaucratic procedure lies the machinery of settler colonialism. If a resident refuses to accept a russian passport and chooses to retain Ukrainian documents, or if they are absent from the TOT and unable to obtain a passport, re-registration of housing becomes impossible. In such cases, the occupiers declare the property "ownerless" (a term that clearly reflects imperial imagination: these places have no owner and never did). The homes are then sealed and "nationalized," meaning they are transferred to russian control.[16] The websites of puppet regional and city administrations frequently publish long lists of "ownerless" apartments in cities like Melitopol, Berdyansk, Prymorsk, and Mariupol, among others.

Meanwhile, destroyed housing is demolished, and residential complexes are built on the ruins. These new complexes are offered to local residents under mortgage plans, effectively forcing them to pay russians for rebuilding their homes, ensuring maximum financial return for the occupying authorities.
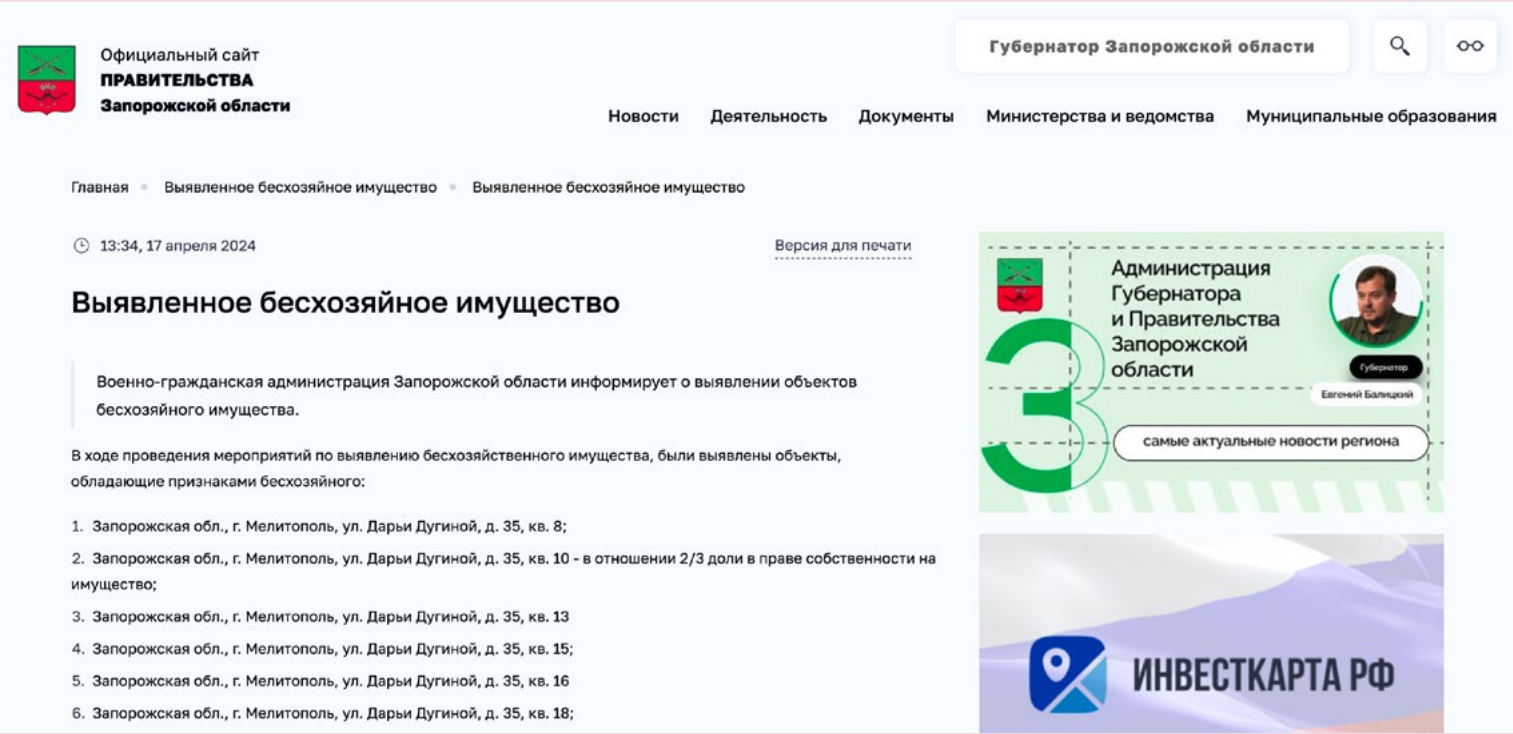
The list of "ownerless property" on the street re-named after Daria Dugina in Melitopol. Screenshot from the website of marionette regional administration. URL: https://zo.gov.ru/news/show/vyyavlennoe_besxozyajnoe_imushhestvo78

Thus, a registry of apartments is created, which are temporarily or permanently allocated to russian military personnel, builders, engineers, teachers, and others. Meanwhile, destroyed housing is demolished, and residential complexes are built on the ruins. These new complexes are offered to local residents under mortgage plans, effectively forcing them to pay russians for rebuilding their homes, ensuring maximum financial return for the occupying authorities.[17] Partially intact apartments are sold by real estate agents to russians from Moscow, St. Petersburg, Krasnodar, and Nizhny Novgorod, where demand for cheap seaside apartments "with good ecology" surged following the full-scale invasion.[18]

Ukrainian residents in the TOT often obtain russian passports to save their homes. To facilitate passportization, the occupying authorities simplify conditions. Meanwhile, restrictions and threats push Ukrainians to accept new russian passports. Residents who left the TOT before gaining access to the occupiers' passport offices and the documents needed for free movement are subjected to filtration. Those willing to return to the TOT and obtain russian documents to retain their property face lengthy inspections, lasting hours or even days. Their devices are scrutinized with forensic software capable of recovering deleted chats.[19] If entry is denied, Ukrainian citizens are subjected to biometric data collection (DNA) for precise tracking during future entry attempts. During the filtration process, FSB officers question Ukrainians about their views on the invasion, relatives serving in the Ukrainian military or special services, attitudes toward nationalist movements, and more. It is impossible to predict what might displease the FSB officers. Oftentimes, reasons for denial are not explained, and the accusations presented may be fabricated by blending real and falsified information. As of January 2024, it was reported that 3,800 people had been deported following unsuccessful filtration attempts.[20]

More recently, Ukrainians can undergo FSB filtration upon entry into russia only at Sheremetyevo Airport, prolonging an already lengthy process. Each year, Ukrainians die while awaiting clearance at Sheremetyevo. In 2024, there have been reports of four such cases, with the total number of deaths in waiting estimated at 13–14 individuals.

Relatives are informed of the deceased, and if they do not arrive promptly, the body may be simply "utilized," meaning cremated without further ceremony.[21] russian propagandists justify the harshness of these measures by citing the murder of propagandist Darya Dugina, for which they blame a certain Natalia Vovk, allegedly a Ukrainian from "Azov." However, the existence of this individual has not been confirmed by anyone other than russian propagandist media.[22] Although filtration measures were implemented in the first weeks of the full-scale invasion, they gained symbolic legitimacy only after Dugina's death.

The intensification of the filtration procedure reflects the evolution of the Soviet tradition of disorganized control over territories seized by russia. Researchers Svitlana Matviyenko and Daria Hetmanova explore this in their analysis of filtration camps in the occupied Donetsk region during the first year of russia's full-scale invasion of Ukraine. Examining the spontaneity, randomness, and inexplicability of filtration processes, Matviyenko and Hetmanova posed the question: "What if, indeed, the purpose of the massive filtration machine is merely to produce two inexistent groups of people, just like the Soviet state used to produce its inexistent internal enemies in the

Inheriting the practices of its former political body, russia rapidly builds over the ruins of the territories it occupies, intending to leave behind infrastructures that deplete and desolate Ukrainian land.

1930s, by falsifying linkages between the labels propagated by Russian state media or governmental officials and people's physical bodies?"[23] By forcing Ukrainian bodies to fit propagandist clichés, russia lays the groundwork for a paranoid bureaucratic erasure of Ukrainian presence in the so-called "new territories." Filtration categorizes the Ukrainian population into "enemies" and "spies," who are deported, and "russians by documents"—Ukrainians who, either out of loyalty or necessity, acquire russian passports. Meanwhile, as noted earlier, those who leave, fail to update their documents, or are deported are replaced by waves of military personnel, engineers, and wealthy russians. These newcomers share a financial dependency on the regime and a prolonged exposure to its propaganda. All of these deportation and settler technologies are employed by russia with one singular goal: to fabricate, at least on paper, a situation in which the local population appears homogenous—entirely russian.

The destruction, confiscation, and construction of housing in the occupied territories are carried out at an accelerated pace for the same reason as colonial building "for the future," a pattern that can be retrospectively traced to the expansion of infrastructures in the Soviet republics. The histories of atomic, hydroelectric, thermal, and power stations built for the "welfare" of Soviet society—particularly the stories of the Chornobyl Nuclear Power Plant and the Kakhovka Hydroelectric Station—are marked by episodes of environmental destruction and the displacement of human settlements during their construction. During the full-scale war, the infrastructures inherited from the Soviet Union reveal their latent military potential, embedded in the destructive processes of their construction and exploitation. These infrastructures now represent one of russia's primary targets in its war against Ukraine.

After surviving torture in multiple filtration camps—where cables connect to gadgets and human bodies are classified as "ours" or "theirs"—a Ukrainian miraculously makes it back to their hometown. Upon reaching their home, they finds a russian standing behind the half-closed door, blocking entry, and shouting: "This is my home!"

Their disruption not only causes significant discomfort to the Ukrainian population, which russia seeks to demoralize through terror, but also inflicts physical damage comparable to the most devastating weapons.[24] [25]

Faithfully inheriting the practices of its former political body, russia rapidly builds over the ruins of the territories it occupies, intending to leave behind infrastructures that deplete and desolate Ukrainian land. Simultaneously, this sets the stage for future disputes among selters over the right to housing in the TOT after de-occupation, creating new pretexts for militarization and military actions. For russia, the home is a weapon—a Chekhovian gun hanging on the wall, destined to fire in the future.

Anna Engelhardt and Mark Cinkevich, in their video exploring infrastructural

horror, evoke the russian occupation's infrastructures as imperceptible yet rapidly proliferating cable-tentacles of a synthetic uncanny parasite that, "while hoarding resources and siphoning energy away from the living, could not allow their host to die."[26] At one point in the video, the protagonist discovers one of these cables in their yard, snaking through a thicket toward a power station fueling russia's military machine, concentrated in an enormous airport. To this unsettling scene, I would add a jump-scare tied to infrastructures of intimacy and the home: after surviving torture in multiple filtration camps—where cables connect to gadgets and human bodies are classified as "ours" or "theirs"—a Ukrainian miraculously makes it back to their hometown. Upon reaching their home, they finds a russian standing behind the half-closed door, blocking entry, and shouting: "This is my home!"

A home under threat of seizure becomes part of an extractive infrastructure, exerting emotional control over displaced residents. The "domestication" of russians in the homes of neighbors who have fled or of Ukrainians who chose to remain in occupied territories functions as a form of slow violence, defined by Rob Nixon as violence that is "often not just attritional but also exponential, operating as a major threat multiplier; it can fuel long-term, proliferating conflicts in situations where the conditions for sustaining life become increasingly but gradually degraded."[27]

By settling its citizens in Ukrainian homes, russia invests in a desired future where, even in the event of a Ukrainian victory, the occupied homes will serve as leverage for generating manipulative pretexts for renewed aggression. In what appears to be a totally enclosed system, the Ukrainian Armed Forces' control over parts of the Kursk region has complicated russia's efforts to appropriate the affects of home and undermined the entire structure of its occupation imaginary.

How can russia threaten entire populations with the occupation of their territories and the seizure of their homes when hundreds of russian settlements are already beyond its control? Explaining to its citizens the necessity of liberating their own territories becomes impossible without invoking concepts like independence, occupation, invasion, and evacuation—the very terms russian forces brought into Ukrainian homes, serving as constant reminders of the criminality of their invasion. russia has already provided a situational response by evacuating its citizens from the Kursk region to Ukrainian-occupied territories.[28] By combining evacuation with settler colonialism, russia seeks to convince both its own population and displaced Ukrainians that it will not relinquish its imperialist ambitions under any circumstance. This strategy reinforces the paradoxical narrative that even retreat or loss can serve the ultimate goal of consolidating control and sustaining the occupation dream.

Nevertheless, this decision will not reverse the situation created by Ukrainian forces, even if they are eventually compelled to retreat. Through their actions in the Kursk region, Ukrainians have once again challenged the imposed vision of their future as an occupied people, making it clear that russia's management of threats is fragile in the face of emerging subjectivity. The Ukrainian Armed Forces have torn an opening for this perspective, inviting co-operation. However, in the face of Western indifference, isolationism, and the foolishness masked by pacifism and a desire to avoid escalation, this act of holding ground becomes an act of excessive generosity. Any response from allies, even if it arrives today, will already be too late for the residents of Ukraine's temporarily occupied territories. And so, the cost of lost time rises ever higher. The suffocating tentacles of russian infrastructures grow heavier and longer, wrapping themselves tighter around possible futures.

The suffocating tentacles of russian infrastructures grow heavier and longer, wrapping themselves tighter around possible futures.

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Nazar Golianych

Economies of the Aftermath

Nazar Golianych is a moving-image artist and investigator specializing in open-source research. His aim is to explore new ways of sensing and making-sense of the world. Nazar also maintains wip.network—a space for study groups that enables independent research with community funding.

The Impossibility of Reconstruction and Fragmentation

The conventional approach to studying the aftermath of mass violence often rests on the assumption that reconstruction and reassembly are possible—like piecing together a fragmented puzzle—to restore a complete picture. However, as Yael Navaro recommends, the starting point must instead be the acknowledgment of the fundamental impossibility of research in the wake of annihilative violence.[1] This condition necessitates an awkward positioning of conceptual frameworks, methodological practices, and knowledge production within the very gaps left in the violence's wake.

We find ourselves confronted with a situation where the past has been rendered irretrievable, and the very foundations of research have been compromised. Rather than presuming the availability of evidence, we must reckon with its erasure, denial, misappropriation, inaccessibility, or irretrievability within the sites affected by mass atrocity.[2]

In his seminal "Theses on the Philosophy of History," Walter Benjamin outlined an approach to engaging with the past when faced with the detritus of violence. Instead of attempting to reassemble the shattered fragments into a coherent whole or reconstruct the world that preceded the violence, Benjamin turned to the very remnants themselves as the conceptual apparatus, treating each component as an irreducible fragment of a puzzle that can never be fully restored. This perspective recognizes that knowledge of the past shaped by mass violence can only be accessed and represented in a fragmented, piecemeal manner.[3]

Absence, Debris, and Negative Archaeology

This line of inquiry inevitably leads to questions about the role of the medium through which we might access the temporal context of the atrocities. As Marc Nichanian (2002) notes, "we are talking, after all, about nonexistent archives, about the nothingness of the archive."[4] From this starting point, we can further explore how to study that which has been intentionally buried from political discourse, systematically erased from the material environment, or transformed through misappropriation and denial.

Severin Fowles (2010) proposed the concept of "a negative archaeology,"[5] which involves inferring from the absence of objects or categories within the archaeological record. As Mikkel Bille et al. (2010b) observe, "the absence of evidence is not evidence of absence."[6] This underscores the importance of remaining attentive to absent material and conceptual spaces, especially when they have been actively made absent. Studying through the debris, as Ann Laura Stoler (2013) describes, is a "negative method"[7] that has been developed for engaging with the aftermath of mass violence, tracking "the uneven temporal sedimentations" in which imperial formations leave their marks and shape the psychic and material spaces of those who inhabit them. Ruins, in this context, are both physical manifestations and metaphorical representations of the ongoing legacies of colonialism.

Negative Archaeology of Economic Life

To study the economy in the aftermath of violence is to see it as a negative archeology of social activity, contours of human practices in the colonial condition—a fragmented, residual domain where the dynamics of production, exchange, and survival play out amidst destruction. Here, the economy cannot be abstracted from the conditions of annihilation that define it. Instead, it emerges as an architecture of gaps: disrupted labor, fractured market, and severed infrastructures. The remnants of economic life in war-torn cities are not merely debris; they are traces of negotiation, fraught with the weight of loss and the labor of enduring.

To reject the sanitized optics of classical economic systems that assume intact markets or coherent structures, instead study the economy through its absences and traces that are left in the aftermath— quiet markets, bombed production lines, evacuated spaces of labor, and improvised places of exchange. Following Stoler's concept of "imperial debris" (2013), the economy in such contexts must be read as shaped by the immediate exigencies of war yet tethered to enduring necropolitical goals that govern the lives caught within its structures.

In urban warfare, economic activity becomes an exercise in precarity. Labor becomes improvisational, prices oscillate wildly, and systems of exchange adapt to new, violent contexts. To understand such economies, one must move beyond the formal study of flows and figures, attending instead to the situated, embodied experiences of those navigating the ruin. It is within these localized acts—of bartering, scavenging, or surviving—that the fabric of an economic system reveals itself as a tapestry of resilience and loss.

Let's consider the economy in a lived space of ruin as fragments, where the absence of conventional structures forces attention to the improvisational and emergent. Focusing on the labor and transactions of individuals inhabiting these conditions, is an attempt to trace the contours of an economy marked by gaps and governed by necropolitical imperatives within occupational infrastructures. The infrastructure here is not merely seen as estranged or dysfunctional but as inhabited, adapted, and contested in the midst of its collapse. The next part is dedicated to the improvised structures for the exchange of goods and services that were formed in the conditions of ruination, and the way they are gradually replaced with built networks governed by occupational forces.

Case Study: Economic Ruin in Mariupol

Initial Responses to War

At 05:00 on February 24, 2022, Mariupol shuddered from cannonade. The sky over the Left Bank glowed red as sirens wailed, their howl strangely interrupted by pop music. The city's residents' immediate response revealed how eight years of hybrid war had shaped their economic reflexes—they went to work. Factory buses collected workers as usual, heading to the steel plants that had long served as islands of stability. "No matter what happens, steel is made," was the unspoken rule until management at both the Ilyich Plant and Azovstal suspended production, first as a "hot stop" allowing quick restart, then permanently as the reality of war set in.[8]

The dissolution of normal economic life rippled outward rapidly. As Ksenia Safronova, a Mariupol resident, recounts, "When I went to the store on February 24, my mother said, 'Take a pack of pasta, a pack of buckwheat, and a kilogram of potatoes; we have everything else.' But the shelves were empty everywhere—and this was at noon! I also couldn't withdraw cash."[9] ATMs ran dry as residents rushed to secure basic necessities. When flour imports ceased, authorities were forced to negotiate with shop owners to control prices.

In these early days, efforts to maintain economic stability revealed both infrastructural fragility and human resourcefulness. Serhiy Marchuk, Head of Mariupol City Property Department, describes how, when commercial bread production faltered, "We received 100 tons of grain at the port and transported it to a grain elevator that hadn't been operational for three years... With the help of 20 workers from the plant and local volunteers, the flour was carried in shifts day and night until power outages stopped production."[10]

Photo taken from Telegram Channel, showing the limit on selling of bread

By February 26, the formal economy began to disintegrate entirely. The Mariupol Chronicles documents how rumors spread that management had abandoned the Metro and PortCity shopping centers, leaving them open. When looting began, police fired warning shots, threatening to shoot under martial law. But they couldn't maintain a constant presence at every location. Marko Boyko, a 21-year-old student who spent 20 days in the city, observed: "By March 3, supermarkets were closed, and queues of up to 300 people formed at the only functioning store. When we ventured outside, we saw people looting stores—not just food but also electronics and furniture."[11]

Photo from Telegram Channel, showing empty shelves in the supermarket

Disruption of Basic Services

This collapse was not merely circumstantial—evidence compiled by Global Rights Compliance (2024) suggests it was systematically engineered. On February 28, Russian forces struck a powerline, plunging half of Mariupol into darkness. By March 2, all 15 electricity lines into the city had been destroyed. Konstantin Pismaryov, Director of Mariupol Energy Enterprises Department, described how "Russians systematically destroyed the city's power supply, targeting substations and knocking down power poles.

On March 2, a critical substation north of Mariupol was damaged, and attempts to repair it failed due to ongoing shelling."[12]

Satellite imagery revealed a deliberate pattern of infrastructure destruction. The city's power grid consisted of four principal substations: two 330-KV substations (Myrna-330 and Zoria-330), one 220-KV substation (Azovska-220), and at least 40 substations of 110-KV distributed across the city. The Global Rights Compliance SMJT investigation identified systematic damage to Myrna-330, Azovska-220, and at least 14 of the 110-KV substations—ranging from artillery craters to precision strikes on critical components.[13]

Map of electricity infrastructure in Mariupol

Myrna 330 KV substation with signs of shelling on the buildings to the south of the site. Craters can be identified in the fields surrounding the substation. Google Earth Pro (c), Maxar, Image dated April 2022

The destruction of power infrastructure cascaded through other vital systems. The United Nations Office for the Coordination of Humanitarian Affairs had warned in 2019 that electricity cuts to Mariupol's water pumping stations could affect 474,000 residents.[14] This prediction proved devastating when the Starokrymskaya filtration stations lost power, cutting off access to potable water. As temperatures dropped to -12.4°C at night, the disabled electric pumps also meant no heating for residents.

Emergence of Informal Economies

The disruption of normal economic life forced new forms of exchange to emerge. By early March, the Mariupol City Council had established "distribution points" for bread and essential items (Global Rights Compliance, 2024).

Crater Beside Announced Bread Distribution Point – Google Earth Pro (c) Image Captured March 2022

However, these lifelines themselves became targets. Satellite imagery analyzed by the GRC SMJT shows that by March 14, at least three of the eleven announced bread distribution locations had sustained damage. Two more locations were hit between March 14-29, with the ATB supermarket on Karpinskoho Street apparently targeted twice.

The attack on critical infrastructure followed a calculated sequence. Even before the full-scale invasion, on February 19, a transformer substation on the South Donbas Water Pipeline near Vasylivka was damaged, disrupting water supply to four filtration stations.

Queues for Food at Distribution Points in Mariupol, Google Earth Pro (c), Maxar85

The pipeline's location near the 2014 conflict frontline suggests pro-Russian forces were well aware of its strategic importance. When Mariupol switched to its backup water source—the Stary Krym Reservoir—this too was targeted through attacks on the Azovska-220 substation that powered its filtration stations.

Map Showing Location of Damaged Substation in Relation to the Water Pipeline Infrastructure Feeding Mariupol

Engineered Economic Collapse

The systematic dismantling of infrastructure created what one resident described as a "nothingness of basic services."[15] "There is no electricity, no water, no food in the city!"[16] recalls Kateryna, who attempted to maintain a small business in early March. Even cellular communications collapsed, with internet connectivity plummeting to seven percent of normal levels by March 2.

As one Mariupol resident commented, "the light left us" —a phrase that captured both literal darkness and severed connections to the outside world.

Shelter itself became precarious. The Mariupol City Council's list of over

1,000 civilian shelters, mainly in building basements, became targets rather than sanctuaries. Global Rights Compliance documented systematic attacks on announced shelter locations, including Livoberezhnyi Palace, Molodizhnyi Palace, the Chaika Palace of Culture, and Art School No. 12.

Livoberezhnyi Palace after the attack. Image by Mariupol City Council

The destruction created a devastating cycle: as basic services failed, people were forced to venture out for essentials, exposing themselves to danger. Those seeking water faced particular risks. "Long queues formed wherever water was distributed by police or utilities," one resident reported, "but these gathering points became targets themselves."[17]

This complete infrastructure collapse transformed everyday survival into a complex negotiation. Andriy Voytsekhovskyi, who eventually evacuated to Lviv, captures the paradox of this period: "You feel safe in a basement, but boarding a train traveling across a war-torn country feels very unsafe. Convincing my mother was the hardest part."[18] By March 5, those attempting to flee faced extortive prices, with desperate residents paying up to $500 or exchanging jewelry for transport to Melekino.

The destruction of basic infrastructure intersected with the systematic targeting of economic spaces. By mid-March, according to Global Rights Compliance (2024), Russian forces had damaged at least six supermarkets beyond those serving as distribution points. More significantly, the city's industrial backbone—the Azovstal and Ilyich steel plants that had provided economic stability for generations—became both shelter and battlefield.

The economic geography of the city transformed radically. Natalia, a North Mariupol resident who had moved there in 2014 from Snizhne, describes how military presence reshaped neighborhood economics: "On the night of February 28, I saw young Marines in blue tape urging us to wake neighbors and move deeper into the city as fighting approached. Days later, an officer asked for my bank card details, saying, 'We collected money; we're using your house and want to pay rent.' I cried and asked them just to survive."[19]

Screenshot from Telegram channel, showing the introduction of dual-currency in the store, https://t.me/mariupolnow/15176

In the absence of functioning banks, new informal economies emerged. The GRC SMJT documented how residents initially turned to barter systems, trading goods directly or exchanging jewelry and valuables for essential services. However, this improvised economy operated under increasingly desperate conditions. As one resident noted in local Telegram channels: "Everything has a price, but money has no value when there's nothing to buy."[20]

By early March, the city's economic life had fragmented into hyperlocal units centered around basements and shelters. Myroslava Nakhimova's account of 300 people organizing survival in a technical school basement exemplifies how these spaces became micro-economies: "Men guarded entrances during curfew, and others handled makeshift toilets or cooking. Children fell ill, and we shared what little medicine we had."[21] These shelter economies would later become the foundation for Russian occupation authorities to establish control through the selective provision of basic services.

The complete severing of supply chains created conditions that would later facilitate economic colonization. When Russian forces began offering food and basic services, they did so in a context where the population had been systematically deprived of alternatives. This strategy aligns with what Stoler (2013) describes as how "imperial formations leave their marks"[22]—not just through direct control but through the creation of dependencies in the aftermath of destruction.

The transition from destruction to occupation brought new forms of economic control. As Valentina, a retired resident who stayed in Mariupol, explains: "I had two apartments —one in a building overlooking the sea, the other in a historic building… The occupiers demolished the building overlooking the sea. Now in Mariupol, apartments are being given to Russians who come to work, or are sold. You can still take out a mortgage on the apartment that you had, then it was destroyed and now it is being rebuilt. This is nonsense!"[23]

The reconstruction process became a tool of economic colonization. Property rights became contingent on forced naturalization[24]—owners had to obtain Russian passports, and confirm ownership, all while keeping up utility payments on destroyed properties.
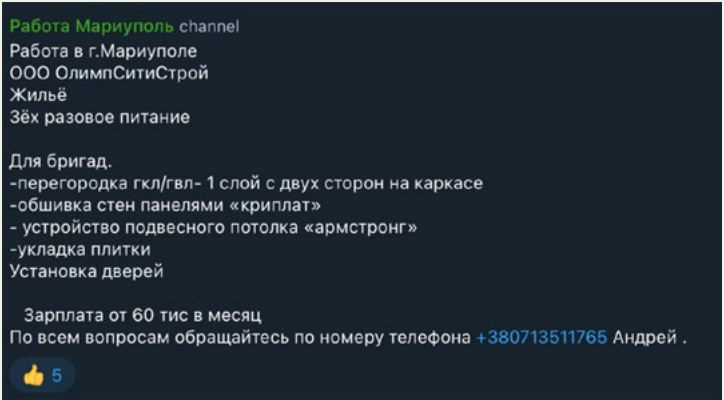
Screenshot from Telegram channel, showing the opportunities to work for a well-known Russian construction company tasked with reconstruction of Mariupol

Occupation and Economic Colonization

The occupation created a layered economic system where even basic services became tools of control. By May 2022, residents were paying for electricity access in an improvised economy of fuel trades: charging a phone for two hours cost one liter of A92 fuel, while charging a power bank for eight hours required four liters. This commodification of basic services, documented in local Telegram channels, reflected both the scarcity of resources and the emergence of new economic hierarchies.
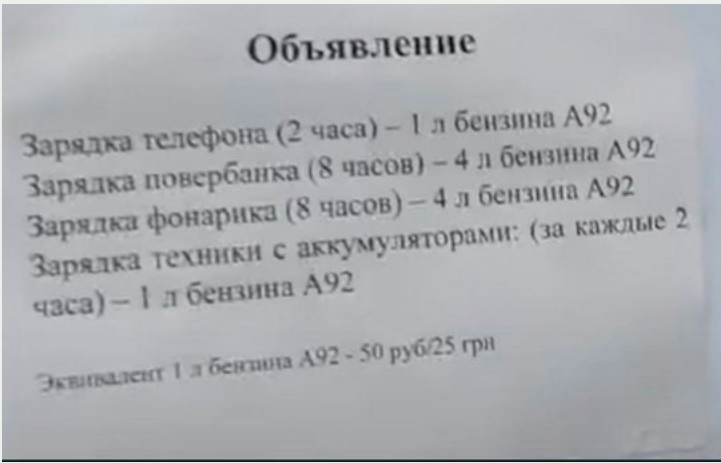
Photo of a price list for electricity services: Charging a phone for 2 hours costs 1 liter of A92 fuel, charging a power bank for 8 hours costs 4 liters of A92 fuel, charging a flashlight for 8 hours costs 4 liters of A92 fuel, and charging machinery with an accumulator costs 1 liter every two hours of A92 fuel; 1 liter of of A92 fuel is priced at 50 rubles/25 hryvnias

By December 2023, as reported by OPORA sources, the occupation regime had formalized its economic control through a "free economic zone" (FEZ) in the temporarily occupied territories. This seemingly developmental initiative masked a deeper process of resource extraction. According to the Center for National Resistance, the FEZ project, directly supervised by Russian Deputy Prime Minister Marat Khusnulin, served to redistribute financial flows to companies aligned with occupation authorities.

The transformation of business ownership followed a clear pattern. Local enterprises faced an impossible choice: re-register under Russian law or face "nationalization." Kateryna recounts how her friend's small shop operated in legal limbo: "They did not register it with Russian state services: 'So as not to reveal the information about her husband, because they would start receiving summonses.'"[25] Meanwhile, larger enterprises were systematically appropriated through what occupation authorities called "external management."
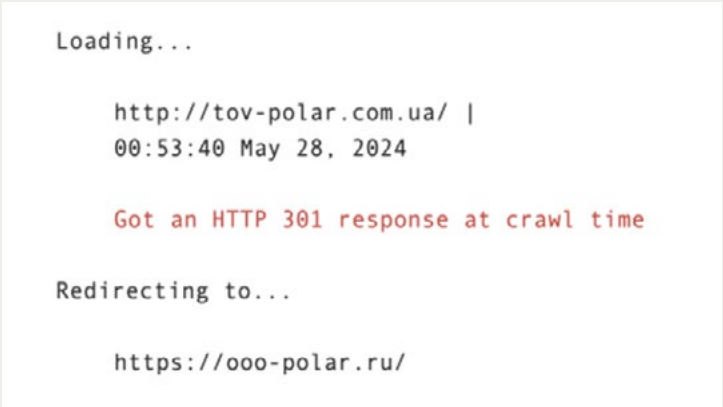
Screenshot from Internet Archive, showing a transition of a domain name from 'tov', coming from Ukrainian TOB to Russian OOO

The occupation economy became stratified among clear winners and losers. As one Mariupol volunteer notes, "builders, money changers and transporters" prospered while local businesses struggled.[26] The financial system itself became a tool of control—while transactions were conducted in rubles, people could still transfer hryvnia to relatives on Ukrainian cards, creating a parallel economy of currency exchange that benefited occupation-aligned "money changers."

The economic transformation of Mariupol reflects broader Russian strategies in occupied territories. By 2024, according to budget "legislation" documents, Russia allocated over 430 billion rubles to the occupied territories, with specific distributions: 137.4 billion to Donetsk region, 126.7 billion to Crimea, 92.5 billion to Luhansk, 60.1 billion to Zaporizhzhia, and 33.2 billion to Kherson.

However, this apparent investment masks a deeper process of economic extraction.[27]

The occupied territories have become deeply subsidized regions that paradoxically generate wealth for specific actors. As one source from OPORA explains, "The general logic of the occupiers is simple: they want to take as many resources as possible out of the territory of Ukraine, but at the same time they are interested in launching enterprises that can work for the war." These include logistics companies, concrete manufacturers, and military equipment repair facilities.[28]

The transformation is perhaps most visible in the construction sector. Russian propaganda channels showcase restored building facades while hiding the reality described by local residents. As Inna observes, "Some houses in the city are being restored only from the outside— for the sake of the picture... Mariupol for Russians is a business project. Nobody thinks about the people or the history of the city."[29]

Understanding Economies as Spaces of Absence and Control

This transformation of Mariupol's economy reveals how studying the aftermath of mass violence requires attention to both absences and emergent forms of control. Following Stoler's concept of "imperial debris," we see how the systematic destruction of infrastructure created conditions for new forms of economic colonization. The remnants of economic life are not merely debris but, as demonstrated through personal testimonies and documentary evidence, are sites where the dynamics of survival, resistance, and exploitation continue to play out.

The occupied city's economy now exists in what appears at first glance to be a paradox: deeply subsidized yet generating wealth, "reconstructed" yet dispossessing original residents, "free" yet tightly controlled. However, this paradox dissolves when viewed through the lens of colonial economic logic. The very gaps created by systematic destruction—in infrastructure, property rights, and economic networks—have become spaces where new forms of dependency are engineered.

Today's Mariupol embodies what Fowles terms "negative archaeology"—where the absence of previous economic structures reveals as much as what remains. In evacuated spaces of labor, destroyed markets, and severed supply chains, we find not simply destruction but the contours of new imperial formations. The transition of business registrations from Ukrainian TOV to Russian OOO, the implementation of dual currencies, and the selective provision of basic services all represent not just changes in economic administration but fundamental transformations in how value is extracted and control is maintained.

This study suggests that understanding economies in the aftermath of mass violence requires attention not just to what has been destroyed, but to how destruction itself becomes a tool of economic colonization.

In Mariupol, we see how the economy cannot be abstracted from the conditions of annihilation that define it. Instead, it emerges as an architecture of gaps—disrupted labor, fractured markets, and severed infrastructures—where the dynamics of survival and exploitation continue to evolve.

The fragments of economic life in Mariupol—from informal currency exchanges to selective reconstruction projects—reveal not just the weight of loss but the ongoing labor of both enduring and resisting new forms of economic control. In studying these fragments, we uncover not a complete picture, but rather, as Benjamin suggests, fragments of violence that can never be fully reassembled, yet must be understood in terms of their ongoing impact on human lives and communities.

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Sonya Isupova

Revealing the Landscape: Mapping Cyclical History of Colonial Infrastructure of the Kakhovka Dam

Sonya Isupova is a Ukrainian visual artist and designer based in Geneva. She holds a bachelor's degree from the Estonian Academy of Arts and a master's from HEAD, Geneva. Her work bridges art and design, focusing on creating machines that collaboratively produce art. Isupova's projects explore postcolonialism, territoriality, and the complexities of mapping in an uncertain world. She develops machines tied to cartography, investigating the interplay between humans, machines, and satellite infrastructures. Her research highlights daily landscape changes caused by Russia's ongoing war in Ukraine. She recently won the Jeune Création 2023 Prize, was a finalist for the Croix-Rouge Geneva Art Humanity Prize 2023, and earned an honorary mention at the S+T+ARTS Prize 2024 by Ars Electronica.

Construction of the Kakhovka Hydroelectric Power Station (1950s). Source: Central State Audiovisual and Electronic Archive of Ukraine.

From the sea to the desert to the forest

My grandmother cuts me off, pulling me back to the reality of wartime exchanges. I often reflect on these conversations, thinking about what remains unspoken, hidden, or forgotten. Infrastructure is often invisible until it fails. A particularly tragic example occurred on June 6, 2023, with the destruction of the Kakhovka Dam—a catastrophe that not only caused immense human suffering but also stands as a major environmental disaster with far-reaching consequences.

— I can see the Kakhovka reservoir from my window. They don't let us go to the shore anymore.

— How is life for you now, under occupation?

— You know this isn't a conversation for the phone, right?[1]

Poem about the Sea

Still from the film "Poem about the Sea" (1958) by Yulia Solntseva.

Two pivotal events shape the tragic history of the Kakhovka Hydroelectric Station. The recent one occurred on June 6, 2023, marking a moment of catastrophic destruction. The second spans a longer timeline, encompassing the years 1950 to 1956, during which the dam was conceived and constructed.

The plans to harness the power of the Dnipro River, one of the largest in the Soviet Union, and transform it into a navigable and energy-producing system began as early as the 19th century. During the Soviet era, the issue of irrigating the arid regions of southern Ukraine was a significant concern. This challenge was addressed in the 1930s through the "Big Dnipro"[2] plan, which called for the construction of several hydroelectric power stations and the creation of a cascade of reservoirs. The plan aimed to solve not only energy and irrigation problems but also improve transportation and other infrastructure needs.

During the five years of construction, over 250,000 hectares of land were submerged by the reservoir, along with 30 villages. Fertile arable land and vital floodplains between Zaporizhzhia and Kakhovka that supported the local economy were lost. The dam fundamentally altered the region's hydrology, slowing the river's flow with devastating consequences for the soil, flora, and fauna, resulting in a significant loss of biodiversity.

The tragic moments of leveling the houses of local villagers were depicted in an epic written by Oleksandr Dovzenko[3] *Poem about the Sea*,[4] and resulted in a film directed by Yulia Solntseva.[5] This cinematic work chronicles the creation of one of the USSR's largest infrastructures. This film is distinguished by its vivid depiction of the local landscape and the authentic footage of the region. The narrative poignantly addresses the flooding of territories, encapsulated in powerful quotes throughout the film. One of the most notable scenes features villagers sitting on the bank of the newly created sea, gazing at their submerged village. This scene, characteristic of socialist realism, envisions the great future that this project was supposed to bring.
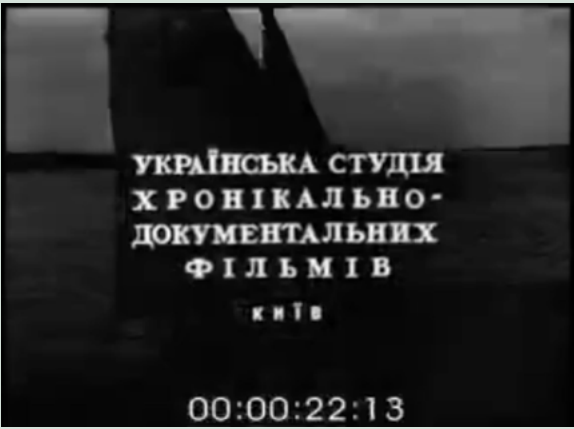
The first turbine of the Kakhovka Hydroelectric Power Station, Soviet Ukraine, 1954, No. 44.

Through films and propaganda campaigns, a system of representation was emerging, crafting a unified image of nature reshaped by politics. Anna Neimark writes that in the Soviet era, the task of representing memory was often given to water works like canals, dams, and reservoirs.[6] The sheer scale and grandeur of these infrastructures elevated their symbolic role. They stood as monumental symbols, embodying a range of narratives: the assertion of human power over nature, the state's dominance over its peripheries, and, paradoxically, a memorial to what was lost.

Nevertheless, the landscape was transformed forever.

While histories often celebrate the technological triumphs of industrialization, they frequently overlook the exploitation of enslaved and colonized labor that made these revolutions possible. The story of the Kakhovka Dam—or any dam on the Dnipro River—is no exception.

Revealing the Landscape

Photography: Sonya Isupova, 2024.

In the early hours of June 6, an explosion destroyed critical infrastructure in southern Ukraine—the Nova Kakhovka dam.

Vast amount of water was unleashed downstream along the Dnipro river, flooding dozens of settlements.

Over the past year, I've been investigating the ecological impacts of this event, joining numerous amateur cartographers in documenting the war in my country. With my passion for robotics, I've created a map-drawing machine to explore innovative methods of mapping the uncertainties of Southern Ukraine's landscape. My practice engages with spatial representation, technology, and the role of local, embodied knowledge in counter-cartography.

Together with Earth Scientist Anatolii Chernov,[7] we have analyzed satellite vegetation data following the Kakhovka Dam's destruction, tracking changes in the landscape on various dates like June 25, 1987 (37 years before the destruction), May 6, 2022 (one year and a month before the destruction), June 5, 2023 (the day before the destruction), June 18, 2023 (12 days after the destruction), and April 4, 2024 (11 months after the destruction).

The machine continuously draws maps of the Ukrainian terrain on a large roll of paper, operating similarly to a pen plotter. Constructed with a mix of 3D-printed components, wood, and metal, it incorporates a CNC[8] circuit in its heart, allowing it to function like a CNC machine.

JUNE 25, 1987   MAY 6, 2022   JUNE 5, 2023   JUNE 18, 2023   APRIL 4, 2024

Vegetation Data, Kakhovka Reservoir (1987–2024). Source: Sentinel Hub.

Interestingly, CNC machines are typically used in manufacturing to create metal and plastic components that consequently become parts of other machines. I decided to repurpose this tool to create cartographies instead, turning a device of production into a medium for exploration and storytelling.

After the gathering of this data the process of translation takes place. Pixels of the satellite image are translated into the geographical coordinate system, called g-code.

Photography: Stefanie Walk, 2024.
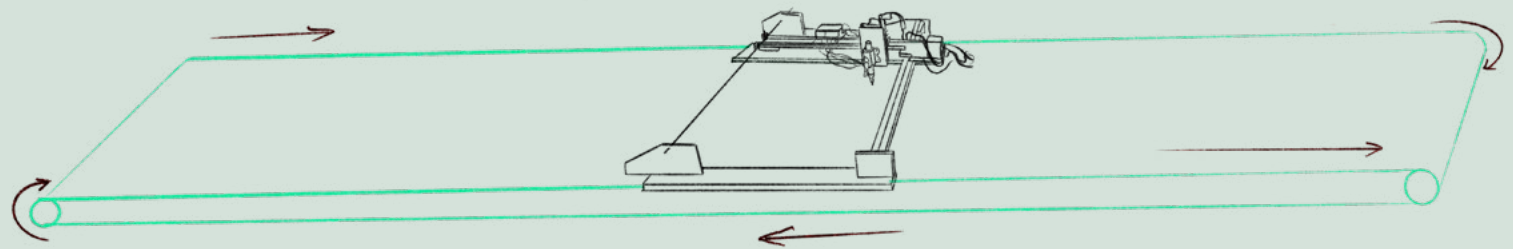
Sketches of the machine mechanism, 2024.

For decades, design theory and computation have been deeply intertwined, probing fundamental questions about how things function. Software is no longer just a tool for description and creation—it's a medium for understanding and conceptualizing.

Photography: Sebastian Reinicke, 2024.

Through the creation of custom-made software in collaboration with designer and software engineer David Héritier, we become mediators between the satellite platform and the map. We manage the signals that move through and between the two infrastructures: the satellite and the drawing machine. This process creates a vertical dimension[9]—a straight line connecting the skies to the elongated maps produced as a result.

Landscape behind the map
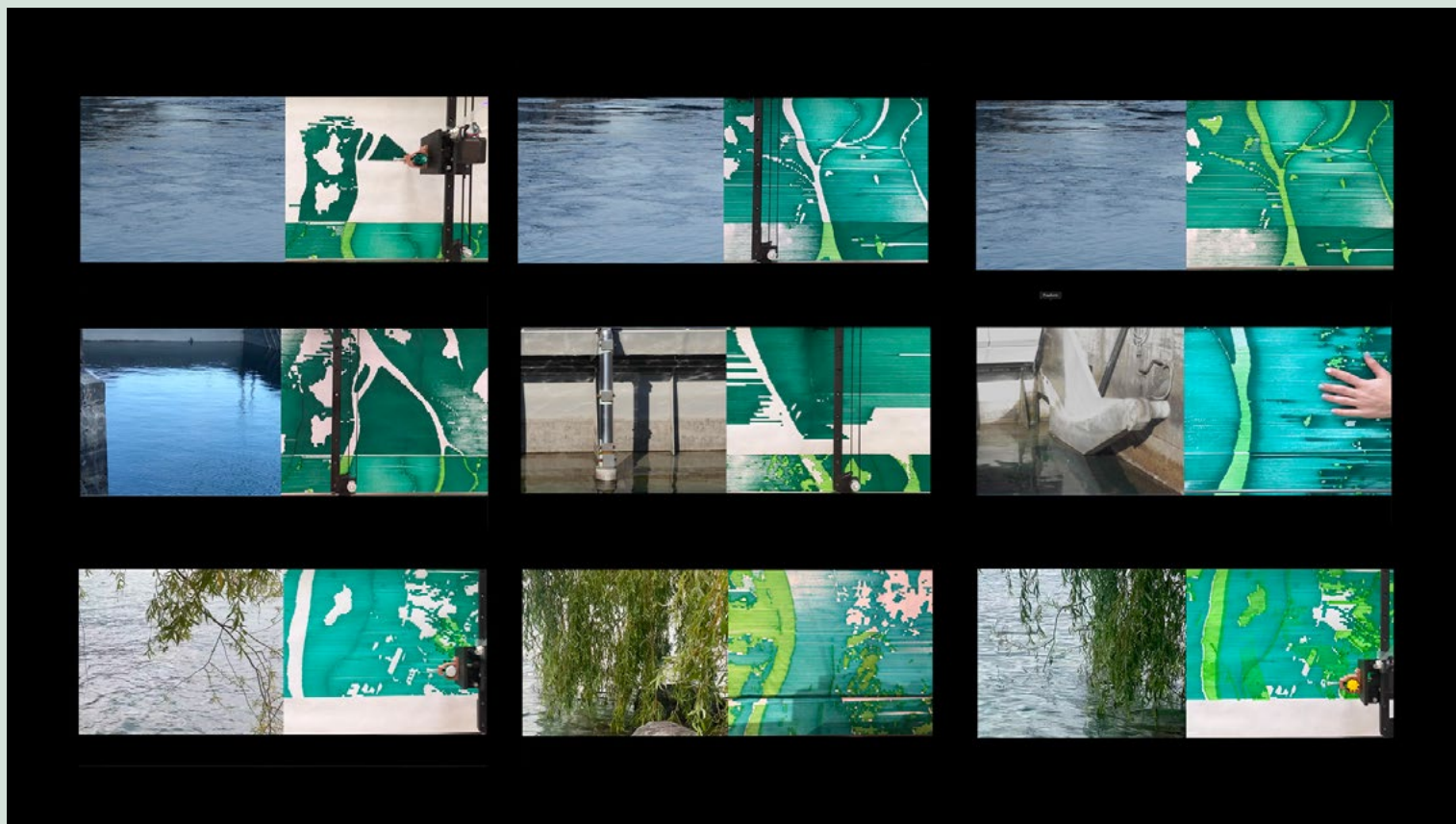
Still from the film Revealing Landscape (2024) by Sonya Isupova.

As I work with the machine, I ask myself: What can I see through the printing process? Through building, constructing, soldering, 3D printing, spilling marker ink, tearing paper, and piecing maps together—can I see beyond the map to the landscape itself?

In this exploration, I attempt to rethink the map—not just as a critique of cartographic projections and their complicity in colonialism—but as a way to include what is often overlooked. Cartography has the power to erase certain realities, but it also has the capacity to reveal hidden truths. Through my process, I believe I am capturing something, thinking through something, and revealing something.

During the documentation stages of printing, something unique emerges: a special form of temporality. It takes approximately 10 hours to print a single map, a process requiring my constant supervision. I refill markers, change paper, and remain present, observing as the landscape gradually takes shape on the map. This meditative yet labor-intensive process forces me to slow down and pay attention. The machine compels me to witness. The maps demand to be seen.

In this back-and-forth of time, repetition, and ritual, the landscape appears. The results are long scrolls of paper and time-lapse videos—condensing 12 hours of printing into just four minutes. The videos erase the labor, amplifying the machine's movements. Yet I was there. I had to be there.

Technology, in this sense, becomes a means of revealing. My machine unveils the uncertainties of the landscape, just as the dam reveals the river as a technological system—a "standing reserve." This act of revealing is also a political act of witnessing and care.
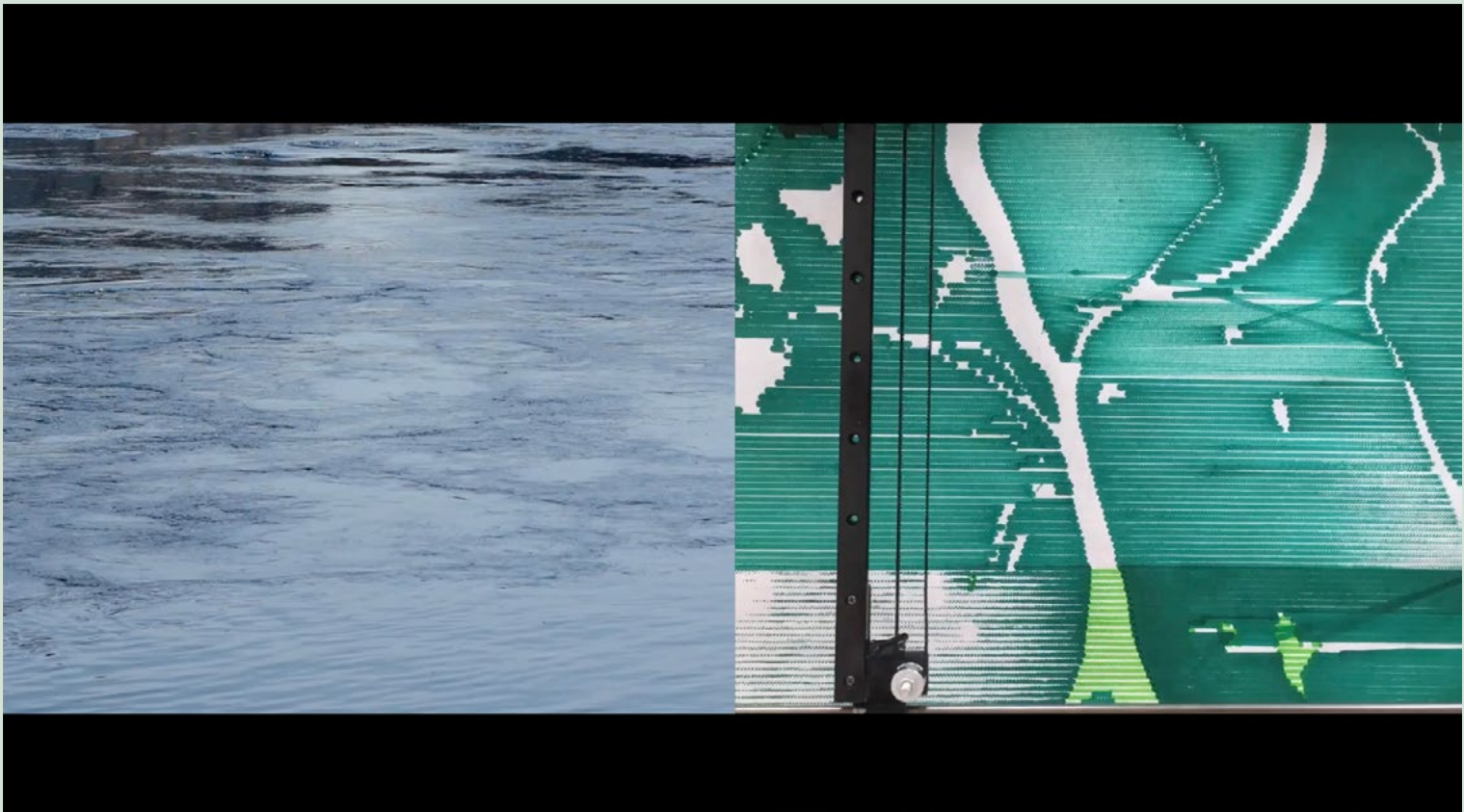
Stills from the film Revealing Landscape (2024) by Sonya Isupova.

With my deep preoccupation with the Kakhovka Dam—its history, the memories of my relatives, and the ecological crisis in southern Ukraine—I strive to uncover its many layers, its multitudes of cartographies, one by one. Much like the dam itself revealed the Dnipro River as both a resource for colonial power and, ultimately, a weapon, I seek to understand how its construction submerged historical landscapes, erasing and reshaping them. Its recent destruction has carved yet another wound into the already scarred region of southern Ukraine, amplifying the echoes of its troubled past.

It serves as a stark reminder of the enduring impact of colonial infrastructures—not only on the landscape but also on its people and their memories. In this way, the dam embodies the cyclical nature of colonial power. From the colonial history of the land to the ecological impacts of the dam's construction and destruction, a complex, multi-dimensional map emerges. I am there to attempt to document it.

Presentation of the maps at La-Becque Open Studios. Photo by Aurélien Haslebacher, 2024.

Endnotes

1   (2024, August). Excerpts from a private phone conversation with the author in Kyiv, regarding Nova Kakhovka.

2   A plan to address the issues of irrigation and electrification in the arid regions of southern Ukraine proposed the construction of a cascade of hydroelectric power stations on the Dnipro River, starting with the Dnipro Hydroelectric Station (HES), as documented in the Central State Archive of Scientific and Technical Documentation of the USSR. Retrieved from: Central State Archive of Scientific and Technical Documentation of the USSR

3   Oleksandr Dovzhenko (1894–1956) was a pioneering Ukrainian Soviet film director, screenwriter, and artist, recognized as one of the most influential filmmakers of the early Soviet era. Known for his silent trilogy *Zvenyhora* (1927), *Arsenal* (1929), and *Earth* (1930), Dovzhenko made key contributions to Soviet montage cinema. He also created wartime propaganda films, including *Liberation* (1940) and *Battle for Our Soviet Ukraine* (1943). Despite ideological pressures, his innovative work in the 1920s and 1930s established him as a cornerstone of Ukrainian and world cinema. Dovzhenko passed away in 1956, leaving a lasting cinematic legacy.

4   *Poem about the Sea* (1958) tells the story of the Kakhovka Hydroelectric Power Station and the human dramas of those involved in its construction, both the participants and the victims. Oleksandr Dovzhenko wrote the script for *Poem about the Sea* while he was seriously ill. He completed the preparatory work and hoped to direct the film, but he passed away just before the first day of filming. His wife, Yulia Solntseva, completed the film after his death.

5   Yulia Solntseva (1901–1989) was an actress and film director, best known for her work alongside her husband, Oleksandr Dovzhenko. As an actress, she debuted in cinema in 1924 and later worked at the Ukrainian Film Studio (VUKFU). She assisted Dovzhenko on several films, including *Arsenal* (1929) and *Earth* (1930), eventually stepping in as a director herself. After Dovzhenko's death in 1956, she completed his final film, *Poem about the Sea* (1958), marking her directorial debut. Solntseva went on to direct several films based on Dovzhenko's works, earning recognition for her contributions to Soviet cinema.

6   Neimark, A. (2012). The infrastructural monument: Stalin's water works under construction and in representation. *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism*, 9(2), 1–14. https://doi.org/10.5749/futuante.9.2.0001

7   Ph.D. in Earth Science from the Taras Shevchenko National University of Kyiv

8   Computer numerical control

9   Weizman, E. (2024, December 15). 1. Introduction to The Politics of Verticality. *openDemocracy*. Retrieved from: https://www.opendemocracy.net/en/article_801jsp/

Aigerim Kapar,
Daughter of the Steppes, from the Argyn Tribe

Memories of Lake Balkhash*

Aigerim Kapar is an interdependent curator, interdisciplinary researcher, decolonial and environmental practitioner based in Kazakhstan. Kapar founded *Artcom Platform*, a community-based contemporary art and public engagement organization, in 2015. She views collective memory, practices of care, nomadic culture, and environmental and climate justice as cross-cutting in all their processes and activities. She has also been organizing *Art Collider*, a school where art meets science bringing communities together, since 2017. Currently, Kapar curates a hybrid reality project *Steppe Space*, a place for contemporary art and culture of Central Asia. In 2020, she initiated the ecological movement *SOS Taldykol* and projects to care for lake ecosystems, such as Care for Balkhash. Her key previous works include *Re-membering. Dialogues of Memories* (2019), an international intergenerational project in memory of victims of 20th-century political repressions in Kazakhstan, and *Time&Astana: After Future* (2017-2018), an urban art research and engagement project.

* *Memories are based on the collective work of the Artcom Platform on the initiative Care for Lake Balkhash.*

2050, Kazakhstan, Almaty—the largest city in the Lake Balkhash basin.

A storm again—a dusty, prolonged, and toxic storm. Breathing in Almaty without a protective mask is impossible. We've forgotten what open windows mean and replaced them long ago with metal shutters. The last storm lasted about a week; in its suffocating haze, it's easy to lose your bearings in both time and space. Permanent darkness engulfs the city, and dunes can block roads within hours, making venturing outside perilous. Electricity is sporadic, and I rarely manage to charge my devices. Perhaps it's time to order an hourglass—people say it helps to feel and measure time. If, of course, there's money left after paying for water. Technical water circulating in the apartment is cheap, but drinking water is more expensive than oil.

It's hard to imagine, but just ten years ago, Almaty was a thriving, green city in the Zhetysu Valley at the foot of the Alatau mountains. The main environmental concerns had been smog and air quality. Mountain rivers flowed through the city, merging into the transboundary Ili River, which carried its waters to Lake Balkhash—a pearl of the Kazakh steppes.

Lake Balkhash was located in central Kazakhstan, 300 km from Almaty, an unseen climate regulator for the city and the backbone of its ecosystem. Shaped like a human liver, it metaphorically hinted at its life-sustaining role in the arid region. One half of the lake was fresh, the other saline. Its waters were piercingly turquoise—a mirage of color and taste in my memory. Sadly, 2040 marked the irreversible death of Lake Balkhash, formerly the 14th largest lake in the world. Within five years, it vanished—a fate sealed by its average depth of only six meters and a vast surface area exceeding 16,000 km². Rising temperatures made it evaporate as if it were boiling. The Ili River, supplying over 70% of the lake's inflow, dried up as the glaciers feeding it disappeared. The Lepsy and Karatal rivers were lost to the sands a decade earlier. Disrupting the delta's connection to Lake Balkhash triggered the collapse of its entire ecosystem.

The lake's demise was primarily caused by human interference, exacerbating the climate crisis. Irresponsible use of Ili River waters by Kazakhstan and China, geopolitical tensions, Russia's neo-colonial policies in favor of building a nuclear power plant near Balkhash, and systemic corruption in Kazakhstan all played a role.
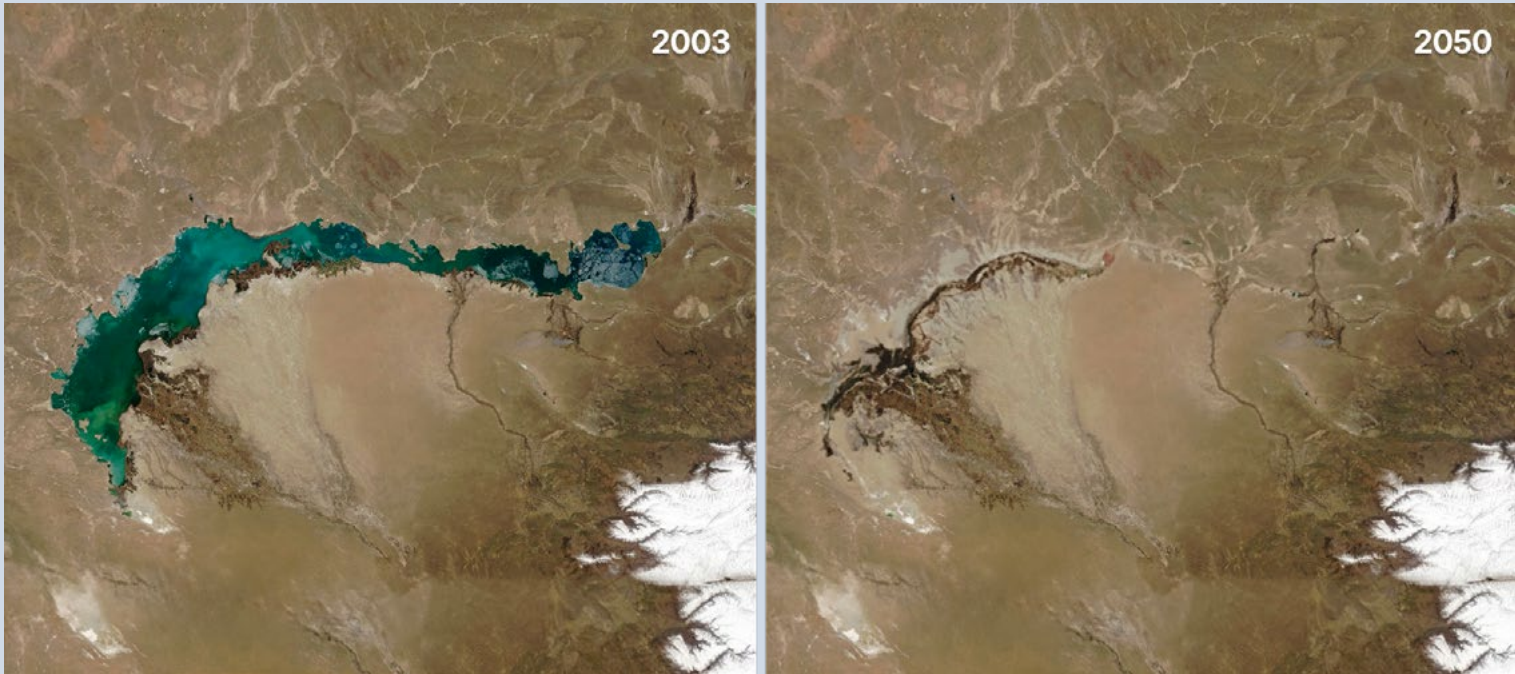
The disappearance of Lake Balkhash (2003, 2050), based on NASA Earth Observatory

Despite efforts by artists, scientists, local communities, and activists to prevent catastrophe, Lake Balkhash followed the fate of the Aral Sea, another victim of 20th-century colonial crimes.

Initially, the water deficit wasn't immediately felt. The Ministry of Water and Irrigation of Kazakhstan annually reported that the Ili River, flowing from East Turkestan (Xinjiang, China), provided enough water to maintain the lake's level at 341 meters above sea level. The optimistic news in autumn 2024 about the Kapshagay Reservoir on the Ili River being full for the first time in years was misleading. The increased water levels were due to rapidly melting glaciers. The Ministry of Ecology saw no significant problem in constructing a nuclear power plant by the lake. At the time of the 2024 referendum approving the plant in the village of Ulken, no studies were conducted on the lake's ecosystem or the plant's potential long-term impact. A 2012 McKinsey study, commissioned by the Kazakh government had already warned that Balkhash would lose up to 86% of its water by 2030. The projections understated the impact of the climate crisis; in practice, the fragile system of Lake Balkhash collapsed even sooner.

The Ili delta was the first to degrade. Even the ancient tugai trees couldn't withstand the changes. Species of animals and birds dwindled, with boars, Bukhara deer, and tigers reintroduced in the Ile-Balkhash Reserve disappearing again. The lake split into two parts—Eastern and Western Balkhash—separated by the Uzyn-Aral Strait, initially only two meters deep. Without a surface connection to each other or the rivers that once fed them, Balkhash dried up. The new Balkhashkum desert merged with the Moinkum, Betpak-Dala, Kyzylkum and Aralkum deserts—the latter formed from the dried Aral Sea. This created a vast toxic sand ocean stretching thousands of kilometers.

From Schulz, C., & Kleinschmit, B. (2023). Monitoring the condition of wetlands in the Syr Darya floodplain—How healthy are the Tugai forests in Kazakhstan? Forests, 14(12), 2305. – https://www.mdpi.com/1999-4907/14/12/2305

For years, I imagined a sustainable future for the Lake Balkhash basin, hoping its turquoise waters would continue to ripple, preserving ecosystems and local communities' collective memory. But as the climate crisis intensified, hope melted away proportionally, albeit with small fluctuations and surges. Now, winds carry grains of the lake's sands across the world—from Europe to Antarctica and Australia—reminding us of our shared, interconnected climate. My care for Lake Balkhash began in 2020, alongside artists and researchers from the Artcom Platform. Together with local communities and experts from the northern shores, we launched the public initiative "Care for Balkhash." Despite dire predictions of the lake's disappearance by 2030, it was crucial for us to envision the future we desired. In 2023, I moved to Balkhash with artist and researcher Aigerim Tleubay to conduct the Art Collider x Balkhash Youth School, helping local youth create socio-ecological projects. We also began organizing the International Water-Climate Forum Balkhash-2024. Throughout the year, Aigerim and I, with the support of our team—Antonina van Lier, Karlygash Akhmetbek, Aigerim Ospan—and the local community, lobbied for the lake's interests with government officials, businesses, international organizations,

and diplomatic missions. Our goal was to engage key stakeholders in preserving Balkhash's ecosystems. Tears and frustration marked those years—we constantly explained the lake's plight and the urgency of action.

Despite everything, the forum was held and supported by the Ministry of Water and the Ministry of Ecology. The region's largest business stakeholder and, at the same time, polluter becames its main sponsor. The corporation became deeply involved in preserving sustainable ecosystems and caring for the lake because their well-being depended directly on it.

The Ministry of Water announced before the referendum on the Balkhash nuclear power plant that a transboundary water agreement with China was forthcoming. However, after the positive referendum decision, the agreement never materialized.

Negotiations had been ongoing for more than 20 years, during which Kazakhstan's representatives nearly succeeded in convincing China that Lake Balkhash was a natural object requiring a vital volume of water. The water allocation from the Ili River should consider the lake's needs rather than just per capita distribution. However, China refused to increase water volumes, arguing that the water was needed to cool nuclear reactors.

I imagined a sustainable future for the Lake Balkhash basin, hoping its turquoise waters would continue to ripple, preserving ecosystems and local communities' collective memory.

Drought came first. Agriculture became impossible, and the food crisis worsened as livestock perished. This was followed by poverty, hunger, and migration—people tried to leave wherever they could. However, not everyone was able to abandon their homes and the graves of their ancestors. With the "departure" of the lake, the copper smelter, mining operations, and nuclear power plant construction collapsed due to the lack of water and people. The gas from the factory chimneys no longer poisons the air, but everything that had settled to the bottom of the lake since the plant began operating in 1938 is now swirling in the air. Locals used to call it "Balkhash rain" when, on windy days, the city was blanketed with toxic dust from the tailings storage. Now, Balkhash rain covers the entire region.

The lake's "slow violence" began in the colonial period of the early 20th century with settler colonialism and the disruption of traditional ways of life. For millennia, nomadic tribes formed sustainable socio-economic systems and adapted to the arid climate. They considered themselves part of the ecosystem on which they depended, living in harmony without any desire to "conquer nature." In the 1920s, industrialization began here, including the exploration and extraction of metals. Against the local Kazakh nomadic tribes, the imperial tools of forced collectivization, artificial famine, and forced sedentarization were employed—a genocide that led to the disappearance of more than half the nomadic population of Kazakhstan by 1933. Lake Balkhash became a hope for salvation; nomads from the steppe flocked here, trying to survive. Yet, the builders of socialism, who arrived from various Soviet republics, had no concern for them. A monument to the famine victims near the lake's shores reads that over 55,000 people died in the Bertys Bay area close to the smelter. Those who survived were forced to settle and work in mines and quarries.

The livestock population decreased by 90% due to collectivization, vegetation cover and soil degradation. Biodiversity also suffered from excessive hunting and was displaced from its habitats by extensive farming. On top of this, Soviet authorities decided to establish several GULAG labor camps near Balkhash and further militarize the northern lakeshore. Closed military towns and a missile test range were built, which served as Russia's radar shield against China until recently. The military eventually abandoned the area, as the lake's surface, critical for navigation systems, had disappeared. No one ever counted how many hazardous and toxic substances were dispersed over the steppe and lake or how much seeped into the groundwater. Now, it probably doesn't matter.

The latest significant drop in the lake's water level occurred in the 1980s with the construction of the Kapshagay Hydroelectric Station on the Ili River and the reservoir filling. Soviet propaganda always amazed me with its claims of innocence: "We didn't know; we didn't expect it; it just happened accidentally." Just as with the Aral Sea, when they introduced cotton production in Central Asia, they knew in advance that the "white gold" would cost the sea and the local people their health and future. The price of the industrial project on the Ili was the degradation of the Ili delta. Tugai forests withered, turanga groves sharply diminished, satellite lakes of Balkhash dried up, muskrats went extinct, and fish from the lake could no longer migrate upstream to spawn, among other consequences. The hydrological balance was broken. Civil society, politicians, members of the government, experts, and environmentalists did tremendous work in the 1990s and early 2000s advocating and developing a plan to preserve the lake. A state program for Lake Balkhash was even adopted, but it conflicted with the interests of businesses and officials.
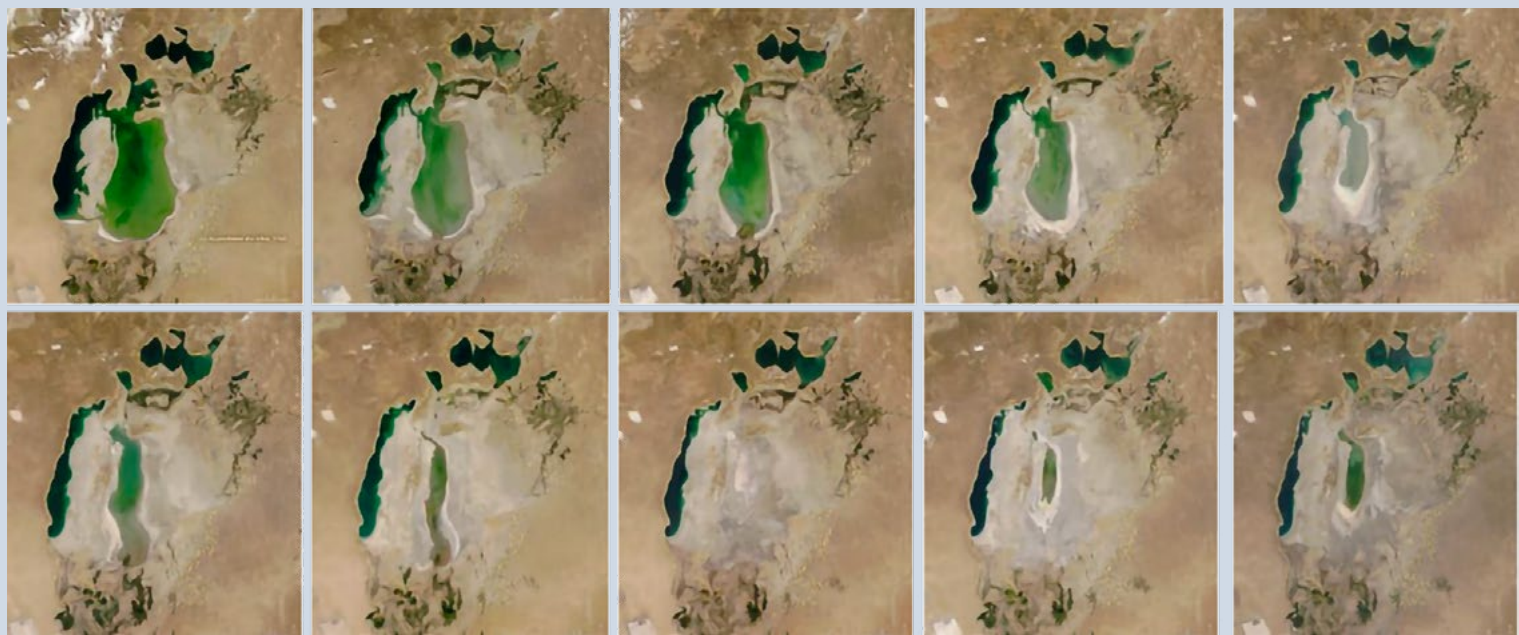
The disappearance the Aral Sea. NASA Earth Observatory https://earthobservatory.nasa.gov/world-of-change/AralSea

Unfortunately, it is not surprising that the colonial power of Kazakhstan did not learn anything from this situation. Capitalist interests were again prioritized, and we successfully "archived" the lake. Now, scientists are trying to restore the nomadic culture and economy, recalling nomadic routes, wells, and underground water sources. A Ministry of Adaptation has been established. We have a whole ministry where scholars learn from our ancestors how to adapt to climatic realities and revive the knowledge that was lost in the colonial storm.

Liza Goncharenko

The Weaponization of Ecosystems: Historical and Contemporary Parallels
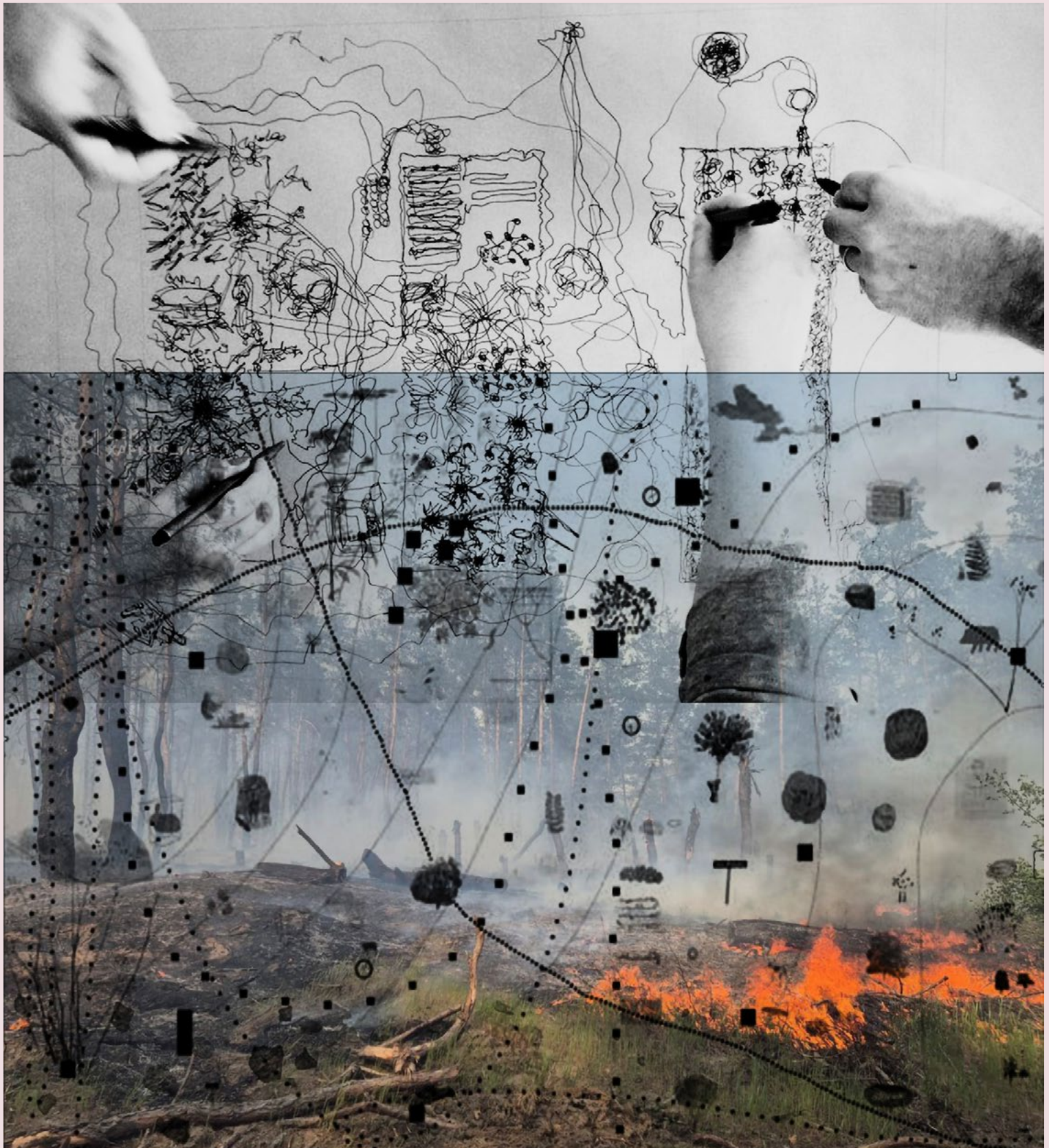
Saltivka Pine Forest: Landscape Mapping, 2024, digital collage by Liza Goncharenko ©

Ielyzaveta (Liza) Goncharenko is a Ukrainian licensed architect, urban designer, and researcher based in Brussels. She holds a MSc in Architecture from KU Leuven (2019) and a BArch from KNUCEA (2015), with additional Urbanism and Landscape Architecture studies at Lisbon University. She has worked in architecture offices across Kharkiv, Stockholm, Antwerp, and Brussels. She was the National Contact for Ukraine at the European Architecture Students Assembly. She co-curated the Residency SESAM Poliklinika in Slavutych, Ukraine. She developed a graphic novel about green sustainable initiatives in New York City at the Institute for Public Architecture. Liza is actively involved in research on Ukraine's ongoing resistance and inter/post-war reconstruction efforts.

War is not fought solely on the ground of human lives or geopolitical ambitions; it is waged within the landscapes we inhabit, upon the flesh of the earth, and within the very systems that sustain life. Nature, so often conceived as a passive backdrop to human events, becomes, in times of conflict, both a tool and a target. This entanglement between warfare and ecosystems, where forests burn, rivers are poisoned, and soil is rendered barren, exposes a deep interdependence: the lives of nations and individuals are already intertwined with the life of the earth.[1]

To view these acts through the lens of history is to uncover a recurring truth: warfare is not only the domain of armies but also of the natural world itself, where landscapes and ecosystems are enlisted in the service of violence. Yet, nature is not a passive victim. It resists. It reclaims. As philosopher Anna Tsing reminds us in *The Mushroom at the End of the World*, the earth is alive, teeming with forces that exceed human control, sometimes even subverting our intentions.[3] This essay traces the weaponization of ecosystems across history, revealing both the deep scars left by militarized nature and the resilience of the more-than-human world.

russia's invasion of Ukraine, with its deliberate devastation of forests, water supplies, and agricultural lands, compels us to reflect on this grim phenomenon. From the catastrophic destruction of the Kakhovka Dam to the targeted attacks on Ukraine's 'breadbasket,'[2] the current war reveals how ecosystems are weaponized not just for strategic advantage but as acts of domination over a people and their land. Such tactics are not new; they echo the scorched-earth policies of Nazi Germany, the chemical warfare of Vietnam, and countless other instances where land, water, and air became extensions of military ambition.

Nature as a Weapon: From the Forest to the Field

The weaponization of nature is as old as war itself. Armies have long recognized that to destroy people, one must destroy the systems that sustain them. Water supplies are poisoned, crops are burned, and forests are felled to deny refuge or sustenance to an enemy.[4] These acts, horrifying as they are, are not merely tactical but symbolic: they seek to unmake the relationship between people and the land they call home.

During World War II, Nazi Germany's scorched-earth retreat across Eastern Europe epitomized this logic of destruction. As they abandoned occupied territories, the Nazis destroyed infrastructure, burned farmland, and devastated ecosystems to leave nothing usable for advancing Soviet forces. The aim was not only to slow the enemy but to erase the possibility of life in the wake of their withdrawal. What they left behind was a land stripped of its vitality, where soil turned to dust and forests smoldered. Centuries earlier, the Dutch employed a similar but inverted strategy during their resistance against Nazi occupation in World War II.

By flooding vast tracts of land, a tactic known as 'inundation', they transformed their landscapes into an impenetrable barrier. Here, nature became an accomplice in survival, a shield against invasion. The Dutch tactic reminds us that ecosystems are not passive victims, they are active participants in the theater of war.

These acts, horrifying as they are, are not merely tactical but symbolic: they seek to unmake the relationship between people and the land they call home.

Vietnam: When the Sky Rains Poison

The Vietnam War marked a new era in environmental warfare, one that brought the full weight of industrial science to bear on the natural world. The United States' use of chemical defoliants, particularly Agent Orange, sought to strip the Viet Cong of jungle cover while destroying their agricultural base.[5] This strategy turned forests into battlefields, converting lush ecosystems into desolate wastelands. As Alfred W. Crosby discusses in *Ecological Imperialism*, the destruction wrought by Agent Orange was not only a tactic of war but an extension of colonial logic. Just as European colonizers transformed ecosystems to favor their settlement, the United States reshaped Vietnam's landscapes to suit their military objectives.[6] The result was a landscape unmade, where rivers were poisoned and the air carried invisible toxins that lingered long after the fighting ceased.

The consequences of Agent Orange endure. Decades later, Vietnamese communities continue to suffer from its chemical legacy: birth defects, cancer, and an environment struggling to heal. The war did not end with the withdrawal of troops; it lingered in the soil, in the water, in the bodies of the living.[7]

Ukraine: The Ecological Battleground

The russian invasion of Ukraine has brought the weaponization of nature into stark relief once again. From the beginning of the war, deliberate environmental destruction has been a central strategy. The destruction of the Kakhovka Dam in 2023 was a defining moment, unleashing floods that submerged towns, devastated farmland, and polluted water supplies. This act, while catastrophic for civilians, was a calculated maneuver to destabilize Ukraine's infrastructure and deny its people the basic means of survival.

Beyond the dam, russia's military actions have targeted Ukraine's vast agricultural lands, often referred to as the 'breadbasket of Europe.' Fields have been mined, irrigation systems destroyed, and soil rendered unusable by contamination. The deliberate targeting of these resources is an attack not just on Ukraine's economy but on its identity: a symbolic assault on the nation's ability to sustain itself and its people.

These tactics bear a chilling resemblance to historical precedents. The scorched-earth strategies of World War II and the ecological manipulation of Vietnam reveal a continuity in the logic of environmental warfare: to control a people, one must first control, or destroy, their land.

The logic of environmental warfare: to control a people, one must first control, or destroy, their land.

Ecological Imperialism and the Domination of Nature

In *Ecological Imperialism*, Alfred W. Crosby offers a framework for understanding the deeper implications of these acts. Crosby argues that the history of conquest is inseparable from the history of ecological transformation. Invading powers have always sought to dominate not just people but the environments they inhabit, reshaping ecosystems to suit their needs and ambitions.[8]

This logic persists in modern warfare. In Ukraine, the destruction of forests, water systems, and farmland reflects a strategy of ecological domination, where the land itself becomes a battleground. Yet, as Crosby's analysis reminds us, such domination is never absolute. Nature resists. It adapts. It continues to grow, often in ways that subvert human control.[9]

The agency of nature becomes even more apparent when viewed through the lens of Anna Tsing's work. In *The Mushroom at the End of the World*, Tsing explores how life persists in the ruins of capitalist and imperial devastation. Her insights reveal a critical truth: ecosystems are not passive victims but active participants in the aftermath of destruction. Forests regrow. Rivers find new paths. Even in the most devastated landscapes, life continues to emerge.

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Toward a Decolonial Framework of Environmental Care

If war devastates ecosystems, then peace must involve their restoration. Yet restoration cannot simply be about returning nature to its "original" state, a state often mythologized and misunderstood. Instead, it requires a decolonial framework of care that recognizes the agency of ecosystems and prioritizes their health alongside human recovery. This approach urges a shift from ownership to stewardship, imagining landscapes not as commodities but as kin. The deliberate pollution of ecosystems weaponizes the most intimate relationships between life and land, transforming environments into sites of prolonged suffering where toxins linger in soil, water, and air, long after human cataclysms subside.[10] In Ukraine, where rivers are contaminated, forests burned, and soil saturated with remnants of war, recovery must transcend technical repair; it must involve an act of cultural and ecological reciprocity. The land, much like its people, carries scars that are both physical and symbolic, demanding rituals of care that honor its role in survival and renewal.

Artistic interventions can play a vital role in this process, transforming recovery into an act of remembrance and reimagination. Ceremonial gestures that cleanse polluted waters, tapestries woven with the charred remnants of forests, and collaborative efforts to replant native species not only restore ecosystems but reconnect communities to the land as a living, breathing entity.[11]

Such practices embody a decolonial ethos, rejecting the logic of dominance and exploitation in favor of relationships grounded in mutual respect and care. This framework envisions a future where human and ecological recovery are inseparable, fostering a shared resilience that emerges not from erasing the scars of war but from embracing them as part of an intertwined journey toward healing.

In Ukraine, the work of restoration will be monumental. Forests must be replanted, rivers cleaned, and soil rejuvenated. But beyond the technical challenges lies an ethical imperative: to treat the land not as a resource to be exploited but as a partner in recovery. This perspective shifts the focus from domination to collaboration, from exploitation to care.

Such framework acknowledges the scars left by war not only on human communities but on the more-than-human world.

This approach urges a shift from ownership to stewardship, imagining landscapes not as commodities but as kin.

Illustrations by Liza Goncharenko ©

It demands a reckoning with the past, a recognition of the ways in which ecosystems have been manipulated, weaponized, and sacrificed in the pursuit of human ambitions. Only by addressing this legacy can we hope to build a future where nature is respected as a partner in peace rather than a victim of war.

The weaponization of ecosystems is a haunting reminder of the entanglement between human war and the natural world. From the scorched-earth policies of Nazi Germany to the chemical warfare of Vietnam and the ecological destruction in Ukraine, history reveals a persistent pattern: to wage war is to wage it against the earth itself.

Yet nature is not a casualty of human violence. It resists. It reclaims. In the ruins of war, life persists, challenging the logic of destruction and offering a vision of renewal.

To recognize this resilience is to see ecosystems not as passive backdrops to human events but as active participants in the unfolding drama of history.

This framework envisions a future where human and ecological recovery are inseparable, fostering a shared resilience that emerges not from erasing the scars of war but from embracing them as part of an intertwined journey toward healing.

In this recognition lies the hope for a new ethic of care—one that honors the agency of the more-than-human world and prioritizes its recovery as part of the broader work of peace. For in the end, the fate of nations and the fate of the earth are inseparably bound. To restore one, we must restore the other.

Endnotes

1   Brauer, J. (2009). *War and nature: The environmental consequences of war in a globalized world*. Lanham, MD: Rowman & Littlefield Publishers.

2   Bazdryieva, A. (2022). No milk, no love. *e-flux Journal*, (127). Retrieved from https://www.e-flux.com

3   Tsing, A. L. (2015). *The mushroom at the end of the world: On the possibility of life in capitalist ruins*. Princeton, NJ: Princeton University Press.

4   Brauer, J. (2009). *War and nature: The environmental consequences of war in a globalized world*. Lanham, MD: Rowman & Littlefield Publishers.

5   Martini, E. A. (2012). *Agent Orange: History, science, and the politics of uncertainty*. Amherst, MA: University of Massachusetts Press.

6   Crosby, A. W. (1986). *Ecological imperialism: The biological expansion of Europe*, 900–1900. Cambridge, UK: Cambridge University Press.

7   Martini, E. A. (2012). *Agent Orange: History, science, and the politics of uncertainty*. Amherst, MA: University of Massachusetts Press.

8   Crosby, A. W. (1986). *Ecological imperialism: The biological expansion of Europe*, 900–1900. Cambridge, UK: Cambridge University Press.

9   Ibid.

10   Matvienko, S. (2022). Pollution as a weapon. *Critical Inquiry*. Retrieved from https://criticalinquiry.uchicago.edu

11   The Red Nation Podcast. (2020, December 29). Indigenous architecture: Building historical consciousness. The Red Nation Podcast. Retrieved from https://therednation.org

Planned Outage for russian Military

One of the most effective ways to disrupt a military action is to sabotage its infrastructure. This manual specifically covers the blackout of electricity supply to military bases[1].

CONTENTS:

	Why electricity?
PREPARATION:	1. Identify the target. 2. Protection against electricity. 3. Protection against police
SABOTAGE GUIDE DEPENDING ON YOUR TARGET:	1. Small capacity transformers, control cabinets. 2. Transmission lines and transmission towers. 3. Substations

Why Electricity?

Contemporary warfare requires vast amounts of energy to operate. This energy cannot be generated entirely from within a military base[2]. An army base must rely on civilian electricity infrastructure outside the military base. This civilian electricity infrastructure is never as safeguarded by troops, making it easier to sabotage than a target inside the military base. Civilian electric infrastructures include transmission lines, transformers, and substations physically connected to a military base. These elements are vital yet highly vulnerable and among the least protected components of military infrastructure. The disruption or failure in one knot of an electric grip causes the switch-off of entire lines that extend to dozens or hundreds of kilometers. This means you have much freedom in choosing a safe target for an attack.

The disruption of the energy transmission will not literally switch the military base off. Most bases have functional generators that can sustain them for days and sometimes months. Still, specifically in the case of the Russian army, there are reasons to suspect that the generators kept at the bases are not fully functional or are present only on paper. Furthermore, many base functions, ranging from air traffic management to first aid and blood transmission, require a constant, immense supply of electricity that is impossible to match with generators. Furthermore, electricity sabotage will force higher dependence on fuel, which is always in shortage. The cumulative importance of electricity sabotage has been reflected in the Armed Forces of Ukraine's attacks that have systematically targeted substations.[3]

Preparation

1. IDENTIFY THE TARGET

EACH MILITARY BASE HAS A CORRESPONDING SUBSTATION.[4] THE LOCATION OF THESE SUBSTATIONS AND THEIR TRANSMISSION LINES, DESPITE BEING CLASSIFIED, CAN BE FOUND USING INFORMATION AVAILABLE ONLINE (THIS PROCESS IS CALLED OPEN-SOURCE INTELLIGENCE):

1 Open Google Earth Pro.

2 Find and enter the coordinates of a military base.

3 Look for corresponding energy infrastructures: substations are usually located within a 10-15 km radius around military bases, transformers, and transmission lines within a 3 km radius. Map all your findings using placemarks in Google Earth Pro.

4 Cross-reference what you found using open-source data. Look for information about the specific region of interest. You need updates and exact numbers concerning regional networks of smaller scale. Were there any spikes in production? Unreasonably expensive equipment installed? Is the substation supplying too much energy for a village of 2,000 people? Have there been any cases of sabotage? The more independent sources you have, the more confident you can be that this is your target.

EXAMPLE. 1 Russian military base in Pereval'ne, Crimea (Base: 44.83933614773036, 34.331007782440665). There is a substation that has been constructed specifically to supply the base with electricity (Substation: 44°50'8.86"N 34°19'14.83"E). Such information can also be confirmed using open-source data like these news publications: https://www.c-inform.info/news/id/82625 or https://kafanews.com/novosti/164615/krymenergo-ustanovilo-unikalnuyu-36-metrovuyu-oporu-dlya-raboty-novoy-podstantsii-foto_2020-01-20

EXAMPLE. 2 Russian airbase in Dzhankoi (Airbase: 45°42'15.91"N 34°25'26.07"E), Crimea. It is connected to the two main substations that also supply the city (Substation 1: 45°42'0.80"N 34°22'0.43"E, Substation 2: 45°35'56.31"N 34°32'18.48"E). The substation has been targeted by the Armed Forces of Ukraine, which confirms that the Russian military has utilised it on the occupied territories https://t.me/rbc_news/56084.

USEFUL RESOURCES TO DETERMINE THE EXACT TYPE OF ENERGY INFRASTRUCTURE, TRANSMISSION LINES' DIRECTIONS, AND THE ELECTRICITY CURRENT LEVEL:

Plan of united energy systems with the most important enterprises and substations

Map of substations and transmission lines in Russia, partly Belarus and Ukraine

Map of all the substations in Russia

Detailed electric infrastructure map for each Russian region

ENTSO-E Transmission System Map (Europe + Northern Africa + Iceland)

2. PROTECTION AGAINST ELECTRICITY

ELECTRICITY IS SAFE TO WORK WITH IF YOU FOLLOW THESE RULES:

① You must determine the type of electric infrastructure and its voltage level in advance. It can be done by looking at the scheme of your regional energy networks—for example, Voronezh: https://energybase.ru/map/map-substations-powerplants-voronezh. Most transformers have voltage markers on them. For example, this substation has a current of 0,4 KV or 400 V. Markings vary depending on the country and region and are to be interpreted for each case individually.
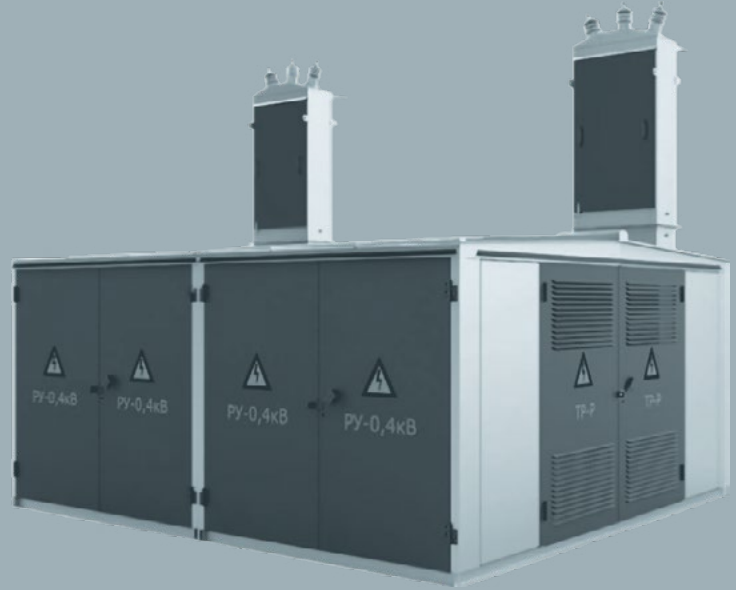
② You can touch the wires by the insulation braid safely if the electrical currents are 1000 volts and lower. Currents of more than 1000 volts strike at a distance and require special equipment and safety measures.

③ Do not touch the bare wiring if you don't know whether there is a current. There are two ways to check whether the wire has a current. First is to use a clamp meter, and second is to check the main transformer's on/off lever position.

④ Prepare special clothes and instruments. Different precautions must be taken depending on the type of infrastructure and the voltage. When working with lower currents (1000V or less), insulating boots, insulating tools, and clothes of dense material are sufficient. When working with higher currents, one needs insulating gloves, insulated tools (cutting nippers, adjustable wrench, screwdriver), safety boots, a hard hat, safety glasses, and flame-resistant clothing.

IN CASE OF AN ACCIDENT

If someone receives an electric discharge, do not panic, do not grab an affected person with bare hands or body parts. If possible, quickly switch the transformer off. Otherwise, grab the person by the protective clothing and sharply pull the person away. The pull must be strong and done in one move as the affected person's muscles would be clung.

3. PROTECTION AGAINST POLICE

ELECTRIC INFRASTRUCTURE CAN BE ATTACKED AT ANY POINT OF TRANSMISSION, GIVING GREATER FREEDOM WHEN PLANNING AND CARRYING OUT SABOTAGE.

Choose the least obvious spot where you will stay concealed.

Thoroughly research the area and develop the arrival and retreat routes.

Prepare the logistics of special clothes and instruments and the ways to get rid of them when the action is carried out.

During the preparations stage, either use the appropriate encryption measures or don't discuss it over the internet at all.

During the execution stage, either have a separate mobile phone and get rid of it when done or don't take a mobile phone with you at all.

Prepare a backup plan in case something goes wrong.

Types of sabotage depending on your target

IN ALL CASES BELOW, YOU CAN DETERMINE IF YOU DISRUPTED THE ENERGY SUPPLY IF THE ELECTRIC HUM WENT SILENT; YOU SEE FLASHES, SPARKS, AND FIRE. YOU CAN ALSO USE A CLAMP METER TO CHECK THE PRESENCE OF A CURRENT.

1. SMALL CAPACITY TRANSFORMERS AND CONTROL CABINETS

TARGET Switch the transformer off and cut the wires using insulated tools. Most of the transformers and control cabinets have switch on/switch off levers, usually located on the side of the transformer or inside, behind the furnace door. Any significant damage/cut to the wire and cables would turn off the installation. When switched back on, it will not work correctly.

TARGET Pour water on the energised circuit. It will inevitably result in a short circuit and damage the installment. It can result in a short, bright flash, typical for a short circuit. You must use specialised water sprayers called fog nozzle or mist nozzle to avoid water transmitting electricity back to you.

TARGET Set an installment on fire using appropriate flammables.

SMALL CAPACITY TRANSFORMERS AND CONTROL CABINETS ON THE PHOTO AND ON THE MAP

small box in the center of the square border

2. TRANSMISSION LINES AND TRANSMISSION TOWER

Phase A conductor **Phase B** **Phase C**
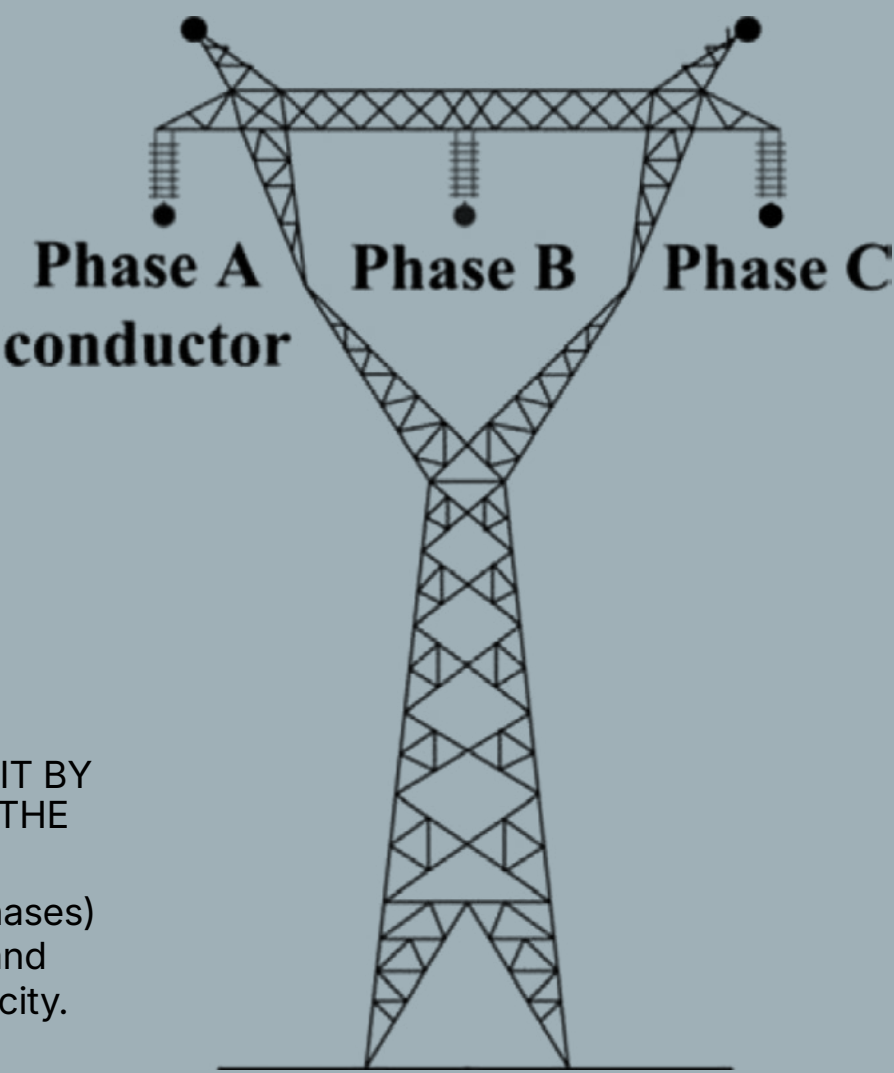
ONE CAN INITIATE A SHORT CIRCUIT BY THROWING A COPPER WIRE OVER THE TRANSMISSION LINES.

When the wire touches two lines (phases) at the same time, it causes a spark and possibly a major discharge of electricity.

EXAMPLE

One can attach the wire to a stone and throw it over the lines. Throwing the wire by hand is not recommended, it is vital to ensure that no one touches the wire at the moment of connection. One could use air balloons, drones, self-made catapults, or any other suitable devices to deliver the wire to the lines.

3. SUBSTATIONS

SUBSTATION SABOTAGE REQUIRES EXTENSIVE PREPARATION AND KNOWLEDGE WHEN DONE ON THE GROUND, POSING THE HIGHEST RISK FOR THOSE CARRYING OUT SABOTAGE ON THE GROUND.

This does not apply to using a drone equipped with an explosive, which does not pose the same risks for its operator. It is best to learn the capacity and type of substation in advance using open source. Most of the time, the central transformers, which should be your primary target, will have identification markers on them. One can apply the same strategies as for ordinary transformers described above or use any other method that is considered suitable.
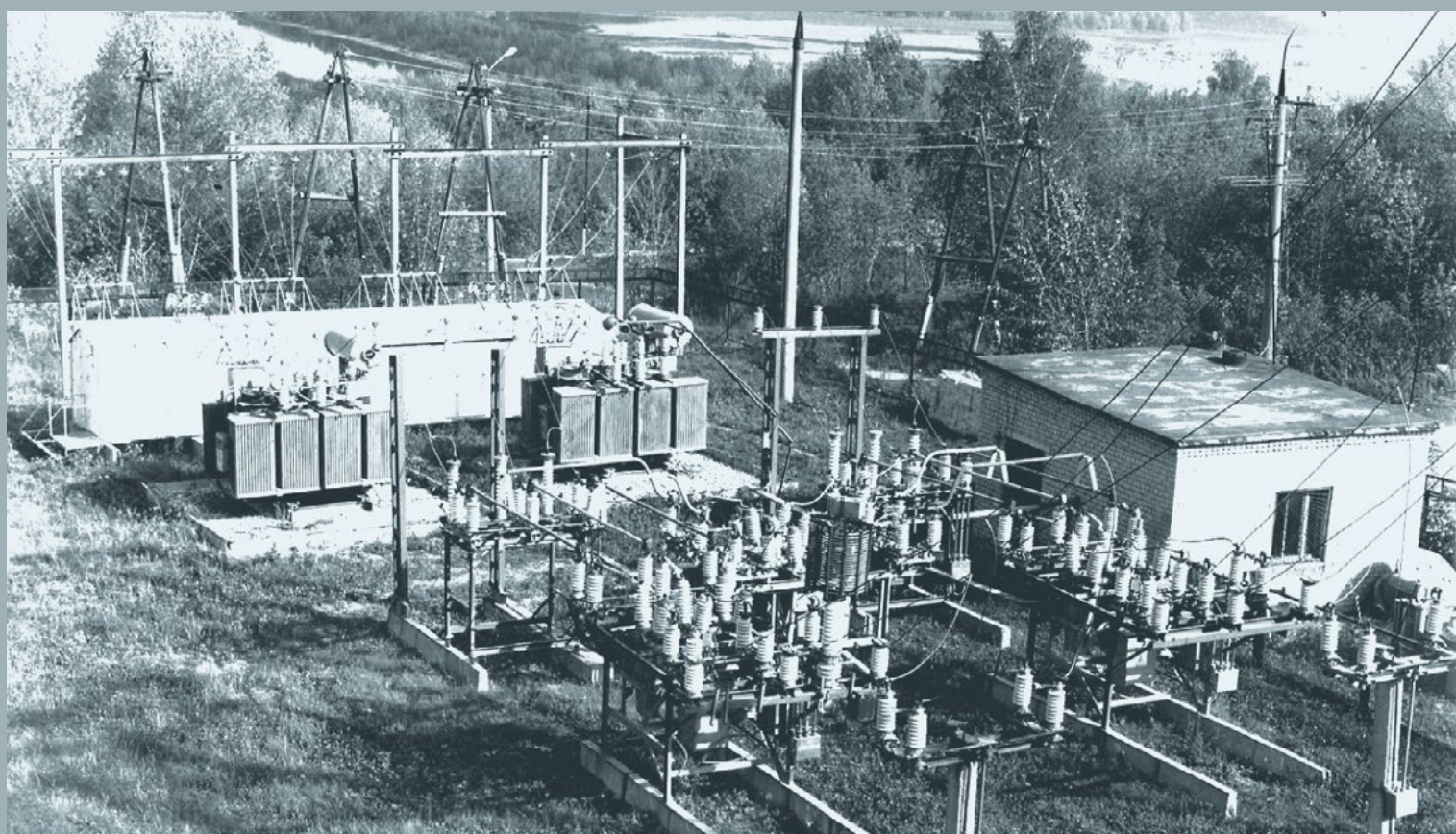
Endnotes

1. There are more ways in which the military is dependent on civilian infrastructures including water, gas, petroleum delivery etc. These dependencies are beyond the scope of this guide but can be explored with the aim of sabotage.
2. This holds true both for military bases that have been converted from civilian infrastructure and built specifically as a military base. Examples: Khmeimim Russian air base converted from civilian airport in Syria, Baranavičy Russian air base in Belarus, built specifically as an air base.
3. Examples: https://www.bbc.com/russian/news-63264513; https://t.me/rbc_news/56084.
4. Electricity is produced at high voltages for efficient transmission. It's stepped down to safe levels for household use using transformers.

Hanna Paniutsich

The Alienation Zone: Radioactive Entanglements of Past and Present

Hanna Paniutsich (@xyana.xyz) is a multimedia artist, designer, and researcher from Belarus who is now based in Glasgow, Scotland. Her work is a collage of personal stories and hi(r)stories, video footage, physical devices, and biomatter. It is heavily informed by scientific research in the fields of ecology, architecture, chemistry, biology, and emergent technologies, which are then reassembled into installations, moving images, and writing. Through this, she explores different types of Exclusion Zones that exist in both physical and digital realms. She navigates through different biomaterials, physical computing pieces, 3D models and scans, online comments, footage and photographs, satellite imagery, data, and coding languages. She runs *Bio-techno Lab* and a monthly Lab Club, which enables people to learn and participate in shaping future technologies by providing facilities, consultations and workshops.
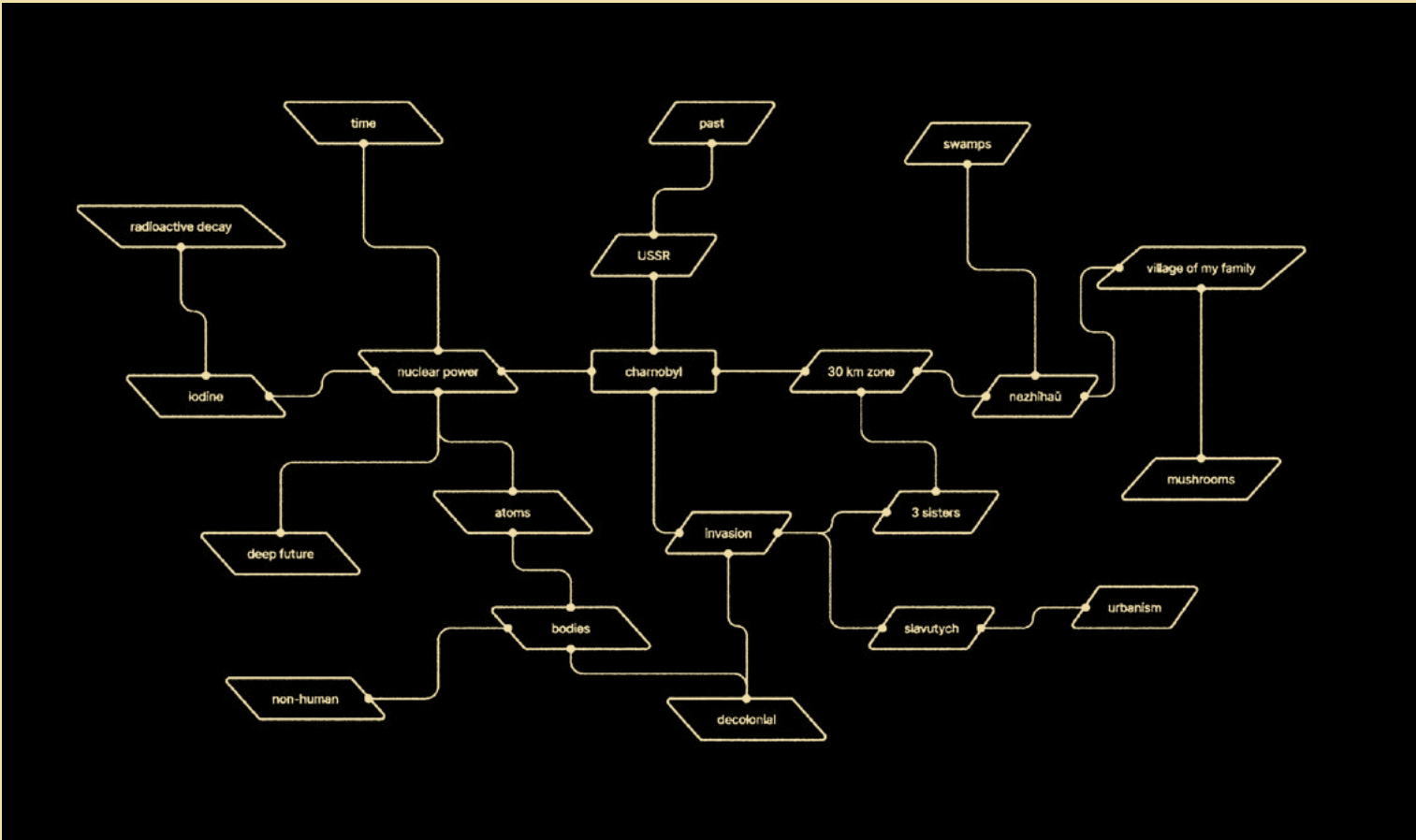
Research map

I want to bring you to Paliessie

Paliessie is a natural and historic region which partly correlates with the Paliessie Lowland. Most of this lowland is situated on the territory of Belarus and Ukraine. The name *Paliessie* comes from the word 'les'—forest—with the prefix 'pa'—meaning on, along. In the 16th century, Sigismund I the Old (the King of Poland and Grand Duke of Lithuania, 1506-1548) gave the Paliessie territories as a wedding gift to Bona Sforza d'Aragona. While travelling on the river Styr, a tributary of the Pripyat, Bona Sforza was impressed by the land. She added the Davyd-Haradok, Pinsk and Kobryn estates, which are historically Paliessie lands, to her ownership.

Bona Sforza contributed to the colonisation of the land and the promotion of agriculture, which required draining the marshes. In the 18th century, Matheus Butrymowicz was the first landlord to start drying out the marshes in order to build estates and roads. Then, in the 19th century, after the land became part of the Russian Empire, Joseph Zhilinsky introduced a land development plan involving the construction of a network of reclamation canals to convert Paliessian lands into agricultural land.

Nieżychaŭ is situated 23 km from Pripyat, now part of the exclusion zone, and surrounded by canals to drain the water as it is basically on a swamp. Closer to the forest there is fine white sand, which naturally drains the water, allowing trees and mushrooms to grow and people to live there. It is now part of the Paliessie State Radioecological Reserve, a protected zone where the effects of radiation are studied. It was possible to visit that area as part of an excursion or during Radaŭnica (the "Day of Rejoicing" is a commemoration of the departed, a national holiday when people gather to drink and eat at the gravesides of ancestors). Since 2008 the village no longer officially exists. In 1986, following the explosion in the Charnobyl Nuclear Power Plant (NPP) around 44 families in the village were moved from the area. Afterwards, they were not allowed to enter the zone.

Map of Niežyčhaǔ and surrounding area

The Belarusian- and Ukrainian-speaking population of Paliessie and Podlasie (a region in northeastern Poland that neighbours Paliessie) often called themselves *Tutejšy*. The term translates to 'those who belong here,' meaning that people from that area did not identify with a particular nation.. Many of these people used to live on islands surrounded by vast swamps, so they managed to preserve a unique identity, which is influenced by the borderland territory and their non-proximity to areas where people would develop national identities.

Atomgrad

After the atomic bombings of Hiroshima and Nagasaki by Allied Forces on August 6 and 9, 1945, Stalin called for an all-out crash programme in atomic research and development. In 1946, Kurchatov[1] tasked Yulii Khariton[2] with establishing a secret Soviet nuclear weapons facility, where atomic research, design and weapons assembly would take place. [3]It was the first ZATO—from the Russian 'Zakrytye Territorialnye Obrazovania', meaning Closed Administrative-Territorial Entity.[4] These sites are basically closed cities with a military government and checkpoints on entry and exit.

A vast network of ZATOs sprang up in less than 20 years in the USSR from 1946 into the 1960s. Forty-four of these cities were founded with the utmost secrecy, with 14 of them involved in nuclear-focused research projects under the supervision of the Special Committee of the USSR Council of Ministers. The first ZATO came about when the main Research Institute of Experimental Physics was set up in the city of Sarov,

with Kurchatov as its director. From then, it was the centre for the Soviet Union's atom-bomb project. The city was renamed Arzamas-16, also known as KB-11 and nicknamed "Los Arzamos."

The development of the nuclear industry was a primary goal in the USSR and continues to be a primary Russian policy and economic objective. In Russia, over 20 nuclear power reactors are confirmed or planned for export construction, according to the World Nuclear Association, with foreign orders totalling $133 billion in late 2017.

It was removed from all unclassified maps, with its existence denied by authorities until 1994.

The first atomic power station in the USSR was built in Obninsk, near Moscow, in 1954. After that, there was a boom of nuclear power plant construction in the USSR and a policy of "peaceful" atomic power because of the possibility that the nuclear reactor could produce great amounts of energy. There were around 18 nuclear power stations built in the USSR and by the mid-1980s, there were around 25 reactors. The development of the nuclear industry was a primary goal in the USSR and continues to be a primary Russian policy and economic objective. In Russia, over 20 nuclear power reactors are confirmed or planned for export construction, according to the World Nuclear Association, with foreign orders totalling $133 billion in late 2017.[5]

Despite the nuclear positivism and the promotion of the peaceful atom, the nuclear infrastructures have always been ideologically oriented towards supporting military structures. After the fall of the Soviet Union, these infrastructures carried on into the present and future.

In September 1957, an explosion happened at Chelyabinsk-65 (a ZATO in the Urals, then named Chelyabinsk-40), releasing 20 million curies of radioactivity. The so-called Kyshtym disaster saw radioactive contamination spread over more than 52,000 square km where upwards of 270,000 people lived, contaminating fresh water sources. Knowledge of this event was covered up until 1980 and the affected land is now known as the Eastern Ural Radioactive Trace. It remains one of the biggest nuclear disasters to date.

The Charnobyl NPP was built in 1978 and was the first plant on the territory of Ukraine. In total, during the time of the USSR, four NPPs were built in Ukraine. The Charnobyl NPP consisted of four RBMK-1000 reactors, which are uranium-graphite channel reactors developed in the USSR; they had a dual system which allowed for producing weapons-grade plutonium.

There was an aim from the Soviet government to show a civil, "peaceful" approach to using the power offered by the nuclear infrastructure of the Cold War, especially considering the attempts by the Soviet Union to produce and consume more power than other countries in the world.[6]

The city of Pripyat was built as an atomgrad (a type of a closed city, literally meaning a nuclear city) which served the Charnobyl NPP. Atomgrads were urban projects that served the purposes of both energy economy and political propaganda.[7] They were relatively open cities, but the Charnobyl station itself remained a very closed facility. Duga-1 was deployed not far from the factory. It was an over-the-horizon radar station for early anti-ballistic missile identification that operated from 1976 to 1989.[8] One of its parts was situated in Charnobyl-2 and another in Lyubech-1 and, as with other closed cities, they were unmapped.

Civilians were not allowed within a few miles of the base. The two transmitting antennas were located in Lyubech and the two receiving antennas in Charnobyl-2.[9]

Because of the explosion, previous leaks at the Charnobyl factory, and the making of the surrounding territory into a highly-securitised area—building military stations, ZATOs, the NPP itself and later on the exclusion zone—the people and unique nature of Paliesse have suffered tremendously. Svitlana Matviyenko says that this is "an overlooked case of nuclear colonialism."[10]

According to the Nuclear Non-Proliferation Treaty enacted in 1970, almost all nuclear reactor facilities are allowed to produce enriched products, despite the fact that they can be used in nuclear weapons. Therefore, we can imagine the area around Charnobyl NPP as a military zone with certain infrastructure provided by more open cities surrounding it. The nuclear positivism that remained in the core of the atomgrads and the new economy connected to the construction and operation of the plant helped to hide the dark side of it. Despite the nuclear positivism and the promotion of the peaceful atom, the nuclear infrastructures have always been ideologically oriented towards supporting military structures. After the fall of the Soviet Union, these infrastructures carried on into the present and future.

Present day infrastructure

In April 2015, Rosatom, Russia's state-owned nuclear energy corporation, said that it had contracts for 19 nuclear plants in nine countries, including those under construction. In December 2015, it said it had orders for 34 nuclear power reactors in 13 countries including China, Iran, Bangladesh and Belarus.[11]

Technically, at almost every nuclear reactor facility it is permitted to produce enriched products, which can be further used in nuclear weapons.

This is based on the Nuclear Non-Proliferation Treaty enacted in 1970, which aims to prevent the horizontal spread of nuclear weapons. It allows states with existing nuclear arsenals to keep them as long as they make some vague agreement to eventually disarm in the future. It also allows signatory states to house the entire nuclear fuel cycle facilities for civilian energy purposes. The second allowance is seen as a significant loophole, because the enriched uranium or plutonium created through the

Progress of the building of new districts in the city of Astraviec

production of nuclear energy can, with some additional effort, be redirected towards nuclear weapon production.

A Belarusian NPP project was started in the 1980s, but as a result of the Charnobyl catastrophe and what is called the "radiophobia" of Belarusian people, it was postponed. Due to Belarusian dependency on Russian gas, however, the project was later restarted. The building of the Astraviec NPP in the northern Belarus region of Hrodna began in 2013 and was finished in 2021. All the way, it was considered a very controversial project because of its proximity to the Lithuanian capital of Vilnius. The whole production chain of the Belarusian NPP—including producing,

Astraviec NPP can be seen as an extension of Russian nuclear and military infrastructure.

supplying and dealing with radioactive waste—is claimed by some to be done by Rosatom. Russia is lending up to $10 billion to Belarus to finance 90% of the contract. Because of that, Astraviec NPP can be seen as an extension of Russian nuclear and military infrastructure. The formerly little town of Astraviec in Hrodna region has turned into an atomgrad serving the nearby station.[12]

Contamination, nature

The part of the exclusion zone surrounding the Charnobyl reactor that lies in Belarus is also a nature reserve where the effects of radiation are studied. Because this place is "human-free" (a low number of people still populate the area), nature has taken power over the territory. For example, the wild animal population

is now at the same level as it was before people started to inhabit these territories. Many species are adapting to the radiation, like various fungi that are found growing inside the reactor and which use radiosynthesis to provide the energy they need to grow and thrive.[13]
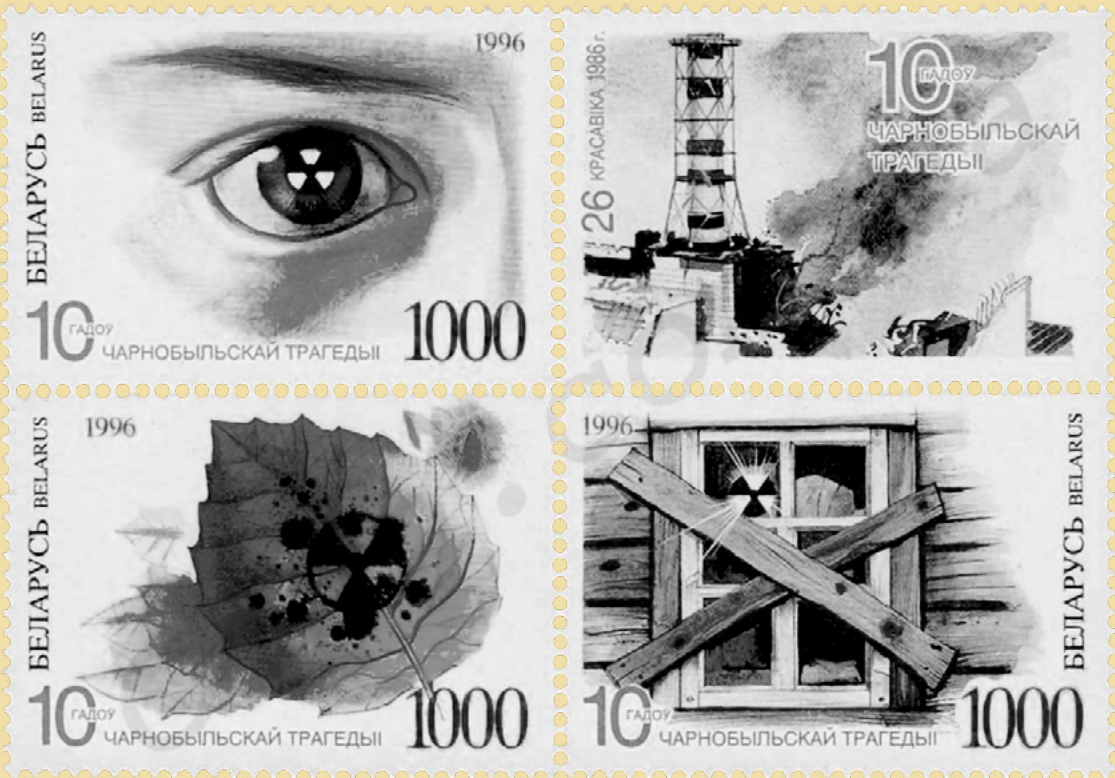
Set of postage stamps "10 years of Charnobyl Catastrophe", 1996

In the contaminated zone, there were 3,678 towns and villages, where 2.2 million people lived. The release of radioactive material forced the evacuation of 135,000 people—including Pripyat's entire population of 45,000—and badly contaminated roughly 200,000 square km of land.

The chains of radionuclides to humans are following:

Plant produce → **humans**
Plant produce → **animals** → **milk** → **humans**
Plant produce → **animals** → **meat** → **humans**
Water → **fish** → **humans**
Drinking water → **humans**

It is expected that it will take 300 years for all the elements that were released during the catastrophe to decay. This estimate is based on the decay time of Caesium-137. The analyses tell that by 2046, radiation in Minsk region will not be more than one curie per square km (Ci/km2), a measurement of background contamination levels.

Mushrooms are known to accumulate radiation. Different mushrooms soak up radiation differently and, for example, Xerocomus is not advised to be collected at levels higher than 0,2 Ci/km2, whereas Armillaria can be collected at below 2 Ci/km2. Official advice calls for boiling mushrooms two or three times in salty water and draining it every time. After such manipulations the content level of radionuclides will drop by 2-10 times.

Radiation is invisible to the human eye and is made from rays, some of which are able to penetrate through human bodies. In the process of radioactive disintegration, different elements decay and have different half-lives. For example, the half-life of Americium-241 is 432.2 years. Strontium-90 has a half-life of 28 years and is very dangerous because its chemical constitution is similar to calcium. This is why it can accumulate in bones, leading to tumours and other health problems. While Iodine-131 has a short half-life of eight days, this radiation can still destroy all or part of the thyroid gland.

In Belarus, the topic of contamination from Charnobyl remains on the outskirts of the state agenda. Mostly, the accident is framed as an economic problem. It might appear as a paradox that most articles about Charnobyl discuss socio-economic issues when Belarus has a growing number of young people with cancer and other diseases like heart failure that can be traced to the catastrophe.

Still from Rooting: Search for a Sign (6:52 min), 2022

Pollution around the globe, war pollution

Years after the explosion, traces of the Charnobyl catastrophe are found around the world. As recently as 2017, some hunters found a pack of wild boar in Sweden that contained over 10 times the generally-accepted safe level of radiation. As boars search for food by rooting around in the ground, they can dig up and ingest matter rich in Caesium-137. In Norway in 2018, radiation levels in meat and milk doubled without warning. After investigation, it was found that the radiation was caused by a much higher-than-normal amount of mushrooms springing up that year. As fungi can absorb up to 1,000 times the amount of radiation as plants, its presence led to the contamination of other goods.[14] This shows that there is still, and will still be for some time, the need for management of this issue. Furthermore, a 3.5 tonne shipment to France of Belarusian mushrooms was recently stopped after officials in Germany found that it was contaminated with Caesium-13.[15]

Similar to the radiation of Charnobyl, pollution from the war in Ukraine (the biggest armed conflict in Europe since WW2) is predicted to be impactful not only on a regional level. Air pollution, greenhouse gas emissions, damaged biodiversity, soil pollution as well as destruction of the Earth's surface and aquatic environment is more than evident and will affect the human and non-human populations in many ways.[16]

In the instances of both the explosion in Charnobyl and the full-scale invasion by Russia of Ukraine, pollution and contamination is used as a colonisation strategy. And in this war, nuclear contamination is manifested not only by nuclear threats, but also by invading and executing operations around NPPs, including the biggest in Europe at Zaporizhzhia.

There is an international convention which allows most governments not to report on greenhouse gas emissions caused by the military and to exclude them from national targets.[17] Similarly to radioactive pollution, this pollution remains invisible.

When radioactive particles or rays hit the tissues, cells or molecules of a living being, the collisions can alter both the functions and structures of the body. Cells fail to complete their normal functions, while DNA and other molecules carry corrupted information. Radiation is similar to colonialism. It tries to enter and erase all the DNA of the people, alter the ecosphere, exploit the surroundings. Radioactive pollution, and pollution in general, should be considered colonialism.

Radiation is similar to colonialism. It tries to enter and erase all the DNA of the people, alter the ecosphere, exploit the surroundings.

The Zone of Alienation is an exclusion zone established by Soviet Armed Forces in 1986. But the Zone was established long before the Charnobyl accident.

If we take a look at Western colonisers, the geographies of colonial territories were key sites for the performance of militarisation and scientific development through the suppression of history and indigenous presences. Then, nuclear testing opened opportunities for studying the influence of radiation on the whole ecosystem.[18] Similarly to the US empire of tropical islands, which were used as sites for military testing and scientific epistemologies like ecosystem theory, "the process of reassembling the [Russian] imperial body operates by rupturing established relations, including relations across multispecies environments as well as erasing and/or extracting local knowledges of ecosystems."[19]

The Alienation Zone is an advanced laboratory of the consequences and long term legacies of irradiated waste colonialism. At the moment, many regions of the world are converted into zones of alienation due to war and environmental destruction. But the effect of climate change does not leave any places untouched, making the whole Earth an exclusion zone.

This text is based on the publication Vypramieńvannie/Radioactivity by Hanna Paniutsich, self-published, 2024.

Endnotes

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Nomeda and Gediminas Urbonas in conversation
with Tatiana Kochubinska

System of Dependency: "Druzhba" project

This conversation reflects on the artistic project "Druzhba" by Nomeda and Gediminas Urbonas that the artists have been developing since 2003. The project explores the political, economic, and cultural implications of the "Druzhba" pipeline, examining the geopolitical and infrastructural legacies of the Soviet Union, as well as the political power and privatization that followed its collapse. Through the conversation, together with the artists we uncover the historical, political, and social layers embedded in the pipeline's operation, expressed through the art installation of the same name, which blends themes of infrastructure, power, and the irrational and magic.

Nomeda Urbonas, artist and researcher at Art, Culture, and Technology Program at Massachusetts Institute of Technology, co-founder of »The Swamp School« (2018), and co-author »The Swamps and The New Imagination« (2025)

Gediminas Urbonas, artist and Associate Professor at Art, Culture, and Technology Program at Massachusetts Institute of Technology, co-author of »Public Space Lost & Found« (MIT Press 2017)

Nomeda & Gediminas Urbonas are artists, educators, and co-founders of the Urbonas Studio, an interdisciplinary research practice that facilitates exchange amongst diverse nodes of knowledge production and artistic practice in pursuit of projects that transform civic spaces and collective imaginaries. Urbonas have exhibited internationally including the São Paulo, Berlin, Moscow, Gwangju, Lyon, Busan, Kaunas, Taipei Biennales, Folkestone Triennial, Manifesta and Documenta exhibitions, including a solo shows at the Venice Biennale, MACBA in Barcelona and National Gallery of Art in Lithuania. Their writing on artistic research as a form of intervention was published in the books »Devices for Action« (MACBA Press, 2008), »Villa Lituania« (Sternberg, 2008), and »Public Space? Lost and Found« (MIT Press, 2017). Urbonas curated the Swamp School at the 16th Venice Architecture Biennale 2018. The book »Swamps and the New Imagination: On the Future of Cohabitation in Art, Architecture and Philosophy« is due out in 2025 (Sternberg, MIT Press).

Tatiana Kochubinska (UA) is an art historian, independent curator, author, and lecturer. In 2020, she co-edited *Euphoria and Fatigue: Ukrainian Art and Society after 2014* for Obieg magazine. In 2022, she was a fellow at ZKM, Karlsruhe, DE and joined the curatorial team of *antiwarcoalition.art*. In 2023, she co-curated *Kaleidoscope of (Hi)stories. Ukrainian art 1912-2023* (Albertinum Museum, Dresden, DE) and in 2024, she co-curated *Maybe We Can Have Fun Together* by Ivan Svitlychnyi (Arsenal Gallery, Białystok, PL), *Landscapes of an Ongoing Past* (Urbane Künste Ruhr, Essen, DE) and *Sense of Safety* (YermilovCentre, Kharkiv, UA and across Europe).

Nomeda and Gediminas Urbonas in front of their installation "Druzhba", "Borders Are Nocturnal Animals" exhibition, Palais de Tokyo, Paris, 2024, Photo by @saisonlituanie2024, Courtesy of the Artists

Tatiana Kochubinska: To begin, could you describe the context in which your "Druzhba" project originated? How did it start, and how has it evolved over the years? How have shifting political landscapes and revolutionary changes influenced your work and its representation?

Nomeda and Gediminas Urbonas: It makes sense to start from this question. Well, our generation lived through all these changes. As the movement for independence was forming, and we were students at the Vilnius Academy of the Arts, we took part in student strikes pushing for changes in the school and university. We managed to change the leadership, and professors who collaborated with the regime had to leave. It's interesting that in Lithuania, the independence movement began with intellectuals—musicians, artists, writers— and students were very political.

As a result, one system was replaced by another, and these rapid changes, brought about by neoliberal capitalism and the privatization of the commons, had a huge impact on society. In our artistic work, we focused on the effects of these rapid transformations, approaching them from various perspectives. One of our efforts was running an artist-run independent organization, which we established in 1993—perhaps the first of its kind in the country and in the Baltics. We also started working on research-based projects. These projects had an interdisciplinary and critical character, reflecting on what was happening in society. Our first breakthrough project, Transaction, involved psychiatrists, women intellectuals, and film archives. Exactly through the film archives, we became involved in reflecting on privatization, as the film studio and archives themselves were privatized.

Suddenly, we were witnessing not only the demolition of buildings for real estate speculation but the disappearance of actual archives as documents of memory, which were ending up in the hands of real estate developers. These were the paradoxes of the time, like wild turmoil of that time marked with a kind of phantasmagoric irrationality.

That's how we also came across the privatization of the major infrastructure, like Mažeikiai refinery, which is the pipeline's "Druzhba" end in Lithuania. We started to think about the infrastructures that are invisible, like pipelines, which only become visible when something goes wrong.

T. K.: And how did the artistic project "Druzhba" come about and how was it shaped?

N. & G. U.: The project started in 2002 at the artistic residency in Schloss Solitude[1] in Stuttgart. Jean Baptiste Joly, the founding director of the Akademie Schloss Solitude, started a new program within the residency where he invited artists, business people and scientists to work together, suggesting to investigate the concept of the network. This conversation was influenced by theorists like Bruno Latour and Manuel Castells.

The reflection at the time focused on large financial networks and the ideas that emerged in the 1990s, such as the "end of history" and the dominance of global capitalism. The dot-com crash in 2001 raised questions about the network itself. "Network" became the buzzword— it had entered the vocabulary and quickly became a trendy, even fashionable, term.

Within this context we suggested other artists and scientists at the table to investigate "Druzhba" infrastructure as an example of the network.
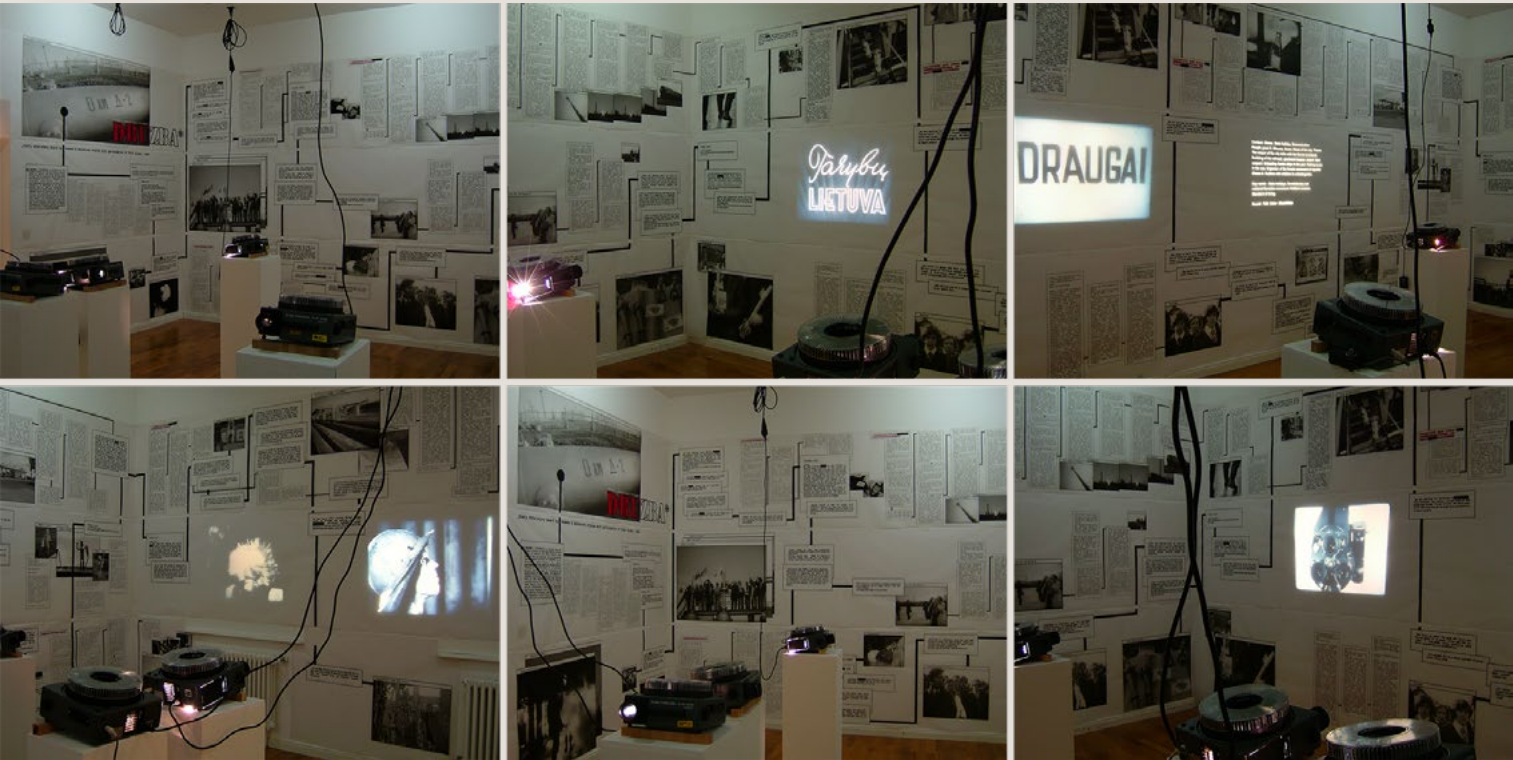
"Druzhba" installation view, Akademie Schloss Solitude, Stuttgart, Germany, 2003, Photo by Nomeda Urbonas, Courtesy of the Artists

T. K.: In this initial phase, did you approach "Druzhba" as an ideological concept, or did you focus on the pipeline itself from the beginning?

N. & G. U.: A pipeline, you know, it's always a play of words. We introduced the map of "Druzhba" as a network that connects various geographical locations and independent countries. Unlike an Internet network or a network of friends, this network of pipes is very material, and not elusive; it is one of the largest networks in the world; it is a system of refineries, pumping stations and automated control centers. While it connects for specific purposes, much like how software systems link accounts, its physicality and infrastructure make it fundamentally different. This network isn't new—it has existed for 50 or 60 years, connecting generations of people. Their lives and bodies are intertwined with it, whether as experts, service personnel, administrative workers, or others involved in its operation. Over time, an entire workforce has been dedicated to maintaining this network, while entire countries, in some ways, have become enslaved by it.

We proposed examining the network from multiple perspectives—financial, cybernetic, representational, narrative, and cultural—seeking to understand and engage with it in different ways. This framework essentially laid the foundation for how the project began. Research-based art in a way was a counter-reaction to modernist and very formal or traditional art forms that characterized the period before these changes. This practice reflected the new times and the possibilities they brought. Research, in this context, became our instrument, tool, and methodology.

T. K.: From today's perspective, the "Druzhba" pipeline seems to be a huge infrastructure of power. In the context of the early 2000s, when you worked with experts from various fields, what was the response to the pipeline as an active infrastructure (which is still active today)?

N. & G. U.: Back then, in 2002, "Druzhba" was actually in the hands of "Yukos"[2] company, and Mikhail Khodorkovsky, who at that time, was the richest man in the world. Back then he had an ambition to outsource Siberian oil to Americans, negotiated with Japan, China etc. In our project, we were reflecting from two perspectives: on one hand, privatization and the networks of financial and political power. On the other hand, there's the inherent contradiction, as power cannot force genuine friendship. As someone once said, you can't be told to be friends. This paradox is built into the proposition itself. So, in "Solitude" with this transitory group of people around the table, we agreed that the project had many facets. We needed diverse expertise to fully engage with it and navigate its complexities. For example, there was a Hungarian writer Peter Zilahy, with whom we started to write a script and who spoke Hungarian. At the time, we naively thought we would go to Siberia, visit the oil fields, and talk to the local tribes. Their language was linked to Finno-Ugric, so we hoped we might even understand each other. We had read articles about how the company had essentially colonized these vast fields with the land and with the people who live there.

"Druzhba" installation detail, 12th Kaunas Biennial, Lithuania, 2019, Photo by Nomeda Urbonas, Courtesy of the Artists

We knew Druzhba pipeline's endpoints run into Ukraine, Belarus, Slovakia, and the Adriatic. Later, we learned that it passes through Germany, continues into France and extends even to Marseille. These pipelines are interconnected into one system, providing oil to much of Europe. Though the branches are named differently by the companies that own them, they all form part of the same Druzhba network.

For many people around the table, this was completely new. At the time, the post-colonial discourse often focused on the imperial histories of Britain, France, Germany, the Netherlands, Spain, and Italy, but Russia as an empire was largely absent from that conversation.

The pipeline was built in the 1960s, and now [2003, when the first installation was created — Author's note], 40 years later, we realized we are dealing with Druzhba's legacy. It has such an enormous capacity as economic and political power, so it can dismantle governments or destabilize entire states. It's not just physical; as we said, there are also metaphysical aspects to it—something that touches your unconscious. We began looking at different films and cultural phenomena that fueled modernity, particularly the idea of endless access to energy.

T. K.: At what point did your focus shift from just the economic side of things to considering the decolonial perspective? How did you start looking at the ideological and cultural impacts, especially in terms of how Soviet infrastructure affected people's lives and power dynamics?

N. & G. U.: It wasn't like we were studying something and then came to terms within it. We were witnessing disintegration of infrastructure as it was happening, especially with privatization and certain decisions made by different parties, groups and governments. Privatization was a key project in the early 1990s, marking the beginning of a new era. We —in Lithuania— were entering negotiations becoming part of NATO and the EU, and moving toward the Eurozone. To prove that we were accepting privatization, we had to show we were running a liberal democracy based on the free market. Privatization became the proof of political readiness. At the same time, we saw how public property, the major driver of the economy, was being transferred to private hands.

We watched as the state-run refinery in Lithuania (the biggest of its kind in Eastern Europe) was sold to an American company, then quickly sold again to a Russian company, and later run by Yukos. As we dug deeper, we realized that this was no longer about the nation-state. We began to look at the "Druzhba" pipeline from a "hyperobject" perspective —beyond borders, agreements, and democratic systems— while also delving into archives. We became deeply interested in the moment when Soviet modernity began to override local ecosystems. On one hand, you had the modernity introduced by the United States with the Marshall Plan after World War II, bringing design, media and film that shaped the image of modern life in Europe. We looked at the effect produced, including in the Soviet Union, with the American exhibition in Moscow. In different projects, we explored these aspects, but the starting point for us was the energy project, which we saw as the ultimate realization of modernity. It was a forceful transformation of entire cultures, offering a promise of friendship while brutally reshaping landscapes, building settlements, and laying down pipes. This was, in a sense, a social and cultural engineering project. At the same time, we were aware of the hidden world of energy that powered it all.

T. K.: And how did you translate your conceptual thinking into visual form, how did you structure it in order to convey your ideas artistically?

N. & G. U.: In 2003, by the end of the Art, Science & Business residency at Akademie Solitude, we were asked to present the research as an exhibition in one of the project rooms of the castle. We structured the material in the form of a diary, like a "Druzhba" storyboard. As a

journey, traveling along the pipeline, the narrative navigates through three layers: one would be of the media references and art, another would be a real (hi) story of the "Druzhba", and the third one would be a magic —signs, symbols and weird things occuring along the pipeline. We were compelled to explore tensions between the physical and metaphysical, between political power over marginalized people and these people's stories.

"Druzhba" installation view, "Borders Are Nocturnal Animals" exhibition, Palais de Tokyo, Paris, 2024, Photo by @saisonlituanie2024, Courtesy of the Artists

For example, we met Ivan Dolozczynskyi, a Ukrainian who lived in Biržai and who witnessed how the pipeline was built. His whole life was dedicated to this pipeline project, thus his voice has given us a worker's perspective. From Ivan we learned how through privatization people who worked for the pipeline were pushed to the margins. In addition we get interested in the metaphysical energy, and start looking into where a resistance to modernity is.

For example, the shamans living on the oil fields, in territory surrounded by barbed wire. Company owning the pipeline comes with helicopters, dropping what they need—salt, gunpowder for hunting. It doesn't matter who is the owner, Yukos, Rosneft or Transneft, this colonial infrastructure reproduces its omnipotence.

This "hyperobject" functions regardless— war, government changes, political shifts—it continues to reproduce. That was a scary thought. So we started thinking about resistance. What could it be? We looked for inspiration: shamans, paganism, even madness. Trying to mirror back this extreme rationality that exceeds itself and becomes madness.

"Druzhba" installation view, "(re)Construction of Friendship" exhibition, KGB Museum, Riga, 2014, Photo by Mākslas telpa, Courtesy of the Artists

T. K.: It's an interesting thought— the double faces of rationality and madness. I just want to clarify a few things. You mentioned the diary and the three layers in the installation. If I understood correctly, you first presented this in Schloss Solitude. Where did you gather the archive, and how did you conduct the interviews? Was it just the starting point? Also, regarding the diary, you never actually traveled through the pipeline or its locations, right? You spoke to people in Lithuania?

N. & G. U.: This diary is our imaginary journey—semi-fictional. It's semi-fictional because we did research in Lithuania. Peter, the Hungarian writer, came with us, and we traveled along the pipeline in Lithuania—refineries, pumping stations, even a buoy in the Baltic Sea. We followed everything possible at that time.

We made contact with Yukos and met with their PR representative for Eastern Europe, to discuss the possibility for us to travel along the pipeline to the Siberian oil fields. We were preparing to travel, meet people working there, and start the film. Of course, we sensed the need to be careful with language, playing tricks to navigate the situation. During our meeting in a Vilnius café, the PR representative received a call. After the call he abruptly left. We never saw or heard from him again. That was the sign that the Kremlin had begun dismantling Yukos. When we arrived in Stuttgart for the installation of the first "Druzhba" presentation in September, Khodorkovsky had already been arrested by Putin. Our trip to Siberia never happened.

But in Lithuania we performed this trip along the pipeline's small branch. We visited factories, met workers, explored archives, and watched films about the refinery's opening, branch construction, and more. We gathered news—paper clippings, reports—exploring connections and conducting a kind of forensic investigation into this "body" that seemed both dead and alive.

T. K.: What defines the installation's form, and how does its evolving archive and collected media—like Soviet-era artifacts—reflect the project's ongoing dialogue with history and the constantly changing context of today?

N. & G. U.: In the first decade, our presentations took the form of a diary, including media archives, interviews, and collected materials organized as a cybernetic network. But in a way it was quite challenging to really grapple with that history. Among many documents in the archives we came across a Xerox copy of a map of 18th century Europe depicted as political satire, where countries are represented as exaggerated personifications and humorous metaphors. While there are many specific and funny details about Britain, Scotland, Spain, Scandinavia or Italy, Russia stands out as a wild monster figure with a bloody knife, threatening Europe. Essentially, nothing has changed.

So in our first presentations, we covered the entire space with architectural tracing paper, a material chosen for its association with blueprints and its ability to convey a sense of tracing and uncovering layers of history. Diaries, notes, images, newspaper clippings, and other archival materials were meticulously arranged in a designed layout, organized into chapters or layers. Tracing paper played a conceptual role, symbolizing the act of tracing disintegrating networks and bodies. This choice extended to the use of media images projected as slides through carousel machines, reflecting the fragmented and layered nature of the collected material. The slides showcased images from archives, including refineries, objects used in ceremonial openings, and monuments like large stones inscribed to mark infrastructural achievements—juxtaposing rational Soviet modernity with a psychedelic sense of irrationality.

"Druzhba" installation view, The Baltic Pavilion, 15th International Architecture Exhibition – La Biennale di Venezia, Photo by Jonas Zukauskas, Courtesy of the Artists

The 2016 presentation of the "Druzhba" project at the Venice Architecture Biennale marked a significant shift in form. For the Baltic Pavilion, held in Palazzetto dello sport—a brutalist sport hall at Arsenale—our research was displayed on a black plastic surface—an industrial material used to contain toxic substances. This plastic formed a large "puddle of oil" that cascaded across the space, while its surface was layered with narratives, diaries, and images. The scale of the puddle emphasized the material and symbolic weight of the subject matter. Subsequent presentations adapted this concept to different spaces, recycling the black plastic and cutting it into smaller, splash-like shapes. These iterations explored the project's evolving relationship with the infrastructure and narratives it interrogates.

"Druzhba" installation view, The Baltic Pavilion, 15th International Architecture Exhibition – La Biennale di Venezia, Photo by Jonas Zukauskas, Courtesy of the Artists

T. K.: The Druzhba pipeline, as you relate it, symbolizes power—it's both an infrastructure and a tool of control. Despite its history, it still functions and exerts influence. How do you envision the future of such infrastructures? Can we talk about the rebranding of control, considering that, as you mentioned, nothing has really changed?

G. U.: We're talking about the rebranding of control, but how can we envision the future of such infrastructures when they just keep growing new heads, like a dragon? It's a paradox inherent in every large infrastructure. We actually explored this through yet another project back in 2011, which looked into the "red telephone" hotline established after the Cuban missile crisis to connect White House and Kremlin. Our entry point into that story was in Finland, on Korpo Island, where we discovered a telecommunication bunker designed to reinforce the signal. Since Finland was a neutral state between these two superpowers, it served as a relay point, ensuring secure communication. The bunker was built in the 1960s, and decommissioned in 2006, but still stands as a testament to this ongoing infrastructure. Even though the cables were cut and dismantled, and new technologies were implemented, the bunker itself is impossible to fully dismantle unless it's really blown up. Since it's so massive, like bunkers along the coast in France, it remains forever. It is fascinating to realize it requires ongoing maintenance. As long as it remains a space where humans can enter, one has to create the conditions for secure life. So we call it the paradox of the bunker. Once it's built, it will always be a bunker.

I'm using this parallel to answer your question. Once the pipeline is built, it's impossible to dismantle it.

N. U.: The Baltic Pavilion also looked at the infrastructural scale—what happens with massive infrastructures that are not on a human scale, but are hyperobjects. It depends on the perspective we take. Looking from the deep time, these infrastructures might be taken over by other species, not humans, and perhaps not even the bats, as they most likely will be extinct by then. Something else will take over. Druzhba will disintegrate, and maybe the oil will be finished, leading to some kind of transition.

Otherwise, it would require a radical decision to dismantle the pipeline. But I don't see that happening for at least another 100 years. As long as it's there, it will always create phantoms.

G. U.: Frankly, I don't know if the energy transition will require such a radical political decision to dismantle the pipeline. As long as it's there, something else has to substitute it, because the demand for energy keeps growing. Energy is at the core of every civilization; the more developed a society becomes, the more energy it needs. In the end, we might destroy ourselves because of this inherent drive for energy.

I honestly don't have an answer. It's a hyperobject. Colonialism is also a hyperobject. If colonialism is a hyperobject and ungraspable, all we can do is enter and produce leaks in the system, and these leaks become apparent.

So, when we are asked how the work changes, how "Druzhba" installation changes over decades, with all the historical shifts taking place, the answer is, in a way, yes—we update it, but not significantly. The core story of a given time and scale remains the same, ongoing. But within the new context, we can make a leak, a new reflection of the moment. Even without fully comprehending the entire, incomprehensible thing, through that leak, we can create a new reading.

Perhaps it's an ongoing process. In a way, it's impossible to finish this work, which is why it remains in a constant search of its own form.

"Druzhba" installation view, "If Disrupted, It Becomes Tangible: Infrastructures and Solidarities beyond the post-Soviet Condition" exhibition. National Gallery of Art, Vilnius, 2023, Photo by Katsiaryna Miats, Courtesy of the Artists

Endnotes

1   Akademie Schloss Solitude is an international and multi-disciplinary Artist-in-Residence" program in Stuttgart, Germany.
2   Yukos was a major Russian oil and gas company that was forcibly broken up and declared bankrupt after the arrest of its owner, Mikhail Khodorkovsky, in 2003.

Essay by Maryna Konieva
Photography by Oleksandr Osipov

Community, Science, and Art: Mutual Support in Times of War

This contribution brings together Maryna Konieva's essay based on Oleksandr Osipov's photo series "Shelter for Science" (2022) in a dialogue exploring mutual support in times of war.

Maryna Konieva is an art historian, curator, cultural manager, and author specializing in Ukrainian contemporary art. With over a decade of experience, she served as Deputy Director of the Kharkiv Municipal Gallery, where she supported emerging artists and innovative projects. From 2008 to 2014, she curated the *NonStopMedia* Festivals, a platform for young artists, and initiated Kharkiv's *Night of Museums* event, curating its citywide program until 2016. Currently, Konieva lectures at the Department of Art Studies at the Kharkiv State Academy of Culture (KhSAC) and curates the NGO *Collections of Borys and Tetiana Grynyov*. She is also a co-curator of the [*Sense of Safety*](#) international art project. Based in Kharkiv, she continues to contribute to the cultural landscape of Ukraine through her academic, curatorial, and managerial roles.

Oleksandr Osipov is a Ukrainian photographer, born in 1985 in Kharkiv. He began his career in 2009, specializing in sports photography. As a staff photographer for FC Metalist Kharkiv (2012-2016), he won the best photographer title in the Ukrainian Premier League three times. Since 2016, he has worked as a freelancer, covering social events, art, and the war in Ukraine. Since the full-scale Russian invasion of Ukraine in 2022, the photographer has focused on documenting the impact of the war, particularly in Kharkiv, his hometown. His work captures the devastation of the city and the resilience of its people, photographing concerts, performances, exhibitions, and other cultural events in the subway and bomb shelters. His 2022 video series In the *Streets of Kharkiv*, featuring cellist Denys Karachevtsev, gained international recognition. He has participated in exhibitions focused on the war in Ukraine.

War disrupts the usual order of life, forcing people to adapt, find new ways of survival, form unusual connections, and acquire new skills. In such times, the ability to respond quickly to constant changes becomes a vital necessity. Kharkiv, always a powerful center of culture and science, is now a vivid example of how people, united by shared values, find ways to support each other even under extraordinary circumstances.

Due to its proximity to the russian border, the city has become a target of relentless terror. To survive, it has been forced to transform its infrastructure: schools relocate to metro stations, hospitals are set up in underground bunkers, and public and scientific institutions adapt their premises to new needs. One such institution is the Institute of Scintillation Materials.

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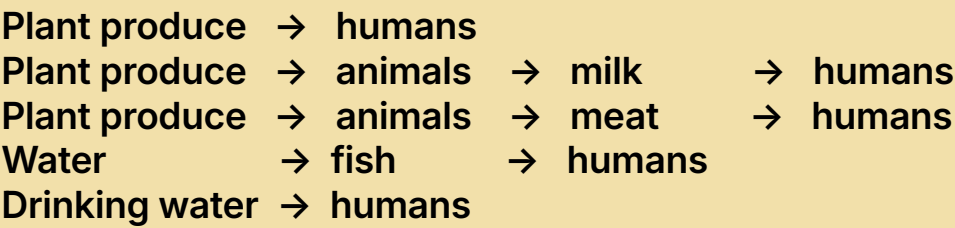The Institute
is a part of the
Scientific and
Technological Complex
'Institute of Single
Crystals' of the
National Academy
of Sciences. It is
a unique research
centre known far
beyond Ukraine.
Scintillators used in
major international
scientific projects
such as BaBar,
ATLAS, and CMS are
manufactured here.
Even now, during the
war, the institute's
products are used in
both the existing and
the development of a
new hadron collider.
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During the full-scale russian invasion of Ukraine, the scientists at the Institute, like all Kharkiv residents, faced the threat of destruction.From the first days of the war, the Institute's basement became a bomb shelter, providing refuge for around 50 staff members with their families, as well as over 300 residents from the neighborhood.

In addition to their scientific work, the physicists took on the responsibility of organizing life underground—ensuring food, heat, and basic comfort for everyone seeking shelter.

Even after one of the Institute's buildings was damaged by a russian missile, production resumed in the basement. Some of the research was moved abroad to partner institutions, where Ukrainian female scientists who were able to leave the country continued their work. I found myself in this building in March 2022. From the outside, the Institute seemed abandoned, but behind its cold, empty corridors, life was hidden: the basement was filled with people. My purpose was to evacuate the collection of 20th- and 21st-centuries Ukrainian art gathered by the Grynyov family.

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Borys Grynyov  is a
Ukrainian materials
scientist and director
of the Institute of
Scintillation Materials
of the National Academy
of Sciences of Ukraine.
Since the 1990s, he
and his wife Tetiana
Grynyova have been
collecting Ukrainian
art of the 20th-21st
centuries. Today, the
collection includes
over 4000 works.
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Part of the collection was stored on the upper floors of the Institute. Amid the ceaseless roar of explosions, the wailing of sirens, and the pressure of limited time, the artworks had to be packed and moved to the first floor to be evacuated.

Under extreme conditions, in museums and galleries, there are typically experienced professionals who are familiar with the principles of art handling, packaging, and transportation. Here, at the Institute, despite the shelling, there were physicists who came out from their 'shelter' to offer their help and support After a brief instruction on how to protect paintings from deformation, it seemed

that the scientists, mastering this new and unfamiliar skill, were simultaneously calculating the force of pressure and developing the most optimal interaction method. The physicists, used to research work, had suddenly become art rescue experts, demonstrating incredible inventiveness and bravery.

In the spring of that same year, Kharkiv photographer Oleksandr Osipov, who had been documenting the aftermath of the city's bombings since February, "paid a visit" to the scientists' bomb shelter and captured how everyday life intertwined with the work of the researchers.

Through the artist's lens, we see the children and pets of the families living there; beds crafted from available materials within the production spaces; a stove that serves both to grow crystals and to warm the people; an organized dining area surrounded by scientific equipment. Here, in the lab, there's also a bicycle—a valuable means of transport in wartime. Despite the chaos in the city, a bucket with an inventory number holds spring tulips, a holiday gift, while young onion bulbs begin to sprout on the laboratory shelves.

These photos are a testament to mutual support, self-organization, and the desire to ensure a full life just a few meters below ground level.

Later, a series of these photographs became the basis for a travelling exhibition presented at international conferences and leading scientific institutions worldwide in 2023 and 2024. These exhibitions powerfully illustrate why russian scientists dare not be part of the global professional community.

> The furnace for growing monocrystals using the Bridgman–Stockbarger method is one of the crucible methods for crystal growth, in this case, using quartz ampoules. Typically, the heating temperature in such furnaces reaches 900°C.

While Ukrainian physicists are surviving in basements and continuing their research, their russian counterparts are contributing to the production of weapons that are destroying our country.

The story of the Institute of Scintillation Materials in Kharkiv during the war highlights how, in extraordinary circumstances, peaceful institutions can adapt their activities to meet urgent challenges. Scientists who had previously focused solely on research were forced to transform their laboratories into shelters and underground spaces into temporary housing.

At the same time, they continued to carry out essential tasks for international research projects.

The broader community, supported by the scientists, also came to their aid. Vacant workers' positions, left unfilled due to the war and requiring no specialized training, were taken up by city residents sheltering at the Institute. Thanks to Oleksandr Osipov's poignant photographs, the world became aware of the challenges faced by physicists. The rescued collection continues to travel the world, spreading the story of its salvation.

"On the surface, Kharkiv appeared deserted, as if frozen in anticipation. However, when I descended a few floors, I found myself in a bustling underground city, alive with activity. In contrast to the confusion I often encountered in the city during these months, the staff at the Institute emitted a sense of accuracy, responsibility, and calm."

Here and below are quotes from Oleksandr Osipov.

"The most striking contrast was between the scientific environment, which is expected to be sanitary and orderly, and the intrusion of everyday items that helped support the shelter's inhabitants. There was a dining area amid the production equipment, kitchen utensils next to flasks and beakers, and beds in every corner of the space. It was a strange feeling—on the one hand, you knew it shouldn't be like this, but on the other, you admired how people managed to find compromises and keep going."

"I remember one of the shelter's residents—a large orange cat. He would stroll into the laboratory as if supervising an experiment or wander into the corridor, where his mission was to entertain the children who had been confined to space for so long."

"Overall, the animals I photographed there, for me, became a symbol of sensitivity and mutual support in extreme conditions. In one of the industrial rooms, a sick dachshund lay on the floor. People placed a pillow beneath it to make it softer and warmer. The dog could hardly walk, but people cared for it, fed it, and showed kindness. Everyone deserves to be saved."

"I captured two worlds that unexpectedly intertwined: the lives of ordinary people in need of shelter and the ongoing research and production process. Despite the circumstances, I saw happy people trying to decorate the cold, sterile space of the Institute, striving to make it feel like home. This strange combination created a sense of warmth. However, later, Borys Grynyov told me that some people were so traumatized by the situation that they hadn't left the shelter for several months."

This experience shows that flexibility and the ability to rethink one's own functions are not just an advantage, but a necessity for survival. The institute, previously associated only with high-precision technologies, became a place where people received protection, warmth, and support. This process of transformation not only ensured continuity of work but also demonstrated how the knowledge and skills of scientists can be applied in entirely new contexts.

The collaboration between science and art also gained a new meaning in this case. cientists who rescued the artworks acquired skills that were unusual for them and, at the same time, helped preserve cultural heritage. This interaction exemplified how institutions from different fields can support each other in critical circumstances.

The documentary photo exhibitions that captured life at the institute during the war vividly illustrate the changes implemented under extreme conditions. They show not only the drama of the situation but also how humanity, discipline, and the desire to create a space for normal life are preserved, even in such a challenging environment.

This story demonstrates an important lesson: any institution, regardless of its usual sphere of activity, can become a pillar of society if it is ready to rethink and expand its functions in accordance with the needs of the times. This is adaptability, which becomes crucial at critical moments and ensures not only survival but also a move forward.

Photo: Shelter for Science (2022)
by Oleksandr Osipov ©

Antonia Dika

Military on the Coast in Times of Peace

Antonia Dika is a Vienna-based architect, urban planner and researcher. She currently works as senior scientist at the University of Art and Design Linz, Institute for Space and Design, where she leads the art-based research project *Collective Utopias of Post-War Modernism, Adriatic Coast as a Leisure and Defence Paradise*. Dika was a long term associate of the City of Vienna's Urban Renewal Office. For the project *Reisebüro Ottakringer Straße* she was awarded the Intercultural Dialogue Award by the Austrian Ministry of Education, Arts and Culture. She has been teaching at various universities, most recently at the Research Unit of Housing and Design, TU Vienna. The book *Mapping the Croatian Coast. A Road Trip to Architectural Legacies of Cold War and Tourism Boom* (Berlin: Jovis, 2020), which she co-edited with Bernadette Krejs, was selected among 20 internationally best architecture books at the DAM Architectural Book Award 2020.

Introduction

The arts-based research project *Collective Utopias of Post-War Modernism: The Adriatic Coast as a Leisure and Defence Paradise* by Antonia Dika and Anamarija Batista[1] examined the overlapping phenomena of military and tourism urbanization along the Adriatic coast during the Cold War. This transformation, driven by the rise of mass tourism and the establishment of concealed military defence sites, profoundly shaped the region's social and spatial dynamics. In 2023, the findings of this interdisciplinary research were showcased in the exhibition *The Distance View: Leisure and Defence on the Adriatic Coast* at the Historical Museum of Bosnia and Herzegovina in Sarajevo. The installation *A Map is a Map is a Map is a Map. Kumbor, Lastovo, Šepurine, Brijuni, Vis, Lošinj* by Antonia Dika brought together fragmented data from various sources by geographically situating them within maps. Through six case study sites, the work interconnected locations, themes and time periods, official narratives, and personal stories. The following text by Antonia Dika was part of the exhibition booklet *The Distance View: Leisure and Defence on the Adriatic Coast* edited by the authors of the exhibition Anamarija Batista and Antonia Dika in 2023.

"Fortifications in an advanced state of construction are to be observed at Cruzola–Lissa and Lesina.[2] Armored cupolas can be seen on the heights that cover the principal parts of the islands. Marshall Tito apparently intends to transform Lagosta[3] into one of the most important supporting bases on the Adriatic."[4]

Installation "A Map is a Map is a Map is a Map" within the Exhibition "The Distance View: Leisure and Defence on the Adriatic Coast" at the Historical Museum of Bosnia and Herzegovina. Photo by Dženat Dreković

This is a quote from the secret CIA Information Report on Yugoslavia, titled "Notes on the Yugoslav Armed Forces", June 20, 1948. It was shortly after Yugoslavia's exclusion from the Cominform, in other words, after Yugoslavia began its own path as a socialist federal republic between East and West.

Today, it is impossible to say with certainty whether the Yugoslav Army officials were aware of the CIA knowing about their secret construction measures. However the local population, as well as the military employees stationed there, were instructed to "keep the secret" and report any suspected foreign spy activities.[5] In the Lastovo Islands National Park administration offices an old aerial photograph of the island is still hanging on the wall, where all the military installations have been manually pasted over with forest motifs. The author and year of creation are unknown.[6]

Coastal defence

A potential attack on the "territorial integrity of the Socialist, self-governing and non-aligned Yugoslavia"[7] was also anticipated from the sea. A secret "coastal defence plan," which is frequently mentioned in archival documents, and which could not be obtained by the time of writing this text, was drawn up and repeatedly renewed. Strategic points along the coast were selected for the construction of military sites. Existing military structures of prior "rulers" were partly taken over and rebuilt, though many sites were newly erected by the Yugoslav People's Army (Jugoslovenska Narodna Armija/JNA). Unlike older structures, the Cold War military facilities (similar to modernist tourist compounds) were generally planned as separate territories outside of urban agglomerations.[8]

Location: Vis, Military Tour. Photo by Antonia Dika, 2024

The first possible sites for defence installations were the outer Adriatic islands, which is why many military facilities are found there. The coastal frontage was hence of equal strategic importance for the military as it was for the newly emerging (mass) tourism industry. One might think they were competing for the same space. However, the two plans, which ran in parallel, did not seem to care about each other, even though in reality, they very much had to take each other into account. Just as tourism is hardly mentioned in the military documents I had access to, military use is not mentioned at all in official coastal spatial planning. The grand strategic development plans for the Adriatic region, "Jadranski projekti,"[9] completely ignore the military zones that already existed. Even on Vis and Lastovo, the two islands that were closed to foreign visitors for military security reasons, large tourist zones were planned in areas where military installations were already located.[10]

In the case of Vis and Lastovo, international tourism was not able to gain foothold until the ban on foreign arrivals was lifted in 1988. In some other places, tourist hotspots were developed in immediate proximity to military exclusion zones despite top-secret policies. Such was the case on the island of Lošinj and in the surroundings of Zadar, where the tourist resort Punta Skala was located next to the military site Šepurine.

The French "Club Med" was located just opposite the military shipyard in Tivat, where Russian submarines were repaired at times. Tourists water-skied in front of the 'top-secret' military sites built to protect Yugoslavia from an attack by their respective countries.[11]

Location: Kumbor, view on the former military barracks. Photo by Antonia Dika, 2022

Behind the barbed wire fence, the scenery was mostly the same: on the sites facing the open sea, especially on the outer islands, cannon systems were positioned to prevent potential invasion by foreign vessels. Some posts also included missile defence systems. They were surrounded by their associated military camps used for the accommodation of soldiers. Depending on their size, some of them were equipped with training areas, workshops, parade grounds, or clinics; favourably situated bays were used as military harbours including (underground) ammunition depots and fuel tanks. Additionally, a number of ship bunkers were distributed along the coast and on the islands. Whether in the case of simple army barracks that imitated local residential homes or in the case of "invisible" bunker facilities, their architecture was generally standardised and only adapted slightly to accommodate the geographical features of different locations. An exception was facilities with a primarily representative function which were not shrouded in the veil of military secrecy: "Dom JNA" buildings (literally translated: "centres of the Yugoslav People's Army"), something like cultural centres managed by the army, serving as an interface between the military staff and the local population.

Location: Vis, Komiža, former Center of the Yugoslav People's Army (Dom JNA). Photo by Daniele Ansidei, 2012

Location: Vis, former electricity bunker. Photo by Antonia Dika, 2024

They mostly included dining facilities and hosted concerts, film screenings, dance performances, chess tournaments, or even weddings. Especially in smaller municipalities, for instance on the islands, these types of venues played an important role in the cultural life of the community. They were situated on prominent locations and their representative character was also reflected in their architecture.[12] Another type of military architecture that was not subject to military secrecy included military facilities built for tourism. Like many other organisations in socialist Yugoslavia, the Army managed its own holiday resorts. Here, military staff had the opportunity to spend holidays with their families at a low cost — with guests ranging from high-ranking officers to cleaning personnel, which is why accommodation standards and architectural quality differed among the facilities. When not booked to full capacity, they were also open to external guests. The military tourist facility in Fažana, opposite Brijuni, was a simple "odmaralište" (workers' summer camp) of very modest quality.

Ruins

The collapse of Yugoslavia, the fall of the Iron Curtain, and not least the technological changes in art of warfare gradually made the military sites obsolete. Most of them were already abandoned by the army during the Yugoslav Wars and were never used for their original purpose. Today, isolated examples of their reuse for civilian purposes can be found mainly in larger coastal towns, for example the conversion of barracks in Pula into an alternative cultural centre, or the usage of former military sites for new university campuses. In smaller towns, as on islands, there have only been a few remarkable examples of repurposing: on the island of Vis, a wine cellar was integrated into a former power supply bunker, and on the island of Lastovo, a car mechanic now operates within an ex-military warehouse. The training pitch of the local football club of Vis used to be the parade ground of the Samogor military barracks, which were temporarily repurposed for workshops and art and architecture camps in previous years.

Location: Lastovo, Jurjeva Luka, former ship bunker. Photo by Antonia Dika, 2007

These small-scale examples of repurposing, implemented with limited funds on the local level, demonstrate how the usage of existing resources can ideally be beneficial to the whole community.

However, most of the facilities, being situated outside of civilian agglomerations, are empty and left to ruin and decay. Various "utilisation plans" for this "dead capital,"[13] developed by different governments, which usually envisaged their transformation into luxurious tourist resorts by major foreign investors, have failed so far in the case of Croatia.[14] The situation in Montenegro is different. The former military complex "Orjenski Bataljon" in Kumbor was recently converted into the luxury resort Portonovi Montenegro by the State Oil Company of the Azerbaijan Republic according to the tabula rasa principle. The former military shipyard in Tivat and a former barracks on the Luštica peninsula have also been converted into tourism facilities.

According to the current zoning plans, almost all former army areas on the coast of Montenegro are dedicated to tourism.

Whether left to decay or to demolition all those mentioned sites have never been processed from a historical perspective neither in Croatia nor in Montenegro.[15]

Location: Vis, Samogor, former military barracks. Photo by Marko Jell-Paradeiser, 2002

Location: Kumbor, former military barracks. Photo by Antonia Dika, 2022

Archives

Yet a necessary historical review is not that easy to carry out. Military structures of Yugoslav People's Army were never recorded in any official document like zoning plans or land registers. The once joint army split up into several factions during the civil wars of the 1990s and left behind huge gaps in the archives. Already scarce and limited documentation ended up in new archives dispersed among different successor states. The records kept there are not only fragmented, but also difficult to access.[16] It often depends on the political preferences of the archive officials if and when the records will be processed and catalogued, or made accessible to the public. Knowledge of (former) military spaces, infrastructures, and their use is almost non-existent among the general population because of the long period of military secrecy. In the collective memory, these spaces still represent a void. One may also say that it is not a very welcome topic in the successor states of Yugoslavia.

Yet, one particular group does have a specific local knowledge of these sites: men (and only a few women),[17] aged over 50 today, who served in the Yugoslav People's Army before its disintegration in 1991.[18] Today, they are scattered all over the newly formed republics, and, because of extensive emigration during the war years and afterwards, all across the world. Their experiences of this time are so specific that they can hardly share them within their current local community (apart from some funny anecdotes).

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However, some of them have found channels to connect with their peers through Internet forums and social media. Several forums and Facebook groups focusing on the JNA have emerged over the last years.[19] They serve as platforms either to search for former best friends from the army or to share and comment photos from "back then." Common "army stories" about "male friendship," the "school of life," or "of subversive strategies undertaken by soldiers during the army service in order to make it their time easier or simply to confront the authorities"[20] are exchanged there. Forums are also used to discuss military technology, strategies, sensibilities, etc., or to renew memories of the places they spent a significant time of their youth. This oral history written on the Internet is a very valuable source of information for my research.

Exhibition

The exhibition *The Distance View: Leisure and Defence on the Adriatic*

Coast juxtaposes interviews with locals, archival documents, media coverage, reuse strategies, and the memories of former servicemen and military members. They help us to examine the impact these spaces had on the localities in relation to the tourist development of the area. Small municipalities are chosen as case studies, as the influence of „external" military and tourist presence is more easily visible there than in large cities.

Together with the involved citizens and visitors, we want to figure out: are these spaces "worthy of protection" in the sense of cultural heritage? Is the preservation of the spaces (or at least some of them) important for the collective memory of the population? And even more important: whose spaces are these? Who should decide what happens to them? Is their past even of any significance for their subsequent use? Finally, we ask the visitors and ourselves: which experiences and memories from the time should be passed on to future generations?[21]

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Endnotes

1	The project *Collective Utopias of Post-War Modernism: The Adriatic Coast as a Leisure and Defence Paradise* was funded by the Austrian Science Fund (FWF): AR 482-G24 and TCS 114-G (project head: Antonia Dika, University of Art and Design Linz; national research partner: Anamarija Batista, Academy of Fine Arts Vienna)

2	Cruzola = Korčula, Lissa = Vis, Lesina = Hvar

3	Lagosta = Lastovo

4	Central Intelligence Agency. (1948, June 20). *Economic, industrial, military and political information on Yugoslavia* (CIA-RDP83-00415R001700110001-9). Retrieved June 5, 2023, from https://www.cia.gov/readingroom/document/cia-rdp83-00415r001700110001-9

5	Even in the country's own tourist reports from this era the local population is criticized for still seeing a "spy" in every foreign visitor; cf. Tschoukarine, I. (2010). The Yugoslav road to international tourism. In H. Grandits & K. Taylor (Eds.), *Yugoslavia's sunny side: A history of tourism in socialism (1950s–1980s)*. Budapest and New York: CEU Press. P. 113

6	According to the Nature Park Lastovo Island officials.

7	Excerpt from the slogan on an army barracks building on the island Lastovo, originally: "Budno oko titove armije čuva slobodu, teritorijalni integritet naše socijalističke samoupravne i nesvrstane Jugoslavije." [The watchful eye of Tito's army guards the freedom, the territorial integrity of our socialist self-governing and nonaligned Yugoslavia.]

8	Höhns, U. (1983). Städtebau im Atomzeitalter. *Arch+*, 71, P. 36

9	"Adriatic Projects" (1967-1972), two spatial development plans for the "upper" and "southern Adriatic" region, financed by the United Nations and developed by local experts together with specialists from East and West.

10	The plans were in the end rarely carried out. For more info on this topic, see: Mattioni, V. (2003). *Jadranski projekti*. Zagreb: Urbanistički institut Hrvatske; Barović, M. (2022). *Adriatic projects revisited* (Master's thesis). Harvard Graduate School of Design.

11	Thank you Siniša Luković for referring me to this information. See also: Browne, M. W. (1977, February 7). Yugoslav dockyards repair Soviet ships. *The New York Times*. Retrieved June 5, 2023, from https://www.nytimes.com/1977/02/07/archives/yugoslav-dockyards-repair-soviet-ships-analysts-uneasy-over.html

12	Ivan Vitić, one of the most prestigious architects of the time, created three exceptional buildings for the National Army: Dom JNA Komiža (on the island of Vis), Dom JNA Split and Dom JNA Šibenik.

13	As often dubbed in the media. See for example: Jutarnji List. (2009, July 30). Zašto ovih 230 milijuna eura i dalje stoji kao mrtvi kapital. *Jutarnji List*. Retrieved from https://www.jutarnji.hr/vijesti/hrvatska/zasto-ovih-230-milijuna-eura-i-dalje-stoji-kao-mrtvi-kapital-2828330

14	Numerous offices, funds, agencies and sub-agencies have managed the state own real estate since the 1990s. In 2016, even a "Ministry of State Property" was established.

15	Kardov, K. (2014). Uvod. In K. Kardov & I. Tabak (Eds.), *Kome propadaju bivše vojne nekretnine? Iskustva prenamjene u Hrvatskoj*. Zagreb: Centar za mirovne studije i Zavod za sociologiju Filozofskog fakulteta u Zagrebu. pp. 8-10.

16	One example: I had to wait twelve months for the permission to access the Military Archive in Belgrade. A complicated bureaucratic path through embassies and ministries was required. I was finally allowed to do the research in a narrow window of time. On site, "the server was broken" and I had to rely on the goodwill of the staff to provide me with the suitable records. This was in 2015. My next attempt to access the Military Archive, in 2021, was completely unsuccessful.

17	The Yugoslav army, despite hailing back to the partisans of World War II, in which women played a pivotal role, didn't allow women into its ranks with very few exemptions. There was a short-lived attempt to introduce voluntary army service for women between 1983 and 1985.

18	Even these individuals only have knowledge of the particular location where they did their military service, as an integral component of military security strategy was that even high-ranking military officials only knew about the site they were assigned to; according to the historian Mithat Kozličić (University of Zadar), former member of the Yugoslav Navy and former vice director of the Yugoslav naval museum, in a telephone interview, 2014.

19	See for example: *JNA-SFRJ Forum*. Retrieved April 25, 2021, from https://jna-sfrj.forumbo.net/; *MyCity Military*. Retrieved April 25, 2021, from https://www.mycity-military.com/; *Facebook group*. Retrieved April 25, 2021, from https://www.facebook.com/groups/1426107641004634/; and another *Facebook group*. Retrieved April 25, 2021, from https://www.facebook.com/groups/314423362477/

20	Petrović, T. (2010). Nostalgia for the JNA? Remembering the army in the former Yugoslavia. In M. Todorova & Z. Gille (Eds.), *Post-Communist nostalgia*. New York: Berghahn Books. P.66

21	Some parts of this essay are slightly revised versions of sections in earlier works: Dika, A. (2020). Adriatic coast between mass tourism and Cold War. In A. Dika & B. Krejs (Eds.), *Mapping the Croatian coast. A road trip to architectural legacies of Cold War and tourism boom*. Berlin: jovis; Dika, A., & Batista, A. (2021). From army stories to community heritage. FWF-TCS project proposal, Vienna; Dika, A. (2015). Mapping the void: Of secret bunkers, popular beaches and the life amongst. FWF-Peek project proposal, Vienna.

Natasha Chychasova

Adaptive Violence: How War Transformed Institutions and Art

Natasha Chychasova is a curator and researcher from Donetsk, based in Kyiv. She works on post-Soviet legacy strategies for its deconstruction and feminist art practices. She is Head of the Contemporary Art Department at Mystetskyi Arsenal, one of the largest cultural institutions in Ukraine. At the beginning of the full-scale russian invasion she organised the online platform *Ukraine Ablaze*. The platform aims to share information about Ukrainian artists and thair works reflecting war since 2014. Her curatorial projects include: *This is not a Museum, this is a Plant* (Dnipro, Ukraine, 2020), *Heart of Earth* (2022), *Forms of Presence* (2023), *Coexthistens with Darkness* (2023-2024), *Between Farewell and Return* (2024). In collaboration with artist Kateryna Aliinyk, she is a co-author of the book *Collective Fantasies and Eastern Resources*.

The Russians will make even a monument shoot, when necessary.

Kristina Rus[1]

"You need to ask to stop at Svitlyi Shliakh Street"—this was the answer I got from a minibus driver when I asked how to get to Izolyatsia in Donetsk in 2013. At that time, Izolyatsia was a cultural space located on the premises of a factory that produced insulation materials. The primary goal of this platform was to engage with the local context of the Donbas region through art and to involve both renowned international artists and the Ukrainian art scene in its projects.

In a short time, Izolyatsia became a meeting place — for artists from various regions of Ukraine, local cultural workers, and a wider circle of viewers. My own encounter with Izolyatsia happened during the project *Pulse Room* by Mexican-Canadian artist Rafael Lozano-Hemmer — a participatory project where, using a special sensor, a viewer's heartbeat was captured, making a massive empty hangar flicker in sync with their pulse.

I still remember the exhilarating feeling I had as my 17-year-old self — it seemed as though this vast, superhuman space was being reappropriated by me and, instead of feeling alienated, became warm and close. In 2021, I saw that hangar again, but this time only in photographs. The place that once pulsed with my heartbeat (was me) was now filled with russian military equipment.

Pulse Room exhibition in Izolyatsia. Donetsk, 2013. Source: Izolyatsia website

Military equipment in a former territory of Izolyatsia in Donetsk. Source: Telegram-channel Donetskiy traktorist (A Donetsk tractor driver)

At that moment, I felt a profound rupture — my experience there no longer had a place. Instead, it was replaced by the experiences of those who had endured torture and other forms of violence, and of those who systematically and directly inflicted it. In the imagined spaces of the future, in all their multiplicities, there had been no scenario where all of them would be simultaneously reduced to pain and the current that forces the body to convulse.

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On June 9, 2014, armed militants, including russian military personnel, seized the premises of the cultural center Izolyatsia. This event occurred during the third month of the occupation of parts of the Donetsk and Luhansk regions and the fifth month following the annexation of Crimea. At that time, russia was not interested in open armed conflict and was conducting a hybrid war. The events in the East were referred to as a "civil war in Donbas" or a "conflict" in which russia was "assisting" the formation of young "republics." According to the foundation's team, who found themselves in exile, the center's territory was to be used by military formations as a storage site for humanitarian aid arriving from russia, as well as a "base for training militants, a prison, an execution site, and a warehouse for stolen vehicles."[2] Representatives of the occupation administration claimed that they would use the Izolyatsia as a storage site for humanitarian aid arriving from russia. However, very quickly, Izolyatsia becomes a black hole in the city, to end up "at Izolyatsia" meant to be subjected to torture and, quite likely, never return. According to the Office of the United Nations High Commissioner for Human Rights (OHCHR), from 2014 to 2021, detainees at Izolyatsia were subjected to the following methods of torture[3]:

a. Beatings, punches, and kicks;

b. Beatings with wooden or metal rods, weapon butts, or batons;

c. Suffocation using plastic bags and waterboarding techniques;

d. Electric shocks applied to limbs, fingers, toes, and genitals;

e. Mock executions;

f. Blindfolding and handcuffing for several days;

g. Pouring cold water on detainees during interrogations;

h. Forced nudity and other forms of sexual violence;

i. Verbal insults and threats, including threats of sexual violence and violence against detainees' relatives.

As of the drafting of this report, hundreds of people passed through the Izolyatsia prison. Primarily, this included Ukrainian military personnel and local residents suspected of espionage or "crimes against national security." At the same time, the prison also held "members of armed groups and other actors of the so-called 'Donetsk People's Republic' accused of committing common or military crimes."[4] The reasons for ending up "in the basement" were highly varied: coercive attempts to force collaboration, having a Twitter account, using Ukrainian as the selected language on phone, or confiscating a business.

Very quickly, Izolyatsia transformed from a cultural hub into a black hole in the city, as to end up "at Izolyatsia" meant to be subjected to torture and, quite likely, never return.

Journalist and writer Stanislav Aseyev, a former prisoner of Izolyatsia, was detained for something as minor as quotation marks in his reports. These quotation marks were used in the phrase "Donetsk People's Republic," implying its lack of recognition by the international community and even by russia. Such quotation marks immediately resulted in a signature on a document proudly declaring the capture of a "criminal who denies the state sovereignty of the DPR."[5]

In their terminology, pro-russian forces often resorted to words directly referencing the Soviet punitive structures of the NKVD[6] — spy, enemy of the people, fascist, etc. These terms remain part of russian propaganda today. The main goal of these actions was to instill paralyzing fear, making any acts of resistance impossible.

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In Hito Steyerl's text *A Tank on a Pedestal: Museums in an Age of Planetary Civil War*,[7] she refers to an episode where a World War II tank, previously a monument, was taken off its pedestal and used to attack a Ukrainian checkpoint in Ulyanovka, Krasnoarmiisk (now Pokrovsk) district. Steyerl describes the pedestal as a kind of repository that preserves the war potential of the object (I would add, both in a symbolic and literal sense). This story, along with the rapid transformation of Izolyatsia's premises into a prison, suggests that despite being repurposed, military infrastructure retains its potential to quickly "revert" to a militarized object. Similarly, the complex of buildings that housed the insulation materials factory was initially designed as a strategic enterprise. The insulation materials factory itself, founded in 1955, was equipped with a built-in nuclear defense system — a sprawling network of underground rooms and passages stocked with supplies of food and water. Moreover, it "produced mineral wool for industrial thermal power stations in the USSR, as well as for the military, aviation, shipbuilding, and space industries."[8] It is essential that in the USSR, almost every factory was associated with the military complex in some way or another. And the Isolation Materials Factory in Donetsk was no exception. In this sense, the Izolyatsia space underwent a double tragic transformation – firstly, gentrification, i.e., the turning of a decayed and crisis-ridden industrial factory into a post-industrial centre of contemporary art. This transformation seems a general trend, as former militaristic infrastructures often become art centres. For example, ZKM | Center for Art and Media is located in a historical industrial building in Karlsruhe, Germany, that formerly housed a munitions factory. One of the largest exhibition spaces in Ukraine – Mystetskyi Arsenal, also has a history of transforming the space from a militaristic one into a contemporary art venue. Mystetskyi Arsenal is housed in a building originally intended as a workshop for manufacturing, repairing, and storing ammunition and cannons. However, the reverse transformation – from the centre of contemporary art to the militaristic infrastructure of the prison – raises the question of how civil and militaristic infrastructures are fused in modernity and how, in the case of occupation, military takeover, they can once again be reclaimed and transformed into an infrastructure of violence.

> The reverse transformation — from the centre of contemporary art to the militaristic infrastructure of the prison — raises the question of how civil and militaristic infrastructures are fused in modernity and how, in the case of occupation, military takeover, they can once again be reclaimed and transformed into an infrastructure of violence.

The architectural organisation of the factory as it was laid down in the USSR in the 1950s, including remoteness from the city centre, an enclosed area, and presence of cellars that could serve as bomb shelters for factory workers. From the memoirs of Stanislav Aseyev, who spent 2017-2019 in Izolyatsia prison, "At that point in time, there were eight ordinary multi-prisoner cells in the Izolyatsia, two disciplinary seclusion cells,
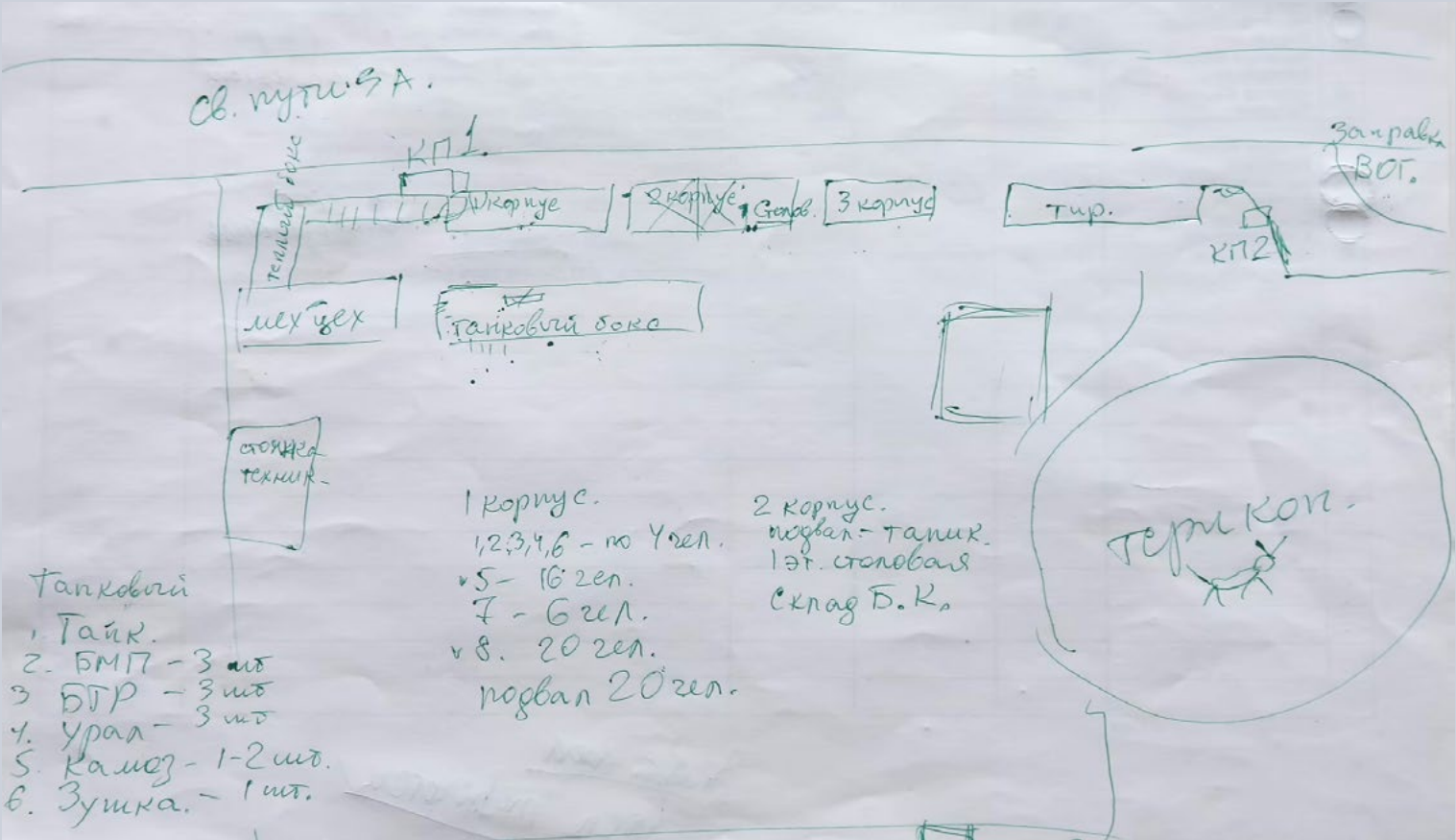
Plan of Izolyatsia prison. Source: Ukrainska Pravda, 2019

one basement-bomb shelter for holding prisoners, and a single cell adjoining it, as well as several torture cellars. Three of the eight cells were women's cells. The maximum number of inmates held simultaneously in the Izolyatsia could reach approximately 80 people."[9] The fenced-off territory, controlled entrances and exits — all of this enabled the space to become autonomous and tightly controlled. The rapid transformations and "new purpose" of the infrastructure of the art center were described by one of Izolyatsia's former prisoners. The basements, once used for exhibitions, were transformed into cells with makeshift beds and surveillance cameras. Former office spaces were repurposed to house military leadership. The café area was turned into a dining hall for the military, while the space beneath it was used for interrogations. The hangars on the center's grounds, previously utilized for exhibition projects, were converted into weapon storage facilities and shooting ranges.[10]

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"They say this was almost a world-class museum that we took over. Considering what kind of art it was, it could not remain untaken, as the things that were being propagated here to corrupt the people of our republic are, to me, not art and cannot be considered art. [...] These are sick people creating and showing things to other sick people. [...] In the territory of the DPR, such art, as well as drug use will be punished. [...] These are people who hate everything Slavic. Everything Russian."[11]
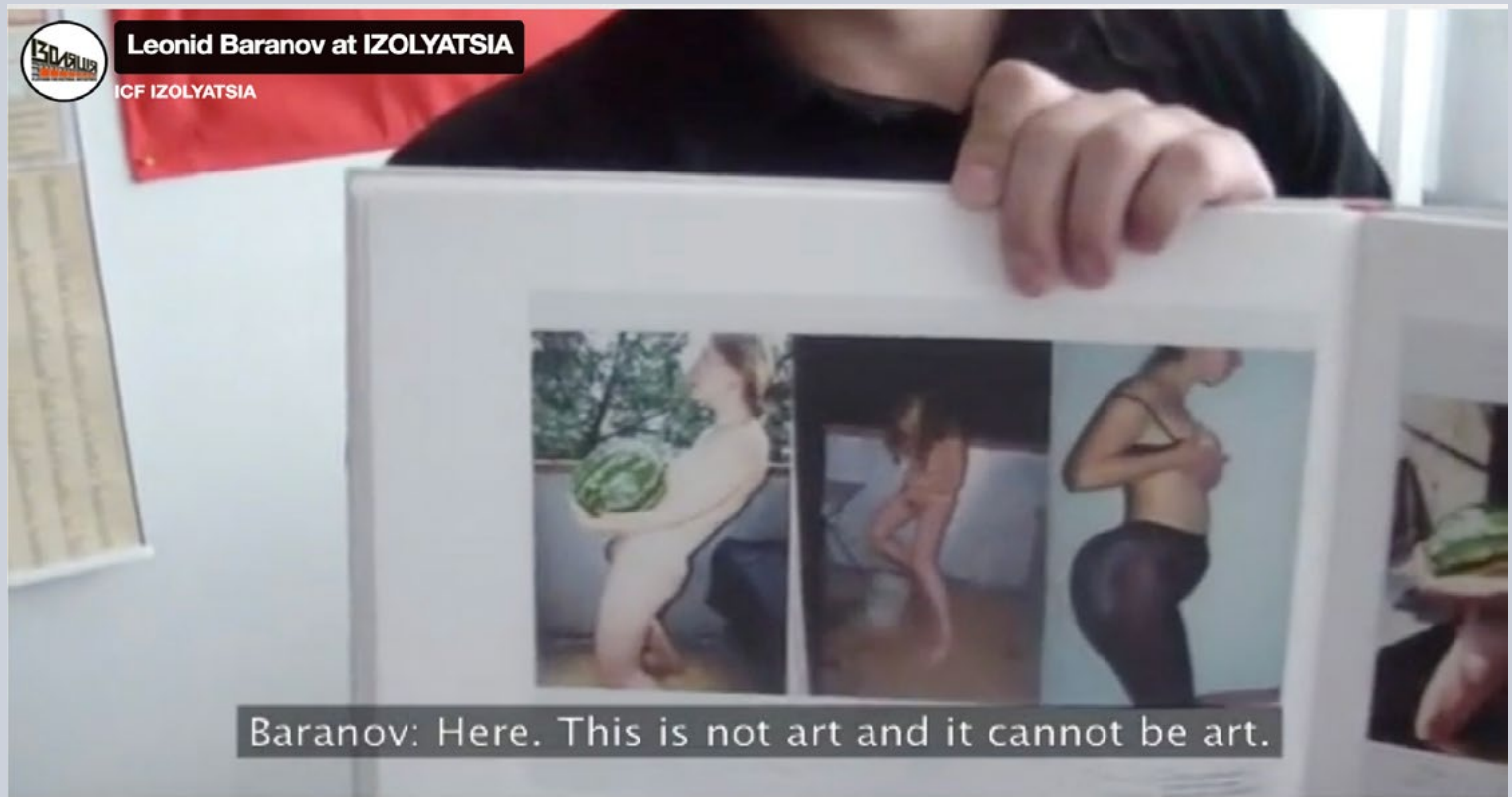
Still from Leonid Baranov at Izolyatsia. Source: Izolyatsia Must Speak

This is how Leonid Baranov, the acting head of the DPR's Ministry of State Security and the Special Committee in charge of contemporary art, commented on the seizure of Izolyatsia to russian journalists. Standing against the backdrop of a russian flag, he talks about the activities of Izolyatsia and its "harmful" influence. As an example of such "degenerate" art, he showcases a book by a well-known Ukrainian artist from Kharkiv, Boris Mikhailov, *Look at Me I Look at Water*.

In his "speech," he postulated authoritarian values, leaving no room for freedom or the multiplicity of perspectives — which, by its very nature, art embodies. He proclaimed a single correct direction of thought and existence, where all others are subject to eradication, with only the authorities being capable of determining their "rightness." Everything "undesirable" must be physically destroyed within this framework— the human body and the artwork.

Since many artists worked with the context of the former factory, the works they created were literally embedded into its structure. Consequently, all of these

works were lost. The foundation provides the following list: works by Daniel Buren (France), Cai Guo-Qiang (China), Leandro Erlich (Argentina), Kader Attia (France), Pascal Marthine Tayou (Cameroon-France), Lubov Malikova, Zhanna Kadyrova, Hamlet Zinkivskyi (Ukraine), and others.[12]

Everything "undesirable" must be physically destroyed within this framework— the human body and the artwork.

The fate of some art objects is known only through publications in pro-russian media or reports by russian news outlets. For instance, the works of Ukrainian artist from Crimea, Maria Kulikovska, *Homo Bulla – Human as Soap Bubble*[13]— soap sculptures intended to gradually deteriorate under natural conditions, symbolizing the fragility of the human body—were moved to a hangar where they were turned into shooting targets.[14]

Another prominently destroyed artwork was Pascale Marthine Tayou's *Make up... Peace!*[15] The installation, one of the most recognizable symbols of Izolyatsia, took the form of a lipstick placed atop a pipe from the factory's former boiler room. The lipstick served as a symbolic monument to the women who rebuilt Donbas after World War II. After the seizure of Izolyatsia, the fate of the artwork remained unknown for some time. In 2015, the lipstick disappeared from the factory grounds. Later, pro-russian social media groups on VKontakte published a video showing militants blowing up the installation. In her article *From Postmodern Art to Stalinism: Donetsk's Culture Reimagined* Kateryna Iakovlenko wrote, "Such an act of destruction constitutes not only violent work with memory and public space; it is a performative action, through which public demonstration and the strengthening of power proceed."[16]

Acts of destruction grew even more brutal and pronounced in 2022 with the onset of russia's full-scale invasion of Ukraine. In 2020, the Izolyatsia team decided to return to the East and resumed their activities in Soledar, a city in Donetsk Oblast. For a year, the foundation organized art residencies, actively engaged with the local community, and began planning the revitalization of the city's cultural center. With the start of the full-scale invasion, the foundation's office was repurposed by local volunteers as a coordination hub and a storage site for food, medicine, and hygiene supplies. In June, due to escalating security concerns, the office was closed, and the team evacuated. For a long time, the foundation did not know whether the building they had worked in had survived. Only later did local residents share photographs showing the destroyed structure. In an interview with *Vilne Radio*, Mykhailo Glubokyi, the development director of the foundation who had worked at Izolyatsia during its time in Donetsk, aptly summarized what I would like to leave as a conclusion:

"This is a deeply symbolic story for us, one that takes us back to the events in Donetsk. Of course, it's a symbol of what has happened to us for the second time. And it's a symbol of what happens with the arrival of the 'russian world.' The transformation of our cultural center in Donetsk into an illegal prison and the destruction of all cultural initiatives in Donbas since 2014 is emblematic of this reality."[17]

Sculpture by Anton Logov "Angel of Soledar" near the building with the office of the IZOLYATSIA Foundation, Soledar. Photo from occupation sources

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With the onset of the full-scale invasion, it became clear that the actions committed with the support and participation of russian military forces at Izolyatsia were not isolated incidents. This is a systematic strategy in which culture is a significant target, and its destruction and theft are acts of subjugation. A few examples of the destruction and looting of cultural institutions during the full-scale invasion are worth recalling: the Historical and Local History Museum in the village of Ivankiv in Kyiv Oblast, which housed works by Maria Prymachenko; the Hryhorii Skovoroda Museum in Skovorodynivka, Kharkiv Oblast; the looting of the Kherson Art Museum and the Kuindzhi Art Museum in Mariupol. Beyond theft and destruction, in occupied cities, as in Donetsk in 2014, illegal detention facilities appeared, along with thousands of testimonies from people who were subjected to repeated torture, including electric shocks. This is russia's colonial ambition: to erase all traces of otherness and replace them with its own or to rename and appropriate them.
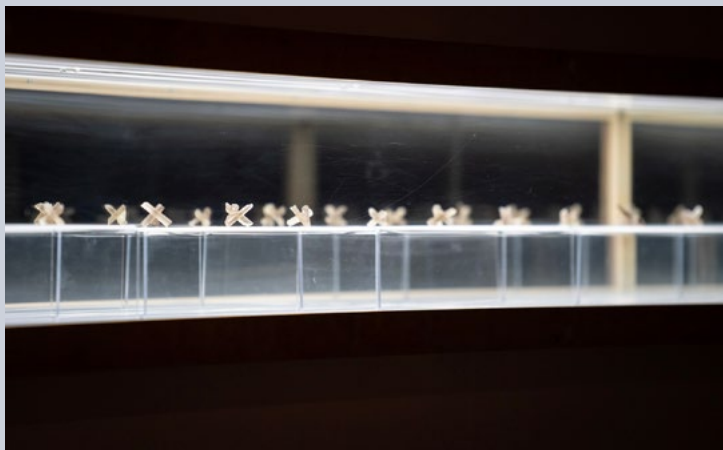
Anton Karyuk. "My Anti-tank Hedgehog," 2022. Photo by Oleksandr Popenko

Is war truly the end of art? In moments of such intense violence, it may seem so. Yet, despite its fragility, when reality appears to overwhelm any attempt to describe it, art undergoes a transgressive transformation—from self-denial to direct action. Not only do artists reshape themselves, but art institutions do as well.

At the start of the invasion, galleries and art centers, such as the YermilovCentre in Kharkiv or the Lviv Municipal Art Center, became bomb shelters, refuges for internally displaced persons, or, like Izolyatsia in Soledar, humanitarian hubs. In terms of art itself, artists initially employed a strategy of art-as-testimony.

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Over time, they transitioned to finding new mechanisms of resistance, where producing art often became a framework for raising funds or delivering necessary equipment for military needs. Examples of practices supporting the military include projects by artists Zhanna Kadyrova, Anton Karyuk, and charity auctions organized by the self-initiated group *Silent for Deafness* (a project by serviceman and artist Oleksandr Len and curator Anastasiia Kuzmenko). At the start of the full-scale invasion, artist Zhanna Kadyrova, who was forced to relocate from Kyiv to Zakarpattia, created a series of sculptures from river stones resembling traditional Ukrainian bread — *palyanytsia*. At the same time, the word became a linguistic marker for identifying

"friend or foe," as russian soldiers were unable to pronounce it correctly, thereby exposing themselves. All proceeds from the sale of *Palyanytsia* (over seven million UAH) were donated by the artist to support the military. In his work *My Anti-Tank Hedgehog* (2022), artist Anton Karyuk references the repurposing of anti-tank hedgehogs, originally museum exhibits from the World War II museum, which regained their function and were used to defend Kyiv at the start of the invasion. The artist produced 68 replicas of these hedgehogs in smoky quartz, donating all proceeds from their sale to military needs. In the case of *Silent for Deafness*, the self-organized initiative brought together a community of artists willing to contribute their works to charity auctions. This approach created, on the one hand, a narrative framework — a space for reflecting on pressing societal issues and giving young artists an opportunity to showcase their work — while, on the other hand, raising funds for the Rubizh battalion, where Oleksandr Len serves.
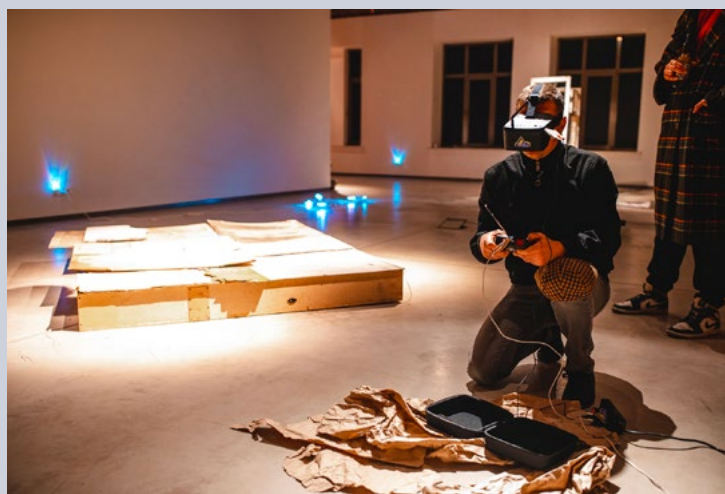
Beauty studio. "Dreamcatcher," 2023. Photo by Arsen Dzodzaev

Another strategy involves reconfiguring the very process of creating art. These practices can also be seen as a reassembly of institutions and grant systems, which are unable to allocate funds for military needs. For example, within the framework of the exhibition *Even If* (2023) at the Dnipro Center for Contemporary Culture (DCCC), the group Beauty Studio presented the project

Dreamcatcher, which addressed the challenges faced by volunteers in their work. The group itself was formed in Mykolaiv in 2022 to support volunteer efforts in the Mykolaiv and Kherson regions. The artwork took the form of a closed labyrinth constructed from found materials. Viewers could explore its interior via a camera mounted on a remote-controlled toy car, with its movements visible through FPV drone goggles. After the exhibition concluded, the goggles and the artists' fees were donated to support military needs.

Maksym Khodak. "Dove of Peace Emoji," 2024. Photo by Sergey Illin

Artist Maksym Khodak, in his work *Dove of Peace Emoji* (2024) for the *Ukrainian Paradise* exhibition at the PinchukArtCentre, critiques pacifism as a privilege of those in safety, highlighting that in the realities of war in Ukraine, peace can only be achieved through the provision of weaponry. The central element of the work is a drone carrying the well-known symbol of the dove of peace, which cannot "fly" on its own. After the exhibition, the drone was donated to the *Rubizh* battalion for military use.

An essential act of resistance has also been the practices of collective care, through which the artistic community redirected its efforts to support vulnerable groups in urgent need of assistance. Such acts of care were evident in Kharkiv, where artist Mykola Kolomiets from the children's art studio

Aza Nizi Maza conducted workshops with children in a metro station. At the beginning of russia's full-scale invasion, the Kharkiv metro became a bomb shelter where people lived. In Lviv, a volunteer initiative called *Kukhnia* (Kitchen) was established and overseen by artists. They prepared hot meals for refugees at the train station and managed several shelters.

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Artists Katya Libkind and Stanislav Turina also focused on supporting vulnerable communities. They provided assistance to a psychiatric hospital that, due to the war, urgently required supplies of medicine and hygiene products, as well as care and recreational activities for its patients. Notably, artists often choose to become soldiers or paramedics. Currently, it is difficult to discuss specific figures, including the number of those who have died, as these numbers continue to rise.

Every day, the sense of loss grows larger, proportional to the pain within each of us. The constant effort to overcome it and to keep moving forward has become a collective obligation, as has the memory of the crimes committed and the lives lost. As a former prisoner of war, soldier, and activist Maksym Butkevych, recently released after two years in russian captivity, noted in an interview: "The propagandistic version of history from the occupiers is now etched into my skin. It's a beautiful metaphor but not a very pleasant procedure."[18] Butkevych shared this while recounting his beating in a prison cell, where a guard forced detainees to recite Vladimir Putin's historical narrative. For every mistake, the activist was struck with a stick. These stories represent possible scenarios of a future that once seemed unimaginable. A future that has now become the present for the art center on Svitlyi Shliakh Street in Donetsk.

Reflecting on why art does not dissolve in the whirlwind of violence and continues to exist, I think that perhaps the answer lies in its ability to accumulate connections and build communities—linking and uniting, in opposition to violence, which can only destroy and create new voids.

Art, therefore, cleverly invents practices to overcome pain and brings life back to places where it seemed to have vanished forever. It has the capacity to "reclaim territory from war," as critic and curator Borys Filonenko aptly described the process of rebuilding de-occupied territories through self-organized initiatives. This is why a glimmer of hope still lingers within me: that one day, a minibus will once again take me to Svitlyi Shliakh Street, where, in the hangars of the Izolyatsia factory in Donetsk, I will once again encounter art, and my heart will beat a little faster.

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