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Mapping the quixotic volatility of smellscapes: a trialogue

Sybille Lammes, Kate McLean and Chris Perkins

The following trialogue recounts a three-way conversation/interview. During our exchange words and ideas overlapped, occurring simultaneously, or slightly offset, to two or all three of us at any one moment in time. The subject of our conversation was the temporality invoked within the practices of smellscape mapping. To recount the conversation as sequential would be disingenuous, omitting any moments of cross-thinking, as well as leaving the visuals, which were integral to the conversation, to one side.

Instead we use a page layout inspired by the *Chronicles of Eusebius*. A first in layout design in the fifteenth century as the codex started to replace scrolls, these printed Chronicles showed a comparison of historical data with synchronous events depicted in tables for the first time. Eusebius' aim was to establish the place of Christianity and also synchronise the chronologies of the historical narratives of several nations. His design used columns to transliterate between languages:

Nineteen parallel columns, one to a nation, traced the rise and fall of the ancient Assyrians, Egyptians, and Persians, as well as the Greeks and Romans, who still ruled the world. (Rosenberg, 2012: 26)

Our layout design for this chapter reflects the nature of a trialogue using Eusebius' tabular system to convey the informality and the numerous interruptions of thoughts, spoken words and visuals. We invite you to join us ...

Figure 3.1 Smellmap: Edinburgh © 2010 Kate McLean. This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

Introduction

Kate McLean's smell mapping practice (see Table 3.1) began in Edinburgh in 2010 with exhibited maps compiled as part of her Masters degree at the Edinburgh College of Art. The visual style of these maps and their fixed format remained largely unchanged for two years with mapping compiled for cities including Edinburgh (Figure 3.1), Glasgow, New York, Paris and Newport (Rhode Island). With the publication of 'Smellmap: Amsterdam' in 2013, and during her PhD research, McLean began to experiment with more dynamic mapping forms, including animations, a trend continued in the publication of 'Smellmap: Pamplona' in 2014. A central concern of her work is increasingly how to mediate the volatile urban smellscape in a mapping format that reflects human subjectivity, the ephemerality of smell and the uniqueness of particular smellscape. The unseen methodologies behind her practice have also changed over this period, with an increasing incorporation of multiple voices into the published mapping, and a changing deployment of technologies.

Table 3.1 Published 'Smellmaps' by Kate McLean

Year	Smell map city location	Medium	Temporality	Participants
2010	Paris	Smells + hand illustration	Individual memory/ association	10
2011	Edinburgh	Digital print + natural smells	Snapshot + personal association	10
2011	New York's smelliest block	Digital print	Auto-ethnographic snapshot	2
2012	Newport	Digital print + natural smells	Collective snapshot + personal association	30
2012	Glasgow	Digital print + smells	Collective snapshot + personal association	20
2013	Milan	3D hand-illustrated buildings + smells (collaboration with Olivia Alice)	Personal association	2
2013	New York's thresholds	Digital print	Nostalgia/snapshot	20
2013	Amsterdam	Digital print + synthetic smells + motion graphic	Collective snapshot + personal association + ephemerality of smell	44
2014	Canterbury	Hand illustration + diffused natural smells	Personal association	5
2014	Pamplona	Motion graphic	Individual perception of smell duration/ ephemerality	58

Year	Smell map city location	Medium	Temporality	Participants
2015	Singapore	Digital print + (on-going project)	Individual perception of smell duration & comparative day/night maps to be created + rhythm of urban living/futurity/dimensionality/ephemerality	104

Further information about Kate's work can be found at <http://sensorymaps.blogspot.co.uk> and <http://sensorymaps.com>.

The conversation reported in this chapter took place on the Island of Gozo in April 2015, when Kate participated in rural smell mapping of the island, as part of the other two authors' Erasmus-funded fieldcourse investigating mobile methodologies in field-based learning – the 'Go Gozo' project. References that we made to literature appear in a bibliography at the end, and limited editing of the transcript has also taken place, to clarify issues. The temporalities that emerged during this discussion, however, remain largely as recorded in the transcript.

'Smell? What do you mean smell?'

Sybille:

Kate:

Chris:

So how do you map smell, really?

There are various approaches to the mapping of smell, from technological sampling and recreation in order to represent a moment in time, to depictions of the smellscape from the lived perspective. My approach is through looking at how people understand olfactory space, how they perceive and understand their city's smellscape. In my art practice, what I've done so far is to collect individual perceptions of urban smells in the form of 'smell notes', separating

perception (information) into items of data. This process occurs as we walk along.

Yes, my practice is very subjective because smell perception in its own right is very subjective. Mapping frequently uses visual modalities as a starting point; we map according to physical features, geographic landmarks, and buildings that we see. But increasingly artists and designers are mapping the auditory elements in our landscapes (LaBelle, 2015), as well as the more ephemeral feelings such as emotions (Nold, 2009) and everyday poetic activities (Ng-Chan, 2016).

My practice differs from others in that I explore what happens when we map according to what our

So would you say your practice is very subjective and that is different from using other sensory modalities to map things?

Could you tell us how that plays out over time? Is it a process of mapping smells through identification and selection within a certain time frame?

noses tell us.

Yes, the extended process involves the general public identifying smell perceptions over a period of up to ten

days through 'smell walking' and then of me as the artist/designer selecting from a range of up to 2,000 smell perceptions (each of which has seven subcategories) before mapping the data manually.

It is really difficult to actually explain it to the uninitiated. Let's start from something like this ... a smell walker in the process of collecting smells in a New York neighbourhood (see <http://sensorymaps.com/portfolio/smellsketch-brooklyn>).

The smell walker is temporarily frozen for a moment, sniffing. Prior to that instant they have been walking slowly around a city, absorbing and ingesting smells, remarking on them, deciding what to smell and where, deciding whether or not to record their 'smellervations'. When that person remarks on certain smells that they detect I ask them to write down these perceptions on

paper, analysing the smell experience by recording individual data points such as the ‘smell name/description’. Ten seconds later another smell walker may come along, sniff the identical bin and detect something completely different. There have been times when two people smelling inside the same bin at an identical moment in time will identify completely different smells, or nothing at all. During this particular walk in September 2014 two individuals simultaneously sniffed another bin; one noted no identifiable or perceptible odour, and the other picked out a minty whiff from chewing gum.

So the idea of a smellscape comprised of individual smells is one of fluctuation, of change, as smells evaporate and dissipate. Add to this the genetic difference of smell perception documented by Makin (2013) and we find that olfactory perception is highly nuanced and highly personal. There are methods of recording the smellscape more quantitatively, using headspace technologies, whereas mine is a very qualitative method.

Ephemerality

Sybille:

Kate:

Chris:

How would you relate subjectivity to temporality in your practice? I can see several processes going on: you observing and directing people, the individual and subjective rhythms of identifying smells, pausing, moving and the cumulative process of others adding subjective layers to that smellscape, sometimes in accordance and sometimes at odds. And then there is of course the fluidity of smell itself, which you have yourself

Ephemerality can be witnessed when you try to ‘catch smells’ during a smell walk; in the process of recording them some simply disappear before you can go back to verify their existence. My understanding of a smellscape is as a floating visibility cloak. Yi Fu Tuan (1977: 11) says that smells are

previously called the ephemerality of smellscape (Quercia et al., 2015; McLean, 2017). not objects, nor can they be used to describe objects, but rather that they ‘lend character to objects, rendering them visible, easy to identify and memorise’. A smellscape shifts constantly in the wind; it evaporates and dissipates as odour molecules diffuse into the atmosphere; human beings perceive individually and over time, adding to each other’s subjective layers. There are multiple factors in the evanescent smellscape and this is what I’m mapping in my practice. I’m exploring a myriad of smelly temporalities.

Figure 3.2 Smellcolour sketch: Brooklyn © 2014 Kate McLean. This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

Depicted above (Figure 3.2) is a collated smellscape taken from about an hour and a half walk with twenty people. Each of these squares contains a single smell reference from the group where participants compared individual perceptions to agree on a smell representation at specific points on the walk.

The duration of the walk adds another temporal axis to what's happening at this stage of creating a smellscape. And within this time frame smellers both move and stand still. So I guess as David Bissell (Bissell and Fuller, 2011) suggests, immobility is important to the temporal experience as well as mobility.

Yes. This is a New York block. There is a spatiality, although not a literal geolocated spatiality.

Yes, there's a spatiality to that Figure as well in the sense of someone who's walking along. This spatiality seems to emerge here as a shared consensus of a changing smellscape.

Temporal stories and capturing time

Sybille:

Kate:

Chris:

We can't conceive of time without thinking of space, and especially not when mapping smells while exploring an environment. It seems to me this connection is central to your work, as you write yourself (Quercia et al., 2015; McLean, 2017). So

Figure 3.3 Smellmap: Pamplona (still image from movie) © 2014 Kate McLean. This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

is it a spatial story, in the way that de Certeau (1984) describes, with a temporal structure that evolves during exploration?

Yes: that's a spatial story. But then ... here's one that is both a spatial and temporal (see Figure 3.3).

Yes, it is a matter of degree, but in the case of the Pamplona temporal story a spatial logic evolves through a temporal experience of smell. So that is a different process from creating a spatial story, where spatial touring gives rise to a narrative as a kind of temporal structure. That seems to me to be a rather important difference for understanding your work. After the walk, when you sit down and take all the participants' notes to construct a smell map, you seem to take this further by using the temporal stories of participants to create a kind of temporal map.

Yes, in the animation the dots are appearing ... as the dot appears, that is when you smell?

Yeah. The dots appearing on the map are new smells manifesting in the city. Each smell has a range and intensity, as indicated by the number of concentric circles. Individually perceived smells grow, one at a time in a section of the city. The temporality of the smell shows as the shape appears to be manipulated and blown by the wind

That beautifully captures the ephemerality of smell, although that may seem to be a paradox, because how can you capture what is really fleeting? It really depicts the movements and depth of smells.

over a specific period of time which is individual to each smell.

Okay, so take us through some of the factors that influence that kind of temporality then. Wind? What else?

Wind influences longevity, even the lightest breeze will whisk odour molecules into

another space. The intensity of the smell itself influences the impression of its length; some smells can be detected in tiny concentrations (such as mercaptan added to natural gas), and some scents are created or dispersed in deliberately targeted concentrations (like perfumes dispersed in retail environments). The duration of an odour is the time an individual actually perceives it lasting, from first sniffing to final whiff. And so each smell has a perceived length and duration. Both are very qualitative: smell walkers tend to agree that they smell the same thing, but not its intensity or duration. This disagreement may be determined by physical location, micro air currents, or an individual's subjective access to the smell, adaptation and habituation. So we all negotiate with others, and how long a smell lasts as a perceived part of the landscape is contested. Smellscapes (an overall composite of individual smells perceived at one time in one place) are defined by Porteous (1985) as being time-based, in that they yield experiences that are discontinuous, fragmentary and episodic.

Smell is open to conditions that affect its own temporality. But when smell is a subject, its temporalities are bound to human perception and recollection, to the messiness and vagueness of association and memory. As an object (a super-light molecular structure), smell is vulnerable to air movements and subsequent volatilisation. As a subject, the complexity and messiness increase according to genetic predisposition, prior experience and hedonic ratings.

Sticky memories and teaching smells

Sybill:

Kate:

Chris:

*And what about memory? Because
when a participant creates a*

tour, the temporal and spatial story surely must be anchored to memories of smells and associated meanings? So is that another temporal dimension you're working with?

Yes. But

I wouldn't call that a history, it's more like a meshwork of multiple moments of time. The past is living on in the present, but not the whole past. They're bringing particular memories through to the fore when they are actually noting smells down. So the temporal dimension expands beyond the linearity of the 'inverse time arrow', which becomes something that is very messy and where multiple moments of memory may be simultaneously accessed and combined to form an overall impression of, for example, 'seafood'. The smell walker's association at this particular moment might have been 'rare, family dinners out to Chinese seafood restaurant. Where my dad used to take us on his rest days.' This collection of memories evoked by smell is not so much a history, more a synoptic synthesis of a series of moments united by an odour. Like chewing gum ...

When I'm researching for a project collecting smell data, I'm collecting a description (the character of a smell, what it smells like), I'm collecting intensity (the perceived strength of the odour), and I'm collecting hedonic tone (the degree of pleasant or unpleasantness), expectation (surprise, or lack of, in detecting smell in a place and time), and association scale (particular, subjective connected thoughts). Recently I've added in the duration of the smell to incorporate a temporal dimension to the maps.

The last category, 'how does it make you feel? Any immediate memories or associations?', is a way of encouraging people to actually think about

Yes – can the history of almost anyone's life be mapped out in your practice? Because surely how they have learnt to smell influences how they actually smell?

the smellscape they are witnessing as they pass through. This mindfulness is intended to help people reflect on smells as they walk around, so it gives people a more meaningful connection with the data-collection exercise.

So in a way, smell mapping has two distinct elements to it. There is a performative mapping of a neighbourhood as a smell walk, during which data is collected, and then there's a mapping of

When you see people noting things down in smell notes, are there a lot of people who talk about their memories in what they write down? Or do they record feelings? Or are feelings often attached to memories of smells?

the smell data or information about smells themselves, presented as a piece of art or design work.

Feelings are frequently attached to memories triggered by smells. A lot of the associations, emotions and memories that people allude to relate to childhood. Douglas Porteous (1985) hypothesises that environmental smells become less noticeable as people get older, and in a small survey of eight autobiographical works discovers most smell associations occur between the ages of eight and fourteen years.

Is there a biological reason for that? Perhaps you smell better when you are young or you're more open to smell as you are learning about your environment through smell? Less conditioned?

Theory suggests that the richest period of odour sensation is at the start of a child's autonomous exploration of the world, which ends with

the onset of puberty. Childhood is a time when the most primitive senses are most open, before we learn social norms and behaviours. And there is a thought that kissing emanated from sniffing, and so during puberty we may start to use our olfactory sense for other purposes. You are less conditioned; you're actually doing a lot more finding out about the world at that point. And then there's another theory that says that, as you reach puberty and you're starting to smell for

different reasons, it's less about leaning about your environment –

Interesting. So smell becomes sexualised.

And then it's more about actually smelling for other people, rather than smelling for environmental learning.

Yes, but I am sure that certain cultures have strong informal smelling traditions which are passed on, even if only to smell whether food has gone off, for example. Mary Douglas' (1966) work on purity certainly suggest that mapping smells and identifying anomalies conveys a sense of cultural order.

Yes, there are even cultures where smell is deployed to tell time. Majid and Burenhult (2014) describe how the Jahai language and culture in the Malay Peninsula is particularly rich in olfactory symbols so smell knowledge is passed on from generation to generation through culture, not pedagogy. There are cultures where smell is a means of ordering the world; the Andaman Islanders in the Indian Ocean associate smell with two very separate environments; the salty ocean, and the potent floral scents of the jungle. Their village spaces are also delineated by shifting olfactory zones based on animal enclosures and planted areas, which change according to wind and temperature that fluctuate according to daily and monthly rhythms. So here smell knowledge is passed on informally. You are right there is almost no pedagogy for smell apart from training for the wine and the perfume industries, and a growing interest from beer-makers and aromatherapy. The only times that you see smell being taught is for specialist subjects.

That's very interesting because presumably smell is marginalised in formal educative practice in schools? There are very few formal curricular links in terms of the smellscape; so I guess we simply pick things up through cultural practice rather than through formal systems.

Smell is very rarely used within the blind community as a navigational tool to help knowing about the world. But the Fife Sensory Impairment Centre uses smells to 'name' rooms and the experiences they contain for participants.

And tactility as well. So the auditory and the haptic can be pedagogic methods for knowing the world when the visual 'fails', but apparently not smell.

Yes, haptics – the tactile sense and echolocation are both importantly taught within visually impaired units, but smell remains an untapped sense for the visually impaired community. In fact about ten per cent or fifteen per cent of our knowledge comes from the smell.

Yes. Smells are generally regarded as highly individual, especially in Western contexts. We don't know what each other smells, but we also don't have a shared vocabulary for communicating smell knowledge, unlike in some

You've done smell mapping walks in many different countries with many different cultural settings, like Singapore, Marseilles, Amsterdam, Pamplona, New York or Ellesmere Port. I know this is very tentative, as your research is qualitative, but do you see different patterns? Does it differ how people attach feelings to

Does that apply for visually impaired kids as well, people who haven't got vision? Because vision obviously is so dominant. So if you go to a school for the blind, does that mean there is formal smellscape training as a mobility aid, or ...?

That's interesting because I know they do work around sound shadows and –

So smell is seen as a very individual sense rather than a social sense?

other cultures where smell is a more intrinsic part of everyday life.

smells? Or is there a sort of continuity in how people associate certain things with certain smells?

Yes, and different cultural spaces emanate different smells, which makes for cultural difference. So smell transcends any nature/culture binary. The canals in Amsterdam for example are constructed, but also evoke a natural sense of the place, and the pungent smell of Durian fruit in Singapore is so ubiquitous because it is an important part of family rituals. Chinatown smells quite different from Little India elsewhere in the city.

To date I have not really analysed all the associations that people have with specific

smells, but I am certain that there are both cultural differences and similarities. Smells of food are prevalent in urban smell walks, and while the names of the smells vary according to local traditional cooking, the associations are frequently family or socially based. The smell of home is another recurring association, but descriptions are wildly different; in Newport, Rhode Island, USA the smell of

home is the scent of the ocean (see Figure 3.4) whereas in Ellesmere Port, UK it is the 'industrial odour' (occasionally likened to 'something burning in the oven').

I use smell associations to aid decision-making when deciding which smells to include. So whenever I create an artwork or do smell mapping, I'm

looking for a representative range of smells from a sample of background smells, whether these are episodic, localised or what might be called 'curiosities'. Curiosities are the beguiling elements in a smell map, the lures and hooks to draw the viewer into contemplating smell experience in the city. Who could resist looking at a map that indicated 'dinosaur', 'deep, dark secrets' and 'durian' as its curiosity scents? For me, the curiosities are what comes from the associations.

Which are local, presumably?

Which are local, but also individual, emotionally influenced and associative. So that is where we get the unexpected scents and the ones that actually make the smellscape so

Figure 3.4 Smellmap Newport, Rhode Island © 2012 Kate McLean. This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

different from odour-monitoring practices and quantifiable measures. This challenges accepted norms – which I see as a critical part of my art practice.

So it would be fair to say most of your work is focusing on current practice rather than past?

Yes.

Your concern with memories is in so far as they alter what people actually do, rather than just being concerned with recollections and memories?

Precisely. My work is wholly based in present perceptions, the evolving nature of urban smellscape. One very early piece of work, 'Smellmap: Paris' (see McLean, 2010), was an exploration to see if associative memories might be prompted by specific smells, and whether a transferable, universal urban smell existed. What resulted from this experiment was wholly unexpected and a testament to the uniquely personal associations with specific smells. It asked the question whether people smelling something conjure in their own memories and imaginations a place or an emotion. I created a set of fourteen scents particular to smells associated with Paris. What I thought was that the smell of cigarette butts might entice people to write down the name of another city, that the smell would take them to memories of Brazil or Rio or Milan or Prague. But this didn't happen. Instead people wrote short sentences like, 'it's a railway platform late at night'. So when we talk about place in terms of smell we are saying something intimate and personal, coming from subjective memories.

And it's about an experience rather than a place. It's about an event, how that story relates meaning in that context. Not space or place.

But what about the other direction? What about going forward? We talked about memories a bit. What about futurity? What role might smell play in your work in terms of bringing possible futures into being, as against recollecting pasts?

In terms of bringing the future into being a potential role for smell is to think of it as a communication tool in its own right, more than simply a navigational aid. As human beings we're very extraordinarily good at processing vast quantities of information. Bushdid *et al.* (2014) suggest we can discern up to one trillion different smells; so we are already dealing with large amounts of data and data processing.

Perhaps we could actually use the emotional aspects of smell to communicate data and to relate the spatio-temporal qualities of being? Using smell as a communication device in its own format, I think, is really interesting.

Yes, or you could walk through a city and choose a route based on smell, or a lack of smell. Or you might send a friend a smell walk, so as to connect your world with theirs. The app that I'm developing at the moment will enable people to set their own smell walks. The idea is that users would be able to indicate moods via a pointer so as to suggest experiences.

So you might know the city in the future in different ways by presenting somebody with a smell map; you almost call an alternative city into being in the future because you can choose to avoid the fish market or go to the fish market?

Smellscaper

Sybille:

Kate:

The Smellscaper app is based on OpenStreetMap data and I want it to be open source for both development and use, so that anybody can then take what we're collecting. There is a large database behind a digital version of a smell note which is capturing the smellscape (see Figure 3.5). It will also geolocate every single smell point, down to

Chris:

So picking up on that, tell us a bit more about the Smellscaper app and how that technology alters temporality.

Figure 3.5 Smellscaper App Smell Notes interface (courtesy of Kate McLean). This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

about a building’s width. And simultaneously the Application Program Interface (API) lets us capture weather data at the point of smell note completion, particularly wind and temperature.

I’d like to create simultaneous, dynamic mappings of several cities. So we can then look in different ways at multiple smellscape from a wide variety

of global locations and see what emerges. The app is currently being developed as web-based – ideally it would be available for Android and iOS platforms. Users could compare smellscape in different parts of the world at the same time.

You retrieve all the data then? And then although it is free and open, you can use it for your own practice, to access a rich collection of smell data for your own mapping practice from different temporal landscapes.

Temporal and spatial stories again. So what is it called again? Smellscape?

Smellscape.

Then you crowd-source the data; it pulls the data back and then you can chart multiple temporalities, and how they may relate to spatial stories in particular places?

Rhythms and durations

Sybille:

Kate:

Absolutely! I'm just starting to think about the rhythms of smell perceptions and how they happen. In the piece of work that I did in Pamplona, it was very clear that each of the walks had a rhythm of its own which revealed aspects of the rhythms of everyday life. People participating said, 'we are incredibly concerned with food here', and their collective understanding of their own pace and ... there was one smell note from there which was 'place: bakery, smell: nothing, comment: absurd'. And within that there is the expectation of 'here is my smellscape', knowing what to expect within this and then suddenly

Chris:

There's the temporality, the sequential temporality of the smell walk, but then there's the individual temporality of a particular perception of a smell duration. But presumably there are also rhythms, which is not something we've talked about yet.

So in the light of that, what is producing the temporality? Is it the smell or is it the everydayness of life? I'm thinking that in some ways it's the rhythm of life

nothing happens. This changes the rhythm of the walk.

Smell is life. But we seem to forget that life is perceived through smell.

that is making the smell experience, rather than the rhythm of smell. So it's kind of a question about how smell relates to life.

It is life producing the temporality, rather than the smell ... but the perception of the rhythm can arise through olfactory awareness. Smell perceptions congregate on street corners which index a confluence of people and movement. Street corners are where you get a confluence of people coming in; there's much more activ-

It's both. I mean, as Kate shows in her work, smell can be highly individual and attached to very personal associations, which may be totally different from someone else's. And also we sometimes lack the words to share it in a social fashion.

I just wanted to ask something about how long smells last. When you talk about smell duration, how does that relate to ephemerality of smell? I mean does the ephemerality of a smell directly correlate with its duration. Is it the same?

ity. As smells index life, urban smells index city rhythms — there is much more to discuss here. It's definitely life.

So it's about encounter. So in that way smell becomes a social sense. It doesn't become an individual sense in that case?

Smell duration is the perceived duration of an encounter with a particular smell, it is human-sensed. Ephemerality,

on the other hand, is of a different order. It is an attribute of the physical properties of the smell and the environment in which it exists. If participants move the duration of a smell may be limited, yet the smell itself may not be ephemeral.

Perhaps we can see this in some of your animated work? What about your dots diffusing across Amsterdam?

I think the Pamplona work explains this better.

To explore possible visualisations of ephemerality, I initially printed onto a translucent substrate. But time-based media and animations somehow seemed more like what I wanted to capture. The motion graphic of 'Smellmap: Amsterdam' depicted a collective smellscape coming into being, existing and shifting for a moment in time, and then incrementally diffusing as it volatilises and disappears. In 'Smellmap: Pamplona', I combined this diffusion with the contestable nature of smell. My interest there was to explore what happens when you've got a smellscape with individually varying smell temporalities. This piece explored the dynamics of the smellscape, reframing time to reflect a sequence of individually perceived smells. What happens when somebody else comes in and moves somebody else's smell out of the way? I'm looking at specific sections of the city: a smell comes in, drifts away and volatilises, and

So that immediately relates to ephemerality and duration as well? In this case the participants are not mobile, so do duration and ephemerality directly correlate? I mean, when participants are on the move, ephemerality is also influenced by the mobility of the walkers. They, so to speak, leave a smell behind.

then a separately perceived replacement arrives. Another one takes its place. That seems to be closer to what actually happens – at once individual, moving, ambiguous and changing.

Yes and no. Some participants were static; others were moving. These smells are instances of perception. That really relates to ephemerality. So this is what that looks like.

'Smellmap: Pamplona' starts with the geographic features of the landscape which appear to give a context to the smellscape: first the river, then the transient and negotiated green spaces in the city, and finally as the park areas disappear, the city's urban infrastructure of roadways is mapped out. Gently these fade into the background and

the scents start to emerge. The first smells in each quadrant appear, but each one has an individual life, rather than the collective life of the smellscape as portrayed in 'Smellmap: Amsterdam'.

I've got data in a spreadsheet from about fifty people.

I've got about fifty people that have smell walked their

city and contributed about 420 individual smell notes. They each located their notes on a gridded map of the city. This gave them coordinates, and any smells that were located became the data for the map. For a month prior to me arriving, two maps had been on display in public areas and individuals had started the process of contributing written individual smell notes. These smell notes contributed information about location, name, intensity, hedonic scale, duration, association, link and whether or not this particular instance of the smell was expected. These smell notes were translated into Spanish and pinned to a gridded map of the city, then subsequently translated back into English for me to work from. In the end I selected 121 individual smell instances and animated each one separately based on the participant's perceptions and local wind data. We then carried out five smell walks over four days and collected ridiculous amounts of data, and then I took each of those, animated its life form and combined each of these together to create the map. The sequencing is based on the order of perception within individual grid squares in the map, so these are in sequential order and as smells come in, one replaces the other. So time is asynchronously warped and extended in different parts of the city. Temporality shifts. It's changed time in the process because I'm

So tell us, how does that feed back from the data which is generating this visual? Have you got data in a spreadsheet, from individuals who've experienced that?

Okay. And they have walked across the city?

not concerned with absolute chronologies or real-time. It is more of an olfactory sequencing in space and smell time. In other words, do certain smells come up in certain places? These were categorised and classified in terms of a smellscape categorisation. So, there's a tree for example.

Figure 3.6 Spanish language smell notes prior to classification (courtesy of Kate McLean). This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

To allocate smell colour I categorised the smells according to Victoria Henshaw's (2013) urban smell categorisation. So there's traffic emissions, industry, food, tobacco smoke, cleaning, synthetic waste, people, animals, nature, buildings and non-food.

So this maps a complex and shifting meshwork of particular smells.

And those were the ones that were identified by

Henshaw in her book and PhD research on smell-scapes. And then as a result of analysing the data, I realised my practice elicits two further categories

So these categories are all based on objects? Or things? A factory, for example?

of urban smells. In order to be able to map it in the way that I wanted to, I added 'emotion'

and 'complex' as categories. So the 'smell of an exam' is not actually something that fits into an urban smell category, but it's part of the overall urban smell experience.

That is what the smell notes indicated, and so in reflecting the practices and perceptions of the smell walk participants, I decided to add 'emotion' as a smell category. And the category of complexity occurs when many smells combine into a single moment of perception, indistinguishable from each other at a single sniff. This is another aspect of temporalities being evoked through smell. Lots of the smells that we experience when we're walking or when we're being asked to think about smells are complex: you realise, one sniff at a time gives you something but there are contextual features to it too. So a single smell experience may mean that people come up with complexity as well as any individual smell note when they're writing them down.

It depends on the person perceiving the smell, the physical characteristics of the smell and the environment as well.

Whereas olfactory perception may derive from feeling or experience.

So I've got two follow-up questions to that then: the first is a kind of empirical temporality question; the second is a methodological issue about the temporality question. The first one: when we started out, you were talking about recording the ephemerality of different things and moments. How does that vary between these things? Will there be certain smells that have a longevity, and certain smells which diffuse immediately? Does that depend on the smell or does it depend on the context?

And the weather as well.

The weather is a contributory factor in my smellscape mappings. And I'm taking individual pieces of data as being what I am basing the map on.

But I'm thinking, we're by the sea at the moment. There is a pervasive, vague, 'seasidey' smell which is here always and never really goes ... it changes, the intensity changes, but it's always kind of here. Whereas there may be a very specific, I don't know, the smell of a meal. The question was in the sense that, while it may be individual, there are certain smells which diffuse and certain smells which linger, and whether there is work around that.

There is work around that. So if I go back to the urban smellscape pyramid again, Porteous (1985) in his 'smell-scape' paper, he describes 'background' or 'ambient' smells that give a general context to a place, a smellscape. And then there are 'episodic' smells that are specific to time and specific to activity. So, for example, a market will generate episodic smells from the stalls. A restaurant will produce episodic smells of cooking. The back alleyways behind a restaurant with extractor fans will experience episodic smells that are different from the ones that appear inside, which are again different from those that escape through the front door. The rhythms of shops putting flowers out, people drinking in cafes, smoking, will each generate episodic smells which

Would you say that the world smells differently today from the way it used to? Do you have any idea about what changed about the smellscape in urban environments?

are usually quite localised, and you can imagine might really characterise a city when they are sensed.

Classen, Howes and Synnott (1994) describes

the smells of antiquity, explaining the division of Roman cities into trade-related areas that each had their own aromas, as well as the overall scent which was far more perfumed than contemporary cities, possibly to cover the fouler aspects of life. In some ways this hasn't changed. Our recent paper about people tweeting smellscape reveals that different parts of London, for example, are more likely to be perceived as having associations with one smell as against another (see Quercia *et al.*, 2015 and Figure 3.7). However, Classen, Howes and Synnott (1994) suggests that the gulf between our deodorised lives and that of ancient history is deep and wide. If you go back to Roman times, then cities were very smelly places before we had waste treatment.

Figure 3.7 Contrasting smellscape of the West End of London, mashup showing emissions, nature, food and animal smells against an OSM backdrop, as recorded in social media (courtesy of Schifanella Rossano, <http://goodcitylife.org/smellymaps/>). This figure has not been made available under a CC licence. Permission to reproduce it must be sought from the copyright holder.

*Some Belgian cities still had open
sewerage for a long time.*

**And the French outdoor
pissoirs survive to this
day ...**

Yes, so cities were very smelly places. However hard we try to eliminate smell it remains a feature of urban living. And there still are cities that reek, especially as temperatures rise; New York can emit some pungent odours comparable to Singapore; Paris on a stifling day can match Valparaíso. This depends very much on how we deal with trash collection, waste and effluent. But when industry was more located inside cities, then there were very episodic smells coming from those industries. In the UK prevailing winds made a big difference to where industry was sited in relation to residential areas; London's prevailing westerlies ensured the West End remained far distant from the polluted air of the East End. Gentrification happened in part because the western side of cities were generally regarded as nicer places to live, because there you didn't have the smells from industry drifting from the eastern side, which is where the poorer communities lived. And what's happened now is that industrial smells generated by things like breweries are now moving out of the cities.

Except in Amsterdam!

Our urban smellscape are changing, industries move out, gentrification with its attendant aromas moves in. Yeah. And that's changing urban smellscape, and this is partly why I am recording the data, to give some sort of tangible form to recording smells, in the same way that we can record the visual image of the cities.

Yes. And there's some work by Alex Rhys-Taylor of Goldsmiths College, London, about this ... he walks from Shoreditch into central London and locates political change through altered smellscape (see Rhys-Taylor, 2015). In that walk he says you can smell gentrification. Street food has become a large

So, we will come back to the methodological question in a minute, but in that case, does the smellscape flow almost from the mode of production? As capital alters the world, does that in turn alter the smellscape?

part of the urban smellscape in the UK as the evenings witness outdoor bars sharing their clientele with gourmet food shacks. And there are acceptable street foods and unacceptable street foods. Rhys-Taylor (2015) says that as you walk through Shoreditch, you're in a diverse and changing smellscape, full of the shops that are associated with gentrification, and in the daytime the whole of the

Roasting coffee beans and the smell of sourdough. hipster movement generates its own particular smellscape. Yeah, the sensory landscape

becomes a large part of that hipster world experience. As you head westwards towards Central London, the shops that can afford those rents are the ones that have smells that they've identified and generated for themselves. So individual shops give way to those that can support the higher rents. Abercrombie & Fitch, Lush, McDonald's, Burger King, Subway, all have their own unique fragrances designed for marketing purposes. The smellscape has become commodified. So you hit a very different commodification of those smells and their consumption.

Roast coffee beans and the smell of sourdough.

But in one sense that is kind of the built form generating the smell, but you've also got the individual lifestyle carrying a smell with it. So the hipster will have beard oil as a particular scent ...

Coffee beans, artisan coffee beans. Baking bread. Beard oil. Skin moisturiser. Produce teasingly directing us to eat and drink combines hedonistically with olfactory bodily adornments. And the importance of putting that out to the street as well. I know supermarkets will push the smell of baking out onto the street, although they're not baking in the supermarket.

Mostly we've been talking about the smell out there rather than your apprehension of the smell. And we've talked about the past and we've talked about the present and the future, talked about the

rhythms, talked about the ephemerality. What we've not talked about is the processual temporal nature of your research and the extent that you're producing answers instead of discovering them. You are carrying out a piece of research that has a fixed point at the end and there's a trajectory to that; it's time's arrow and you're going to be fixing something that is constantly mutable and changeable into an apparently stable map. Could you tell us a bit about how time impacts on the process of researching smell, and how you choose what you choose to do? When and why that might matter to the kind of results that you get. Sorry, that's a difficult question!

The process that I go through with this is very intuitive, and in particular how I actually move from one type of mapping to another. So each smell mapping that I do then makes me think about different elements that I want to consider. So I realised with Amsterdam, for example, that I wasn't happy with the idea of the smellscape being an impressionistic capturing of a moment in time.

It was frozen. It was there. It was a moment and then it disappeared. Similar to how the French Impressionist Claude Monet captured single moments of light on Notre Dame Cathedral. I wanted to do something more with that smellscape than say, 'here it was for that particular single moment'.

Frozen.

Exactly. And so I didn't feel that was actually being true to it. There is a huge degree of interpretation on my part; I select the final content to put on the map. There are many omissions ... and ephemerality and temporality became really important to me. Smells disappear in an instant and then occasionally re-emerge. One of the really important pieces of research from Amsterdam was listening to a recording of somebody doing a smell walk where they said, 'Ooh, it's there. Oh, I've just lost it. Oh, it's come back again.' And that to me suddenly became the focal point to communicate: ever since, I've wanted to create maps that show how smells disappear. This ephemerality is a particular quality of smell which makes it so difficult to map and needs to be incorporated as integral to the mapping. So with Amsterdam, I said right, okay, let's see if I can indicate that temporality. And in the end all the scents evaporate and dissipate into nothing.

Because it's not a single moment. Effectively it's multiple moments that are pretending to be a single moment.

Methods and methodologies

Sybille:

Kate:

Chris:

We were talking about the process of you designing and doing a smell walk, and we ended with the moment when you describe how you prepare participants to smell in a particular or different way.

I do try to prepare them to smell in a different way from how they would normally. My methodology is called 'walking nose-first'. It's about experiencing the world

nose-first, changing from the ocular-centric to the olfactory-centric. Registering the everyday smellscape is a very important part of the practice, so doing the smell training is as much about how and where to sniff, as about the types of encounters that you might want to have as you're doing it. Initially when I ask people to sniff inside

bins, there's a level of reticence but this tends to evaporate once I frame it as art practice and people are quite willing to perform activities outside their normal comfort zones.

Very often smell walkers are surprised at the sheer volume of smells they notice and how many of those are more pleasant than they thought. Our association with smell in contemporary society is more generally with malodour than with odour. We complain, and odour monitoring is called in to determine if odour control is required. We tend to like urban smells in restorative environments such as parks and gardens. But the everydayness of smells is only very rarely acknowledged, so one of my aims is to try to get people to pick out the smaller smells of everyday life.

I don't know ... when people are actually recording their smellscape, I don't involve myself at all from the moment they start to the moment they finish.

I'm directing their perception and thinking towards under-explored ways of knowing – so yes, to a degree I am changing the world by guiding them to physical, perceptual and mental spaces that they wouldn't normally think

And is that a methodological choice as well? I mean you are not just an observer: methodologically speaking, you are sending them in specific smell directions, taking them out of their comfort zones or routines.

Can I pick up on that and ask you a methodological question? Are you creating the smellscape which you want to create, rather than apprehending the smellscape which is out there? So by instructing people and carrying out some kind of action research, are you altering the world?

But you're still setting it up

about. But at the same time I have absolutely no control about whether they decide to record those smells or not.

Absolutely.

How long does a smell walk take on average?

Do you notice people getting tired more quickly, perhaps because they're not used to using those sensory abilities?

About forty-five minutes; concentration and focus diminish after that.

Yes, exactly. It is that. You get physically worn out by sniffing unless you pause to

break. Humans have a limited capacity to smell deeply for any length of time; a process of adaptation ensures that we take olfactory breaks and stop perceiving smells. As we stop being aware of every new smell, so interest drops. What usually happens is at the start of a walk, you'll have a lot of smells recorded, and then it gradually decreases. Recently I have devised a new approach which segments the walk into stages, and I've found it beneficial to change the rhythm of the walk to ensure a more even distribution of smell perceptions.

Sitting still and waiting for smells to come to you.

Absolutely.

Okay, so, picking up on that, your approach and methodology is very often about mobilities and also that mobility of temporality, in the sense that they're going on walks; presumably you could do it through auto-mobility or through stasis, or being in one place?

Encountering the smell and searching for the smell. Being fixed will actually apprehend a different kind of smell.

Which would be interesting if you were able to choose the right – I'm not sure 'right' is the right word, but you know what I mean – places that would work.

I've experimented briefly with fixed smellscape mapping in Newport (Rhode Island), where I sat on an Adirondack chair for a couple of hours and waited for the smells to come to me. I now some-

Can we get back to the process? Because we've ended up with you preparing, and then you send them off and then you leave them, and it's their process. And at the end of the day you all gather together again, right?

times ask smell walkers to perform this 'smell catching', where smells on the breeze are apprehended and noted.

They walk and catch smells, stopping after fifteen minutes to compare notes,

perceptions and observations. Then I ask them to use other senses to seek out potentially interesting smells – 'smell hunting' – for a further fifteen minutes, and we stop again to consider anomalies. The final stage is 'free smelling' before a plenary sharing session, in which I collect their smell notes and they depart having undergone a new experi-

But you don't give them hints; you're more of an observer ... participant observation?

ence in a place that they think they know.

Yeah. I walk with them but let them be. If they have any

questions I answer them. At the end we usually talk about the experience collectively, about what did they get from it, and what did they notice. For example, in Pamplona, people were saying, 'we've just realised how important food is as a part of our culture in the city'. And I'm just starting to consider this as an important component of the walk. To date I've been terrible about drawing them together at the end; I've just let people go, and I've just started to have enough confidence in my practice to pull people together and ask 'what did you get from the experience?' Respondents have noted that they see the city in a completely new light; it's slowed them down; they've seen things that they hadn't seen, as a result of smelling or searching for smells. So they've noticed aspects of the city that weren't previously in their world view.

And sometimes you let them make their own maps and sometimes you don't?

Sometimes I let them make their own maps. More often I

collect the data for my own mappings; however, occasionally I'll be asked to run smell walks and mappings as events, in which case the mapping becomes a part of the participant experience. Cars, dogs and the smell of rain to come.

It's interesting, the extent to which our technologies have altered the temporality. The car has been part of sanitising the smellscape in that sense because it removes you from the smells.

The car has had a triple effect: first, as you say, as a distancing mechanism, but at the same time as a commonly noted urban pollutant to walkers, and the smell from car exhaust also masks the other smells in the city smellscape.

And the way in which increasingly cars deliver a sanitised safe private space.

So you're not actually letting smells in through the window. The ideal car for a smell mapping is actually a Cabriolet.

My question was more about how temporality gets changed by technology and the role of speed. If people go on a smell run, is there a different perception of a smellscape from people going on a smell walk. And if they're all sitting still, is that a different perception from moving?

Research is yet to be conducted. But I think so. From personal experience, when I'm running I'm moving through a landscape at a pace, and it's the impact that individual smells have that forewarns me about what is coming up, or which tells me about the place that I am in. So as I'm running smell can act as a 'pre-vision service'. I will know that there is a farm coming up.

That is interesting because we have one question about you predicting smells, futurity? So you can predict smells by seeing things?

to predict what you are going to be seeing.

Yes, my dog seeing me on the screen while I was Skyping my daughter and then going to the window, trying to capture my smell, as if I was on my way home.

Also, if you see the weather forecast you can predict smells and you probably do that to a certain extent subconsciously as well. When there is rain forecast after a very hot day, you can already imagine the smell of rain on a dry pavement and the sort of dusty smell that gives off.

You can predict smells by seeing things. You can also use smell

It's like your anecdote yesterday, Sybille, about the mismatch between your dog's visual perception and olfactory perception.

The other day I was running up from the village. There was

the smell of manure and I knew that very soon, because of the way that the wind was blowing, I was going to be coming across either a farm or a horse. And in my own mind I was trying to figure out, do I think it's cows, or do I think it's a horse

that is actually creating this smell? And I turned right and there's a horse in a field. The pre-visibility that smell affords is really interesting.

It's called petrichor, which is an incredible smell on its own; people call it 'the smell of rain'. But it's what happens when rain hits dry dust, with bacteria, and that then releases the smell. Petrichor pre-empts the rain, as it is released with the first moisture droplets to hit the ground. The finer the moisture, the more intense the scent.

Forecasting things changing, isn't it? The weather forecast was one of the first, but then you have pollen forecasts, you have pollution forecasts. You kind of see the way in which the functional comes into the artistic. You may end

This is a direction I'd love my work to take. I'd like it to feature on screens in a similar capacity to a weather forecast. A motion graphic visual of 'tomorrow's predicted smellscape for your neighbourhood', with an iconography in the form of criss-crossing isolines indicating where local smells may be found, predictions of possible smellscapes that you can only ever know by being present in them.

Colour ... changes depending on the urban smellscape that I am mapping. So I pick the colours that I'm going to be using as a visual reference from the fabric of the city itself. I eyedrop the colour of the sky and the hue of the trees, developing a palette of the natural environment. I consider paint colours used for external walls, window frames and doorways; I sample the colour of cars, clothes and graffiti, pavements and walkways, signage and railings.

up with an aesthetic smell forecast. 'Today is going to be a very good smell day.'

It's interesting, the way in which forecasting has kind of changed. You used to have the isoline chart and the synoptic weather chart and now often you have a much more functional indication of, say 70 per cent chance of sunshine. And how you target the visual translation of a smell forecast to make it readable for someone is really interesting. That is an aspect that we haven't really talked about, how you make that translation between modalities.

Maybe we should talk a bit about your choice of design, visual design variables, such as colours and how they work in your practice.

The palette is not based on a single hue or intensity; smell colour and smell intensity are not related; the only imperative is that they work as an ensemble. There was a point in time when I picked the colour based on reference from the smell source, and to an extent this still happens. My only exception to this was Newport, where I struggled before finding a colour swatch that worked for the city.

Yes, yes, absolutely. And that all depends on whether sewage features in the urban smellscape.

An interesting question because when I talk about my practice it comes across as scientific and analytical – like a data visualisation – yet methodologically it draws from the social sciences, whereas in the process of creation it is both design-oriented and artistic. I find smell to be a discipline where art and science collide and this is a constant tension and reference in my work.

The palette is based on hue or intensity or ... or what? It varies?

So in one city you might find that sewage might be brown and in another city it might be blue.

Which is interesting because it kind of speaks to the differences between art and science in terms of how you depict time. In one domain, knowledge is profoundly different from how it is depicted in another. Would you say that you're more of an artist than a scientist? Where do you place yourself?

Multiple maps, multiple moments, multiple dimensions

Sybille:

Kate:

I am convinced that there are multiple answers. It has always been an objective of my practice to put the process in the public domain and enable a range of approaches and viewpoints along with the mappings of urban smellscapes. Comparing different mappings is work for the future. Initially, I considered keeping my practice private and secret, but some smell practices are already considered secretive and specialist (for example in the wine and perfume industries). Since I deliberately engage with a general public and require no specialist knowledge, I feel it is important for everything to be as transparent as possible, and that includes techniques and processes. All I ask is that it is reciprocal. I believe that with increased interpretation of the urban smellscape, patterns will emerge, commonalities and differences will appear and we will start to comprehend our very human relationship with urban olfactory landscapes.

Yeah, so as far as I'm concerned, the practice is open source. If somebody else wants to go out and do it as well, I would love to see the results.

Chris:

So hypothetically, in the brave new smell future, you've got multiple imitators, with different people making different claims on the smellscape, with an alternative competitor saying, 'hey, my maps are better than yours', doing it in a different way. How do you react to that, with different temporalities called into play with different people? What I'm saying is, is there one answer to mapping the ephemerality of a smell, or are there multiple answers?

And you don't know how your practice is going to change in a year's time because you don't know what the smellers will enjoy and how that will alter your practice?

Traditional maps are rendered in two dimensions; digital technologies afford us the options of mapping in four dimensions, but I am not convinced that even this is sufficient to map human-centred urban smellscape, when Magnasco, Keller and Vosshall (2015) suggest that humans can discriminate up to one trillion odours and that it is possible that olfaction operates in 400-dimensional space.

There is plenty of opportunity to conceptualise mappings that extend beyond the existing spatio-temporal paradigm.

Thanks for taking the time to talk us through this Kate! It's been fascinating.

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Due to the limitations of the print format, some detail has been lost from the images contained in this chapter. For high-resolution colour versions, please see the Open Access edition at <http://doi.org/10.9760/9781526122520>.

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