

To 'hold in-common' in the midst of clouds' drift

'There is no doubt that the skies are closing in.

But we hold in-common

the universal right to breathe'. Achielle Mbembé, The Universal Right to Breathe, 2020

This epigram from Achielle Mbembé's essay 'The Universal Right to Breathe', published in April 2020, concludes the video work Cloud Studies (2020) by Forensic Architecture. A multidisciplinary research agency, including architects, artists, filmmakers, layers, software developers, and journalists based at Goldsmiths College in London, Forensic Architecture supports human rights groups and other agencies by applying architectural methodologies to investigate ecological and human rights violations (Weizman 2017: 9). Developed for the exhibition Critical Zones: Observatories for Earthly Politics, at ZKM, Center for Art and Media in Karlsruhe (23.5.2020-8.8.2021), Cloud Studies comprises eight investigations that, as the title suggests, focus on clouds or, more precisely, on toxic clouds – whether those produced by arson, the spread of herbicides, the deployment of chemical weapons, the use of tear gas or by the invisible emission of methane caused by fracking. Organised according to the chemical composition that characterises each of these cloud formations, Cloud Studies offers us a 'new kind of cloud atlas' (Forensic Architecture 2020, voiceover), one in which the form and composition of clouds are studied to navigate the collusion of political and economic powers, of ecology and human rights worldwide, from the Gaza Strip and Syria to an oil facility in Argentina and a forest fire in Indonesia, from the demonstrations in Tahir Square in Cairo in 2011 and those in Hong Kong in 2020 to the virtual media cloud of digital information. Forensic Architecture's investigations of these diverse clouds are woven together in this video work by the account of clouds' elemental formation, shape, and drift and the kind of knowledge that can be harnessed from them. The video moves across scale and time to unravel the solidarity and action of people who worldwide claim their 'universal right to breathe'.

By tracing Forensic Architecture's investigations of the physical becoming and transformation of toxic clouds and of their consequences for people and ecosystems,

I shall reflect on the intersubjective relations that breathing establishes through air and how such relations are disrupted by contamination – to be understood as both chemical and affective. Extending Tim Ingold’s observation on the inherent ‘aerial dimension of bodily movement and experience’ as ‘ways of being and knowing’ (Ingold 2010: 5131), I shall argue for an embodied and performative response to what I refer to as the politics of breathing.

### **Toxic clouds and affective formations**

In his home, coughing as he speaks, the witness of an air bomb in Gaza describes its effects to the Forensic Architecture’s team in London. The voiceover in Cloud Studies comments, it is as if ‘he was breathing his own house’ (Forensic Architecture 2020, voiceover). On screen, we see the smoke cloud of an explosion (fig. 1).

Related to an investigation conducted during Israel’s bombing campaign in the Gaza Strip in 2008, Forensic Architecture’s contemporary cloud atlas opens with cement as a contaminating matter. It shows images of grey smoke saturated with the micro particles of dust of all the materials that the conflagration disintegrates. As the voiceover explains, ‘bomb clouds contain everything that the building once was cement, plaster, plastic, glass, timber, fabric, paperwork, medicines, sometimes parts of human bodies’ (Forensic Architecture 2020, voiceover). All these materials are breathed by those surrounded by the smoke cloud. We ‘inhabit’ air as the matter and medium that enables life and in which life happens (Ingold 2010: 5122-24). We are, in other words, ‘immersed in the flows, forces, and pressure gradients’ of its currents and such immersion is also the condition for interaction (Ingold 2010: 5132). Toxic clouds occur within air’s immersive flows altering the physical and figurative conditions of interaction as they poison the environments that people, animals and plants inhabit, and by extension life itself and the freedom that air open spaces symbolise. Like weather clouds, toxic clouds form, move, change and dissipate. Their toxic traces are the only sign that can substantiate their lingering presence in the atmosphere. By studying such traces and relating them to their shape and drift as well as to other information related to meteorological conditions, wind directions or temperature changes, and how these factors affect the manifestation and persistence of a cloud, Forensic Architecture generates digital models and maps of toxic clouds’ formation and dissipation in the atmosphere. These are matched by the detailed analysis of the chemical composition of each toxic cloud and of

environmental and health damages caused to provide evidence of contaminating effects. Throughout Cloud Studies, photographs and extracts of videos taken on location are intersected to clouds images and shown alongside the digital simulations and reconstructions developed by Forensic Architecture and used for analysis and projection. Hence, Cloud Studies includes different forms of visualisation and articulation of information, different ways of experiencing and knowing.

Transient and ever-changing, clouds exceed both classification and representation. Modern science attempted to catalogue them according to their vaporous shapes, while painters tried to capture their fleeting movement and evanescent relations to light. As Cloud Studies suggests, clouds are 'limit conditions (...) always double. Seen from the outside they are measurable objects; seen from within they are experiential conditions of optical blur and atmospheric obscurity. Our cloud studies likewise meanders between shape and fog, between analysis and experience' (Forensic Architecture 2020 voiceover). The historical painterly attempt to capture the transience of meteorological clouds thus translates into that of capturing the material formation and transformation of toxic clouds as it is 'governed by non-linear and multi-casual logic' (Forensic Architecture 2020 voiceover). Such logic is articulated collaboratively, drawing on video footage posted by people experiencing the toxic clouds with information collated from non-governmental organizations (NGOs) and other sources, data analysis and digital simulation, suggesting the multi-layered approach of Forensic Architecture. Clouds are, however, more than an object of study, as they happen in dynamic relations with existing environmental conditions, with places and people. Their experiential affect is emotional as well as sensorial. In Gaza, Israel air-sprayed herbicides containing glyphosate that destroyed crops putting at risk the livelihood of the local inhabitants that depend on farming, and targeted the region with white sulphur (sulphur dioxide) rockets that produced white luminous mysterious clouds that burnt at contact (fig. 2). Indeed, 'In Gaza' – as remarked in Cloud Studies – 'the intoxication of the air supports the occupation of the ground' (Forensic Architecture 2020, voiceover). Fear lingers in the atmosphere, no less toxic than chemical contamination.

Peter Slotterjick has introduced the notion of 'atmoterrorism' to suggest the military control of airspace and atmospheric violence (Slotterjick 2009: 25-26. See also Schwab 2010; Adey 2015). Threats 'experienced from and through airspace' have

proved to have serious psychological impact on civilians 'as they cause hypervigilance affecting not only how one lives in the present but also how one imagines the future' (Grief 2020). The trauma caused by atmospheric violence, in other words, contaminates one's own ability to 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' (Loveday quoted in Grief 2020). An investigation related to a chemical attack in Aleppo, Syria on 8 December 2018, shows footage shot on the ground as we hear this urgent exchange: 'My family is inside. Go on the roof! Close the doors, close the doors! He is dumping chlorine ... no one should breathe' (Forensic Architecture 2020, voiceover). Chlorine affects sense perceptions, causing blurred vision, difficulty of breathing, vomiting and excess salivation' (Forensic Architecture 2020, voiceover). To these physical symptoms we could add fear and hypervigilance as consequences of the trauma caused by the bombing which mostly attacked civilians. The visible clouds that Forensic Architecture studies are thus shadowed by other clouds, those caused by the internal formations of traumatic memories and the vivid sensorial imagining of the mind drawn by fear.

Atmospheric control and violence today extend beyond warfare to include ecological harm and the deployment of tear gas, indicating how air has been transformed into a threat and 'an instrument to govern the very condition of life' (Nieuwenhuis 2018: 84) by upsetting and putting at risk one's interaction with the atmospheric environments in which we live. Toxic clouds are the liminal, transient and diffuse manifestation of such a threat as they form and dissipate at the intersection of ecological and political violence. For over a year, Forensic Architecture studied, monitored and virtually reproduced the large cloud of carbon monoxide caused by the burning down for clearing of a forest in Kalimantan, Indonesia in 2015. The cloud drifted north and westward affecting other areas in Indonesia, Malaysia and Singapore, then reaching the northern parts of Thailand and Vietnam, causing an estimate of more than one hundred thousand premature deaths (Forensic Architecture 2020 voiceover). Another investigation focused on the poisonous emission of methane from a fracking facility in area of Vaca Muerta in Argentina, known for its oil fields. Only detectable with infrared cameras, methane, together with other toxic emissions, contaminated the living environment of the

indigenous Mapuche community by endangering their livelihood but also upsetting their very relationship with the land and the atmosphere (Moafi 2020).

Indeed, as Forensic Architecture comments, 'Mobilized by state and corporate powers, toxic clouds colonize the air we breathe across different scales and durations, from urban squares to continents and from incidences to epochal latencies' (Forensic Architecture 2020, voiceover). By drawing attention to both the material and affective interference of poisonous gases, Cloud Studies teases connections among different forms of contamination, involving the viewer in the analysis and experiential conditions of each cloud, and across the development of the work through their different affective formations and drifts. However, as noted in the video, 'today's toxic fog breeds lethal doubt, and clouds shift once more from the physical to the epistemological. When naysayers operate across the spectrum to deny the facts of climate change just as they do of chemical strikes, those inhabiting the clouds must find new ways of resistance' (Forensic Architecture 2020, voiceover). In these toxic atmospheres, protest is also met with toxic clouds.

Cloud Studies brings to bear the large clouds generated by conflict and ecological contamination with those of tear gas that disperse on the ground level in cities as diverse as Cairo, Istanbul, Hong Kong and Santiago (fig. 3 and 4). Worldwide, demonstrators are subjected to 'atmospheric governance' that 'has in a relatively short time become the preferred technology of state power to discipline, punish or immobilise breathing bodies' (Nieuwenhuis 2018: 89). Banned in warfare, tear gas is commonly used by police forces and, though supposedly non-lethal, it can affect the respiratory system, causing breathing difficulties, pulmonary oedema, convulsion and danger of impaired breathing. In Cloud Studies, we hear the voiceover's the listing of the symptoms caused by a tear gas called Triple Chaser, which has been the focus of one of Forensic Architecture's investigations, as we see digitally rendered images of colourful canisters of the gas appearing on screen accompanied by the background soundtrack of Richard Strauss's Last Four Songs. The accumulation of canisters suggests the growing formation of an imaginary cloud pervading the urban atmospheres of streets and squares, roundabouts and frontier-borders across the world. Such cloud, as the chlorine attacks in Syria whereby 'each bomb is also an information bomb' (Forensic Architecture 2020 voiceover), give rise to a 'media storm' of images and contrasting analyses, thus further obfuscating 'evidence of crimes and dissipating denial through discord and dislocated online

debates' (Forensic Architecture 2020 voiceover). In this gaseous and mediatic condensation that displays the 'porousness of global borders and the corruptibility of air' (Zeichner 2020: 1), toxic clouds are like 'a cross-border condition of suffocation' in which 'the inhabitants of tear gas around the world' (Forensic Architecture 2020 voiceover) move claiming their right to breathe.

### **Inhabiting Toxic Clouds**

Through their analysis of the sensory traces of toxic clouds, Forensic Architecture draws what can be envisaged as a dynamic atlas of cloud formations that shows the connectedness of global atmospheres. As Marijn Nieuwenhuis argues of air's chemical composition, toxic clouds reveal 'a history and a politics in itself' (Nieuwenhuis 2015: 91), since they pollute the atmosphere with chemicals and affects capable of throwing people and entire ecosystems 'into different, new and old airs' that 'transcend complicated and diverse geographies of power' (Nieuwenhuis 2015: 91). For people in Gaza and Syria during airstrikes but also afterwards as the effects of bombings continue in foreboding and fear with which the atmosphere of these place is imbued, for the Mapuche people in Peru as oil fracking in the region continues, and those who live in the areas where the fire clouds in Indonesia disperse, these clouds inexorably contaminate the air they inhabit and breathe and the soil in which crops grow and animals graze. In this sense, toxic clouds are experiential formations that upsets one's ordinary and intimate immersion in air, subverting its figurative associations with openness and freedom by imbuing it with oppression. Nieuwenhuis situates the politics of breathing in the everyday as well as in situations of protest and conflict. Such politics are concerned with 'the concealed thing we unknowingly inhale, exhale and share with others and the world on an everyday basis' (Nieuwenhuis 2015: 92), thus exposing the vulnerability of breathing itself, as breathlessness and suffocation. This raises the question of what kind of resistance can be envisaged in their mist.

In her discussion of violence and forms of self-defence, Elsa Dorlin maintains that oppression persists in the bodies who suffer it as negative cognitive behaviours and fearfulness. Fear manifests as hypervigilance and anxiety, while cognitive and behavioural self-defensive attitudes include bodily postures and movements meant to lessen, deflect, avoid or dissipate oppression by making oneself almost invisible (Dorlin 2017: 175). Breathlessness – whether considered physically, psychologically

or figuratively – can be understood as an embodied acquired response to oppression and as an attempt to lessen its stronghold by figuratively withdrawing from air. It can also be regarded as a sign of anxiety, suggesting the hypervigilance caused by trauma (Albano 2022). Breathlessness further stands for the undermining of notions of freedom and expression that are commonly associated with breath, and for the disruption of ways of inhabiting air. In this sense, breathlessness relates to Judith Butler’s recognition of the political dimension of vulnerability and how politics exposes the precarity of bodies, their dependence on the protection and the recognition of their basic needs (Butler 2012: 148), of which the need for air is fundamental. However, for Butler, vulnerable bodies – bodies who are breathless – also enact resistance, thus presupposing a form of vulnerability that opposes precarity (Butler 2016:24).

Butler suggests an understanding of vulnerability relationally and performatively in relation to the experiences and emotions that affect the individual, ‘vulnerability is a kind of relationship that belongs to that ambiguous region in which receptivity and responsiveness are not clearly separable from one another, and not distinguished as separate moments in a sequence’ (Butler 2016: 25). We are reminded of how toxic clouds also exist at the uncertain boundaries of event and experience, of substantiality and haziness, of matter and affect. Vulnerability of breathing thus ensues within the field of interaction of bodies, environments and toxicity as well as of politics and affect. For Butler, resistance emerges from vulnerability as ‘those practices of deliberate [bodily] exposure to police or military violence’ (Butler 2016: 26). Protesters who are not deterred by the risk of being exposed to tear gas can be regarded as an instance of resistance that stems from the body’s own vulnerability to breathlessness, but also from the suffocation of liberties that the use of tear gas symbolises under the supposed claim of being a means to secure or re-establish civic order. When Palestinians raise clouds of smoke profiting of the wind that pushes them in the direction of the Israeli border, we recognise another form of resistance emerging from the breathlessness that Palestinians experience from the hands of the Israeli’s authorities, whereby breathlessness is both an attack on the body and on another people’s right to exist in the same territory. The same could be said of the Mapucho people, marching for the safety of their land in a cloud of tear gas. Paraphrasing Cloud Studies’ voiceover, all those bodies and the many others

affected by toxic clouds across the globe 'hold in-common' their 'universal right to breathe' as a resistance of dominance perpetrated through toxic clouds.

Cloud Studies shares such performative resistance in the formal and thematic associations that weave Forensic Architecture's investigations together. In such a way, across chemical toxicity and its affective resonances, gaseous clouds and experiential breathlessness, Cloud Studies draws us within the interlinked forms and shapes of today's politics of breathing and the 'negative commons' – to use Forensic Architecture's phrase – they generate to create another common, that of the work itself. Cloud Studies thus acts as a performative space of articulation where toxic clouds and their affective dynamics can be understood and mobilised to reclaim the air we breathe.

Credit: An extended discussion of Forensic Architecture's Cloud Studies appeared in Caterina Albano, *Out of Breath: Vulnerability of Air in Contemporary Art* (Minneapolis: University of Minnesota Press, 2022).

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Image captions:

Fig. 1 Still from The Bombing of Rafah, 2015 (Cloud Studies, 2020) © Forensic Architecture.

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Fig. 4 Still from Tear Gas in Plaza de la Dignidad, 2020 (Cloud Studies, 2020) © Forensic Architecture.

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