3. Entanglements of Air

Expansive yet unsettling views of the sky, in which one has the impression of floating and being displaced at the same time, characterize the immersive environment of *Topologies of Air* (2021), a video and sound installation by Scottish-Danish artist, Shona Illingworth.¹ The work is a critical reflection on the economic and military colonization of airspace as well as its legal and cultural appropriation. Integral to *Topologies of Air* is the insight generated by the Airspace Tribunal,² a forum that uses the format of legal hearings where, in front of an invited jury, human rights lawyers, philosophers, activists, and scientists working in areas as diverse as ecology, psychology, and artificial intelligence, debate the potential recognition of a new human right “to protect the freedom


2. Shona Illingworth and Nick Grief, *Airspace Tribunal* (2018–ongoing), interdisciplinary forum http://airspacetribunal.org. The Airspace Tribunal is “a non-governmental tribunal set up by citizens—as such it challenges the traditional state centric view of how international law is created.” E-mail communication with the artist, March 6, 2012. See also Nick Grief, Shona Illingworth, Andrew Hoskins, and Martin A. Conway, “The Airspace Tribunal: Towards a New Human Right to Protect the Freedom to Exist without a Physical or Psychological Threat from Above,” *Digital War* (December 2020), doi: 10.1057/s42984-020-00023-w.
to exist without physical or psychological threat from above.” The Airspace Tribunal hearings are developed in collaboration with barrister Nick Grief, an expert in airspace and human rights who was part of the legal team that represented the Marshall Islands at the International Court of Justice in nuclear disarmament cases against India, Pakistan, and the United Kingdom. Between Autumn 2018 and Spring 2021, hearings of the Airspace Tribunal have been held in London, Sydney, Toronto, and Berlin. Central to the hearings is the belief that existing rights, including those “to life, liberty, and the security of person” are not sufficient “to protect people against threats experienced from or through airspace.” In particular,

Developments in technology such as artificial intelligence and machine learning to process big data collected via aerial surveillance, and increasing existential threats from nuclear weapons and environmental pollution, demand a radical and robust rights-based response befitting “the inherent dignity . . . of all members of the human family,” not forgetting the generations unborn.

The “principle of action” that, as discussed in the previous chapter, underpins a recognition of air as both a heritage and a shared responsibility here translates into a discussion of the validity of a new human right to protect the safety of airspace and air “as the condition of and for embodied life.” While the right could be extended to include other species and life-forms, the hearings have consistently stressed the serious psychological impact on civilians

5. Grief, “The Airspace Tribunal.”
“of threats experienced from and through airspace” as they affect not only how one lives in the present but also how one imagines the future.  

In the London hearing held at Doughty Street Chamber on September 21, 2018, neuropsychologist Catherine Loveday described how the ability to imagine the future is closely related to the memory-imaging system and our ability to vividly recall the past. Traumatic memories characterized by intense sensorial content powerfully shape traumatic imagining: “People who are anticipating a fearful event or trauma of some kind, or violence of any kind, or any kind of threat, are not just idly picturing it; they are to some extent living that experience.” The greater the lack of control and predictability, the more harmful are the psychological effects of unseen threats, as Loveday further explains, making children especially vulnerable. In a Toronto-based hearing held online on November 4, 2020, Gabriele Schwab also focused her contribution on the abuse of air, whether due to air raids, nuclear disasters, or air pollutants, and the haunting emotional legacy of such abuse, both individually and intergenerationally, as our relationship with air is dominated by what Schwab regards as an ontological state of fear. Ecological danger, biological warfare, and nuclear threat cause existential insecurity and foreclose the imagining of alternative futures through their latency. For many, fear dominates their perception of the atmosphere, generating close, suffocating environments. According to Schwab, abuses of air and their consequences call for a reconsideration of the psychological and the

political as interconnected categories. This resonates with our own analysis of how matter in the form of pollutants—but also risk and fear—subvert the inherent relation of breath to life, destabilizing it through the tangible and affective threats that pervade the atmosphere and imbue air with fear.

In this chapter, we shall expand the discussion on air pollution and issues of visibility by turning our attention to radioactive and chemical contamination. In particular we will focus on the video-documentary *The Radiant* (2012), by art collective Otolith Group, which examines the 2011 meltdown of the Daiichi Fukushima nuclear power plant in Japan vis-à-vis Japan’s contradictory relationship to nuclear power. Issues of visibility are brought to bear on the intangible, contaminating presence of radioactivity and fear as equally latent and pervasive. This is further related to other forms of air violence and attacks on breathing through a consideration of Forensic Architecture’s investigations into chemical airstrikes in Syria and the use of tear gas by police forces. Central to this chapter is a reflection on the politics of breathing at the intersection of forms of knowledge production and futurity.

**Contaminations**

Commissioned for Documenta 13 in 2012, Otolith Group’s *The Radiant* deals with the aftermath of March 11, 2011, when the Tohoku earthquake off the east cost of Japan caused the partial meltdown of the Fukushima Daiichi nuclear power plant by focusing on the aftereffects of nuclear contamination through footage from a range of contemporary and historical sources. These

13. Schwab, “The Airspace Tribunal,” author’s notes. Schwab further referred to 2020 as “the year of breath,” alluding to the SARS-CoV-2 pandemic, the debate around face masks, and the chokehold on George Floyd—issues on which I will focus in chapter 4.

14. Otolith Group, *The Radiant* (2012). High Definition video, 64 min. Founded in 2002 by Kodwo Eshun and Anjalika Sagar, Otolith Group is known for its critical interdisciplinary collaborative practice in projects and
include images of the Fukushima event shot by observers and by scientists testing the levels of radiation on the site, satellite images and animations geared to families and children in visitor centers built around nuclear power stations to explain nuclear fission and its benefits. It also includes extracts from films about the testing of hydrogen bombs in the Bikini Atoll and the measurement of radiation levels in the 1950s. Through montage and temporal and spatial shifts, Otolith Group questions the unspoken forms of dominance and identification with energy that characterize atomic power and its futurity. The supposed safety of the Fukushima Daiichi power plant is contrasted with silent images of its explosion while journalist May Shigenobu observes, “Japan is becoming a guinea-pig for the effects of nuclear radiation [. . . ] we are watching it and everyone else is watching Japan for the effects of this very dangerous material that we shouldn’t be using anyway.”15 Under scrutiny, however, is what is essentially invisible: the effects of contamination on Japan’s population—the genetic changes caused by radiation in present and future generations. The Radiant shows the now deserted village of Tomioka, which is part of the agricultural area affected by the radioactive spillage from the Fukushima Daiichi nuclear power plant. The inhabitants of Tomioka can return there for only a few hours per month. Here, an elderly farmer and antinuclear campaigner is one of the volunteers who expose themselves to the radiation for scientific study in order to detect its physiological effects. Past and

films that question the documentary form and engage with issues of futurity and transnationality. The Radiant is part of Otolith Group’s ongoing investigation of the Anthropocene. As Eshun comments, “The Anthropocene gives us a different frame to understand the relations between scientific processes—whether those are atmospheric or geological—and human time.”


15. Otolith Group, The Radiant.
future conflate in the belated consequences of an event whose material presence can only be understood as affect and latency. Indeed, as Karen Barad argues, drawing from quantum theories, nuclear power and radioactivity upset linear understandings of time by positing the possibilities of multiple temporalities “where the ‘new’ and the ‘old’ might coexist,” as “diffractively threaded through” and “inseparable one from the other.”16 Hence, the future is entwined with the past through the trace that the present generates:

Our atomic past not only haunts the present, but is alive in the thickness of the here and now [. . .]. One manifestation of the fact “now” is shot through with “then” is the Fukushima disaster and its continuing consequences, which are directly entangled with the U.S. bombing of Hiroshima and Nagasaki.17

Barad relates Japan’s postwar nuclear development for the production of energy as part of the U.S.-based Atoms for Peace Program and to the U.S. government’s use of such a program “to shield the build-up of its nuclear arsenal during the Cold War,” suggesting that “hauntings are an integral part of existing material conditions” and the making of both the present and the future.18 As Barad argues,

The entanglements of nuclear energy and nuclear weapons, nationalism, racism, global exchange and lack of exchange of information and energy resources, water systems, earthquakes, plate tectonics, geopolitics, criticality (in atomic and political senses), and more are part of this ongoing material history that is embedded in the question of Japan’s future reliance on nuclear energy, where time itself is left open to decay.19

17. Barad, 226.
In *The Radiant*, the accident in Fukushima is critically related to the reconstruction of Japan in 1945 in the aftermath of the atomic devastation of Hiroshima and Nagasaki. Archival film footage shows the black rain that drenched the atmosphere and soil at the time, and scientists collecting rainwater to measure the levels of radioactivity in a makeshift laboratory with a crowd of students pressing at the windows. In another sequence, scientists in a field surrounded by farmers measure the radioactivity of crops. Otolith Group juxtaposes this archival film footage with close-up shots of faces wearing different kinds of breathing masks—from a 1940s gas mask worn during air raids to a contemporary antiradioactive one—thus symbolically linking the alarming consequences of air raids and radiation in the postwar period to the present. This connection is further accentuated in an extensive sequence that follows the visit of a scientist to the zone of the nuclear power station as a camera lingers on the contaminated debris. What emerges is an analysis of how the postwar restoration of Japan’s national identity as well as its economic and geopolitical power were identified with nuclear energy. The attempt to emulate American techno-science led in fact to the extensive construction of nuclear power plants all over the country. The concerted political and economic efforts of reconstruction rearticulated the traumatic legacy of the atomic attacks and their lasting transgenerational effects by presenting nuclear power as a form of potency with an ironic guarantee of safety, capable of supporting Japan’s national pride and its aspirations to international hegemony.

*The Radiant* reflects on how a mythology of nuclear power has nourished a nationalist vision of empowerment and an ideology of futurity in which techno-scientific knowledge has been key, and how such a mythology has partly contributed to the repression of the traumatic historical legacy of the postwar period. The long temporality of radioactivity thus translates into the belatedness of trauma as an after-affect whose duration lingers at the boundaries of past and future knowledge, as a site of both repetition and unknowability. While techno-scientific understanding can monitor
nuclear power, the duration of radioactive contamination refers to an impending trace whose past is imbued with alienating otherness and whose future is the belated actualization of such traces as mutation, disease, and decay. Terror as the shock of what has happened and what could happen instigates rather than mitigates an apprehensive disavowal of the physical and emotional presence of radioactivity.

We are reminded of Gabriele Schwab’s notion of “nuclear necropolitics”—a concept Schwab draws from Achille Mbembé—to suggest the political denial of the threat to life posed by nuclear power.20 This for Schwab is embedded in colonial practices of extraction and is evident in the psychological colonization, in itself a form of contamination, of people’s minds.21 As Peter Sloterdijk remarks, it is as if the “political-psychological and moral lessons of the twentieth century were given to empty classrooms” by contemporary democracies that are “blind in their acute penchant for forming closed atmospheres and for according excessive importance to the hallucinatory systems built by victors.”22 In The Radiant, such blindness is evoked by the visual citation of a video that went viral on social media at the time of the accident in Fukushima. The video extract shows one the workers at the power plant, Kota Takeuchi, pointing an accusatory index finger at the surveillance camera. Takeuchi—a performance artist in his own right—openly quotes a close-up of Vito Acconci holding the same gesture in the 1971 video, Centers. Here, Acconci’s self-referential gesture is recast as both a defiant accusation against those who supported the proliferation of nuclear energy and an act of grievance for the poor working conditions at the power station,23 overtly alluding to the intricate mesh

of responsibility and economic exploitation that characterizes the “closed atmospheres” of governments and corporations.

Otolith Group further translates the hallucinatory system that justifies the production of nuclear energy into the scenario of the glowing night lights in Tokyo that are generated by it. *The Radiant* juxtaposes these lights with infrared images of the contaminated landscape around the Daiichi power plant filmed with a camera capable of recording electromagnetic radiation as luminescence. “The film shows light produced by nuclear energy that is normally not visible, even while radiation functions as an imperceptible actor in its midst, suffusing the atmosphere.” 24 These grainy, black-and-white images together with the haunting sound of a Geiger counter capture the infra-sensible lingering of radioactivity as matter that pervades the atmosphere with physical danger that cannot be disentangled from the ideology and politics that mythologize it. Nor can it be disentangled from fear as its emotional counterpart. According to Barad, this physical and (from my perspective) affective trace of matter is part of an ongoing material history of temporal diffraction and decay, but also of the discursive erasure enacted by the selective production of historical knowledge; the encroachment of radioactivity on safety, like the overlaying of past events onto the future, superimposes its own violence and horror. 25 The devastation and trauma caused by the nuclear bombings of Hiroshima and Nagasaki are in fact meshed with the no less traumatic legacy of the air raids, fires, and destruction suffered by most Japanese cities in the last year of the Second World War (1944–45), in which an estimated 410,000 people died. 26 The verbal and visual representations of the extensive bombing by the U.S. Air Force that targeted mainly

24. Demos, 249.
civilians described Japanese cities as “an abstract enemy space” devoid of people,27 thus exempting the horror of these air-raids in the public perception. Historical erasure continued with the post-war attention given to the atomic bombings and their supposed “justification” in the “resilient narratives of the ‘good war’” that led to an unwillingness to question and engage with the ethical implications of the large-scale targeting of civilians that had preceded them.28 At the same time, the concurrent attempt of Japanese governments to present the country as a champion of international peace and disarmament has clouded, if not intentionally suppressed, the trauma suffered by the Japanese people.29

While the damage from air raids on Japan is gradually gaining belated historical recognition both nationally and internationally, relevant for our discussion is the threat with which they have endangered the atmosphere. The traumatic traces of these air strikes along with those of the atomic bombings of Hiroshima and Nagasaki determine the latent foreboding represented by radioactivity and its consequences. As Barad argues, “Memory is not merely a subjective capacity of the mind rather, ‘human’ and ‘mind’ are part of the landtimescape—spacetimemattering—of the world. Memory is written into the worlding of the world in its specificity, the ineliminable trace of the sedimenting historicity of its iterative reconfiguring.”30 “Worlding” and “sedimenting” also involve air and our responsibility for its safety and futurity on which breathing is predicated. Radioactivity challenges notions of temporality because its duration exceeds any conceivable understanding of history. Radioactivity, in other words, defies conceptions of temporal scale because of the inconceivable extent of what we know about its consequences. It also conflates the very possibility of a macro/micro dichotomy by

27. David Fedman and Cary Karacas, quoted in Akagawa, “‘Difficult Heritage,’” 46.
encompassing vastness and permanence, not to mention nuclear fission and genetic mutation. With radioactivity, the macroscale of ecological damage merges with the molecular level of matter and with different forms of knowability, which accounts for the transgenerational durability of radioactive contamination and its affect. “This challenge to scale”—according to Schwab—“also affects how we think the boundaries of human subjectivity and communication. At stake is nothing less than the reach of affect and emotion, moral thought and action across vast scales” and within the infinitesimally small. In this sense, radioactivity is paradigmatic for an understanding of other forms of contamination, whether in relation to air pollution or air violence. The historical and affective sedimentation that characterizes it also concerns abuse of air more generally and what is perhaps its most indiscernible consequence: the vulnerability of breathing.

**Toxic Air and the Politics of Breathing**

According to Sloterdijk, since the beginning of the twentieth century the atmosphere has been “denaturalized” and increasingly imbued with terror. Sloterdijk locates the beginning of such denaturalization during the First World War, when chlorine gas was used by “a specially formed German gas regiment” against French-Canadian troops at Ypres Salient on April 22, 1915. An aerial photograph documents the toxic cloud caused by the chemical weapons, illustrating a newly established target and combat zone: “the enemy’s environment.” Elsewhere I have examined the overlapping of chemical and affective contamination as documented by rare

34. Sloterdijk, 16.
archival film footage of the use of chemical weapons authorized by Benito Mussolini—despite the League of Nations’ international ban—during the Italian invasion of Ethiopia in 1935–36 in airstrikes that indiscriminately targeted Ethiopian troops and civilians. A sequence shows the dropping of chlorine bombs on a village, the landscape devastated by the contaminating chemical cloud, the corpses of people who died from its effects, flames destroying a hospital tent and doctors trying to treat those whose flesh had been burned by the gas. Relevant for our discussion is the inextricability of ecological and psychological harm attested by these images, and the issues of visibility that this raises. It is such visibility that is at stake when we are dealing with the “ontological fear”—to use Schwab’s phrase—that air contamination in its diverse manifestations and scale poses.

The proliferation of biological and chemical weapons has, in fact, jeopardized breathing, rendering it a war target in ways that accentuate the vulnerability to toxic air within geopolitical contexts. This transpires in the ambiguity that terms such as “risk,” “threat,” “safety” or “security” have acquired in relation to air, bringing to the fore what Marijn Nieuwenhuis refers to as the politics of breathing to suggest that “breath contains knowledge and therefore politics.” Air, for Nieuwenhuis, “reveals a history and a politics in itself. It is already infused with memories, chemicals, and other things of the past. Neither do we passively stay within one air. We are constant-


and intermittently thrown into different, new and old airs.” 38 Accordingly, the politics of breathing pertains to the everyday as it is “centred on the concealed thing we unknowingly inhale, exhale, and share with others and the world on an everyday basis.” 39 Ecological violence and conflict render air ever thicker with histories and politics and as a consequence amplify the need to address and substantiate them.

The generation of evidence capable of counteracting the invisibility of the violence perpetrated against civilians through abuses of air is central, as suggested, to the practice of the multidisciplinary research agency Forensic Architecture. 40 Relevant for our discussion are Forensic Architecture’s investigations in substantiating the use of chemical gas against civilians perpetrated by Bashar al-Assad’s regime in Syria. These include investigations into the chemical attacks on the towns of Khan Sheikhou (April 4, 2017), on Al Lataminah (July 30, 2017) and on the city of Duoma (April 7, 2018), as well as an investigation into a U.S.-based company’s production of Triple-Chaser tear gas and other instances presented in the video Cloud Studies (2020). 41 In 2017 the two towns of Khan Sheikhou and Al Lataminah were the targets of alleged chemical attacks that the Syrian authorities and their allies subsequently denied. 42 Using photogrammetry, Forensic Architecture was able to draw on images and data collected on the respective sites to create 3D models of the munitions and crates that produced the explosions to confirm their causes. In the case of the attacks on Al Lataminah, in particular, it was during a press conference that the Russian foreign ministry provided ballistic information on the typologies of chemical weap-

38. Nieuwenhuis, 91.
ons used in Syria, offering clues for a comparative analysis of the debris of the bombs found in Al Lataminah that helped to confirm the chemical attack. Similarly, on April 7, 2018, the city of Douma, which had been under siege by the Syrian military since 2013, was allegedly the target of two chlorine gas attacks. One explosion hit a rooftop balcony near Al Shuhada square, while the other one hit a bedroom in another location of the city. Russian reporters were the first to have access to the city after its surrender days later. They claimed that both attacks had been staged by the occupying forces and had not been caused by the Syrian regime’s airstrikes. To support an inquest led by *The New York Times*, Forensic Architecture was able to build 3D modelling of the sites and of the munitions confirming that the canisters found matched the characteristics of those used in other chlorine gas attacks. It was also assessed that the first explosion had been caused by a bomb dropped most likely from a helicopter, while the data about the second one remained inconclusive.

Explaining the approach of Forensic Architecture, its founder, Eyal Weizman, remarks that buildings are like “the sensors” of historical and environmental changes as they bear the traces of transformation. “Records of the interaction of the atmosphere with buildings,” he observes, “are deposited in layers of dust and soot on their facades, and their microstratigraphy can provide a rich archaeological resource for a study of urban air, containing information about CO₂, lead, or toxins in the atmosphere—a vestige of history of industrialization, transportation, and attempts at regulating them.” Buildings also record signs of habitation and forms of detonations and ruptures, sediments of chemical contamination, and the dynamics of explosions. Hence, the layering of history that buildings account for is both one of exposure to external processes and one of abrupt disintegration. They act as

44. Weizman, *Forensic Architecture*, 52.
sensors of interference and of the forms that interference can take as repositories of information. Not unlike media, buildings are “both storage and inscription devices that perform variations on three basic operations that define media: they sense or *prehend* their environment, they hold this information in their formal mutations, and they can later diffuse and externalize effects latent in their form.”45 Buildings thus present traces of information to be identified and interpreted within a network of other data, images, and verbal reconstructions. These include the potency of munitions and their characteristics that, as in the cases considered, can be regarded as “agents of affect” for the physical destruction and contamination they cause, but also for their emotional impact on the life within the buildings. Here, as Forensic Architecture’s reconstructions suggest, matter and meaning interact sideways at the margin of visibility and accountability through processes of recognition, reconstruction, and interpretation. In contemporary warfare, as Weizman observes, the state is responsible for crimes such as the use of chemical weapons on civilians that it also denies, whilst private organizations undertake investigations to prove the state’s culpability “by engaging with a condition of structural inequality in access to vision, signals, and knowledge to find ways to operate close to and under the thresholds of detectability.”46 Such thresholds of detectability intersect with others, whether juridical, territorial,47 or one might add, ethical. The consequences of the alleged use of chlorine gas in Syria perpetrated by the government on its citizens goes in fact beyond the temporality of the events themselves and of its poisonous residues; it is a history of ingrained oppression as a latent corrosive presence contaminating the living environment of Khan Sheikhoun, Al Lataminah, and Duoma, a layer of history deposited on their buildings and in the deepest tissues of their inhabitants’ bodies.

45. Weizman, 53.
46. Weizman, 30.
47. Weizman, 31.
“My family is inside. Go on the roof! Close the doors, close the doors! He is dumping chlorine [...] No one should breathe,” reads the translation of the dialogue in a video filmed on the ground during a chemical attack in Aleppo on December 8, 2018, included in Cloud Studies. The survivors of these attacks describe “a yellow-greenish cloud affecting sense perceptions, causing blurred vision, difficulty of breathing, vomiting, and excess salivation.” Breathing in such conditions is imbued with suffocation, as journalist and film director Waaded Al-Kateab remarks about her experience of extensive airstrikes during the government siege of Aleppo in 2016, when she felt oppressed by fear and an inability to breathe. In this loop of violence and suffocation, the attacks in Syria also generated an “information cloud” of images, analysis, and counteranalysis that upset the tenuous boundaries of visibility and invisibility surrounding the chlorine attacks by obfuscating evidence of crimes, “dissipating denial through discord,” and dislocating online debates. The mediatic cloud of information also partakes of contemporary atmospheres by exerting pressure, producing “closed environments,” and ambiguously clouding the safe boundaries of breathability. Forensic Architecture counteracts the abstraction and dissipation of toxic clouds in their mediatic counterpart by generating a different kind of image and knowledge—one that by addressing the politics of breathing puts in the foreground the experience of breathlessness and suffocation.

The cloud of dust caused by the Israeli bombing of the Gaza Strip—the 2008 investigation of which opens Cloud Studies—“contains everything that the building once was: cement, plaster, plastic, glass, timber, fabric, paperwork, medicines, sometimes parts

49. Forensic Architecture, Cloud Studies, voiceover.
50. Waated Al-Kateab and Edwards Watts, For Sama, 2019, documentary film, produced by Waated Al-Kateab, United States, United Kingdom, Syria.
51. Forensic Architecture, Cloud Studies, voiceover.
of human bodies.” As he speaks on the phone with members of Forensic Architecture’s team in London, a witness of the airstrike coughs repeatedly because of the smoke dust he is breathing, conveying the extent to which civilians are the target of the Israeli operations in the region. In *Cloud Studies*, Forensic Architecture further relates these attacks to the dropping of white phosphorus in the Gaza Strip by Israeli planes that cause mysterious flashes in the sky capable of burning anything they might come into contact with and leaving poisonous residues in the air. Low-flying Israeli planes are also shown spraying herbicides containing glyphosate (a substance banned for its toxicity) along the border with Gaza, where the wind pushes the glyphosate cloud toward Gaza. Seasonally repeated, these clouds destroy Palestinian crops, putting the livelihoods of local inhabitants at risk by contaminating the ground. They also produce a barren area along the border where no vegetation grows, which facilitates Israeli surveillance of the region. Ecological contamination and military occupation intersect, lingering as material and affective traces that render breathing ever more vulnerable in the Gaza Strip. Such violence, as Ilan Pappe observes, “has a history and an ideological infrastructure” rooted in colonial ideology and practices that entangles past and future, and, as in the case of nuclear power, generates its sedimented legacies.

In *Cloud Studies*, these investigations intersect those into deforestation and into the methane cloud emission produced by oil fracking in Vaca Muerta in Argentina. Only detectable by infrared cameras, toxic methane emissions contaminated the living environment of the indigenous Mapuche community, endangering their livelihood and upsetting their very relationship with the land and the atmosphere, suggesting the generation of what Forensic Architecture refers to as a “negative common.” The protest of the

Mapuche against such contamination was stopped with further contamination in the form of tear gas. Evident across Forensic Architecture’s investigations of toxic clouds, from Israel’s airstrikes in the Gaza Strip to the deployment of chlorine bombs in Syria and that of tear gas to stop civil demonstrations in places as diverse as Hong Kong, Cairo, Istanbul, and the Mexican border with the United States, are the ways in which air as a condition of life is exposed. The coercive control and contamination of air as a means of colonial oppression in the Gaza Strip suggests a depletion of air meant to undermine agency. In these conditions, breathlessness becomes a form of domination. The autonomy that breathing symbolizes is itself undercut by gassing. Breathlessness can thus be understood as a physical impairment, as the powerlessness that fear induces, and as the crippling of human rights. Contrary to breathing, breathlessness alienates, since it differentiates between those who have access to air and those who do not, deferring and even preventing action as an enforced form of paralysis. The withdrawal of air infers invisibility through the denial of agency and autonomy.

Also included in Cloud Studies is a project commissioned by and presented at the 2019 Whitney Museum Biennial that directly implicates the vice chair of the Museum’s board of trustees who owns the Safariland Group, one of whose companies produced the tear gas grenades used by U.S. border agents against civilians in November 2018. As Forensic Architecture’s investigation explains,

Whereas the export of military equipment from the US is a matter of public record, the sale and export of tear gas is not. As a result, it is only when images of tear gas canisters appear online that monitoring organizations and the public can know where they have been sold, and who is using them.

To facilitate the recognition of these images, Forensic Architecture has developed a project using computer vision recognition to train a

56. Forensic Architecture, Investigation Triple-Chaser, I. 43.
machine classifier to detect Safariland tear gas canisters using as a test sample a grenade known as a Triple-Chaser. Despite its prohibition in warfare and the severe health damage it can cause, including breathing difficulties, pulmonary edema, convulsion, and danger of impaired breathing, tear gas is commonly used by governments worldwide to stop civil demonstrations. Indeed, the Triple-Chaser has been known to be used against civilians in countries such as Turkey, the United States, Israel, Palestine, Egypt, Yemen, Bahrain, Iraq, Peru, Venezuela, and Canada. Not unlike the investigations into the use of chemical gas in Syria, objects—in this case the Triple-Chaser grenade—function as vectors of information that, once decoded, can be used to generate further information able to contest much of the withholding and denial that surrounds the use of tear gas and the assumption of its being “nonlethal.” By entering “the experiential conditions of optical blur and atmospheric obscurity” within clouds, Forensic Architecture’s investigations also disclose the resistance that the politics of breathing generate as collective political action “by the inhabitants of tear gas around the world.”

Out of vulnerability can also emerge endurance. Contrary to the foreclosure that abuses of air cause, these investigations envisage the potential of common action and solidarity. Cloud Studies concludes by quoting Achille Mbembé’s call “to hold in-common the universal right to breathe.”

57. Forensic Architecture, Cloud Studies, voiceover.
58. Forensic Architecture, Cloud Studies, over-script.
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