

ELENA GIULIA ABBIATICI

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Resumo

O filósofo alemão Peter Sloterdijk, em seu livro "Terror do ar" (2002), fala do século XX como um século em que as guerras físicas foram substituídas por guerras químicas, dando início à era do terror do ar. Os cidadãos de todo o mundo vivem diariamente no terrorismo atmosférico, presente na forma de riscos bacteriológicos e químicos suspensos no ar. Como o ar que inalamos não é neutro, nem o ar que expiramos, a proposta é explorar os conflitos do ar na agenda política internacional por meio de projetos artísticos passados e contemporâneos que problematizam a dimensão olfativa da crise climática, a manipulação afetiva e o controle biopolítico. O artigo gostaria de considerar o sistema olfativo, humano e não humano, como 1-) uma unidade de medição e monitoramento da toxicidade ambiental e como 2-) um laboratório de análise biopolítica do ar, a partir da quantidade de dados químicos que podem ser extraídos dele, a serviço do capitalismo de vigilância.

Palavras-chave: Toxicidade ambiental. Atmo-terrorismo. Osmopolítica. Neuromanipulação olfativa. Controle biométrico do odor. Design olfativo.

Abstract

German philosopher Peter Sloterdijk in his book "Terror from the Air" (2002), speaks of the 20th century as a century in which physical wars were replaced by chemical wars, ushering in the era of terror from the air. Worldwide citizens live daily in the atmo-terrorism, present in the form of bacteriological and chemical hazards suspended in the air. Since the air we inhale is not neutral, nor is the breath we emit, the proposal is to explore the conflicts of air in the international political agenda through past and contemporary art projects that problematize the olfactory dimension of the climate crisis, affective manipulation and biopolitical control. The paper would like to consider the olfactory system, human and not, as 1-) a unit of measurement and monitoring of environmental toxicity and as 2-) a bio-political air analysis laboratory, starting with the amount of chemical data that can be extracted from it, at the service of surveillance capitalism.

Keywords: Environmental toxicity. Atmo-terrorism. Osmopolitics. Olfactive neuro-manipulation. Odour biometric control. Olfactive design.

Resumen

El filósofo alemán Peter Sloterdijk, en su libro «Terror desde el aire» (2002), habla del siglo XX como un siglo en el que las guerras físicas fueron sustituidas por guerras químicas, dando paso a la era del terror desde el aire. Los ciudadanos de todo el mundo viven a diario en el terrorismo atmosférico, presente en forma de peligros bacteriológicos y químicos suspendidos en el aire. Dado que el aire que inhalamos no es neutro, ni tampoco lo es el aire que exhalamos, la propuesta es explorar los conflictos del aire en la agenda política internacional a través de proyectos artísticos pasados y contemporáneos que problematizan la dimensión olfativa de la crisis climática, la manipulación afectiva y el control biopolítico. El artículo desea considerar el sistema olfativo, humano y no humano, como 1-) una unidad de medición y monitorización de la toxicidad ambiental y como 2-) un laboratorio de análisis biopolítico del aire, partiendo de la cantidad de datos químicos que se pueden extraer de él, al servicio del capitalismo de vigilancia.

Palabras clave: Toxicidad ambiental. Atmoterrorismo. Osmopolítica. Neuromanipulación olfativa. Control biométrico del olor. Diseño olfativo.

Introduction

The history of smell mirrors the history of modernity itself — its seductions, its violence, its invisible infrastructures. From the Futurists' exaltation of gasoline and ozone as emblems of industrial vitality to contemporary anxieties over pollution, scent-marketing, and olfactory surveillance, the air emerges as both a material and ideological space. To breathe is to participate in a shared medium — an invisible commons that connects all living forms. Yet the air we inhale today is no longer neutral: it is engineered, scented, polluted, optimized, filtered, and commodified. What was once the most democratic of elements has become a contested terrain of control — political, economic, and neurosensorial.

This paper introduces the notion of osmopolitics to describe a new regime of atmospheric governance — one that operates through the molecular, the emotional, and the invisible. Smell, as both medium and metaphor, reveals how power infiltrates perception itself, transforming the act of breathing into a site of negotiation between ecology, subjectivity, and surveillance. It enters the body without consent, bypassing rational cognition and accessing the neural space of emotion and memory. This physiological immediacy grants smell a unique political potency: it can manipulate without being seen, persuade without being recognized, and govern without leaving a trace.

Through case studies drawn from contemporary art and emerging technologies, this paper explores the biopolitics of smell — the ways olfactory perception has been aestheticized, weaponized, and algorithmically regulated from the twentieth century to the present. It examines how air becomes a medium of both sensation and control: from atmoterrorism to osmopolitics, from atmospheric terror to atmospheric governance. If the twentieth century was the age of visual surveillance, the twenty-first may well be defined by osmotic surveillance — a regime in which the air itself becomes the interface of power. Portugal, como campo de observação e reflexão.

When flowers breathe smoke

In *Smoke Flowers* (2017, Figure 1), Belgian artist Peter de Cupere, through an advanced process of scent engineering, let real flowers, both large and small, regurgitate industrial air pollution by discharging smoke, as if taking revenge on human beings. Working with IFF (International Flavours and Fragrances), a leading company in fragrance engineering, he created smells of air pollution while clearly paying attention to the fact that they were not aggressive to the viewer. When we refer to olfactory deprivation, in fact, we must also refer to the reduction in the ability of flowers' scent to travel through the atmosphere. According to a mathematical model developed at the University of Virginia (USA) in 2008 and carried out by environmental health researcher Jose Fuentes, the odour molecules emanating from flowers in low-pollution environments travel up to 1000-1200 metres, while in more polluted places they travel only 200-300 metres (Samarrai, 2008).

Additionally, experiments conducted in the laboratory of the Max Planck Institute in Jena, directed by neuroethologist Bill Hansson, have shown how high ozone levels or the presence of gases, such as diesel exhaust or even pesticides like neonicotinoids, disorient insects - bees, bumblebees, moths and others - and interfere with pollination and reproduction cycles (Hansson, 2021; Girling et al., 2013). Similarly, increasing temperatures caused by climate change also affect insects' sense of smell, which stops functioning accurately, as insects are not endowed with thermoregulation, and their physiological functions depend on the environmental temperature of the habitat in which they live.

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So, no smell, no insects. No insects, no seeds. No seeds, no life. To encourage pollination, artist and designer Alexandra Daisy Ginsberg has developed a garden that promotes pollinating insects, choosing species to plant, according to criteria of ecosystemic and olfactory harmony, rather than formal and compositional considerations. In collaboration with horticulturists and pollinator experts, a botanical living sculpture was born: Pollinator Pathmaker (2021), in its first edition is presented as a 55-meter permanent installation at the Eden Project in Cornwall and eleven flower beds in Kensington Gardens in London, commissioned by the Serpentine Gallery. Beginning with the development of a database of plants suitable for different pollinators and specific locations, the nurtured and customized algorithm has developed a planting design to support as many pollinator species as possible between Cornwall and London, and is ready to serve other audiences and enthusiasts. Linking to the pollinator.art website helps in the process of selecting plants based on soil size, soil type and pH, the light they receive, exposure, and the flight paths preferred by insects. Flowers and colors proliferate at the service of an urbanism marked by environmental ecology that takes into account coexistence among species and reduces anthropogenic impact on the ecosystem.



FIGURE 1 – Peter de Cupere,
Smoke Flower, 2017.

Sources: Courtesy of the artist.

Smelling the anthropocene

Smells, for better or worse, are incredibly influential on our psyche, establishing a deep connection between body and mind. Advances in cell biology and genetics in the mid-1990s, began to provide evidence that the ozone we breathe, which is present in the lower layers of the atmosphere, could damage DNA in alveolar macrophages - a type of white blood cell found on the surface of lung alveoli, which are responsible for eliminating all those potentially harmful substances - and in tracheal endothelial cells. It was Lilian Calderón-Garcidueñas, an environmental health scientist at the National Autonomous University of Mexico (now at the University of Montana), who began studying the relationship between ozone, other air pollutants and damage to the human olfactory epithelium (Arnold, 2018). In addition, according to researchers at Johns Hopkins University School of Medicine high concentrations of fine particulate matter (PM 2.5) can double the risk of anosmia (loss of smell), in exposed populations.

The phenomenon of anosmia, sometimes in combination with loss of taste, was also a reaction to the coronavirus infection and often its only symptom. This loss could last for several months and was by no means of minor importance since the cells responsible for protecting and supporting the olfactory neurons have been damaged (Zhang, 2021). The nose and nostrils would not be so prominent on our faces, if the sense of smell were not essential to survival. With its 400 receptors, the sense of smell, continuously scans everything around it, analyzing chemical messages from the environment, and keeping us away from what is harmful. Olfactory dysfunction is often one of the earliest signs of neurodegenerative diseases. Loss of smell can precede other clinical symptoms by years, making it a potential early diagnostic marker. This dysfunction is linked to the degeneration of olfactory structures in the brain, which can be triggered or exacerbated by exposure to pollutants (Fatuzzo, 2023).

There are several art projects that aim to raise awareness on these topics, to create non-obvious and unusual short circuits, to deterritorialise the disciplines of art, biochemistry and environmental engineering, to develop parallel and provocative scenarios.

One of the most prolific artists in the field of olfactory pollution is the aforementioned Peter De Cupere, who is adept at making us experience the city from an olfactory sensory perspective and also adept at making us perceive the degree of human-made atmospheric manipulation, while inviting us, also, to read the concept of olfactory judgment in terms of cultural stigma. In his olfactory reconstruction of the world, in 2010 De Cupere developed a series of paradoxical holiday cities for the humans of the present, inundated with plastic and garbage, to the point of being able to build a Garbage Holiday City (2010). The misuse of plastic is evident and pervades our lives, as does the disregard for CO₂ and dioxin-like compounds it releases on the living ecosystem. One of the consequences is the olfactory deception that plastic poured into the oceans recreates in many birds, seals, whales, and turtles a couple of months after being dumped. It indeed releases an odorous substance similar to the smell of dimethyl sulfide, indicative of the abundance of food nearby, and tricks ours into swallowing it erroneously, choking and thus inevitably dying (Hansson, 2021).

Sean Raspet's installation *Micro-encapsulated Surface Coating*, presented at the Jessica Silverman Gallery in 2015, concretizes the olfactory background noise of the spaces we inhabit. The work literally scans the air in the gallery. A stainless steel container initially contains a vacuum and collects air from the surrounding environment over the course of a week. The accumulated air is then sent by the artist to a laboratory to determine its molecular composition and create a liquid mixture - a thousand-fold condensation of the gallery's chemical signature - that is later sprayed back onto the gallery's surfaces. Piero Manzoni's *Corpo d'Aria* (1959, literally "body of air") comes to mind, an attempt to contain, to stop the atmospheric ephemeral and, at the same time, the thinking body of the artist through breathing, an eschatological manifestation of life. Now threatened.

Terror from the air

German philosopher Peter Sloterdijk, in his book *Terror from the Air* (2002), speaks of the 20th century as one in which physical wars have been replaced by bacteriological and chemical wars, ushering in the era of terror from the air itself. The main idea is no longer to target the enemy's body but his environment, ushering in the era of atmoterrorism. The tear and vesicant gases used during World War I, including chlorine, phosgene, and mustard gas, or Zyklon B used in concentration camps during

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World War II, up to the horror of Hiroshima and Nagasaki, are nothing more than the evolution, sinking into human history, of the use of biological or chemical agents for the purpose of warfare. Just a few hints: during wars with enemies among the Greeks and Romans, it was common to use foul-smelling dead animals to contaminate the food supplies and drinking water of opposing groups. Later, in 1763, during the war for the domination of North America, the British army gave the Ottawa American Indians military blankets, which later turned out to be a bacteriological weapon because they were contaminated with smallpox.

In 2018, the curse of smallpox blankets became the inspiring subject of Italian artist Luca Vitone's work, *A Tale of Forked Tongues* (2018-2022). For the exhibition *Odor. Immaterial Sculptures* at the Ferdinandeum Museum in Innsbruck in 2023, the artist resorted to an olfactory sculpture developed in collaboration with master perfumer Maria Candida Gentile. Fresh, pungent, woody notes—U.S. cedar, cypress, lavender, and camphor crystal—to narrate a disturbing and dangerous woodland atmosphere and visualize a power situation that traveled by air. Vitone is not new to these themes: back in 2013, he presented *Per l'Eternità*, an achromatic mono-olfactory sculpture, an odorous portrait of Eternit, the versatile and odorless construction material whose name is inspired by the Latin *aeternitas* (for its resistance), which caused, through the inhalation of its fibrous mineral particles, too much death, in Italy especially in Casale Monferrato, where the Eternit factory was located. Three olfactory notes for a dynamic and ambivalent smell: Swiss rhubarb essence as top note, Belgian rhubarb essence as middle note, and French rhubarb essence as base note. *Per l'Eternità* was also created in collaboration with Maria Candida Gentile and permeated the air of the Italian pavilion, sometimes announcing itself outside its perimeter. The artist narrates the terror of the air, that is, the terror of inhaling deadly substances by the relatives of the Eternit workers, through an olfactory sculpture capable of subtly and invisibly penetrating visitors' lungs. If Eternit, according to the workers who worked there, had no smell but an almost tactile, bodily component because of its splintered particles, the artist delegates to three olfactory notes the power to evoke the limbo to which many workers were condemned, in order to have an income: inhabiting atmospherically cursed environments. The ability of the olfactory notes of Vitone's sculptures to permeate the surrounding space and transcend the confines of the exhibition emulates the intrinsic nature of gases (and thus of power itself), to creep, impalpable and penetrating, everywhere, eluding any impossible aerial delimitation.

Eleven years later, Eternit returns to the Biennale Arte, specifically to the German Pavilion, where artist Ersan Mondtag in *Monument to an unknown man* (2024) plunges us into the olfactory and working hell faced by his grandfather, who migrated from Anatolia to Germany to work for decades in an Eternit factory. In the German Pavilion, Mondtag constructs a three-story building that recreates his grandfather's working (first floor) and domestic (second floor) environments, covered in earthen dust to simulate asbestos dust. The ascent to the third level, is a ritual toward liberation and recognition that so many invisible workers can finally receive. Disarming is the letter the grandfather receives announcing his sudden dismissal after working for so many years at that company, with only two weeks off each year "to relax from everyday life and gather new strength for your future work." Moving is the testimonial letter written by the artist in memory of his grandfather and the atmospheric conditions he experienced and breathed: "When we inhale normal dust, it is expelled through coughing, but asbestos dust gets stuck and stays inside for 10, 20, 25 years. Then it causes inability to breathe and water accumulates in the body." The working and domestic environment sought by the artist unfolds in layers, and as one ascends, one is literally assaulted and invaded by the smell of workshop, tar, and dust—much like the environments one would imagine in a Dantean circle of hell.

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The atmosphere is where environmental and financial conflicts are fought, with social and political implications related to its use. Already in 1990, Felix Gonzalez-Torres warned us of bacteriological warfare in the air with his decomposable and distributable paper sculpture, whose message dispersed like atmospheric particles. Gonzalez-Torres printed a stack of sheets bearing on one side an article published on May 13, 1988, in the New York Times, reassuring readers that germ warfare was not harmful to the environment and people, and on the other side, the artist's warning: "Give a city child a break. Give to the Fresh Air Fund." Visitors were invited to take the sheets with them, interacting with the size and potential of the ephemeral sculpture to impact collective consciousness.

Air is a common good and a public right, a true natural heritage of humanity. This is the reason why Amy Balkin, an artist living and working in San Francisco, in 2006 submitted a bid to UNESCO to qualify the entire atmosphere as a World Heritage Site. Public Smog is more than a work of art: it is a project involving the purchase and retention of greenhouse gas emission credits from international commercial markets to create a temporary clean air park. Public Smog raises the complexities and contradictions of current environmental protocols regarding control and public entitlement of clean air and ownership of related sites. It contrasts with the current landscape in which large corporations determine mostly the totalizing abuse of a public good, compromising its quality for profit. The art project calls out the need for greater awareness on the part of citizens in participating in environmental management, rather than delegating this responsibility completely to governments and institutions.

Peter de Cupere's installation *Smoke Cloud* (2014) [3], again, poetically makes us experience the atmospheric price that an urbanized lifestyle makes our organisms pay. It allows the viewers to put their heads in the clouds through a hole, in the centre of the installation, reached by a ladder. Once up, the viewer encounters a repulsive smell, in contrast to the fluffiness that sight had suggested: the smell of air pollution in our cities. The intensity of the smell changes to correspond with the location of the exhibit. For example, in the Netherlands, it reflects the filtered exhaust of automobiles, while in Havana, it reflects the intense smell of old American cars.

At the sight of the clouds part of Alberto Sinigaglia's *MicrowaveCity* series (2016) [2], a similarly stark contrast of sensations is evoked upon recognizing that beyond the clouds are atomic explosions from which the shaft has been taken. Inquietude and wonder: one encounters the Kantian sublime. The series draws from the reworking of photographs held at the Los Alamos Labs photo archive, taken during the 1950s and 1960s in Las Vegas. One of the main attractions of Las Vegas in those years was the opportunity to observe and photograph, from hotel terraces the bomb tests, which were taking place a hundred miles away. Photographs taken by tourists (and non-tourists) incorporated the mystifying power of being reduced to postcards, souvenirs for some escapist dream, enough to chase away violence and drama and, manifest a devious innocence. The radiation is there, the tragedy is historically not far away, but a simple camera makes it easy to confuse America's dream with its shadow, the awe of progress with its terror.

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FIGURE 2 – Alberto Sinigalia,
Teapot Injekt, 2016

Sources: Courtesy of the artist.



FIGURE 3 – Peter de Cupere,
Smoke Cloud, 2013. Installation,
White synthetic cotton,
polyester, epoxy resin, wood,
metal, ladder, iron cables, smell
of air pollution and smoke, 2013.
Edition for the exhibition The
Importance of Being, at Museo
de Arte Contemporáneo, Buenos
Aires, 2015.

Sources: Courtesy of the artist.

Olfactory Neuropolitics: from science fiction to neuro-economy

In Stanislaw Lem's science fiction novel *The Futurology Congress* (1971), he imagines a dystopian future in which sensory and chemical manipulation becomes an instrument of political and social power. The government uses a wide range of chemicals and odours to alter citizens' perceptions and behaviour. This use of odours for psychotropic control of the masses highlights the ability of smell to alter consciousness, bypassing slower and more complex rational and cognitive processes, and traveling straight to the limbic system—our emotional and instinctive core—sidestepping cognitive resistance and installing behavioral triggers beneath conscious awareness. This neurological shortcut makes olfaction a uniquely potent tool for unconscious influence, capable of imprinting memory, shaping affect, and triggering behavior without the filter of reason. It renders the body receptive before the mind can object. Lem literalizes the concept of olfactory propaganda: scent becomes a tool of political hallucination. In Aldous Huxley's *Brave New World* (1932), citizens are soothed into obedience through “soma,” a neurochemical anesthetic that abolishes conflict and desire. It functions as

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a form of subconscious propaganda deployed by the World State to preempt rebellion. It operates not only as a narcotic to manage the masses but also as a personal refuge from emotional conflict, guaranteeing both social order and individual happiness. Projected as a technological substitute for spiritual consolation, soma is described as "Christianity without tears." Free will is not abolished—it is merely circumvented.

Today's scent-marketing practices echo sci-fi vision, using ambient fragrances to nudge decisions silently. In the atmospheres we inhabit daily — from artificially scented commercial interiors to the olfactory branding of airports, hotels, and retail environments — the neurochemical design of air becomes a mechanism for behavioral conditioning. Branding no longer targets just the retina or the ear; to inhale becomes to consent. Through these invisible mechanisms, corporations can "brand the brain," embedding desire at the molecular level (Herz, 2007). Scent marketing and olfactory engineering are no longer confined to aesthetic experiences but are part of a new regime of "neuro-olfactory governance," in which invisible chemical infrastructures modulate emotional and cognitive responses. The direct link between smells and the brain is such that major entrepreneurs and brands have figured out how to direct the economy through invisible, inhalable substances that can be silently and deceptively directed to the neural circuits responsible for making choices, encouraging purchases by even the most undecided. What once existed as dystopian fantasy in science fiction has now become a psychopolitical strategy in marketing, surveillance, and governance.

The smell of fresh bread in supermarkets, leather in luxury car showrooms, and vanilla in retail stores are not aesthetic accidents—they are olfactory scripts embedded into space (Lindstrom, 2005; Krishna, 2012). Calming fragrances dispersed in Tokyo subway stations to ease commuter stress (Yoshida et al., 2008), or lavender and chamomile diffused in prisons and hospitals to reduce aggression and anxiety (Johnson, 2011), constitute a kind of olfactory architecture of sedation. Similarly, in commercial malls, orchestrated scent environments are designed to seduce even the most undecided consumers, subtly guiding emotional states and purchasing impulses through neurochemical persuasion. These practices raise a critical question: are such ambient interventions acts of care—or mechanisms of control? If olfactory stimuli can condition, manipulate, or even rewrite our perceptions and decisions, what protections remain for the sovereignty of the self?

In this context, the exploration of the biopolitics of scent intersects with the posthuman enhancement of the environments we inhabit — on a bio-chemical level in the atmosphere and on a molecular level in our bodies. Scent, invisible and often subliminal, can influence emotions and decisions without the subject being aware, blurring the lines between persuasion and coercion.

In 2021 in the vast Turbine Hall of Tate Modern, Anicka Yi diffused scents as temporal agents. Depending on when you visit *In Love With the World*, you may encounter marine aromas linked to the Precambrian period, long before humans inhabited Earth, vegetation from the Cretaceous period, spices thought to have countered the Black Death in the 14th century or the coal and ozone evoking the Machine Age of the 20th century. Each day brought with it a new olfactory narrative.

Biomechanical creatures—part jellyfish, part drone—suspended above the visitors, formed a speculative biosphere governed not by sight, but by environmental chemistry. The artist's speculative approach imagines a planetary and posthuman politics of scent, where olfactory atmospheres build stories, anticipate futures, and rewrite memories. It suggests that, in a world increasingly dominated by surveillance technologies, the power of olfactory information may one day surpass that of visual or even biometric data.

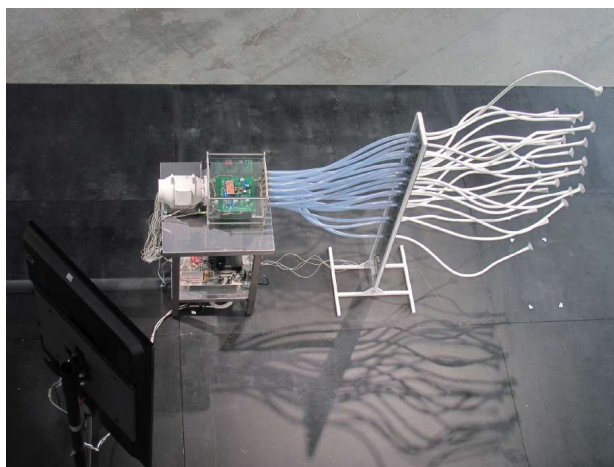
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FIGURE 4 – Where Dogs Run, Faces of Smell, 2012. Interactive Installation, software, metal, plastic, glass, stainless steel, aluminium, silicone, gas sensors, photo detector, electronic components, fan, microcontrollers, computer, plasma screen, stand, cutting table, rangefinder.

Sources: Courtesy of the artist.



Smell of surveillance

While in the past the management of atmospheres passed through ethnic discrimination and regulation (during colonialism) and the rejection of scents deemed incompatible with Christian morality (in the Middle Ages), today the application of machine learning in the olfactory field can trace, classify, and regulate the volatile molecules that drift and circulate through the atmosphere. If electronic noses are very advanced in the field of security to detect explosive substances; in the field of medicine to recognize possible diseases; in the agricultural system to test the presence of pesticides on products or assessing the degree of spoilage of a food (de facto quality control), so far no software has been developed that is accurate enough as organic noses (like the canine or insect ones) to identify a human being. This is the reason why Ph.D. student Melanie Anderson and her team at the University of Washington have developed an olfactory drone by exploiting the high olfactory performance of the bird kingdom. Smellicopter is, in fact, a drone that uses a living antenna of a moth to orient itself to odors, even moving against the wind and following them to their source. The team remedies the difficulty for artificial olfactory systems to perfectly recognize and distinguish odors, creating a hybrid of natural and artificial that is useful for detecting, for example, unexploded hidden explosives, gas leaks, or monitoring agricultural crops (Anderson et al., 2020).

Thanks to recent advances in artificial intelligence and sensor technology, researchers are now attempting to replicate—if not surpass—the olfactory abilities of dogs. Canines possess an extraordinary olfactory system—estimated to be 10,000 to 100,000 times more sensitive than that of humans. While humans have approximately six million olfactory receptors, dogs have around 300 million. Furthermore, olfactory neurons—specialized cells responsible for transmitting odor information to the brain—range from 12 to 40 million in humans, compared to an astonishing 220 million to 2 billion in dogs. It is therefore not difficult to imagine the extraordinary olfactory capabilities of dogs, making them valuable tools for tracking and searching for missing or runaway persons (even distinguishing between identical twins) or detecting narcotics, poisons, explosives, fire accelerants, and bugs. (Agata Kokocinska-Kusiak, 2021).

Identifying individuals by their smell is a technique long used by the police, particularly the Stasi in East Germany in the 1970s, which secretly collected odor samples. Currently, computerized olfactory recognition with high-tech sensors is still in its infancy, but it is feared that it will flank facial recognition and fingerprints.

One of the most promising developments in this field is the emergence of electronic noses—devices designed to detect and identify volatile organic compounds (VOCs) in the air, including those present in human breath. These systems are being developed in a leading research center such as Kyushu University where in 2022 a team introduced an "artificial nose" capable of biometrically identifying individuals based on the unique chemical signature of their breath, with an average accuracy exceeding 97%. This sensor detects VOCs and interprets them through a machine learning model that links molecular patterns to specific individuals, offering potential applications in health diagnostics and what is considered to be security and border control (Jirayupat et al., 2022).

Simultaneously with other academic and scientific researches in this direction (Rodríguez Luján et al., 2013; Chaiyanut et al., 2022), the Russian collective, Where Dogs Run, conceived the installation *Faces of Smell* (2012, Figure 4). In the installation, gas detectors and analyzers are placed to collect information about people, their location, and their biology at a specific time through their smell and breath. When a person approaches the gas analyzer and sniffs the tubes, the tubes in turn smell. After processing the data on the composition of the air, they produce a face - a record of the logistical and biological information captured through breath and smell. Curiously enough, in a subversion of control, the database from which faces are created was fed with police sketches. In short, a person sees a face that conforms to his or her smell, exactly in line with today's constant tracking requirements.

In a context of infocracy (Byung-Chul, 2022), in which information and control overlap, the use of olfactory technologies for the identification of individuals or neural manipulation raises profound ethical questions, together with the need to protect and guarantee the right to privacy, cognitive freedom, neural integrity, free will and to prevent errors due to algorithmic bias.

If, in the dawn of civilizations, the sense of smell was regarded as divine, today's techno-capitalist progress indeed seems to aspire to transcend human sensory limits, extending our abilities into a sort of Ballardian transcendence toward an immortal capitalization of our data, including the olfactive ones. Could our olfactory signature become a tool in the service of the control and security industries?

Conclusion

If Sloterdijk's "atmoterrorism" describes the weaponization of air as an instrument of fear, the contemporary condition could be described as osmopolitics: the management and manipulation of olfactory atmospheres as a subtle, yet pervasive, form of power. Through synthetic odors, algorithmic noses, and neurochemical conditioning, the air is transformed into a medium of behavioral control — a zone where cognition, biology, and ideology converge.

Smell volatility mirrors the precarity of contemporary subjectivity — constantly inhaling, absorbing, and being modified by the flows of air and data that constitute the invisible infrastructure of the Anthropocene. If the 20th century was the era of visual and optical surveillance — the century of the Panopticon and the screen — the 21st century could be defined by osmotic surveillance: diffuse, ambient, and chemical. The manipulation of olfactory environments, whether through corporate scent design or bio-technological monitoring, prefigures a regime in which the autonomy of perception is no longer guaranteed. From an artistic point of dissertation, smell emerges as a privileged site for examining how power infiltrates the intimate and invisible layers of political struggle, aesthetic speculation, and technological experimentation.

In this new regime of sensory governance, the challenge is to reclaim the air as a commons — to resist the privatization and weaponization of the atmosphere by reactivating the olfactory as a site of critical and collective awareness. As Amy Balkin's Public Smog proposes, the air is not merely a medium to be monitored, scented, or controlled, but a shared condition of existence, a space of co-breathing that binds all living forms.

The future of freedom may well depend on our capacity to smell — critically, collectively, and politically — the atmospheres that surround us.

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From Atmoterrorism to Osmopolitics: the Biopolitics of smell and the art of atmospheric control

Do Atmoterrorismo à Osmopolítica: a Biopolítica do cheiro e a arte do controle atmosférico

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