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What's the Sense of a Classroom? Sensory Perception in Classrooms and Relationships with Nature in the Wake of COVID-19

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Abstract
This paper explores sensory perception in classrooms, and the relationship between classrooms and nature in the context of the COVID-19 pandemic. First, it argues that this crisis provides a unique opportunity to rethink how we perceive classrooms and their connection with nature. Second, the paper describes what students and teachers usually see, hear, touch, smell, and taste in classrooms, and identifies unusual or overlooked sensory phenomena that COVID-19 has brought to our attention. Third, the paper discusses three types of classrooms (traditional, innovative learning environment, open-air) and how they model our perception and conceptualization of nature. The paper concludes by emphasizing the relevance of everyday aesthetics in education, what stands as an opportunity to sensorially enrich pedagogy, and to approach classrooms as proper dwellings for both humans and other-than-human beings.

Keywords Sensory perception · Classroom · Everyday aesthetics in education · Nature · COVID-19

Introduction

This paper delves into the sensory perception in classrooms and the sensory relationship between classrooms and nature in the wake of COVID-19. The Studies in Philosophy and Education May 2021 Special Issue 'Educating the Senses' (Todd et al. 2021) was a major contribution in highlighting that 'aesthetics is not simply something we find 'in' education, but it constructs the very basis upon which the dynamics of teaching and learning are made possible' (p. 245). These dynamics are fostered through the promotion of sensorial discernment, refinement, and engagement, all of which help understand that a classroom 'is not just a place which 'accommodates' bodies, but a place that is itself experienced through an

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embodied and multisensorial mode of being in the world (p. 246). While the Special Issue was completed before the peak of COVID-19, it is worth expanding diverse sensorial opportunities that arose as schools reopened, particularly because the pandemic may allow us to rethink the sensory environment of classrooms.

From a complementary perspective, Aloni and Veugelers' recent work on ecohumanism, democratic culture, and activist pedagogy (2023), synthesizes different views regarding the need to perceive human crises and ecological crises 'as comprising a system in which they are intertwined and affect one another' (p. 2). According to them, seeking harmony with oneself, with others, and with nature requires establishing a fluent relationship between humanity and nature that needs to be deliberatively cultivated through educational insights and sensitivities (p. 3). Although the authors do not explicitly problematize how classrooms' everyday aesthetics models the relationship between humanity and nature, their argument allows us to re-examine the bond between classrooms, climatic qualities and immediate biota with more subtlety than the traditional indoor/outdoor or open/closed epistemic distinction.

Therefore, this paper will proceed as follows: First, it will argue why the COVID-19 crisis constitutes a singular instance to revisit sensory perception of classrooms and relationships with nature. Second, it will describe what students and teachers usually see, hear, touch, smell, and taste in class, and identify unusual or neglected sensorial phenomena that COVID-19 brought into consideration. Third, the paper will problematize how three types of classrooms (class, innovative learning environment, open-air), each consisting of a proper sensory layout, entail specific ways of conceiving and approaching nature. The paper will conclude by emphasizing the relevance of everyday aesthetics in education, in relation to more comprehensive educational opportunities in schools, and to the conception of classrooms as dwellings for humanity and nature.

The recent pandemic represents an unparalleled occasion to inquire everyday aesthetics of classrooms, both concerning their habitual sensory layout and how they embody characteristic ways of approaching nature. The reason is threefold: first, the COVID-19 crisis implied an interruption of the transparency of sensory perception in school. 'Superficial qualities of everyday aesthetics' (Leddy 2012) suddenly became decisive. Environmental qualities such as airflow, lighting, and temperature of rooms; infrastructural attributes such as the number of toilets, the size of rooms, or the existence of green areas; and intersubjective rituals such as how students and teachers greet each other, when do they open or close their classroom's windows, and how do they leave the class for break time when the bell rings, abruptly came forth as key coordinates to navigate this emergency spatial curriculum. Certainly, all these trifles have always been there as basic sensory guarantees for schoolwork, but their academic potential was obviated due to their apparent irrelevance.

Second, the pandemic demonstrated that school life involves perceptual practices that although often tacit or unnoticed, shape a definite school experience. In this sense, after analyzing the various recommendations for hybrid work and the reopening of schools, from the outburst of the crisis up to the point when the World Health Organization declared the end of the pandemic on May 5th, 2023, it is possible to identify an underlying common 'school aesthetic matrix'[1] (Mandoki 2017). Such a perceptual scheme presumes that students learn

[1] According to Mandoki, the school aesthetic matrix refers to perceptual patterns that characterize the relationship between everyday sensory experiences and the pedagogical project of schools. They manifest through expressions such as *home school*, *prison school*, *mall school*, etc.

best in an indoor space, seated next to classmates of the same age, motionless, looking at the front, in a timetable that repeats weekly throughout the year, in courses that typically use and organize space in the same way, among others. These perceptual practices are so incontrovertible that they help debunk the myth that good teachers should be able to teach anywhere, no matter what. The truth seems to be quite different: good teachers can do their job anywhere, as long as this place secures the above-mentioned conditions. After all, among the many things that schools teach, they teach how to conceive, value and put into practice everyday sensory experiences in relation to education in specific manners (Marini 2021).

Third, the pandemic contributed to problematizing the gap between those perceptual practices and the real needs of students. Contrary to the mantra of international education policy (UNICEF 2021), I think COVID-19 did not misalign the relationship between school space and time, or between diverse learning styles; the pandemic only detonated a deep pre-existing mismatch (Marini et al., 2021). The prevalence of inflexible bodily dispositions, in uniform rhythms, within homogeneous spaces, through learning experiences that dissociate knowledge from immediate nature, do nothing but reproduce a functionalist rationality that aspires to educate *a normal student*, with *an average body*, in an *innovative learning environment*, where nature is *something* lying *out there*. This scenario frames a true paradox: while the predominant discourse in education proclaims the worth of inclusion, diversity, friendly relationships with nature and, ultimately, a school modeled after ecological democratic virtues; classrooms reveal a standardized landscape that homogenizes perceptual opportunities concerning learning objectives, teaching strategies and relations between humanity and other-than-human.

The Sensory Perceptions that Shape Classrooms

This section discusses perception in schoolrooms. First, it approaches the everyday aesthetics of classrooms through the description of what students and teachers usually see, hear, touch, smell, and taste. This is complemented by intuitions arising from the pandemic, which allow us to explore unusual or neglected pedagogical implications. Thus, the COVID crisis is conceived as a generative interruption to confront anew the sensory environment of classrooms and to reconsider perception in everyday educational practice.

Sight

From a sensory point of view, the first obvious impression is that a classroom constitutes a visual phenomenon. This is confirmed by imagining the legion of posters, labels, and name tags, among other resources, that populate classrooms' walls, doors, and even window frames, creating what the Finnish architect Pallasmaa (2024) describes as the *occulocentric* scenario that shapes modern life. Building on him, I want to stress that inside classrooms, sight possesses such a gravitational force that it seems to absorb all other senses and sensorial habits: the body posture, the somatic awareness of people nearby, the sounds and smells coming from inside or outside the room, variations in the surrounding environment, all seem to be played down or ignored in favor of looking at 'the front' where the teacher or the board congregates students' attention.

However, the focus of attention is not sight per se, but rather a reduced set of visual artifacts that are considered educational. Letters and numbers are preferred over colors, images

in screens and textbooks over the faces of classmates and the views from the window. More than any other dimension of the human sensorium, sight manifests the classroom's predilection for artificial stimuli over natural and immediate encounters. Such a decision favors an object-oriented, passive way of seeing that contrasts the type of visual engagements that students can experience during break time, lunchtime, art workshops, or physical education. It is as if classrooms consist of showcases that keep valuable objects before students but prevent them from exploring the modalities in which they look at themselves and the world around them[2].

In this sense, based on an inquiry of sight in modern schools, Landahl (2019) witfully suggests that the dynamic of gaze in classrooms may not only follow Foucault's *panopticon* where one sees everything without ever being seen but also Mathiesen's *synopticon* where many watch the few, this is to say, the teacher. On the one hand, it could be argued that control-oriented curriculum ideologies, teaching practices, and even school design and architectural traditions are still so dominant today, that they determine visual stimuli like an external guardian: what is it that students should look at in class; in which sequence visual artifacts will be introduced; what will be the device, distance and light quality that will best support those images. On the other hand, the fact that teachers are supposed to be always visible in class provides them with the utmost responsibility to model what is worth seeing and how. This means more than simply concentrating on whatever is being projected on the board, delving into the pedagogical criteria that guide teachers in selecting, locating and renewing visual stimuli in class.

COVID-19 represented an opportunity to *de-front* sight in classrooms, bringing attention to the relevance of eye contact as a necessary link to socio-emotional interactions. The irruption of face masks contributed to highlighting the human capacity to infer nonverbal intentions based on extraordinarily little information. Of course, hiding more than half of the face behind a piece of plastic favored misinterpretation and, therefore, misunderstanding. But, if we have any hope of communicating more than alphanumeric information, it seems inevitable to try to capture a meaningful picture, as complete as possible, of the people facing us. In this sense, one could presume that classrooms became places for unprecedented efforts towards reading in other people's eyes what they were trying to convey. Certainly, what was at stake was not the phonetic decoding of a verbal statement but rather its literal, ironic, angry, or boring connotation.

Someone could object that this is not new at all, for schools have always promoted idiosyncratic forms of emotional engagement among classmates and teachers, which implied the capacity to decipher eye reading in class. However, I want to affirm that the pandemic provided an original chance as it forced school communities to attempt different classroom visual arrangements. To make this possible while complying with health regulations, seating dispositions had to be modified in most schools, moving away from single-front views of the class towards diverse centers of common attention. In doing so, the correlation between spatial changes and visual orientations became evident in class, demonstrating that if we dare to modify the usual physical design of classroom work, there will be more to see than

[2] Visual researchers have extensively argued that classrooms embody a 'hidden yet visible curriculum' whose ideological underpinnings are hard to identify given the fact that visual artifacts tend to pass from generation to generation as neutral devices, without further justifications concerning their themes, styles and characters. In particular, it is worrying to confirm that classrooms visual environments are closer to teachers' memories of their own childhoods, than to state-of-the-art visual culture in education (Prosser 2007).

what the classroom usually shows. Obvious as this may seem, it is revealing that for some of us who have been teaching for decades, it took a pandemic to revisit the visual management of our class.

Hearing

If compared to the number of visual images that build school life, a classroom's sound ambiance is flatter, than interesting and diverse. It is true that students learn to speak and recite in different languages, as well as to appreciate, create, and perform music in class. But, building on Mandoki (2017), these sounds take place within the aural 'school aesthetic matrix' that frames a clear distinction between suitable sounds that favor learning, and out-of-place noises that need to be washed away like dirt. Most of the time, this aural code is unwritten yet undisputable and extremely precise. It defines who can ask and who should answer rapidly. It forbids replying to the teacher with a new question, answering back, or leaving the cell phone volume on but requires a clear *present* to verify student attendance. Overall, it exemplifies the power and risk of speech and silence in education.

Building on an aesthetic history of sound and silence, Vertraete and Hoegaerts (2017) provide a nuanced conceptualization that enriches the traditional distinction between sound and noise in schools. While acknowledging that most research has approached silence as a form of political resistance where teachers and especially students decide not to respond to certain policies or reply to certain questions that conceal discriminatory practices, the authors call attention to how contemporary scholars approach silence as a key quality for wellbeing and social engagement. Interestingly, they show how mindfulness movements have managed to incorporate meditation exercises in public and private schools, actively integrating the rhythm of breath, heartbeat, digestive movements, and the possibility of doing 'nothing' quietly into the everyday soundscape of classrooms. Such a growing perspective introduces the relation between sound and health as a pertinent analytical layer regarding hearing in class.

In addition, it is important to highlight a distinctive educable quality that usually remains dormant in class: the dynamic spectrum of hearing. Phenomenologically, the ear is bound up in the frequency of the world; receptive and spontaneous, ever eager to perceive and unable to shut off. This means we need to learn how to encompass different sounds, prioritize what is important, repel what distracts, and still be able to absorb ourselves into a voluntary task, without canceling the potential richness of interruption. Indeed, schools have always had the opportunity to teach how to enter silence and depart from it, helping students to identify their own aural needs and sensibilities. But, today, such a disposition is crucial as we live in an age ruled by more multisensory distractions than capacities to make the most out of them. What is particularly challenging for education is that adaptative technologies have the power to identify a person's thematic and musical tastes, reinforcing the self-indulgent pleasure of being immersed within one's headphones. As one of my students has described 'I'm not isolated, I'm in total control of what I'm listening'.

Both in schools that never closed during the pandemic and in those that reopened as soon as the situation allowed, the sound quality of classrooms changed dramatically. In particular, the continued use of face masks highlighted the awareness of breath propagation whenever a person speaks. This otherwise trivial fact became grave as it was then associated with the risk of contagion. Under these new circumstances, it is reasonable to hypothesize that some

students were motivated to choose their words with a previously unheard precision, while others chose to be as quiet as possible, ironically emphasizing the binding nature of speech. This is to say, not only do we gather in schools to share our thoughts and feelings through speech, but also the structure of our voices organically entangles us with our interlocutors through air. In other words, we are existentially and biologically connected with those with whom we choose to speak.

Another sound-related aspect that became noticeable due to the pandemic was the uncritical division between inside classroom sounds and external non-human sounds. During the coronavirus lockdown, human silence left space for the rest of nature's sounds. Cities and villages were not calmer simply because people were quiet in their homes, but because birds and animals recovered part of their original dominions, making their voices heard in a way most of the present human generation had never observed before. This event draws an intriguing contrast with classroom soundscapes, especially if we consider the last years of primary and the entire secondary education, where learning environments tend to ignore external non-human sounds as irrelevant or distractive and, therefore, noneducational. In an age where ecological demands are stronger than ever before, it is curious how poorly nature's sensorial environment is amalgamated into classroom work. I will get back to this point in the next section of the paper.

Touch

Touch has received attention in philosophy of education in recent years, in particular, because of how touching and being touched expresses the phenomenon of perceptual entanglement clearly, allowing us to value inter-subjective relations and exchanges with nature with greater depth. Building on Todd (2021), 'the dynamics of touch -as both a touching and being touched by- are central for understanding educational encounters as sensory landscapes of contact' (p. 249). In particular, I wish to argue for the philosophical correspondence between learning how to feel the subtleties of various materials and being able to recognize and adjust to other people's sensibilities. Just as if touch were a metaphorical forerunner of communicating skills that can contribute to meeting the emotional boundaries of our interlocutors and help interpret the best feasible way of relating with them[3].

However, if one considers what it is that classrooms put forward as touchable objects and situations, the result confirms the underdeveloped condition of epidermic inquiry in education. Ceilings, walls, and floors are typically the boundaries of a rectangular space that is supposed to contain students and teachers but prevents touching their surfaces. Tables, chairs, and shelves usually have a plastic-like texture and are slip-resistant, impermeable, and easy to clean. Even though they are movable, the static setting of classroom furniture appears to repeat itself, year after year, like confirming the myth of a classroom as an object that is not supposed to be handled. At most, students will be allowed to grab their bags, take their papers, hold their pens, and use their fingers to screen through their devices. The underlying assumption seems to be that inside the classroom touch is governed by a functional and standardized motivation, that fails to recognize how interesting it is to work in attractive touchable environments.

[3] This may be easier to grasp in romance languages where the word for *touching* and for *tactful* is one and the same. For instance, *tact* in French, *tacto* in Spanish.

This could be explained by the fact that school tradition has maintained the hand as the model of touch *par excellence*, and it is therefore rare to find tactile stimuli designed for bare feet, for legs, necks, backs, and elbows, or for a body position other than sitting down or standing up. Such neglect for the other regions of the skin through which 'we are always potentially on the threshold of the world' (Sheet-Johnstone 2009, p. 138), fatefully numbs touch in class, reinforcing the dualistic impression that classroom sensory experiences are mere servants of superior mental abilities, traditionally associated with sight and hearing. This is why a classroom that seeks to engage all students' sensibilities, needs to take into consideration the realm of touch as a doorway for fresh tactile occasions, particularly for those who may feel physically non-adapted to the typical spatial and temporal organization of the lesson.

The pandemic highlighted the relevance of touch in education, probably more than any other sense. Although the motivation was fundamentally hygienist, trying to put up barriers to prevent the virus from entering the school, notions such as *social distance*, *bubble*, or *traceability* offer interesting tactile references that enrich the everyday aesthetics of classrooms. For instance, when maintaining six feet between students, the verification criterion is given by the adequacy between the tape measure and the marks on the floor that indicate where to place the desks. But when procuring *social distance*, emerging inter-perceptions surpass the tape measure, unveiling sensory considerations such as: how comfortable do I (we) feel with this distance?; is it possible to talk about any subject at this distance?; if I (we) have exceeded the minimum or maximum of this *social distance*, have I (we) turned antisocial? among others.

In addition, the pandemic contributed to highlighting other touch-related qualities that are usually in the background of perception but still frame much of the ambiance of each classroom. Airflow, temperature, humidity, and atmospheric pressure, among other climatic features, are noticed through our skin and make us experience freshness/mustiness, heat/cold, mugginess/dryness, and lightness/heaviness. Even though these qualities impact each person differently, a classroom works like a natural experiment concerning how people manage to negotiate their intensity. What is the best way of guaranteeing the renovation of air? How much heat or cold can students and teachers tolerate without distracting from their work? What would be the benefit of including plants inside the classroom? What is the best dress code to deal with this classroom's specific weather conditions? These are some of the usually implicit or neglected touch-related decisions that need to be taken into account. Thus, the pandemic triggered a necessary inquiry regarding the continuity between people's sensibilities, the classroom's habitat, and its immediate nature.

Smell and Taste

Smell and taste are the senses least valued in their educational density. This may be due to two fundamental reasons: First, beginning with Plato, passing through Aquinas, up to the decisive influence of Kant, these senses are considered to be the furthest removed from beauty and the sublime as they involve organic needs, many of them involuntary or instrumental, such as breathing, drinking, identifying dangerous substances, and navigating environments, among others, which could at best be called *pleasant* or *useful*. As Brady (2012) points out, the ongoing assessment of smell and taste as *lower pleasures* is supported by the conventions of many Western societies where we mask our bodily smells with deodorant

perfume or wash away the flavor of foods with *clean* or *fresh* toothpaste as undeniable signs of decorum.

Second, the epistemic structure of contemporary schooling disregards smells and tastes as trivial or auxiliary to the completion of learning objectives. Once the practice of manually designing, crafting, and building something together was isolated within weekly lessons of *art* or altogether labeled as *vocational education*, everyday occasions for slowed-down organic contact between students and their immediate world have been reduced to the minimum, deluding the ability to recognize the multitude of smells and tastes that populate the encounters with different materials and beings. Therefore, it is no surprise that classrooms feel like a taste and smell wasteland, which is reinforced by a distant intellectualist approach to these senses in scattered learning objectives, and the resulting limited ability to describe our olfactory and savoring sensations consistently.

However, schools do not cancel smell and taste for good. Even before the pandemic, canteens allowed students to have breakfast or lunch, providing a major source of daily opportunities to experiment with different aliments, and value social interactions within and throughout the classroom. It is easy to tell how important these venues are for students, as we consider the amount of conversation, different groupings and ways of behaving that show up during eating time. As Di Stefano (2021) claims 'the whole set of interacting atmospheric qualities determines the emotional space in which the aesthetic appreciation of food is consumed' (p. 167). In fact, to enjoy commensality, it is necessary to interrupt the rhythm of classwork and integrate sound registers, touch approaches, and visual frames to the multifocal alternation between plate, surroundings, and the faces of those companions who gather around the table. This gathering around a shared center of attention shows that eating is never simply a matter of ingesting solids and liquids to nourish our body but an opportunity to expand social communion, health, and well-being.

To take advantage of this opportunity, I believe Perullo's (2016) analysis of 'taste as experience' is valuable since it helps justify why a 'sustainable sensoriality' (p. 85) would be an asset for all schools. This would entail sensing what is the amount of food and the speed of ingestion each person needs to feel satisfied, acquiring at least some culinary skills that assist in savoring foods of different traits, which supports a more varied nutrition and a more conscious relation with the aliments that fill the plate. Still, if one compares the number of years students are fed in school, with the scarce cooking abilities with which they graduate, the result confirms the lack of aesthetic literacy concerning eating as a pedagogical responsibility. Along this line, one could hypothesize that dramas such as youth overweight and food waste in school are heavily conditioned by the lack of savoring and olfactory awareness across all grades and levels, including teacher education institutions.

Abruptly, the Covid pandemic brought to light how smells and tastes impact everyday life. Those who suffered smell loss (anosmia), smell distortion (parosmia), or taste loss (ageusia), either transient or permanent, had to suffer unprecedented challenges. To begin with, they had to confront a pervasive public indifference concerning the incidence of smell and taste disorders in their physical and mental health. Some people suffered appetite and weight changes; others simply lost the sense of intimacy within their homes and habitual places, as familiar scents transformed into arcane odors. An ominous sense of blank perception made people feel 'as if they were experiencing the world behind a glass' (Barwich & Smith 2022). Painfully, what became clear was that smell and taste constitute two of the key doorways through which we organize and give meaning to the everyday perceptual experi-

ences that serve as backdrops of our entire lives[4]. It would be dreaming to claim that schools have taken advantage of COVID-19 to reframe the pedagogical implications of smell and taste but, the prevailing mental health challenges in youth and teachers, and the ecological dilemmas concerning food production and consumption might help us all reflect on the contribution of smell and taste in education.

Perceptual Relations Between Classrooms and Nature

This section discusses perceptual relations between classrooms and nature. First, it problematizes how diverse ways of cataloging classrooms throughout history (class, innovative learning environment, open-air) entail diverse sensory experiences concerning nature. Second, it proposes to approach classrooms as places to perceive the human partnership with nature. This implies noticing the ever-present immediate biota and reconsidering learning spaces as habitats to dwell. Throughout the section, the COVID crisis is conceived as a generative interruption to confront anew how classrooms shape students' and teachers' sensory worlds concerning nature.

Class, Innovative Learning Environment, Open-Air

At first glance, a classroom seems to stand in opposition to the realm of nature or, at least, to neglect its relevance either by the material structure of the room or by the usual practices that take place in it. It is eloquent enough to imagine an ordinary class to notice an almost complete absence of biota; a nonchalant indifference regarding whether it is winter or spring, day or night; a lack of consideration of the organic needs of those who are supposed to learn, and grow in it; and the compartmentalization of interior learning space (typically consisting of artificial devices) and exterior space (generally open-door patios or playgrounds). True enough, some classrooms do have plants in pots on their floor or solar system replicas hanging from the ceiling, but these are usually fading echoes of *something* that seems to lie *out there*, beyond classroom limits.

Until the outbreak of the pandemic, two prevailing ways of cataloging classrooms reinforced this sensorial gap with nature, although for distinct reasons. The first one is the classroom where most teachers and students work: that indoor space that is defined by a group of people of the same age or same career. This is why 'the class of 2024' refers either to those who will graduate in 2024 or to those who were born in this year and are expected to go through a similar progression during their education. Such understanding is reinforced by the word 'cohort', whose Latin root *cohors* evokes a corral where individuals of the same species are fed or have shelter (Lewis and Short 1879). In no way does this stance ignore the existence of people of other ages or non-human forms of life with which schools may enable interaction, but the fact is a classroom alludes, pre-eminently, to a standardized human population.

[4] Here, I am reminded of Yi-Fu Tuan's analysis of the peculiar contribution of smell and taste to our sense of self. According to him, taste and particularly odour 'is an encapsulated experience that has been largely uninterpreted and undeveloped' (1993, p. 57). That is why it has the power to re-establish the past, bringing memories that are attached to places that may have changed over time, but nonetheless possess bonds with the present.

This may partially explain why classrooms are apathetic about external stimuli and remain sensorially predictable, typically consisting of a rectangular space with a board on one of the short sides, windows on one of the long sides, and same-size desks, tables, and chairs that cannot possibly accommodate the bodily differences of students and teachers, especially beyond preschool. In fact, when comparing kindergartens with other schoolrooms, the uncritical presumption seems to be that human beings would be in more need of sensorial stimulation between birth and the age of six. Once we trespass that chronological boundary, being able to sit on a chair, at the same time that everyone else, facing the front, would be of utmost importance. Building on the corral metaphor, it feels as if a classroom was supposed to take care of the average basic needs of a group of anonymous people who occupy its space, rather than to allow for differences to come together, promoting collaboration with other beings that dwell in school.

While discussing the 'school aesthetic matrix', Mandoki (2017) affirms that this type of anonymity turns up to be violent for students (p. 146; p. 245). The fact that they need to move from one room to another as courses or grades change, inhibits their chances of emotionally attaching to these spaces. Even if some schools do authorize students to intervene in their classes with decorations, fishbowl pets, or the like, by the end of the year all spaces will be repainted, disinfected, and restored to the typical class format that will remain prepared for the incoming group. This reduced perceptual affordance ends up transforming the classroom into an indolent or inhospitable venue. In the wake of COVID-19, it was no surprise that after years of standardized everyday aesthetic experience, the task of accommodating airflow, tables, and bodies in a new manner became extremely difficult. Certainly, how a classroom reproduces this 'one size fits all' sensorial scheme is unfair both to human beings -who are exposed to a limited set of stimuli- and to other than human beings and natural elements -which are utterly made invisible-.

Here, a reader might argue that this critique of classrooms ignores the many spatial-sensitive pedagogies that developed during the 20th century and regained public attention during the COVID-19 pandemic; what is generally named today as *innovative learning environment* (ILE). To a certain extent, ILE is inspired by educators like Maria Montessori and Loris Malaguzzi, who approached school spaces as a lingua franca that would reveal classroom aesthetics as a key dimension of teaching and learning. For instance, by stimulating flexible use of spaces, promoting connections between inside and outside grounds, or simply leaving certain areas of the building unfinished with the hope that the school community would provide a bonding touch (Cavallini et al. 2017). Interesting as this sounds, and beautifully as can be seen in actual Montessori and Reggio Emilia kindergartens, it is fair to admit these pedagogies are not included within mainstream public education, and their presence past 0–6 years is marginal.

Moreover, from a critical perspective, Biesta (2022) has pointed out that the systematization of ILE carried out by institutions like the Organization for Economic Cooperation and Development (OECD) risks evolving into an ideology that presents classroom space innovation as an unquestionable aim. Here, spatial qualities such as *learner-centered*, *structured* and *well-designed*; *profoundly personalized*; *inclusive of different learning needs*; and *social*, are introduced as obviously desirable, presuming that innovation has crystalized as an imperative need for 21st-century education. However, while reviewing the OECD ILE Handbook (2017) there are no explicit references to relations between nature and schooling, ecological and democratic challenges, or inter-species interchanges; all aspects that the

recent pandemic proved to be of utmost relevance. It is as if ILE were focused on a single species, sensorially detached approach to innovation, more concerned with implementing spatial transformations than explaining, for example, why co-work digital stations are preferred over basic wood benches, why indoor climatization is preferred to learning how to adapt and endure climatic fluctuations, or why it seems so challenging to stop the weekly schedule from a solipsistic repetition.

Interestingly, an alternative comprehension of how classrooms shape students' and teachers' sensory worlds concerning nature can be found in the tuberculosis epidemic that caused havoc in Europe and North America during the first decades of the 20th century and preceded the COVID-19 in calling into question the adequacy of schools' approach to nature. That crisis brought together teachers, doctors, and architects in an unheard-of collaboration which resulted in the creation of the *Open-air schools* (Thyssen 2018). These schools were based on the belief that classroom air should be constantly renewed, enabling sunlight, wind, humidity, plant odors, and spores to move freely through space. Although in the history of architecture and medicine, these schools were cataloged as models of prevention and healing for sick children, how they sensorially reorganized classrooms offers insights to rethink the relationship between schools and nature as a porous one.

Open-air schools interrupted the habitual inside/outside division through such simple solutions as the installation of sliding walls that opened onto green areas that enlarged the living space of the classroom, or the creation of adjacent cloistered gardens that allowed for a slow transition between public and private areas. In this manner, these schools progressively dissolved the separation between enclosed classrooms formally structured for teaching and learning, and the courtyards, patios, gardens, or rooftops that conveyed the healing elements of nature. By doing so, Open-air schools modified the function of classrooms from a protective receptacle designed for an abstract cohort to a porous place that ought to remain permeable to the immediate conditions of its surroundings. It seems to me that the pedagogical gesture behind those architectural transformations was not to adapt nature for the benefit of the classroom but to attempt to reconcile both in a *care-full* bond (Mondragón & Marini 2021).

Sunbaths were mandatory within the week's schedule. Outdoor gymnastics were enforced throughout different school systems. Students and teachers got used to wrapping up thick jackets to endure the roughest days of winter with the windows wide open. Rather than conceiving that nature entered the class or that the class went to nature, these schools represented an original act of pedagogical symbiosis in which both become intertwined as different qualities of a common experience, what lies at the heart of what Aloni and Veugelers (2023) refers to as fluent relationships between humanity and nature. In other words, Open-air schools were not only able to protect and heal sick children but also to prove through the material disposition of their classrooms that humanity is dependent on a constant exchange of light, air, and temperature. It is my conviction that this is one of the most serious aspects that the aesthetic analysis of classrooms should problematize *vis-à-vis* lingering pandemic consequences. After all, it is in class that most students will learn that nature is either: an idea, a distant cluster of creatures to contemplate and study, or a common partner with which they are entangled for good. The next section will explore this point in more depth.

A Place to Perceive Our Partnership with Nature

Borrowing from Gernot Böhme's (2016; 2002) phenomenological discussion on environmental degradation, I want to argue that the COVID-19 pandemic allowed us to reconsider that what is presently at stake in everyday schooling is 'nature for us' (*natur für uns*) rather than 'nature in itself' (*natur an sich*). According to Böhme, the conventional Western discourse concerning nature has to do with 'nature in itself'. This is the notion of nature that has been described as something 'lying beyond human beings', 'something to be conquered', or 'something obsolete' (p. 9). Overall, 'nature in itself' refers to non-human-related nature, a set of independent objects that we may come to know empirically, but that are not sensed as intervening with human everyday life. What is more, for Böhme this is indestructible nature because it existed before humanity and will continue to exist after us.

Some school-based approaches to COVID-19 seemed to have sprung out of this perspective. The proliferation of antimicrobial carpets, touchless hand sanitizers, air filters, plastic barriers, and the ongoing mandatory use of face masks in different nations, might make sense as ways of maintaining schooling in its usual space and pace as if anesthetizing the virus threat. But, in doing so, the pre-existing separation between the classroom and nature has resisted under the naïve or arrogant expectation that nature could be blocked 'outside'. It would seem that inquiries concerning the virus' interspecies origin, its flashing spread throughout the globe due to human transport habits, or how it allowed animals to return to their former dwellings within our towns and cities were suddenly put on hold behind an antiseptic sprinkler in the school's entrance. Certainly, it would be irresponsible to run after viruses chasing possible contagions, but it seems unwise to miss the chance to reconsider school relations with nature in a resilient and creative manner.

In contrast to 'nature in itself', 'nature for us' concerns a bodily engaged space, where we discover our partnership with nature in a relationship that is certainly degradable or that may improve. Until his dead in 2022, Böhme was of the idea that 'the destruction of external nature has become a problem for us *only* when it has affected us and has been sensed with our own bodies' (Wang 2014, p. 2). This is to say, when the need for nature's vital support manifests in all its urgency, it holds in abeyance apportioning blame and uncontextualized deliberations about climatic crises, forcing us to confront a radical risk, here and now. This is why 'nature for us' is more easily understood through negative experiences, like when we suffer breathing stress due to smog or a respiratory virus. Such an anxious situation opens two points of analysis:

On the one hand, difficult breathing 'causes the body itself to be experienced as something dependent on an exchange with the rest of nature' (p. 235). The fact is that we, human beings, are 'creatures of air'. Our intimate dependency on air yields a wide array of symbolic meanings regarding light, temperature and odors, some of which I referred to in the previous sections; it also conditions material decisions such as where we locate the windows and doors in buildings; and helps wonder why we care for our skin, mouth and nose. This humble existential circumstance precedes important philosophical discussions regarding breathing as a rhythmical alternation of tension and dilation, as well as technical attempts to enhance cross-ventilation and air quality in classrooms. Even if we seldom reflect on our respiration, and usually take its ease and inconspicuousness for granted, we had relied on this gas exchange to reach this far in the text, alive.

On the other hand, unease breathing helps us appreciate that 'nature for us' is neither a fact nor an immanent determination but a task that needs to be accomplished as we come to terms with a direct relation with nature. In the suffocating peak of asthma, the necessity for breathing and the desire to breathe becomes the same with the subject whose burning note is becoming air through the body. Therefore, as we rediscover our identity as natural beings, we recognize that caring for ourselves is inseparable from caring for the air that we breathe. This is to say, 'nature for us' implies that the obvious impulse every person feels to care for their own life opens an ethical demand to look after our immediate surroundings not with an instrumental intention but rather with the conviction that this is the realm of the most important partner of our humanity.

Even though Böhme did not thematize the pedagogical implications underlying 'nature for us', I think that such a relevant endeavor should be at the center of educational concerns. Accordingly, the question that I would like to pose concerning this paper's argument is: what is it that sensory perception in classrooms would add to this engagement with nature, this partnership with air and water, with sunlight, heat, and those other habitants of schools?

The answer is, at least, twofold. First, classroom sensory layout can help revalue -or neglect- the immediate biodiversity that sustains our environment. Typically, a stereotyped view of nature as something existing outside of school comprises a sensorial bias, in which students grow unable to detect local biota and atmospheric qualities, reducing the scope of sensibility and postponing or canceling interspecies interdependency. Along this line, biologists with philosophical backgrounds like Rozzi (2023) have reflected on the relation between the animals, plants, and other natural elements that are present on school grounds, and the descriptions of species that appear in textbooks and on classroom artifacts. He argues that there is a dissociation between immediate biota and what students notice as nature. In general, what students easily refer to as nature is limited to a cannon of mammals (dog, cat, horse, lion, etc.) and plants (rose, apple, banana, orange, etc.) that rarely allude to the homegrown fungi, mold, virus, bacteria, insects or birds that dwell in school. These creatures have always been there, throughout schooling. But the inadvertent habit of not noticing them as everyday partners has condemned them to an uncharted perceptual domain, homogenizing the understanding and attitude towards nature as a distant reality[5].

No one negates that going into the wild to contemplate a landscape or to configure environmental sites that can be enjoyed and studied over the years such as national parks or botanical gardens, contribute to showing fundamental qualities that are both aesthetically and pedagogically engaging (Carlson and Berleant 2004). For example, everyday aesthetics scholars like Saito (2007) have extensively argued for the multilayered facets of silence, time, and interspecies respect that come forth as we walk along the paths of a Japanese garden. But if these learnings are associated with the opportunity to visit unique venues or distant areas, they risk transforming encounters with nature into a chic field trip. Thus, there is a logical association between arguing for the relevance of noticing our partnership with nature in school and vindicating the role of public education in promoting direct access to

[5] It is worth pointing out that Rozzi (2013) has coined the term *biocultural ethics* to find a balance between the well-being of humanity and that of all beings on the planet. As a heuristic tool to navigate this complex ethical framework, he advances a threefold relationship between *habitats*, *habits*, and *co-inhabitants*. I believe this proposal converges with actual discussions concerning both ecohumanism and place-based education.

the other-than-human inhabitants of our shared world. Nature must be available not only to our students' minds but also to their hands, here and now.

Second, a slowed-down approximation to sensory perception in classrooms may allow us to reconsider learning spaces as habitats. Here, it is significant to mind that the notion of habitat derives etymologically from the Greek *ἦθός ethos*, this is, the den or residence of an animal (Liddell and Scott 1889), so that a habitat refers to that primordial place that imprints life with a relational character that brings together intersubjective, organic and situational features. It is not only where we were born, but specifically where we learned to live in relation to other people and beings. In this sense, I am afraid that traditional classrooms and ILE fail to appraise that schooling signifies investing one-third of the day in or about school grounds, what entails that a classroom's porosity, openness or rejection of interspecies and climatic exchanges will have lingering effects in students' experience. Allegorically, if a pigeon learns how to fly in partnership with air from its proper nest; why does it seem so strange to consider that human beings have the chance to learn how to live with nature based on their daily exchanges in classrooms?

After the COVID-19 pandemic, I can imagine several students and teachers sympathizing with the proposal that classrooms are habitats where they dwell every day. However, the seemingly inertial return to the same spatial practices of yesteryear is eloquent enough to make us reflect on the fact that dwellings require some sense of ownership that grants their dwellers with the power to care for and modify their milieu. Put differently, if classrooms are not owned by students and teachers, why would they feel responsible for caring for their space and looking after the natural qualities and beings that co-exist with them? This brings into question the ancient epistemic schism between those in charge of classroom construction and those who will spend week after week in those spaces. In other words, approaching classrooms as dwellings demands articulating a common experience for designers, architects, teachers, and authorities where they may explain to each other what the pedagogical purpose is of having classrooms at the center of education (Marini & Mondragón 2023). In this sense, I believe Open-air school can inspire simple yet interesting decisions regarding how to be accountable for the places we choose to give our lessons in, while remaining humbly receptive to the world within and about us.

Conclusions

This paper delved into the sensory perception in classrooms and the sensory relationship between classrooms and nature in the wake of COVID-19. First, it argued that the COVID-19 crisis constitutes a singular instance to revisit sensory perception of classrooms and relationships with nature. The pandemic interrupted the transparency of sensory perception in schools, showing that school life involves perceptual practices that although often tacit or unnoticed, do shape a definite school experience. This claim helps problematize the gap between schools discursively modeled after ecological and democratic virtues, and classrooms with a homogenizing perceptual environment, both regarding learning objectives and strategies, and the presence of nature within them.

Second, the paper described the presence of sight, hearing, touch, smell, and taste in classrooms. While recognizing the predominance of a traditional oculocentric drive, the COVID-19 represented an opportunity to reflect on sight as an object of inquiry, as well as

on the ability to decipher intersubjective emotions based of eye reading. Analogously, this section highlighted the pertinence of learning how to move in and out of silence in class, the acknowledgment of the existential and biological connection with those with whom we choose to speak, the opportunity to question social distances and negotiate classroom atmospheric qualities, and the relevance of the experience of shared smells and foods. Overall, the pandemic allowed us to notice that, even though it is not dealt with as a decisive dimension of schooling, classroom sensory perception is an intersubjective task that permits us to gain a richer perspective of the relationship between students, teachers and their lesson, that surpasses an abstract exchange of information between agent and the world.

Third, the paper discussed perceptual relationships between classrooms and nature. Noting that classrooms are the places where students begin to understand and experience what nature is and how to relate to it, a genealogical account of regular classes, ILE and Open-air schools was provided. In general, classrooms and ILE show a sensorial bias towards nature as an external collection of objects, rather than the primordial network of coexistence between all species and beings. In this sense, Open-air constitutes a valid historical example of classrooms that promote porous encounters with nature. In addition, Gernot Böhme's notion of 'nature for us' was discussed as a way to demonstrate our inherent dependency on nature, which entails an educational task of intersubjective discovery, not a self-evident fact. Building on this phenomenological perspective, the paper highlighted that classrooms have the opportunity of favoring how to notice immediate biota, while experiencing themselves as proper dwellings for both humans and other-than-human beings.

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