PERFORMING COLONIAL TOXICITY

FRAMER FRAMED

8 OCT – 14 JAN ’24

AN EXHIBITION BY

Samia Henni

FRAMER

EXHIBITION DATES

8 OCT –
14 JAN ’24

OPENING EVENT

7 OCT 2023

WITH

If I Can't Dance,
I Don't Want To Be Part
Of Your Revolution

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Unless otherwise specified, all images are by Bruno Barrillot of France's nuclear sites in Reggane and In Ekker in the Algerian Sahara, taken during a trip with filmmaker Larbi Benchiha and his team in November 2007. Courtesy Observatoire des armements.

INTRODUCTION

FRAMER FRAMED TEAM

Sixty-three years since the French government detonated its first of seventeen nuclear bombs in the Algerian Sahara, *Performing Colonial Toxicity* calls to attention the harrowing effects of nuclear colonialism. Alongside still unfolding environmental harm, the project finds its urgency in the fact that the French government has removed information related to its nuclear programme from the public eye, rendering it inaccessible even to those most viscerally impacted. Samia Henni works with documents classified as confidential and made confidential even in the process of her research.

When we first met with Henni and the team of If I Can't Dance, I Don't Want To Be Part Of Your Revolution to discuss developing an installation around Henni's research, we were immediately struck by her thorough, meticulous approach to confronting this history. Accordingly, the exhibition is flanked by two equally ambitious publishing projects: the *Testimony Translation Project*; an online database hosted on If I Can't Dance Studio, and the forthcoming book *Colonial Toxicity: Rehearsing French Nuclear Architecture and Landscape in the Sahara*, co-published by If I Can't Dance I Don't Want To Be Part Of Your Revolution, Framer Framed and edition fink, Zürich. In each iteration, the project draws together evidence in various forms – written, spoken, felt – in staking its claim for redress and reparation.

Walking into Henni's installation at Framer Framed, we are overwhelmed by paper documents that compound to form their own towering archival architecture. It is an archive that cannot be accessed through formal, institutional means, but rather is a collection of documents brought together thanks to the involvement of citizens. It shows how civic engagement, outside formal paths, can bring certain knowledge to the surface. *Performing Colonial Toxicity* stands in a line of projects at Framer Framed where artistic research and visual practice appear as a mode of engaged activism. In close collaboration with civil organisations,

namely the Observatoire des armements, *Performing Colonial Toxicity* acts directly against the French state's obfuscation of its extra-territorial military violence.

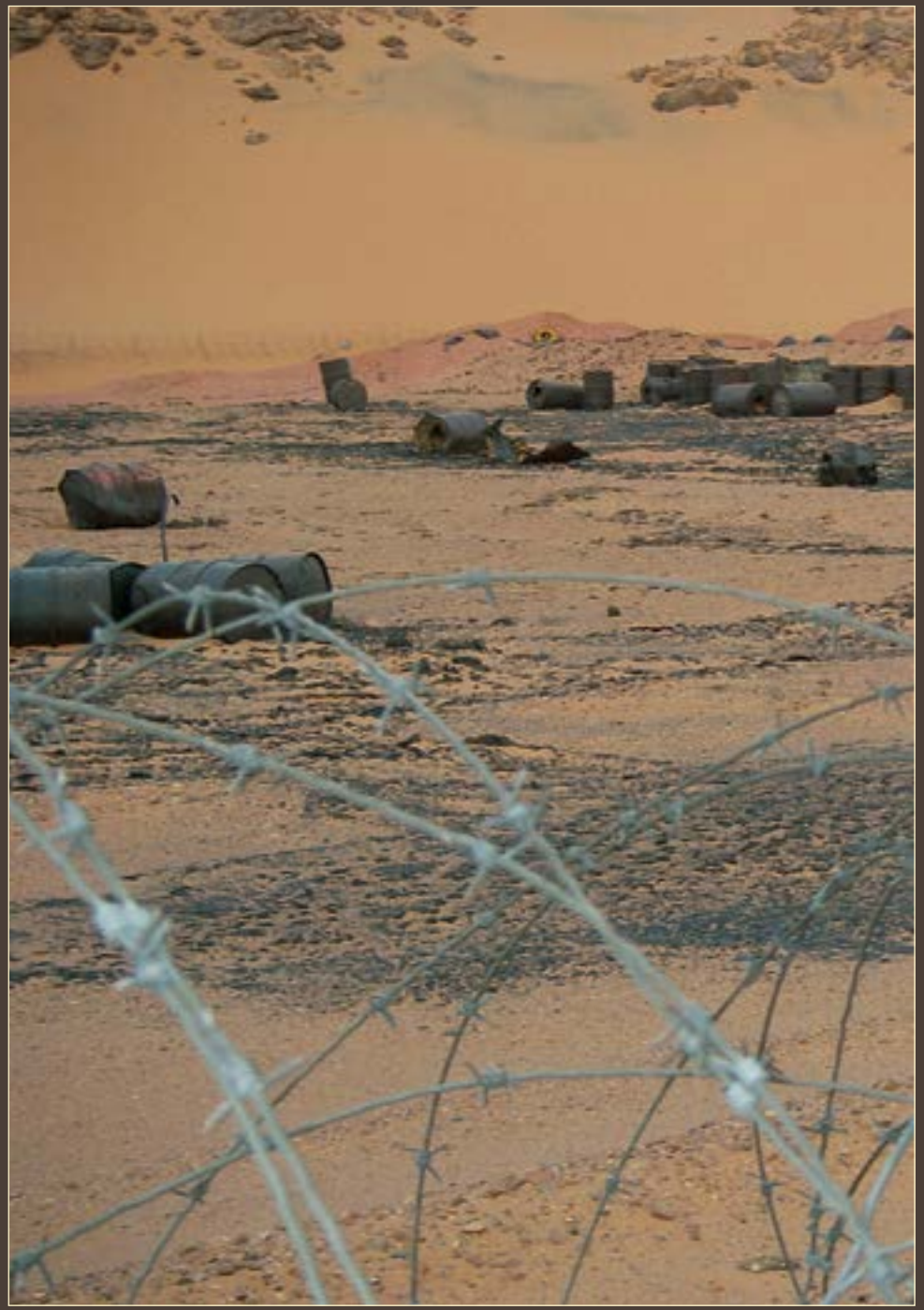
We see echoes of artist Anna Dasović's confronting work, *Before the fall there was no fall* (2015-ongoing), presented at Framer Framed in the exhibition *From what will we reassemble ourselves* (2020). For her research into the Dutch military involvement in the Srebrenica genocide in 1995, Dasović had to invoke the *Wet Openbaarheid van Bestuur* (Freedom of Information Act) to bring the history above board. She gained access to recordings of training exercises preparing Dutch soldiers for their deployment in Srebrenica. Both projects, *Before the Fall* and *Performing Colonial Toxicity*, deal with the narratives which precede and follow state violence and expose governments that – even years after the fact – do not want to make these practices transparent. As a result, they reckon with the gaps between government archives and personal ones, or experiences carried in the body. They similarly foreground the mental or conceptual construction of the 'Other' which necessarily precedes the ability to violently harm human and non-human beings, as they document the traces left in the wake of that violence.

This exhibition covers serious environmental crimes, the consequences of which are suffered to this day. Henni writes in her recent anthology *Deserts Are Not Empty*:

> The toxicity and coloniality of France's nuclear program – which severely damaged and contaminated the human, animal, vegetal, and mineral lives of the desert – did not disappear with the departure of the French colonial authorities and with Algerian independence. On the contrary, they are engraved on the particles of the desert for thousands of years, if not forever.[1]

1. Henni, Samia (ed.). *Deserts Are Not Empty* (New York: Columbia University Press, 2022).

Performing Colonial Toxicity thus stages a powerful testimony to the toxic afterlives of colonialism. It demands to its audience, French governing powers among them, colonial violence is not finished, and to behave otherwise is to deliberately turn away from its ongoing harm.



A photograph by Larbi Benchiha showing radioactive solidified lava produced by the uncontained underground nuclear bomb, code named *Béryl* (Beryl) of 1 May 1962, in the Taourirt Tan Afella mountain, In Ekker. The image was taken during the shooting of Benchiha's 2010 film *L'Algérie, de Gaulle et la bombe* (Algeria, de Gaulle, and the Bomb). © 2010 Larbi Benchiha.

Curatorial Note

MEGAN HOETGER

Between 1960 and 1966, the French colonial regime detonated four atmospheric atomic bombs, thirteen underground nuclear bombs and conducted other nuclear experiments in the Algerian Sahara, whose natural resources were being extracted. This secret nuclear weapons programme occurred during and after the Algerian Revolution, or the Algerian War of Independence (1954–62). The resulting toxification of the Sahara spread radioactive fallout across Algeria, North, Central and West Africa, and the Mediterranean (including southern Europe), causing irreversible and still on-going contaminations of living bodies, cells and particles, as well as natural and built environments. Over fifty years later, the archives of the French nuclear programme remain closed, and historical details and continuing impacts remain largely unknown.

Performing Colonial Toxicity is an expansive research project through which architectural historian and exhibition maker Samia Henni exposes this suppressed history of French colonial violence and its ongoing impacts. The project sets the stage for pressing political conversations on the nature of the 'post-' in postcolonial state infrastructures, as well as the (im)possibilities for a project of reparative justice in a context like that of the French toxification of the Algerian Sahara, where the extent of damage to human and non-human bodies, built and natural environments is yet to be made fully comprehendible. Henni's project amplifies and extends the call of Bruno Barrillot, co-founder of the anti-nuclear NGO Observatoire des armemants to 'OPEN THE FILES'.[1] Only then can the exigent next steps follow of cleaning/decontaminating the irradiated sites and paying reparations to the Algerian and French peoples whose individual, familial and community lives remain devastatingly affected. In the absence of the archives' opening, *Performing Colonial Toxicity* takes the French state to task, meticulously culling together information and putting it into public circulation.

1.
Bruno Barrillot, 'French Nuclear Tests in the Sahara: Open the Files' in *Science for Democratic Action 15*, no. 3 (April 2008): pp. 1, 8-14.

The project unfolds across three different platforms, namely: an open access digital database – the *Testimony Translation Project* – where the long process of digitalizing and translating over seven hundred pages of written and oral testimonies from French and Algerian victims of the nuclear blasts has begun; a publication – *Colonial Toxicity: Rehearsing French Radioactive Architecture and Landscape in the Sahara* – which presents the archival materials in a printed visual repository of over six hundred pages conceived in the spirit of Aby Warburg's *Bilderatlas* (image spreads from which are included in this handout); and the eponymously titled exhibition to which this essay serves as a kind of introduction. As a curator of performance in its expanded forms, my task in introducing Henni's exhibition is to offer visitors a few points of entry into the acts of 'performing' that the installation sets into motion. I start by mapping out certain aspects of performance and performativity operative in Henni's research practice and, from there, move more specifically into a discussion of some of the elements within the audio-visual assemblages presented in the exhibition space.

PERFORMANCE AND PERFORMATIVITY

I first encountered Henni's work in 2017 when I was introduced to her book *Architecture of Counterrevolution: The French Army in Northern Algeria, 1954–1962*. In that ground-breaking study, she delivered an incisive infrastructural analysis of the building and spatial planning policies through which the French colonial regime forcefully attempted to 're-organize' (read: annihilate) the everyday lives of Algerian populations. Though written from the position of architectural history, it was immediately clear to me that Henni's work holds methodological importance for performance studies, pushing the field toward its radical potential to speak back to conventions of historical remembering.

2.
Classic reference points for notions of 'social performance' within the field of performance studies include Erwin Goffmann's 1959 *Presentation of Self in Everyday Life* (London: Penguin Classics, 2022) and Raymond Williams's 1958 *Culture and Society* (London: Penguin Vintage Classics, 2017). See also the canonical text *Between Theater and Anthropology* by Richard Schechner (Philadelphia: University of Pennsylvania Press, 1985).

3.
Samia Henni, *Architecture of Counterrevolution: The French Army in Northern Algeria, 1954–1962* (Zurich: gta Verlag, 2017): p. 9.

4.
See John L. Austin, *How to Do Things with Words*, second edition (Oxford: Oxford University Press, 2009).

Through her practice of 'reading against the grain', Henni offers a mode of deep archival research that traces the concrete and particular ways in which embodied experiences – and especially 'social performances', or the daily rituals that give rhythm to psychic and material life – are viscously designed and implemented through colonial policies and technologies of organization that can seem rather abstract.[2] To quote from Henni's introduction to *Architecture of Counterrevolution*, her approach reveals 'the politico-socio-economic meanings of laws, maps, structures, infrastructures, shelters, housing, and other buildings, [disclosing] how these elements (and their broad network of actors) embody what the psychiatrist and author Frantz Fanon – best known for his 1961 book *The Wretched of the Earth* – called the "psychology of colonialism".'[3] Henni's work thus offers a method of going into the historical construction of (colonial) conditions of possibility for social performances, rather than turning to theory – itself a form of abstraction – to speculate on the effects/affects of colonial regimes of control.

This is not to say that the speculative does not also figure into Henni's practice. In *Performing Colonial Toxicity*, it, in fact, figures rather prominently. When the archives are closed, as in the case of the French nuclear detonation programme in the Algerian Sahara, speculation becomes a critical tool for the historian, opening up space to imagine and infer into the gaps and absences. In Henni's project, the speculative generatively intersects with the prefigurative force of a manifesto, urgently reminding us of the political force of performative speech acts. If the classic example of such a speech act is the 'I do' of a marriage ceremony, then we might imagine here, in Henni's work, the speech act centres around something like 'I refuse'.[4] I refuse to forget, to stay silent, to look away. This enunciative gesture of refusal, which is supported by Henni's emphasis on naming (eg. naming 'jerboasite' as a thing in the world), asserts an anti-colonial demand for a form of reparative justice, which is, at once, still yet to come and already existing through the very utterance of the demand itself.

SPATIALIZING THE ARCHIVE

One could, then, think of Henni's exhibition as a manifesto written across space wherein the performative gesture of the 'I refuse' takes on an architectural scale, echoing and extending it across a multiplicity of stories and materials. Somewhere between oral history and investigative reportage, the thirteen audio-visual assemblages that comprise the installation – what Henni refers to as 'stations' – propose a form of spatial language, which is neither fully visual nor fully auditory. It moves the eye both up and down and side-to-side, engaging the whole body in the act of reading. The syntax of this spatial language resembles that of sedimentary layers, suggesting that engagement with the stories and with the materials is a kind of excavation process into which visitors are invited. And, though there are no pre-defined routes through the installation, there is a kind of entrance stage that triangulates some key introductory coordinates: the question of justice, the business of the global nuclear market (including weapons, energy and uranium extraction), and the anthropogenic form of 'jerboasite'. These coordinates haunt the other ten stations.

Each station brings together maps, photographs, film stills, documents and testimonies with either archival film footage or with excerpts from interviews conducted by Henni. The embedding of moving image materials into the still image-scapes activates the stations, each one becoming a stage for the co-imbricated elements of this ongoing history. This is bolstered by the statements of the eight scholars, scientists, artists and activists that Henni interviews, including: Larbi Benchiha, Patrice Bouveret, Roland Desbordes, Bruno Hadjih, Penelope Harvey, Gabrielle Hecht, Jill Jarvis and Roxanne Panchasi. Each interviewee contributes particular kinds of knowledge about the manifold violences of French colonial toxicity in the Sahara, from environmental and biological impacts to historical consequences and erasures. For instance, physicist Roland Desbordes, who collected samples of everything from fused sand to camel excrement, unfolds the temporality of nuclear (half-) life and the ways in which radioactivity performs in the body. Elsewhere, literary scholar Jill Jarvis puts forth propositions regarding an-archiving and counter-archiving practices, pushing visitors to centre the question of what is not there. Jarvis's words change the

way one sees the maps, photographs, film stills, documents and testimonies – in fact, all of the interviews ask us, in one way or another, to think carefully about the ethical and juridical relations of speaking to the visual.

Speaking in Henni's installation, though, is disconnected from sound. Instead, the interviewees' words appear in the form of written subtitles. This is a crucial detail, which carries with it symbolic and experiential meaning. Instead of words per se, visitors feel voices by other means: through the whistling tenor of the Saharan winds that connect between the thirteen stations, and through the eruptions of human and mechanical utterances that punctuate Henni's spatial language. These sonic intensities enter the visitors' bodies, a visceral reminder of how the memories of people and the environment itself can inhabit us. In the liminal space of a yet-to-come reparative justice, they powerfully perform the refusal to stay silent.

The layout spreads on the following pages and throughout are from Samia Henni's publication *Colonial Toxicity: Rehearsing French Radioactive Architecture and Landscape in the Sahara* (Amsterdam: If I Can't Dance, I Don't Want To Be Part Of Your Revolution and Framer Framed; Zürich: edition fink, 2023). Design by François Girard-Meunier.


Hamoudia Sept 1961

Jerboasite: Naming French Radioactive Matter in the Sahara

SAMIA HENNI

On February 13, 1960, the French military detonated the first of seventeen atomic bombs in the Algerian Sahara. The site of the inaugural bomb was Reggane – a district with a town, villages, and an oasis – located in the Tanezrouft Plain of the colonized desert, approximately 1,000 kilometers south of Algiers. Immediately after, General Charles de Gaulle, then President of the French Fifth Republic, made a public announcement: 'Hurrah for France! As of this morning, it is stronger and prouder. From the bottom of my heart, my thanks to you and to those who have obtained for her this magnificent success.'[1] France had thus entered into an exclusive nuclear weapons club, becoming the fourth country in the world to possess arms of mass destruction after the United States of America, the Union of Soviet Socialist Republics, and the United Kingdom. De Gaulle's pride was not affected by the destruction of human, animal, and vegetal lives and the toxification of hundreds of thousands of kilometers of natural, living, and built environments these bombs caused over the following decades in Algeria and elsewhere.

Between February 1960 – about five years after the outbreak of the Algerian Revolution and four years after the first exploitation of Algerian oil – and February 1966 – around four years after Algeria's independence from French colonial rule – France exploded four atmospheric and thirteen underground nuclear bombs in the Algerian Sahara. They also conducted other nuclear technologies and weapons tests there, spreading radioactive fallout and causing irreversible contamination across Algeria, Central and West Africa, and the Mediterranean (including southern Europe). Up to this day, the facts and deeds of France's nuclear weapons program in the Algerian Sahara remain a military secret. The majority of French institutional archives that document the production, detonation, and consequences of these weapons of mass destruction are classified and inaccessible to the public. This imposed amnesia not only encumbers the writing of France's atomic histories in the Algerian Sahara, but also prevents victims, veterans, and civil groups from claiming the socio-economic, psychological, spatial, and health compensations and recognitions that should be accorded to them according to protocols of international law.

This text was first published on *e-flux Architecture*, December 2022. See: https://www.e-flux.com/architecture/half-life/508392/jerboasite-naming-french-radioactive-matter-in-the-sahara/. The original text has been shortened for the purpose of this handout.

1. My translation. De Gaulle's official remarks were circulated in press outlets, as cited in Serge Berstein and Pierre Milza, *Histoire de la France Au XXe siècle* (Paris: Editions Complexe, 1999), p. 315.

2. Bruno Barrillot, *Les irradiés de la république: les victimes des essais nucléaires français prennent la parole* (Bruxelles: Editions GRIP, 2003), pp. 19–20.

To covertly detonate its atomic weapons and to compete with other nations, the French army built two nuclear bases in the Sahara: the *Centre saharien d'expérimentations militaires* (CSEM, or Saharan Center for Military Experiments) in Reggane, and about 600 kilometers southeast in In Ecker, the *Centre d'expérimentations militaires des oasis* (CEMO, or the Center of Military Tests of Oases). CSEM included underground laboratories and workshops and was designed for about 10,000 civil and military French personnel, while CEMO was planned for approximately 2,000 civil employees and military French officials.[2]

[...]

Whereas CSEM was designed for the detonation of atmospheric nuclear bombs above ground, CEMO was planned to facilitate the explosion of underground atomic bombs. The four atmospheric bombs detonated at CSEM were codenamed Gerboises (Jerboas) after the tiny jumping desert rodents. *Gerboise Bleue* (Blue Jerboa) was detonated on February 13, 1960; *Gerboise Blanche* (White Jerboa) on April 1, 1960; *Gerboise Rouge* (Red Jerboa) on December 27; 1960; and *Gerboise Verte* (Green Jerboa) on April 25, 1961. Whereas the colors in the name of the first three atmospheric bombs represented the French flag – blue, white, and red – the last three bombs formed the Algerian flag – white, red, and green.

However, since the colonization of Algeria in 1830, the French colonial regime banned the presence of any Algerian flags in colonized Algeria. This is because France had claimed Algiers, Constantine, and Oran in the north of Algeria as French territories in 1848, while the French army had administered the Algerian Sahara in the south since 1902. At the time of the nuclear bombing tests, the colonial regime had, for several years, been fighting to suppress the Algerian Revolution and maintain its economic and political control of Algeria. The colors of the forbidden Algerian flag in the form of three nuclear weapons echo and prolong the longstanding French colonial violence in Algeria.

The thirteen underground atomic bombs detonated at CEMO, alternatively and accordingly, were codenamed after gemstones. Naming bombs after natural gemstones and animal life – jerboa – only further reiterates France's colonial violence. *Agathe* was detonated on November 7, 1961; *Béryl*, on May 1, 1962; *Émeraude*, on March 18, 1963; *Améthyste*, on March 30, 1963; *Rubis*, on October 20, 1963; *Opale*, on February 14, 1964; *Topaze*, on June 15, 1964; *Turquoise*, on November 28, 1964; *Saphir*, on February 27, 1965; *Jade*, on May 30, 1965; *Corindon*, on October 1, 1965; *Tourmaline*, on December 1, 1965; and *Grenat*, on February 16, 1966. The yield of these underground atomic bombs ranged between 5–150 kilotons.[3]

The detonation of nuclear bombs at CEMO continued despite the approval of Algeria's referendum on self-determination by 75% of French voters on January 8, 1961 and the ensuing independence from France in March 1962 after 132 years of French colonial rule. In 1966, France moved its nuclear weapons testing from Algeria to another territory under French rule: the Mururoa and Fangataufa atolls in colonized Ma'ohi Nui (so-called 'French Polynesia'), in the southern Pacific Ocean. Despite objections and protests, the French colonial authorities conducted nearly 200 atmospheric and underground nuclear experiments there between 1966 and 1996, further toxifying colonized environments.[5]

3.
Ibid.: p. 55.

5.
On the French atomic weapons tests in the southern Pacific Ocean, see, for example, Sébastien Philippe and Tomas Statius, *Toxique: Enquête sur les essaies nucléaires française en Polynésie.* (Paris: PUF, 2021).

The environmental and biological harm of French atmospheric and underground bombs in the Sahara was devastating and irreversible. In part, these catastrophic effects are linked to the radioactive matter that the Jerboas generated over the soil and sand of the Sahara. Like Trinity, the very first nuclear weapon that the United States detonated on July 16, 1945 in the so-called Jornada del Muerto Desert, New Mexico, the heat of the Jerboas' explosions created a radioactive substance comprised of fused sand. Unlike 'Trinitite,' the radioactive residue caused by Trinity bomb, however, the geologies that the Jerboas formed have not been named by anyone, and therefore has not been formally acknowledged. Not identifying and not naming the material and geological impacts of France's first atmospheric bombs in the Sahara is part of a colonial project that undermines and silences the violent spatiality and the longstanding temporality of colonial toxicity. We may start, then, by naming this radioactive anthropogenic geology 'Jerboasite'.

[...]

In addition to the Jerboas, the French army conducted thirty-five experiments on plutonium pellets near the ground zero of Red Jerboa in April and May 1961, April 1962, and March, April, and May 1963. These experiments were designed to measure the velocity of a shockwave in a pellet of plutonium, each weighing between 24 to 30 grams. Some of these experiments were carried out in the atmosphere and other were performed in pits to limit dispersal. Regardless, not all of them were fully contained. Additional experiments, called Pollen – again obeying to the same naming protocols of France's colonial violence – were planned to simulate accidents involving plutonium and measure their consequences and impacts on the environment. These experiments were carried out about thirty kilometers southwest of Taourirt Tan Afella between May 1964 and March 1966 involving 20 to 200 grams of plutonium. After each Pollen test, the most contaminated area was seemingly covered with asphalt to limit resuspension.[6]

6.
"Radiological Conditions at the Former French Nuclear Test Sites in Algeria: Preliminary Assessment and Recommendations: Radiological Assessment Reports" (Vienna: International Atomic Energy Agency, 2005): pp. 15, 16.

In 1999, representatives of the Algerian government requested the International Atomic Energy Agency (IAEA) to carry out an expert mission and study the radiological situation at France's former nuclear weapons testing sites in the Algerian Sahara. The IAEA's special team was composed of experts from France, New Zealand, Slovenia, the United States, and the IAEA itself, which was supported by seven experts from the *Algerian Commissariat à l'énergie atomique* (Atomic Energy Commission). Over the course of an eight-day mission at both the Reggane and In Ekker sites, the team collected samples of sand, fused sand, solidified lava, vegetation, well water, and other materials to be analyzed in the IAEA's laboratories in Seibersdorf, Austria.[7] In their report titled 'Radiological Conditions at the Former French Nuclear Test Sites in Algeria: Preliminary Assessment and Recommendations,' published in 2005, six years after the mission, IAEA experts stated:

> All sites in Reggane are contaminated. *Gerboise Blanche* and *Gerboise Bleue* are locally highly contaminated, with the most of the contamination residing in the black, vitreous and porous material (sand melted at the time of the explosion and then solidified). The unvitrified sand is much less active (100–1000 times less).[8]

The anthropogenic geology of Jerboasite covers a large part of the ground zero zone, as well as other parts of the Sahara due to the wind and other exposures. One of the enduring impacts of France's colonization of Algeria, these contaminated fragments pose a risk to human and nonhuman beings' health and lives, as well as to their environments. The 1995 resolution of the General Conference of the IAEA calls on all states 'to fulfil their responsibilities to ensure that sites where nuclear tests have been conducted are monitored scrupulously and to take appropriate steps to avoid adverse impacts on health, safety, and the environment as a consequence of such nuclear testing.'[9] The French government is therefore accountable and responsible for the decontamination of its former nuclear

7. Ibid.: p. 35.

8. Ibid.: p. 1.

9. Ibid.

weapons testing sites in the Sahara. Yet when will the French civil or military authorities clean the area, respecting the dignity of Saharan human and nonhuman lives?

The radioactive fused sand that is Jerboasite – or to use the IAEA's description, 'the black, vitreous and porous material' – featured in a 2008 documentary *Vent de Sable; Le Sahara des essais nucleaire* (Sand Wind: The Sahara of the Nuclear Tests), directed by Larbi Benchiha. Beyond documenting the construction of CSEM and its radioactive remains, the film also portrays a study and investigation conducted by Bruno Barillot, cofounder of the Observatoire des armements – a French independent non-profit center for expertise and documentation founded in 1984 in Lyon. In the documentary, Barillot states that this fused sand was clearly vitrified by the heat of the atomic explosions and incorporated matters contained in the bomb. Barillot mentions that if and when this anthropogenic contaminated matter breaks, plutonium dust may be released, which is highly dangerous, and reminds viewers that the half-life of plutonium is approximately 24,400 years.[10]

In a 2014 article 'Essais nucléaires français: à quand une véritable transparence?' ('French Nuclear Tests: When Will There Be Real Transparency?'), Barrillot denounced the French authorities's ambiguity toward its nuclear bombs and their radioactive consequences in the Algerian Sahara and on Saharan people and lives. He asks: 'Is it not time now for complete transparency and for the French government to begin negotiations with the Algerian government on this painful page of the history of French-Algerian relations in order to agree on concrete actions of 'rehabilitation' and 'reparation'?'[11] It is not only time to implement the IAEA's 1995 resolution 'to take appropriate steps to avoid adverse impacts on health, safety and the environment,' but also to take immediate actions against the unrestricted circulation of the radioactive Jerboasite in the Algerian Sahara and elsewhere.

10.
The slightest dust of plutonium that settles in mucous membranes can radiate for ten or twenty years. *Vent de Sable; Le Sahara des essais nucleaire* (Sand Wind: The Sahara of the Nuclear Tests), directed by Larbi Benchiha, 2008.

11.
Bruno Barrillot, "Visite du site d'essais français de Reggane au Sahara algérien - Observatoire des armements," *Damoclès*, 2007. http://obsarm.org/spip.php?article65.

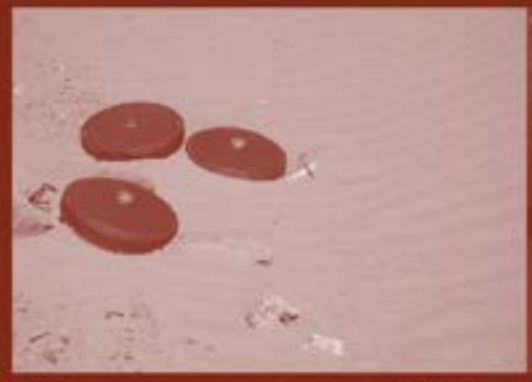




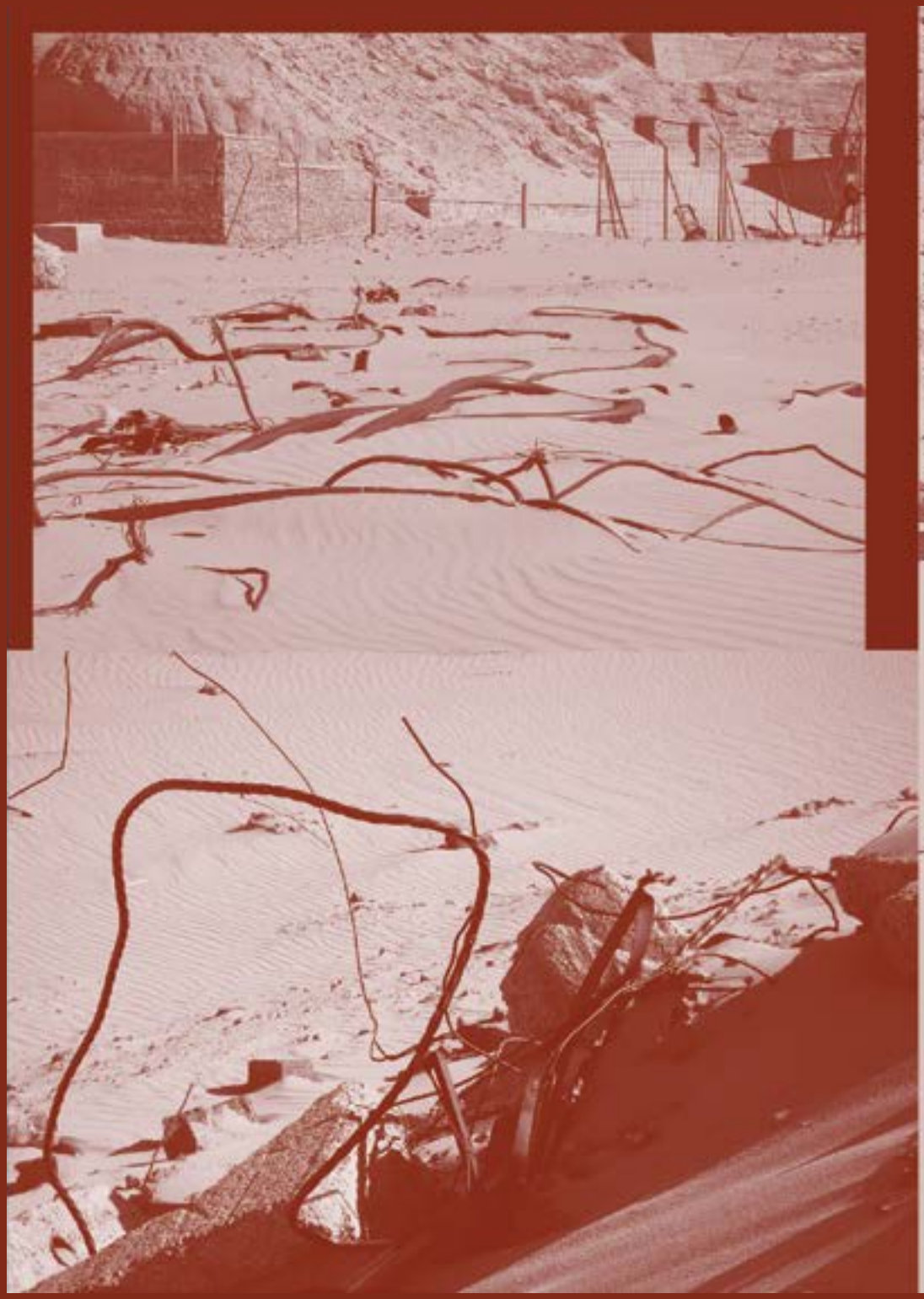










Environmental and health issues in relation to the treaty on the prohibition of nuclear weapons

JEAN-MARIE COLLIN & PATRICE BOUVERET

Note from the authors: The study from which this text is taken, extends the work carried out by Observatoire des armements since the early 1990s. Its publication in July 2020 was intended to enable progress in the regulation of the environmental and health consequences of the nuclear weapons tests which are one of the main points of division between Algeria and France. But three years later, we are still at the same point: certainly the issue of nuclear testing is among the subjects that the commission set up by Presidents Macron and Tebboune in August 2022 must address, but no concrete measures have yet been taken to take care of the populations and clean up the sites impacted by the radioactivity dispersed by the 17 nuclear tests carried out by France between 1960 and 1966.

On 7 July 2017, the United Nations conference on negotiating a binding legal instrument to prohibit nuclear weapons adopted, with a large majority (122 countries in favour;[1] vote against, the Netherlands; one abstention, Singapore), the Treaty on the Prohibition of Nuclear Weapons (TPNW). The TPNW, which is based on International Humanitarian Law (IHL) and human rights, will create, once it comes into force, a new international standard. It incorporates and underpins the standards established by the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), regional treaties regarding the creation of nuclear-weapon-free zones as well as the Comprehensive Test Ban Treaty (CTBT). The standards for verification are equivalent to or higher than those adopted in the NPT and regulated by the IAEA.[2] This treaty therefore paves the way for nuclear disarmament to strengthen nuclear non-proliferation and international security.

In its preamble, the TPNW mentions (paragraph 6) that the State Parties are 'mindful of the unacceptable suffering of and harm caused to the victims of the use of nuclear weapons (hibakushas), as well as of those affected by the testing of nuclear weapons.' In addition to demonstrating a willingness to pay tribute to these people, this reference constitutes acknowledgement of their suffering. Article 1 bans the development, production, possession, use and threat to use nuclear weapons, as well as assistance or encouragement of anyone engaging in any activity related to military nuclear power.

Furthermore – and it is for this reason that it is classed in the category of treaties termed humanitarian disarmament – it includes positive obligations, which are a direct result of the conclusions from the three humanitarian conferences on nuclear weapons (Oslo in 2013, Nayarit and Vienna in 2014) and the Anti-Personnel Mine Ban and Cluster Munitions Conventions, which came into force in 1999 and in 2010 respectively.[3] These obligations are found in Articles 6 and 7, which stipulate that each State Party in a position to do so shall provide assistance for the victims of the use or testing of nuclear weapons and to endeavour to clean up the environment in the areas contaminated by the detonation of nuclear weapons. They also permit State Parties to request and receive assistance from other State Parties.

It has been open for signing since 20 September 2017. As of 29 July 2020, the TPNW counts 82 signatories and 40 nations have ratified it. This treaty will enter into force 90 days after the fiftieth ratification, in accordance with Article 15.

This text is an excerpt of chapter 3 of a report first published in Jean Marie Collin and Patrice Bouveret. *Radioactivity Under the Sand.* The Waste From *French Nuclear Tests in Algeria. Analysis with regard to the Treaty on the Prohibition of Nuclear Weapons.* Published by Heinrich Böll Foundation, July 2022: pp. 40-48.

1. Jean-Marie Collin, 'Transparence et désarmement nucléaire' (Transparency and nuclear disarmament), GRIP *Éclairage*, 28 December 2019.

2. The term 'future additonal instruments' is included in Article 3, Paragraph 1, regarding safeguards. This also allows for the possibility of establishing a more stringent standard in the future than the addiJonal protocol, at this Jme the most rigorous standard currently in effect.

3. Jean-Marie Collin 'The humanitarian impact of nuclear weapons: a new disarmament forum', Grip*Analysis* [Group for Research and Information on Peace and Security], 25 April 2013; 'Nayarit conference on the humanitarian impact of nuclear weapons: a point of no return!', GRIP *Analysis*, 5 May 2014; 'The third conference on the human impact of nuclear weapons, a new series of actions', GRIP *Analysis*, 3 February 2015.

FUTURE GENERATIONS

International awareness of the need to protect our environment is at the root of a new legal concept, that of the right of future generations. 'For lawyers, including future generations in the law means achieving a Copernican revolution', according to Alexandre Kiss, a professor of international environmental law.

The Treaty on Non-Proliferation of Nuclear Weapons (NPT), the cornerstone of the programme for nuclear non-proliferation, is limited according to the first paragraph in its preamble 'to the devastation that would be visited upon all mankind by a nuclear war'; or to an immediate effect on life. The Treaty on the Prohibition of Nuclear Weapons (TPNW) records the first occasion in law for a treaty governing a weapon of mass destruction by including this new concept that intends to protect future populations. This is part of a line of reasoning that is both intellectual and legal, as the lawyer Émilie Gaillard stresses: 'The right of future generations is a right that is increasingly gaining in recognition.[4] It is possible to regard it as a force consistent with the overall drive to protect the environment, or even the future fate of mankind.'[5]

Nuclear weapons cause long-term effects in all stages of their production or use:

– During production and testing, they create radioactive waste that needs to be processed and stored over the very long term; the contaminated areas are no longer fit for human activity.

– When they are used, large numbers of survivors are faced with health problems due to radiation.[6] Contamination of the bombed areas or the areas that were used as nuclear test sites remains and often will remain high for thousands of years.

– Finally, generations who are born after production, tests and use of these weapons, may also see illnesses caused by radiation transmitted to them by a transgenerational link or from living in zones that have not been decontaminated.[7]

The TPNW is a legal text that is the latest in a series of treaties termed humanitarian disarmament, aiming to regulate and prohibit entire classes of weapons. As a result of the long-term impact of these weapons[8] and the awareness of the need to protect future generations, it was logical that the TPNW should introduce legal considerations on this subject.

4. Émilie Gaillard, Générations futures et droit privé. Vers un droit des générations futures, (Future generations and private law. In pursuit of a right for future generations), LGDJ, 2011: p. 673.

5. Émilie Gaillard, 'La question des générations futures' (The issue for future generations), in Agathe Euzen, Laurence Eymard and Françoise Gaill (ed.) *Le développement durable à découvert* (Investigating sustainable development), Paris, CNRS Éditions, 2013: pp. 208-209.

6. As demonstrated by the numerous cases of hibakushas and people who have taken part in nuclear tests.

7. Bruno Barrillot, 'Nos enfants marchent sur du plutonium' (Our children are walking over plutonium), *Les notes de l'Observatoire*, No. 4, Observatoire des armements, February 2016.

8. Anti-Personnel Mine Ban Convention (1999) and the Convention on Cluster Munitions (2010).

9. The word 'current' was added at the request of Egypt during discussions of the preamble. The delegate intended to underline the fact that health problems already afflict populations.

10. This is the first time that this has been mentioned in a treaty concerning weapons of mass destruction.

11. Harvard Law School International Human Rights Clinic, *Victim assistance and environmental remediation, the Treaty on the Prohibition of Nuclear Weapons: Myths and Realities*, April 2019.

The English term 'future generations' appears indirectly several times in the preamble and the articles of the treaty banning nuclear weapons:

– Paragraph 4 contains the first direct reference to the concept of 'future generations':
'Cognisant that the catastrophic consequences of nuclear weapons [...] pose grave implications for [...] the health of current and future generations.'[9]

– It should also be noted that there is an indirect acknowledgement in this paragraph of this aspect of war: the impact of nuclear weapons is more severe for women and girls.[10] It is thus clear that there is a wish to protect their health and their ability to give birth to new generations.

– Paragraph 23 is the third direct reference: 'Recognizing also the importance of peace and disarmament education in all its aspects and of raising awareness of the risks and consequences of nuclear weapons for current and future generations, and committed to the dissemination of the principles and norms of this Treaty [...].'

The concept of 'future generations' is thus directly linked with articles 6 and 7 which concern the positive obligations. There was certainly a wish on the part of the authors to guarantee that people now and in future can again live in a healthy environment, without suffering from the radioactive contamination found in nuclear test zones throughout the world.

POSITIVE OBLIGATIONS: ARTICLES 6 AND 7[11]

Article 6 (Victim assistance and environmental remediation) of the TPNW consists of three sections. It requires that 'Each State Party shall, with respect to individuals under its jurisdiction who are affected by the use or testing of nuclear weapons, in accordance with applicable international

humanitarian and human rights law, adequately provide age- and gender-sensitive assistance, without discrimination, including medical care, rehabilitation and psychological support, as well as provide for their social and economic inclusion.' The definition of 'victim' is therefore very broad, including both issues of physical health (illness caused by radiation for instance) and psychological (for women who have become infertile or suffered miscarriages, for instance) and economic problems (water may have been polluted and be unfit for farming).

The second section specifies that the State Party 'shall take necessary and appropriate measures towards the environmental remediation of areas [under its jurisdiction contaminated as a result of activities related to the testing or use of nuclear weapons] so contaminated.' There is indirect recognition of changes to the environment after tests or use of nuclear weapons, since the legislator mentions 'necessary' measures. Moreover, a lack of details on time frames can be noted, which stresses the imprescriptible nature of these obligations for 'cleaning', which are long-term in nature.

Article 7 ('International cooperation and assistance') grants the right to State Parties to seek and receive assistance from other State Parties to the Treaty, and all State Parties who are in a position to do so have a duty to provide assistance to the others in meeting their positive obligations. Indeed, section 3 states that 'each State Party in a position to do so shall provide technical, material and financial assistance to States Parties affected by nuclear-weapons use or testing, to further the implementation of this Treaty'. This assistance (both financial and technical) may take the form of rehabilitation of the environment or help for people, as specified in section 4: 'Each State Party in a position to do so shall provide assistance for the victims of the use or testing of nuclear weapons or other nuclear explosive devices.' Note that these two sections use the term 'in a position to do so' with the aim of encouraging State Parties to implement such measures. However it also means providing an opportunity for these processes to get started promptly. Indeed, if assistance was only to come from the States with nuclear weapons (France, the case of interest to us) and who are already parties to the TPNW, the wait could take a

very long time. This would only increase the suffering of people and the dangers to which they are exposed.

Assistance may also be provided by various organisations (including the UN or the International Committee of the Red Cross), which are listed in section 5. This model for action already works very well in numerous areas (health, protection of civilians etc.) and can certainly be implemented quickly.

Nonetheless, the authors of the TPNW set store on naming those responsible for these humanitarian and environmental situations. This is why section 6 stipulates that 'a State Party that has used or tested nuclear weapons or any other nuclear explosive devices shall have a responsibility to provide adequate assistance to affected States Parties, for the purpose of victim assistance and environmental remediation.' Of course, it was also stipulated that 'the obligations' of this State Party (hence a nuclear power) 'shall be without prejudice to any other duty or obligation that it may have under international law.'

The TPNW recognises the principle of 'the polluter pays'.[12] This is the first time that 'an accusing finger' has been pointed at nuclear powers in a treaty on nuclear weapons and that, secondly, the international community has required them to make reparations for their actions.

APPLICATION OF ARTICLES 6 AND 7 IN ALGERIA

Algeria took part in the negotiations for TPNW, unlike France which has not ceased objecting to it since it was adopted.[13] The treaty was opened for signing on 20 August 2017 and Algeria was one of the first states that decided to sign the text, setting the process of ratification in motion. There is no doubt about Algeria's wish to ratify this text, given the countless political reports.[14] Once it has become a State Party and once the treaty comes

12.
The principle of «the polluter pays' was adopted as a general principle in international environmental law for the first time with the Rio Declaration from 1992 on development and the environment by means of principle No 16.

13.
Press statement from the permanent representatives from the United States, the United Kingdom and France to the United Nations following the adoption of a treaty banning nuclear weapons - New York, 7 July 2017.

14.
Speech by Mr Mohammed Bessedik, Algerian Ambassador, general debate at the First Committee at the UN, 74th session of the General Assembly, 11 October 2019.

into force, Algeria will then have to discharge its obligations, in particular those relating to Articles 6 and 7.

According to Article 6, it is the affected State Party (in this case Algeria) on whom it is initially incumbent to provide assistance for victims, or at the very least to genuinely make a start on an action plan for the victims. As indicated in the Recommendations (page 49), the measures implemented may be related to health or economic in nature. As it is, if the land or the palm groves have indeed been contaminated and if this contamination prevents agricultural production (as it possibly poses a risk to human and animal health), this will risk endangering the livelihoods of many families.

Algiers can request international assistance, in particular from the International Federation of the Red Cross and Red Crescent Societies and also the national Red Crescent Society. These organisations, which are already on the ground in this country, could therefore record the witness statements and produce an initial health assessment fairly swiftly.

Where France is concerned, it does not intend to sign and ratify the TPNW. But does this prevent it from providing humanitarian and technical assistance to Algeria? No. In fact, as demonstrated by some acts of international cooperation between countries with a troubled history, positive actions for the population and the environment can be undertaken.

Furthermore, there are many ties between these two countries, in particular where nuclear energy for peaceful means is concerned. For instance, the Algerian Atomic Energy Commission (Comena) and the French Atomic Energy Commission (CEA) are running various programmes together, evidence of mutual trust and understanding between the parties. Discussions could be initiated on the subject of the nuclear waste currently found in the Sahara.

All the more so as a start has already been made on discussions, namely following the visit by President Nicolas Sarkozy to Algeria in December 2007 with the establishment of a joint Franco-Algerian commission. This was assigned responsibility for civilian expertise at the polluted sites and for compiling all the data and research in order to determine the radioactivity at the polluted sites and to evaluate the risks for the residents and to the environment. Apparently, this commission did meet, namely in 2009, according to the remarks made by the Algerian Minister for Foreign Affairs in 2010. In any case, it operated under the utmost secrecy: no report was publicised before it finished its work.

Resumption of discussions could very easily be included as part of the high-level Algerian-French intergovernmental committee (CIHN), established following the Algiers declaration in 2012. According to the joint Franco-Algerian press releases (from 2012, 2014 and 2017), during the sessions of the CIHN the question of works in connection with the nuclear tests arose. It was therefore decided on 11 December 2017 to 'establish specific lines of communication as promptly as possible' in order to continue with the initiatives from the combined working group on compensation for the Algerian victims of French nuclear tests in the Sahara or their dependents.[15] To date just one meeting has been held, on 3 February 2016.

[...]

15. Communiqué from the French government, Fourth Session of the High-Level Franco-Algerian Intergovernmental Committee (CIHN), 11 December 2017.

- LE PLATEAU -

- La place d'Armes et le bâtiment P.C.
(derrière, l'hôpital et les logements de cadres).

1.12.59

TRÉS SECRET

(3)

PLATEAU : ZONE INDUSTRIELLE

PLATEAU : [illegible]

OSSATURE DU
BATIMENT ADMINISTRATIF

ZONE DES POINTS ZERO
TRANCHEE DE POSE DE CABLES

EXCAVATRICE DE TRANCHEE
" JOHN ALLEN "

Derrick du forage N°2 à
l'arrière plan : camp de
baraques Fillod -

SECRET

Chateau d'eau provisoire
20 m3 . Derrière :
Bâtiment cuisines "Durélith"

Centrale Electrique provisoire
Deux premiers groupes
Alsthom 69 K.V.A.

Aérorefroidisseurs de
la Centrale électrique
provisoire .

About the *Testimony Translation Project*

For the *Testimony Translation Project*, a selection of testimonies is being made digitally available in their original French (and in some cases in French translation from Tamazight) as well as in English. The witness accounts span a range of voices, including fifteen Algerian voices (from Saharan inhabitants that worked at either the atomic base in Reggane or In Ekker, and from their extended family and community networks) and twenty-eight French voices (military and civilian personnel stationed in one of the two French bases). The *Testimony Translation Project* was possible thanks to the twenty translator-participants who have committed their time to translating Henni's selection of testimonies (see acknowledgements, p. 46).

The aim of the *Testimony Translation Project* within Henni's *Performing Colonial Toxicity* is three-fold: first, to begin making these materials available for open digital access; second, to begin the long-term project of their digitalization, as well as their translation into English, allowing for searchability and broader transmission globally; and third, to begin to build a broad network of ´translator-participants´ – that is, of people who are not professional translators, but instead come from across academic, artistic and activist spheres with practices staked in French and/or Algerian history. Given the intentionally expanded nature of Henni's *Testimony Translation Project*, these are non-professional translations done by colleagues and comrades with only a light editorial process, which can hopefully underscore the urgency of getting these important documents circulating.

This text is excerpted from the curatorial note for Samia Henni's *Performing Colonial Toxicity: Testimony Translation Project*, a digital database managed by Megan Hoetger.

All testimonies and translations can be downloaded here:

Radiation Affects: Three Novels About French Nuclear Imperialism in Algeria

ROXANNE PANCHASI

Mapping the terrain of a literary and archival imaginary that remembers, confesses, and testifies, this article considers three contemporary French and Algerian novels that revisit the difficult history and legacies of France's program of experimental bomb detonations in the Sahara from 1960 to 1966: Victor Malo Selva's *Reggane mon amour* (2011), Christophe Bataille's *L'Expérience* (2015), and Djamel Mati's *Sentiments irradiés* (2018). It names and examines a category of nuclear-imperial fiction, exploring literary texts that bear witness to a long and lingering history of bodily, psychic, and environmental harm across discontiguous but connected physical and imaginative geographies. Situating these fictions in relationship to a broader field of military, technological, and political representations, the article emphasizes the work of metaphor and affect in narratives of the 'French' bomb in Algeria.

The reading list included here is drawn from: Roxanne Panchansi, 'Radiation Affects: Three Novels about French Nuclear Imperialism in Algeria', *Fiction and Film for Scholars of France*, Vol. 11, No. 2 (January 2021), https://h-france.net/fffh/reviews/radiation-affects-three-novels-about-french-nuclear-imperialism-in-algeria/. The abstract printed here was written by Panchasi especially for this handout.

READING LIST

- Christophe Bataille, *L'Expérience* (Paris: Grasset, 2015)
- Djamel Mati, *Sentiments irradiés* (Alger: Éditions Chihab, 2018)
- Victor Malo Selva, *Reggane mon amour* (Brussels: Éditions Aden, 2011)

BIOS

Patrice Bouveret is the co-founder and director of l'Observatoire des armements, an independent center of expertise created in Lyon (France) in 1984. Editor of the magazine *Damoclès*, he is the author of various studies and articles, most recently: 'Le droit international humanitaire peut-il protéger de la bombe atomique', in *Alternatives humanitaires/Humanitarian Alternatives*, No. 23, July 2023: pp. 54-63 and 'La guerre se fabrique près de chez nous' (with Tony Fortin), in *Les Notes de l'Observatoire*, No. 6, Observatoire des armement, May 2022. www.obsarm.info

Jean-Marie Collin is director of ICAN France, the French branch of the International Campaign to Abolish Nuclear Weapons, a 2017 Nobel Peace Prize winner organization. With his expertise, he is the author of several articles and books, most recently: *Nuclear Weapons and International Law: Visions of a Plural World*, with C. Maia, 2021 and 'État des forces et future de la dissuasion nucléaire de la France', in *Revue Militaire suisse*, June 2022.

Samia Henni is an architectural historian, exhibition maker and educator. Working through textual and visual strategies, her practice interrogates histories of the built, destroyed and imagined environment – those produced by processes and mechanisms of colonisation, forced displacement, nuclear weapons, resource extraction and warfare. Henni's research has culminated in the award-winning book *Architecture of Counterrevolution: The French Army in Northern Algeria* (gta Verlag, 2017, EN; Editions B42, 2019, FR) and *Colonial Toxicity: Rehearsing French Radioactive Architecture and Landscape in the Sahara* (If I Can't Dance, I Don't Want To Be Part Of Your Revolution, Framer Framed and edition fink, 2023), as well as in the edited volumes *War Zones*, gta papers no. 2 (gta Verlag, 2018) and *Deserts Are Not Empty* (Columbia Books on Architecture and the City, 2022); and in exhibitions including *Archives: Secret-Défense?* (ifa Gallery/SAVVY Contemporary, Berlin, 2021), *Housing Pharmacology* (Manifesta 13, Marseilles, 2020) and *Discreet Violence: Architecture and the French War in Algeria* (Zürich, Rotterdam, Berlin, Johannesburg, Paris, Prague, Ithaca, Philadelphia, and Charlottesville, 2017–22). Currently, Henni is an invited Visiting Professor at the Institute for the History and Theory of Architecture, ETH Zürich.
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Megan Hoetger is a performance & media historian and researcher. She holds a PhD in Performance Studies from the University of California, Berkeley. Since 2019, Hoetger is also a program curator with the Amsterdam-based arts organization If I Can't Dance, I Don't Want To Be Part Of Your Revolution where she works in long-term collaboration with artists and researchers to develop a range of performance productions spanning print media, radio, installation, digital and physical space. Hoetger's archival work and collaborative research practices map the political economies in which underground media networks were formed transnationally during and since the Cold War period.

Roxanne Panchasi is Associate Professor of History at Simon Fraser University in Canada. She is the author of *Future Tense: The Culture of Anticipation in France Between the Wars* (Cornell University Press, 2009) and the founding host of *New Books in French Studies*, a podcast channel she launched on the *New Books Network* in 2013. Her research and writing has explored: handwriting analysis in nineteenth-century France, the "uncanny" rehabilitation of wounded soldiers in the aftermath of the First World War; history pedagogy; experimental and documentary cinema; nuclear weapons; and popular music. Pieces from her current project on the French bomb in empire have appeared (or will soon appear) in History of the Present, French Fiction and Film for Scholars of France (now Imaginaries), *Jadaliyya*, and *Apocalyptica: the Journal of the Centre for Apocalyptic and Post-Apocalyptic Studies* at the University of Heidelberg.

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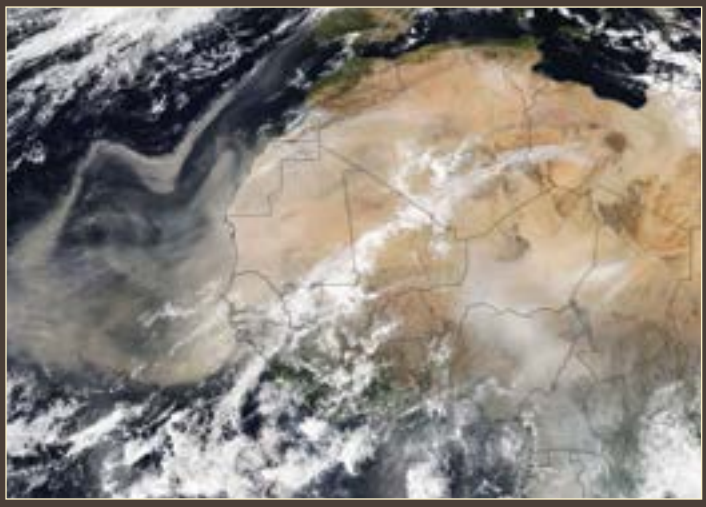

Image via NASA Earth Observatory, February 18, 2021.

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