

Odours and Spatialities: Designing Sensory Experiences

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Abstract. Smell is a chemical phenomenon, historically signified and culturally shared; it creates deep interactions, enforcing social structures or transgressing them. From natural environments to urban spaces, the large variety of odours can stimulate olfactory senses and evoke experiences, in which pleasant and unpleasant, and even non-smelling scents, are combined as parameters of spatial limits. The main aim of this paper is to contextualize some chemical and cultural aspects of smells, and their potential to create and reconfigure spatial orientations. Based on Constance Classen, David Howes, and Anthony Synnott's researches, odours are understood as cultural classification systems, and therefore they are possible modes of ordering the world. At the end, some projects and scent maps are brought since odours are considered an aesthetic medium to design evocative experiences and perceptive access modes.

Keywords: Odours and spatialities, perception and accessibility, spatial experiences, design and technology, art and technology.

1 Introduction: Odours and Spatialities

Events in everyday life are perceived and registered by sense organs of more than one modality. Consequently, the coordination and integration of information derived from different sensory systems are essential for providing the perception of the environment to control actions within it.

Considering the multiple sensory dimensions of the world and the visual perception predominance in contemporary culture, this text highlights people's olfactory qualities to sense and to make places. Olfaction represents a subset of the sense of smell and is related to chemical dialogues, anatomy and behavioral responses; it is a dynamic and interdependent relationship between anatomy and behavior, genetic capabilities and cultural characteristics (Morton 2000: 256) [1].

Semantics aside, an odour perception is usually caused by a physical substance – molecules light enough to evaporate and be carried on air currents to the nose. The sensory cells in the nose convert a chemical signal – the molecule – into an electrical signal (a nerve impulse) that travels up the olfactory nerves to the brain for interpretation. Its material dependence tensions other characteristics such as fluidity and adaptation, creating an emerging context to elaborate other patterns and models of territorial occupancies.

Natural odours are composed of a large number of molecules – roses, for instance, release 172 different odour molecules. Nonetheless, the most dominant of these determine which sites on the membrane will react the most strongly, while the other substances make secondary contributions to the scent. Sobel states,

We uncovered a clear correlation between the pattern of nerve reaction to various smells and the pleasantness of those smells. As in sight and hearing, the receptors for our sense of smell are spatially organized in a way that reflects the nature of the sensory experience. (apud Weizmann Institute 2011) [2]

In addition, the findings confirm the idea that people's experience of smells as pleasant or unpleasant is hardwired into physiology, and not purely the result of individual preference. The researcher does not discount the idea that individuals may experience smells differently. He theorizes that cultural context and personal experience may cause a certain amount of reorganization in the smell membrane over a person's lifetime. This means that a smell can trigger an odour perception – the expectations alter the perception of actual odours; 'odours we think are benign – pleasant, fade from awareness, while those we believe to be hazardous – unpleasant, hold our attention and stay strong. [...] Thus, smells do not happen to a passive nose alone' (Gilbert 2008: 89-90) [3]. The brain actively determines the physical and cognitive aspects of odour perception, controlling how much scent enters the nose and the intensity of smelling; some interpretation of that smell, based on context cues and personal history, materializes behavioral responses. It means that the nose and the brain constantly reshape the awareness of the smellscape while people signify it differently according to cultural and social situations.

Smell and language have a complex relationship. According to Gilbert,

Strictly speaking, smells exist only in our heads. Molecules exist in the air, but we can only register some of them as 'smells'. Odours are perceptions, not things in the world. The fact that a molecule of phenylethyl alcohol smells like rose is a function of our brain, not a property of the molecule. (2008: 25) [3]

For many animals, a smell is a call action, a trigger for a biologically hardwired survival response; in contrast, human cognitive abilities codify smells into symbols and make them signify. Gilbert states that 'Physical equipment – size of brain areas, number of nerve cells or receptor types – may be less important than what the brain does with the information once it arrives' (2008: 66) [3].

It is useful to distinguish the types of odour. According to Howes et al. (1994) [4], 'an odour can be either natural (for example, body odour), manufactured (for example, perfume), or symbolic (for example, the belief that each race has a distinct odour – a scientifically untenable proposition)'. The attempt to classify the use of smell is determinant to think about perceiving and reading the world – human interactions. That is, it refers to the use of odours in ritual and everyday contexts, often with the perspective of transforming and reshaping the world.

Smells are both carried on the breath and taken in by the breath as it provides life-giving air to the body. Body fluids, also commonly associated with the life force, all have distinctive odours as well. These bodily odours, emanating as they do from the interior of a person, give the impression of conveying the person's essence, or essential being. (Classen et al. 1994: 16) [5]

According to Howes et al. it is possible to define

a cultural olfactory classification based on the uses of odours: classifying people, animals, and plants by their natural odour and/or by the symbolic odours attributed to them (example: different races each have a different smell); classifying groups within a society (examples: men and women, children and adults); classifying spaces, domains, universes by reference to the environmental odour of different territories; establishing a valued system based on olfactory symbolism (example: characterizing certain odours as good or bad and assigning them to different beings or states in order to signify). (1994) [4]

The first example is the Andaman Islanders' date calendar based on biological plants cycle; they have named the different periods of their year according to the fragrant flowers that are in bloom at different times. 'Their year is thus a cycle of odours and their calendar, a calendar of scents' (Classen et al. 1994: 105) [5]. The Desana tribe, of the Amazonian rainforest region of Colombia, believes that each tribal group has its own characteristic odour, determining a characteristic territorial scent; men and women also have different characteristic odours. Thus, 'the smellscape of their environment consists of a variety of distinct olfactory zones criss-crossed by the different scent trails of the people, animals and plants which live in them' (Classen et al. 1994: 99) [5]. While most people find the odours of burning and decay unpleasant, the Dasanetch, a farming and cattle-herding people of Ethiopia, recognize that both bad and good smells are necessary to the rhythm of time and life, and that one olfactory season prepares the way for the next (Classen et al. 1994: 105) [5]. Among the Brazilian Bororo tribe, living in the Mato Grosso region of Brazil, the two basic smells, putrid and sweet, signify the two basic cosmic forces: life and spirit. This simple olfactory division determines the structure of Bororo beliefs and practices concerning the body, the social and natural orders, and the spirits (Classen et al. 1994: 102) [5]. From those distinct social structures it is possible to comprehend that olfactory codes continue to be allowed to recreate hierarchies at a semi-subconscious or subconscious level. The cultural difference is the smell, as the dominant sense to orient social bonds, to determine space-time relationships, and to exhibit behaviours which we call territoriality. In so doing, people use odours to distinguish between one space or distance and another.

2 Scent Marks and Maps

Focusing on odours and space relationships, several projects are now presented. The physical dimension is not a static area within which things happen structured by senses, but a dynamic environmental flow evoked by smells and odours. The proposal of projects is to situate the local through the scents and to potentialise other modes of behaving and being in the city.

The Scents of Space artwork is a collaborative project with Usman Haque, Josephine Pletts and Dr Luca Turin. The group presented smells used spatially to create fragrance collages; their intention was to form scent zones and borders that are

configurable on the fly. Considering the boundary as a static space in time, the border is a dynamic zone that accepts exchanges while configuring its blur limits.

The installation is a simple translucent enclosure, nine metres in length, which glows inwardly during the day and outwardly at night. Smooth and continuous laminar airflow within the exhibition space is generated by an array of fans and controlled by a series of diffusion screens (Figure 1). Computer-controlled fragrance dispensers and careful air control enable parts of the space to be selectively scented without dispersal throughout the entire space. Smells are emitted in response to people's movements, and travel slowly through the space until the visitors choose to mingle the fragrances with their body movements.

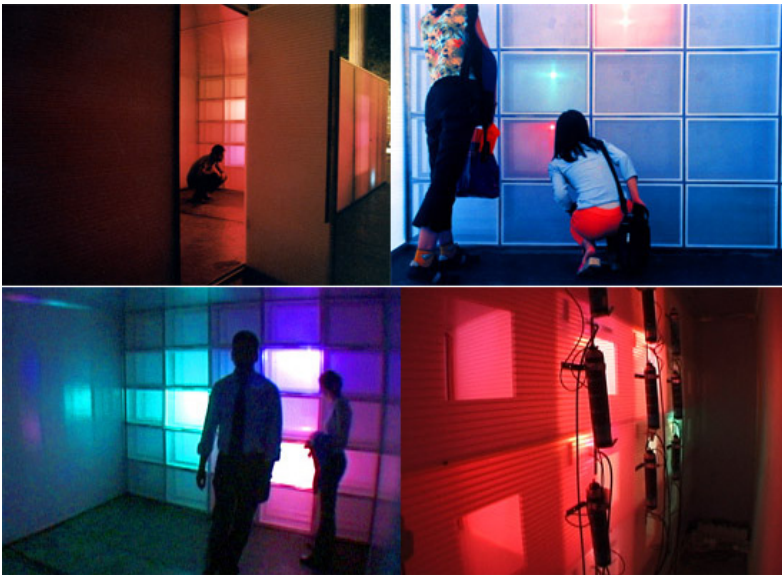


Fig. 1. Scents of Space

(<http://www.haque.co.uk/scentsofspace.php>)

The same intention of exploring the evocative nature of the olfactory senses can be seen in Rion Willard's project, named *Scents of Space*, which sought to investigate how spatial perception is coloured and layered by people's memory. Using a series of delicate wind-operated devices, spaces from the past were reintroduced into the Shoreditch Triangle through smells and aromas that would have once existed in these locations.

Jenny Marketou with her work *Smell It: A Do-It-Yourself Smell Map* (2008) created an interactive visitor project in which participants are given a street map and then invited to walk around the neighbourhood to record their olfactory experiences. Back in the gallery, viewers can add their odorous encounters to a wall-sized, collectively drawn map to show the diversity of subjective responses to smell and the shifting of the neighbourhood smellscape from one day to the next (Figure 2).



Fig. 2. Smell It: A Do-It-Yourself Smell Map, 2008
 (http://www.jennymarketou.com/works_2008_6.html)

Another urban experience for developing a scent narrative is the New York Times online map (Figure 3). The author, Jason Logan, walked along the streets by nose, exploring combinations of day and night smells in different neighbourhoods, liberated by the heat of summer. The shifts and transitions not only help to locate him in the city but add zest to his everyday life. For him

some prosaic scents recurred (cigarette butts; suntan lotion; fried foods); some were singular and sublime (a delicate trail of flowers mingling with Indian curry around 34th Street); while others proved revoltingly unique (the garbage outside a nail salon). Some smells reminded me of other places, and some will forever remind me of New York. (2009) [6]

The Japanese website, named Nioibu [i] – the smell club, and its proposal of pinpointing distinct odours throughout the world inspired other projects to catalogue smells according to specific urban areas, such as the Great British Smell Map [ii], New York Subway Smell Map and smell maps for the cities of Minneapolis and St Paul in Minnesota.

Odours lend character to objects and places, making them distinctive, and easier to identify and remember. They are immediate, local and can bond people with their environments. Therefore, considering scent marks as a medium may also reveal hidden elements of space and place and facilitate the questioning of visual assumptions or messages; people, using ambient qualities of scents, can immerse, persuade, mislead, or create topological experiences.

Theorizing embodied geographies, Kate McLean has developed sensory maps of several cities (Figure 4) ‘to seek alternative platforms for meaningful communication, including multi-sensory, non-visual and the stimulation of personal memory through the creation of ambiance’ (McLean 2012) [7]. Scents create physical borders and constitute topological maps since their inner chemical characteristics of fluidity and adaptation evoke exchanges and influences from the neighborhood.

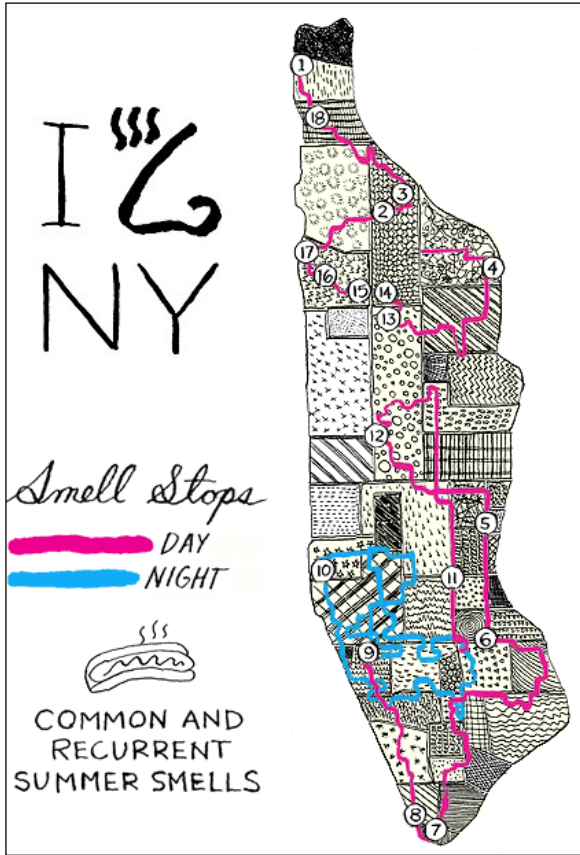


Fig. 3. Scents of the City of New York

(<http://www.nytimes.com/interactive/2009/08/29/opinion/20090829-smell-map-feature.html?th&emc=th>)

Relating humans and spaces as cross-cultural interactions, Hall (1990) [8] identified eight dimensions of proxemic behaviours. In essence, Hall's proxemics studies features of physical space maintained between interactants without being aware of it, and the sense of smell has a high potential capacity of promoting these. For him, the olfaction code – a mode of presence and degrees of body and space odours, includes aspects of nonverbal behaviours determined by the physical distance too. Olfaction seems to provide a more direct and less premeditated encounter with the environment; and one which cannot be turned on and off. It provokes an unmediated sense of the surrounding townscapes.

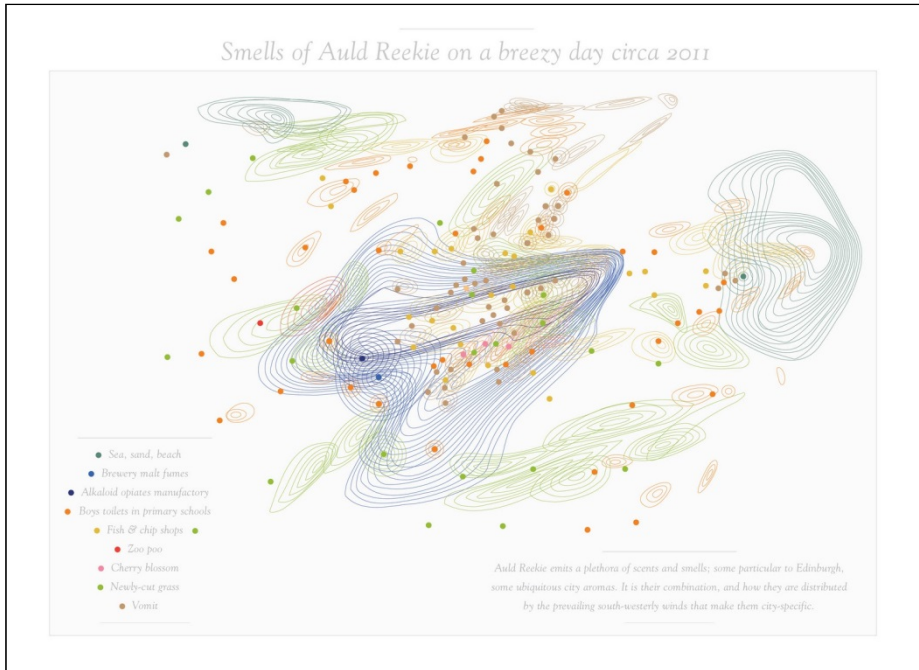


Fig. 4. Scents of the city of Glasgow, August 2012

(http://www.sensorymaps.com/maps_cities/glasgow_smell.html)

3 Final Considerations

Smells are invested with cultural values and comprehended as a means of and model for defining and interacting with the world. According to Haque (2004) [9], people when related to smell experiences can have the ability to organize spatial experiences, and so, to signify modes of behaving in the world. Reaffirming, Rodaway (1994: 62) assumes ‘the role of smell in geographical experience, such as organization of space, spatial relationships, locatedness, orientation in space, and characterization or senses of place’ [10].

Positioned in both personal and shared collective experiences, projects presented evoke a kind of multisensory rapture, in order to commune in memory, association and understanding. Some visual and others not, topological maps are results of those experiences and ask another attitude from participants to embody the physical space. So, space perception is not only a matter of what can be perceived but what can be screened out, and the olfaction is another perspective to access the world.

Olfactory classification systems produce meanings, specific logics, and these codes are local rather than universal. Each system can only be studied in its actual context, and it is necessary to consider the integration among other senses – visual, audible, and tactile. Rodaway (1994: 36-37) [10] further suggests that there are five distinct ways in which different senses are interconnected with each other to produce a sensed environment: co-operation between the senses; a hierarchy between different senses, as with the visual sense during much of the recent history of the West; a sequencing

of one sense which has to follow on from another sense; a threshold of effect of a particular sense which has to be met before another sense is operative; and reciprocal relations of a certain sense with the object which appears to afford it an appropriate response. So, the idea of osmology [11] and its distinct related schemes of sensory symbolism reassure that odour-meanings are linked to colour-meanings, and visual-meanings to sound-meanings, and so on.

Another important consideration is the impossibility of containing the odours, determined by their chemical characteristics; the specific condition creates an aesthetic potential of escaping and crossing physical boundaries, as molecules blend different elements into olfactory wholes. Smells and odours evoke reactions from people, questioning privacy, discrete visions and superficial interactions.

4 Notes

[i] <http://www.nioibu.com/>

[ii] <http://theridiculant.metro.co.uk/2009/01/help-us-create-the-great-british-smell-map.html>

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