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## Towards a Multisensory Experience of Movement in the City of Rome

Dr Eleanor Betts<sup>1</sup>

*Propone nunc tibi omnia genera vocum, quae in odium possunt aures adducere*<sup>2</sup>

Imagined journeys through the city of Rome have until now focused on the visual (monuments and buildings coming into and out of view) and the kinaesthetic (the physical movement of walking) senses.<sup>3</sup> None of these journeys have considered the sounds, smells or tastes someone making them would have experienced and navigated by,<sup>4</sup> nor developed discussion of the kinaesthetic (or haptic) experience beyond that of walking (how would a blind person find their way around the ancient city?). Nor have they considered the emotional impact of the stages of the journey: whether the person feels a sense of arriving home or leaving the familiar, or perhaps excitement and trepidation as they enter the city for the first time or venture to an unfamiliar part.<sup>5</sup> These accounts, despite noble attempts to bring the city to life, have allowed the visual to dominate and even where they claim to consider a range of senses, this 'has been filtered through a visualist framework'.<sup>6</sup> This visualist bias is also identifiable in the archaeological and written records of Rome: for example, Augustan Rome was a highly visible and visualised city, particularly viewed through the eyes of the elite.<sup>7</sup>

So, it is perhaps unsurprising that there has been a move in recent years to develop a deeper understanding of how the populace negotiated their way around Rome, with much work centring on intervisibility, considering views in and across the city and

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<sup>2</sup> 'Now imagine to yourself every kind of sound that can make one weary of one's ears' (Sen. *Ep.* 56.1). On imagining sounds, cf. Ihde (2005: 61-6).

<sup>3</sup> Purcell (1987); Favro (1996).

<sup>4</sup> For a factitious account of sounds and smells in Pompeii cf. Hopkins (1999: 10-13).

<sup>5</sup> Chapters in this volume begin to address the second aspect. Cf. also Hopkins (1999: 10-11); Mayer (2007).

<sup>6</sup> Bull and Back (2005b:1-2). This shortcoming does not belong only to the realm of Roman historians, but also to the humanities and social sciences more widely.

<sup>7</sup> Plin. *HN* 11.139; Suet. *Aug.* 28.

its parts.<sup>8</sup> Digital modelling of the city has taken this further, enabling visual questions about specific parts of Rome to be answered, and more focused questions to be asked. There is certainly a place for these more detailed and rigorous visual analyses of the city, constructed around the archaeological evidence and against which the narratives of our sources, with all their biases and artistic devices, can be tested. The problem is not that this picture is, inevitably, fragmentary, but that it is a *picture* (albeit a three-dimensional one). Fortunately, there is some recognition that the multisensory experience of the city is more valuable than this sanitised visualisation. Favro wrote recently that ‘It is time to break the tyranny of sight and explore all experiential aspects of past cities’, suggesting that ‘Digital re-creation models facilitate examination of acoustics, climate and temperature, lighting and the sensation of time.’<sup>9</sup> The time is ripe for exploring multisensory experiences of the ancient city, but can this be achieved purely through digital modelling?

In wider circles, the endemic dependence on the visual has been recognised, voiced and in some cases acted upon.<sup>10</sup> The *Sensory Formations* series, which takes each sense separately, presenting methodologies and case studies grounded in phenomenology, through its refusal to privilege one sense above the others and recognition of the interconnectedness of the senses, develops multisensory approaches for the social sciences and humanities.<sup>11</sup> Each book in the series begins to develop syntax for the individual senses, aiming to move away from visualist language.<sup>12</sup> Human geography’s theoretical approaches to space and place have influenced research into the ancient city,<sup>13</sup> and as new methodologies for the study of ‘sensual culture’ emerge, these will further enhance our understanding of the ancient world. Research needs to be two-pronged. First, to conduct sensory experiments in the built environment: so far, multisensory experiments have been conducted predominantly

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<sup>8</sup> Favro (1996; 2006); Vout (2007).

<sup>9</sup> Favro (2006: 333).

<sup>10</sup> Ingold (2000: 251); Schmidt (2005: 43); Smith (1999); Mills (2005); Hamilton and Whitehouse (2006: 166).

<sup>11</sup> Cf. for example Howes (2005), especially for further bibliography on sensory research; Bull and Back (2005a); Drobnick (2006a).

<sup>12</sup> For example, Schafer’s ‘soundscapes’ (2005: 37) and ‘clairaudience’ (2005: 25), Drobnick’s ‘olfactocentrism’ (2006b: 1) and Porteus’ ‘smellscape’ (2006: 91-2); Bull and Back (2005b: 1) on ‘scopic metaphors’.

<sup>13</sup> Cf. Laurence and Newsome (this volume).

on prehistoric (though not necessarily unmonumentalised) sites.<sup>14</sup> Second, to begin asking more sensory questions, such as, how far would particular voices have carried? How would these have helped someone navigate their way around the city? Questions of inside/outside, private/public, female/male use of space interest classical scholars; a multisensory approach enables further exploration of these questions.<sup>15</sup> Multisensory maps enable definition of locales within the city and movement between them identifiable by the distances and directions travelled by sounds, smells and tastes plus changes in or continuity of texture and the intervisibility/invisibility of sights. Each sense has its own range and sphere of influence, so each creates its own map of the city. Locales within the city are defined by the senses as much as they are by the architecture and spaces that provide the (visual and haptic) structure. Senses function in very specific ways, each dynamically contributing to our perception and definition of space and place, the relationship between '*hereness*' and '*thereness*'<sup>16</sup> establishing what is inner/private, outer/public and where the boundary between these lies. The senses define individual and collective, cultural identities, 'I', 'We' and 'Being-in-the-world', as well as how 'I' and 'We' define places and move around and between locales. Tracing locales and journeys in the city via isolated senses gives only one fifth (or sixth) of the map; to be multi-dimensional these maps need to be overlaid, creating a multisensory map of the city.<sup>17</sup>

This chapter will demonstrate how a framework for multisensory mapping of the ancient city may be developed from sensory data recovered from classical literature, epigraphy and the archaeological record for ancient Rome, utilising methodologies from phenomenological fieldwork (empirical visual, auditory and olfactory data collection) and theoretical approaches from sensual research. Like other sensory

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<sup>14</sup> Tilley (1994); Hamilton and Whitehouse (2006).

<sup>15</sup> Relph (1976); Bull and Back (2005b: 5). These dichotomies apply better to the study of locales within the city than movement across it, so are largely beyond the scope of this chapter.

<sup>16</sup> Smith (1999: 7).

<sup>17</sup> Bull and Back note that 'The reduction of knowledge to the visual has placed serious limitations on our ability to grasp the meanings attached to much social behaviour, be it contemporary, historical or comparative' (2005b: 2); also 'if we listen to it the landscape is not so much a static topography that can be mapped and drawn, as a fluid and changing surface that is transformed as it is enveloped by different sounds' (2005b: 11), which can be extrapolated to include olfactory and tactile maps. Cf. also Schmidt (2005).

fieldwork projects, the methodology for multisensory mapping of the ancient Roman city involves three stages: desktop study (to define the site), data collection in the field and data analysis.<sup>18</sup> For historic landscapes, desktop study includes collecting examples of sensory phenomena documented by the literary sources, in this case, the stimuli of the ancient Roman city. Perhaps unsurprisingly, the senses are not treated equally by our sources; sounds and sights are privileged, but a range of smells, tastes and haptic or kinaesthetic experiences can be inferred, such as the smell and taste of sausages and the wines of the *popinae*, or the luxurious feel of silks in the Vicus Tuscus.<sup>19</sup> This bias highlights the importance of using a range of specific questions to interrogate the sources.<sup>20</sup>

The aim of this chapter is to encourage adoption of a multisensory approach, adding layers of understanding of the ancient city (be it Rome, Ostia, Pompeii or beyond) that are accessible via a methodologically sound examination of smell, taste, hearing, touch, as well as sight.

### **A Multisensory Framework for Mapping Rome**

A multisensory map of Rome is a topographical map of the experienced city, which combines the ‘soft’ (experiential)<sup>21</sup> and ‘hard’ (empirical) data of phenomenology with the ‘hard data’ of known structures, urban form and fabric, within specific chronological periods. It cannot map the entire city, as we do not have a complete topographic plan of Rome’s built environment (in any period), but it can extend the plan of specific areas because it uses empirical evidence to map their spheres of influence, and it can also produce a multi-dimensional map. It can also map elements of the city described in the literature, but for which the archaeological record is

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<sup>18</sup> Current archaeological projects include the Tavoliere-Gargano Prehistory Project and the Applying Auditory Archaeology to Historic Landscape Characterisation Project ([http://www.cardiff.ac.uk/hisar/people/sm/aa\\_hlc/index.html](http://www.cardiff.ac.uk/hisar/people/sm/aa_hlc/index.html)), whilst Smith’s ‘acoustical archaeologist’ approach to his study of Early Modern England is more firmly based in documentary sources (1999; 2005). Smith’s methodology, ‘un-airing’ the sounds of Early Modern England via documentary, architectural and material cultural evidence may also be effectively applied to the multisensory mapping of ancient Rome.

<sup>19</sup> Sen. *Ep.* 56.2; Mart. 1.41.9-10; 11.27. For this reason, methodologies for studying soundscapes and smellscapes are the main focus of this chapter (Bull and Back 2005a; Drobnick 2006a).

<sup>20</sup> Cf. Smith (2005: 133); Mills (2005: 2-3).

<sup>21</sup> The tension between a desirable but impossible objective study of the past and the inevitable subjectivity of interpreting the past from a different cultural perspective is widely recognised (Brück 1998; Hopkins 1999: 2-3; Favro 2006: 332).

incomplete, such as the sounds, smells, tastes and sensations experienced in the Subura. Smells, tastes and sounds may enrich the character of a place, but sound and odour are no respecters of visually or kinaesthetically discrete places.

Acknowledging this means that archaeologically visible places in the city can provide the starting point for analysis,<sup>22</sup> but potentially extended or contracted via exploration of interaudibility/inaudibility and the distances and directions travelled by odours. In this way it is possible to build up a more complex and complete picture of the ways in which specific aspects of Rome's urban environment were experienced and perceived, as well as addressing (at least in part) difficulties arising from the multilayered and fragmentary nature of the city's topography.<sup>23</sup>

Multisensory maps do not merely orientate in space but also in time: different sounds, smells, tastes and sensations occur according to the time of day or year. Just as digital models of Rome can mimic climatic conditions, a multisensory map can be drawn for a hot summer afternoon, when sounds of game-playing (voices, thrown dice, movement of counters), the stench of the Cloaca Maxima, the salt taste of sweat and the hum of insects locate the wanderer turning a corner of the Basilica Iulia and heading into the Vicus Tuscus.<sup>24</sup> Time is a crucial factor in accurately mapping experience of movement in Rome: a city with layer upon layer, each at differing degrees of preservation according to the archaeology, epigraphy and literature extant for a particular range of years. It is impossible to make a single map of Rome without overlapping temporal space, whether that map is of the monumental, social or sensual city. Streets and monuments are comparatively static markers which fix the visual and kinaesthetic map in time for a period. External to the person, they serve to guide a stranger around the city, public monuments in particular pin-pointing locations.<sup>25</sup> Odours work with the architecture, as well as against, to define both places and spaces in the city, the distinction being that smellscapes are more

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<sup>22</sup> Including evidence from the *Forma Urbis Romae*.

<sup>23</sup> Smellscapes will also be 'non-continuous, fragmentary in space and episodic in time', as will soundscapes (Porteus 2006: 91).

<sup>24</sup> Claridge (1998: fig. 112, 242); Dalby (2000: 213); Trifiló (this volume).

<sup>25</sup> Plaut. *Curc.* 462-86; Ter. *Ad.* 572-84; Ov. *Tris.* 3.1.21-34; Mart. 1.70. Cf. Ling (1990); Moore (1991).

transient.<sup>26</sup> Smell-maps and taste-maps are mutable, in-the-moment and made closer to the ground; they have an entirely human perspective, evoking memories (so not entirely in-the-moment). Each sensual element of the multisensory map has its own temporal rhythm. Porteus describes smellscapes as cyclical, recurring 'daily, weekly, seasonally or annually', also varying over the course of a day and night, stronger at dawn and dusk.<sup>27</sup> Tastes operate in a similar way, certain food and drink being seasonally available, or consumed at particular times of day. The visual and kinaesthetic maps created by the form and fabric of the city have the longest duration, but the details of these have their own, quicker, rhythm, such as the way light moves around the Forum, and the very act of walking through the city. Soundscapes overlap with these static and evanescent landscapes, ambient sound punctuated by specific, directional noises, some of which describe the immediate locale (a conversation, a crying baby), others fixing a locale (street traders, the roar of a crowd) or an incident (a dog barks, someone shouts).

The most private sensory sphere is that of internal experience of sensations: taste is registered via the mouth, smell via the nose, heard sounds and the sounds an individual produces reverberate in the body, touch is the most intimate (the skin is the largest organ of the human body), sight the furthest removed from self, since 'Looking is centrifugal; it separates you from the world'.<sup>28</sup> Home is the next, an intimate locale, where familiar, habituated, smells and sounds in particular, but also the repeated experiences of other senses, interweave to create a sense of place. Smells are immediate, evocative, 'earthy and animalistic', linking biological constants with cultural variables and so intrinsic to construction of place.<sup>29</sup> Smells and sounds, alongside the sights, tastes and textures of the fabric of streets, architecture and natural features, predominate in construction of locales within the city, the sensory sphere of social interaction. The most public sensory sphere, where all senses are in play, each one coming acutely into consciousness at different times and in different spaces, depending on the volume or unexpectedness of the sound, the rankness or

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<sup>26</sup> Margolies (2006: 110).

<sup>27</sup> Porteous (2006: 99).

<sup>28</sup> Handel (1989: xi).

<sup>29</sup> Drobnick (2006b: 1).

intensity of the smell, the brightness and heat of the sunlight, the unevenness of the street, is the mapping of the city. This sphere is not the whole city, rather, the richest sensory tapestry of movement within the city.<sup>30</sup> As these sensory spheres grow larger and more public, the senses become increasingly alert, although not necessarily all with the same force. In the most private spheres, the familiar is physiologically apprehended by the senses, but is not necessarily consciously experienced, particularly smell, a result of habituation.<sup>31</sup> When moving around the city, the panoply of senses is used, consciously and sub-consciously, to navigate, creating a multisensory map of the city which changes according to the individual (gender, age, status) and period (time of day, season, year, government).

Different senses operate in different directions: with the body as the axis, the experiential field of sound, smell and touch is spherical, whilst vision is restricted to a broadly forward-facing plane and taste has the most restricted field, on the axis. Variety in the sensitivity, direction and distances of perception by the different senses is what gives multisensory maps of the city a richness beyond that of visual and kinaesthetic maps. Just as a panorama or vast building occupies the entire field of vision, loud (unwanted) sounds become noise that assails the ears, deafening any inner dialogue, and pungent (unpleasant) smells overpower familiar, personal scents.<sup>32</sup> The suddenness with which these strong sensual stimuli come upon us affects our emotional response to the environment, but can also facilitate orientation and movement within the city. Being multi-directional, sounds and smells do not respect space and are able to permeate through and between locales, connecting them where vision may be obscured. They cross the boundary between private and public places, such as the smell of cooking meat wafting from windows and doors onto the street,<sup>33</sup> or a dog barking from indoors at a passerby.<sup>34</sup> By travelling through

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<sup>30</sup> We know that Rome could not be perceived in its entirety (Laurence, this volume; Frischer et al 2006; Vout 2007).

<sup>31</sup> For example, 'Hearing is a physiological constant; listening is a psychological variable' (Smith 1999: 7). On the 'habituation effect' and its relationship to the insider/outsider dichotomy cf. Porteus (2006: 90). For an example of a Roman's habituation of sound, cf. *Sen. Ep.* 56.3-5.

<sup>32</sup> *Sen. Ep.* 56.1-2; *Mart.* 4.4.6-11; 6.93; 9.62.1-4; 12.57; Bull and Back (2005a:1); Ihde (2005: 62).

<sup>33</sup> The smell of meat cooking in an enclosed outdoor area travels a minimum distance of 17m and a maximum 122m (Hamilton and Whitehouse, 2006: 178), indicating that cooking smells could easily have travelled from apartments and bars to the streets outside, or from temples to the *area* beyond (*Suet. Cl.* 33).

space, sounds and smells can help create places; the orator speaking from the Rostra, whose voice is carried into the Forum, or the smell of smoked cheese in the Velabrum.<sup>35</sup> The shouts of hawkers and shopkeepers may help the wanderer to orientate himself and make his journey in the city's streets. The light scent of oil and perfume emanating from a passerby (as well as a clean appearance) hints at the direction of the nearest public baths.<sup>36</sup> Not only does interaudibility operate quite differently from intervisibility, incorporating smell, taste, touch and sound into mapping social experience of the city extends places into spaces (the baths into the street) or contracts architecturally defined places into more discrete locales (a conversation with a bookseller). Tastes, smells and sounds are evocative and embedded with cultural as well as individually personal meanings, so to gain an understanding of those social experiences we must turn to the literary and epigraphic sources. Tracing the recorded distances and directions travelled by particular scents or sounds within specific locales of the city, where walls inhibit or streets conduct, but where other, stronger smells and sounds mask the one(s) being analysed, enables the facts and fictions in the vignettes painted by sources such as Juvenal, Martial and Seneca to be established.

### **On-Site Mapping of the Sensory Experience of Space**

Fuelled by a commendable desire to learn more about the lower echelons of Roman society and the city's backstreets, recent publications, with their 'thick descriptions', provide wonderful opportunities to take a multisensory approach to interrogation of daily life in the city.<sup>37</sup> These works have succeeded in repopulating Rome and, more importantly, specific locales within the city, providing a foundation on which to build multisensory maps of the city at given periods of the Republic and Empire. For this foundation to be firm, it is essential to use the archaeological evidence for the city, alongside available digital models where appropriate, to identify the distances and directions that different sounds and smells would have travelled, the locales where particular tastes would have been experienced, the textures of the city, the

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<sup>34</sup> Up to a distance of 43m (Tavoliere survey, in preparation).

<sup>35</sup> Mart. 11.52.10; 13.32; Plin. *HN* 11.240-2.

<sup>36</sup> Cf. Mart. 13.101; Juv. 8.159; Stat. *Silv.* 1.5.

<sup>37</sup> Cf. for example Gowers (1995); Dalby (2000); Larmour (2007); Holleran (this volume).

visibility of certain coloured fabrics, or reflective materials, and so on. Tracing these details onto the physical remains of the ancient city connects locales via senses other than sight, which contributes to the mapping of movement around the city. Different architectural fabrics have different textures and sensations, so a haptic map of the journey from the Subura to the Forum Augustum in the 1<sup>st</sup> century CE traces a route from many-textured *insulae* of timber, concrete and travertine doorframes to the rough *peperino* tufa and travertine of the boundary wall, culminating with the cool, smooth Luna marble of the Temple of Mars Ultor; uneven ground, muddy and littered with debris, to smooth and slippery marble steps and floors.<sup>38</sup>

Methodologies have already been developed for recording soundscapes and visual landscapes, though the other senses are as yet poorly represented.<sup>39</sup> Key to developing robust methodologies is fine-tuning the senses, bringing our consciousness to each of the senses so as to maximise experience and analysis of the subject being recorded. ‘Close reading’ is familiar, but ‘agile listening’ or sensitivity to touch may be less so, until vision is impaired.<sup>40</sup> Fully recording sensual experiences involves practice and also an ability to detach from the over-stimulation of the modern world.<sup>41</sup> For example, in the Roman period, the loudest sound heard would have been a thunderclap (120 decibels), with very few sounds reaching an intensity above that of a human shout (75 decibels at 1m distance). The most constant sound would have been crowd noise.<sup>42</sup> Compare this to a city of the early twenty-first century, where constant, average, traffic noise reaches 80 decibels.<sup>43</sup>

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<sup>38</sup> Mart. 7.61.6; *FUR* Stanford 10Aab, 10g, 11a,11c; Claridge (1998: 158). Favro hints at this when she describes the experience of walking from the ‘warrenlike’ Subura into the Forum Augustum, although she focuses on the visual experience of the fabrics (1996: 175-6).

<sup>39</sup> Smith (1999); Bull and Back (2005b: 4); Mills (2005); Hamilton and Whitehouse (2006). On the poor representation of smellscapes cf. Drobnick (2006b: 3).

<sup>40</sup> Bull and Back (2005b: 3). This is of course dependent on the cultural background of the recorder.

<sup>41</sup> Bull and Back (2005b: 6-7); Schafer (2005).

<sup>42</sup> *Est et frementi vox hilaris foro* (Stat. *Silv.* 4.5.49).

<sup>43</sup> Smith (1999: 49-50). Fortunately, the technology to screen out modern elements of the soundscape, such as traffic noise, exists, enabling valid audibility surveys to be carried out on the site of ancient Rome. Cf. Mills (2005: 26-9).

There are several ways by which to establish a phenomenological framework for Rome.<sup>44</sup> The standing remains and *Forma Urbis Romae* provide a topographical map, albeit incomplete, whilst further archaeological evidence (particularly reliefs) and descriptions of specific places in the city in the literature add further topographic information, even if they cannot be pin-pointed exactly on the ground. Literature, epigraphy and sculpture provide sensory information, some direct (the sound of sawing or a carriage clattering by) and some indirect (the extension and contraction of muscles as weights are lifted, the sensation of water on skin in the pool).<sup>45</sup> The scope of this project is vast and to succeed requires collaboration, constructing a universal database of sensory data collected from the sources and in the field.

For Rome, as well as Ostia, Herculaneum and Pompeii, the physical evidence for the city is rich, if imperfect due to incomplete preservation. There is scope here also to populate the stark digital models of the Forum Romanum, the Forum Augustum and the Colosseum by mapping the sounds, smells and tastes of the ancient city onto these visually accurate, shaped, textured and illuminated three-dimensional images.<sup>46</sup> The essential next step in both mapping and modelling the city is precise GPS survey.<sup>47</sup> Data collected apply to that specific locale, under particular conditions (time of day, weather and other climatic conditions such as wind direction). Careful recording via GPS enables sensory data to be incorporated into GIS models, digital models and more conventional maps of the city.<sup>48</sup> It also allows replication of the experiments under different conditions (time of year, weather) and mapping of the data onto other areas of the city. So, the Via Biberatica, as a well preserved example of a street of the imperial period,<sup>49</sup> with clear commercial architectural elements, and to some extent set apart from the modern city, lends itself to sensory experiments. Here, the variations in intensity and distances travelled by smells and

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<sup>44</sup> *Supra*, including footnote 18 for examples.

<sup>45</sup> Seneca (*Ep.* 56.1-5) describes 17 different sounds which, when extrapolated, also give information about smell, taste and touch.

<sup>46</sup> For an overview of recent achievements in digital modelling, as well as its limitations, cf. Cecamore et al (2006), Koller et al (2006), Packer (2006) and Romano et al (2006).

<sup>47</sup> Romano et al (2006: 281) note that a detailed GPS survey of Rome has not been carried out, but could improve their digital map of the city.

<sup>48</sup> For an example, cf. Mills (2005: 23-30).

<sup>49</sup> Albeit pedestrianised (Newsome, this volume).

sounds associated with commercial activities mentioned in the literary and epigraphic records can be measured. These data provide consistent measurements, which will vary according to ambient temperature and wind direction (also measurable), so they can then be applied to other streets in the city, such as those shown on the *Forma Urbis Romae* but no longer traceable on the ground. Fragments of the *Forma Urbis Romae* indicate the relative sizes of some thoroughfares and buildings and their relationships to one another, onto which multisensory data can be mapped.<sup>50</sup> Street width and architecture are key factors, since these control how smell and sound are funnelled, their range in three dimensions. Heights of buildings have to be established from literary sources and comparable standing remains.<sup>51</sup>

### **Movement and the Multisensory Map**

So, a multisensory approach to mapping the ancient city of Rome will enrich our understanding of the city, fleshing out visual and kinaesthetic accounts of imagined journeys across ancient Rome.<sup>52</sup> To what extent would the smells, tastes, sounds and sensations associated with particular localities have contributed to wayfinding in the city? Certain dominant smellscapes and soundscapes, such as the stench of tanneries across the Tiber, would become landmarks by which to locate and navigate, pinpointing districts rather than fixed points.<sup>53</sup>

Daily life is not concerned only with the mechanics of mapping and wayfinding in the city, nor with purely utilitarian experiences of the city. Experiencing Rome, like experiencing any other environment, would have elicited emotional responses, dependent upon who you were and what you were doing within the city, along with a whole set of cultural conditions.<sup>54</sup> The daily routine of visiting a local bakery would provoke a minimal emotional response, unless it was 57 BCE and the grain shortage was continuing, the bakery had been closed for weeks, but this morning you smelt

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<sup>50</sup> Drawn to a scale of 1:240 (Claridge 1998: 153).

<sup>51</sup> Exact heights vary according to the period under scrutiny, but broadly 60-70 Roman feet (Strabo 5.3.7; Tac. *Ann.* 15.43; Sext. Aur. *Vict. Ep.* 13.13).

<sup>52</sup> Multisensory mapping combines qualitative and quantitative data (Smith 1999: 1-65; 2005: 132; Hamilton and Whitehouse 2006).

<sup>53</sup> Mart. 6.93.4; Juv. 14.202-4. Cf. Margolies (2006: 107-10).

<sup>54</sup> Cf. Favro (1996: 227-8).

freshly baked bread again, its aroma intensified in the early morning air, and rushed there by the quickest route.<sup>55</sup> Clearly, it is impossible to know exactly how a Roman citizen was feeling one September morning, but we can use recognised patterns in emotional responses to aid interpretation of the city. Encountering Rome for the first time surely inspired awe in most visitors; entering the hubbub of the city, its sights, sounds, smells, might have provoked excitement, but also confusion and some trepidation as the visitor sought to orientate himself and find the way from the Porta Maggiore to the Forum Romanum. Senses are heightened by the unfamiliar; the antithesis of habituation is the most public sensory sphere, the unknown cityscape. This must be borne in mind when collecting data for sensory maps. First impressions count.<sup>56</sup>

An individual's experience and understanding of a cityscape is a result of their physical response to it and cultural conditioning, which is why whilst there may be some parallels in all people's responses to certain cities in certain time periods, the way that a city is experienced is ultimately a personal one, which cannot be replicated and which is not static for any individual. The first visit to a city will engender a very different response to the second, fifth, tenth time the city is visited; there is a distinction between being a visitor to and an inhabitant of a city.<sup>57</sup> And of course the city itself changes, daily and over its life, as use of buildings, or the buildings themselves, change, and because people are *part of* the city, not adjuncts to it. So, any human being's response to a city is fluid and changeable. Nevertheless, if we take for a moment Plutarch's comment: 'A city, like a living thing, is a united and continuous whole. This does not cease to be itself as it changes in growing older, nor does it become one thing after another with the lapse of time, but is always at one with its former self in feeling and identity'.<sup>58</sup> We should remember that however mutable a city or a person is, there are still some core elements that remain common to them: a person is a person because what is common to the human species is a recognisable physical structure, a city is a city for the same reason. What a person has

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<sup>55</sup> Cic. *Dom.* 11; Dio 39.9.2; Porteous (2006: 98-9).

<sup>56</sup> Ling (1990); Mayer (2007).

<sup>57</sup> Ling (1990); Mayer (2007); Porteus (2006: 90-1); Cohen (2006: 120-21).

<sup>58</sup> Plut. *Mor.* 559.

that a city does not is the ability to experience and interpret their environment, through a range of physical senses. On the other hand, the city (its organic and inorganic parts) provides the stimuli for those senses.

Perhaps the most significant achievement that a multisensory approach to mapping the city of Rome can make is to increase our understanding of dichotomies between city and countryside, or inside and outside, and between public and private areas and places within the city, their use and where the boundaries between public and private were blurred. The emotional reaction to passing through the Porta Maggiore and being inside or outside the city can be considered, responses that have traceable patterns in the body of human knowledge, such as vulnerability at being beyond the city limit. But how vulnerable does one feel, when one can still see, hear, smell and feel the proximity of the city? At what distance does the sense of security dissipate when various amenities, stalls and traders are located outside the gate?<sup>59</sup> Or what was the effect of being inside or outside the wall screening the Forum Augustum from the Subura? Did the sense of being inside or outside depend on your perspective? The shape of the wall suggests that the Subura was *outside* (i.e. outside the elite, political, physical centre of Rome) and the *area* and Temple of Mars Ultor *inside*. But what was the effect of the wall? Did it deaden the noise of the Subura and stop it disturbing the tranquillity of the temple, and so, the sacrifices taking place there? It certainly made the Subura invisible. Did it make the inhabitants of the Subura feel more enclosed and so more secure in their environment, or excluded further from the elite and Augustan politics? There is scope for considerable work to be done on the question of cultural and emotional meanings of being inside or outside a building or area of Rome, such as the fora, temple precincts, the Curia, palaces, theatres, amphitheatre, baths, and the ways that spaces *within* these structures were further delineated and divided. A preliminary analysis of how someone would have negotiated their way through the Forum Romanum follows.<sup>60</sup> It should be noted that the route taken, places paused at and emotions experienced

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<sup>59</sup> Malmberg and Bjur (this volume).

<sup>60</sup> This example incorporates data collected as part of the Tavoliere-Gargano Prehistory Project and the author's preliminary experiments in Rome. Visual, sound and smell data have been collected; taste and haptic experiments have yet to be conducted.

would depend on the purpose of the visit and activities taking place on a given day, such as a sacrifice at one of the temples, a *contio* or elite funeral.

### Figure 1: A Forum Romanum soundscape<sup>61</sup>

On a hot, dry, still late morning in early August, slightly raised male and female voices carry across the open space of the Forum Romanum,<sup>62</sup> but not so easily along it, resounding off (the facades of) the Basilica Aemilia and Basilica Iulia (a distance of 52m). These voices stand out from small groups of people conversing, whose speech is clearly audible up to 25m, the maximum distance between buildings in the monumentalised areas of the forum.<sup>63</sup> Normal speech helps create discrete, private locales in the more enclosed spaces of the Forum Romanum, some of which are intervisible, but none of which are interaudible without the voice being raised. This is one example of the sensory sphere of social interaction in practice. The missing data from this analysis are whether or not voices carried between the exterior and interior of the buildings and the effect of the acoustics of interiors on voice amplification within the structure and from inside to outside.<sup>64</sup> Speeches, waiting and people coming and going characterise the Basilica Iulia. The building, the steps and street outside it define the place; the soundscape and touchscape dominate, identifiable by a tension between movement and stillness, raised voices, low conversations and silences.<sup>65</sup>

Meanwhile, from the Rostra, with the conditions as they are today, an orator's voice will project a little over halfway along the length of the forum, unless he shouts,

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<sup>61</sup> Forum Romanum plan drawn by Marie Saldaña.

<sup>62</sup> When data was collected in the Forum Romanum it was noted that the smellscape was comparatively sterile, body odour and perfume predominating, and these only in close proximity; the interior of the Curia smelt musty (during this period the doors were kept closed overnight). Traffic noise was unobtrusive/less intrusive than anticipated, a combination of habituation and the height of the Via dei Fori Imperiali above the ground level of the Forum Romanum. See <http://dlib.etc.ucla.edu/projects/Forum/> for a digital model of the Forum.

<sup>63</sup> Opportunistic survey of a small settlement (75% enclosed) on a hot, dry, still late morning in early July recorded a range of 5-27m for normal conversation amongst small groups of adults, where intimate conversation could be heard at a distance of up to 5m and animated conversation up to 27m (Tavoliere survey, in preparation).

<sup>64</sup> Information which architectural acoustics studies can provide (Smith 2005: 130).

<sup>65</sup> Plin. *Ep.* 5.9; the gaming boards etched into the steps provide good evidence for people waiting outside the Basilica Iulia and a prevalent touchscape. Cf. Trifiló (this volume).

whereas on a cool, damp day he could be heard from the Temple of Divus Iulius.<sup>66</sup> However, this does not take into consideration the voices of the crowd, and both the orator's and the crowd's voices would reverberate between the basilicas, limiting the distance and clarity of audibility.<sup>67</sup> The orator could be seen further than he could be heard, visible throughout the Forum Romanum, particularly when gesticulating, the arrangement of the raised podium of the Rostra and open forum below facilitating this.<sup>68</sup>

Analysis of the clarity of speech and visibility of a speaker in the forum (considering gestures and dress), with attendant variables such as a large audience haranguing the speaker, or a small, near silent, audience on a cold day, facilitates more detailed and accurate evaluation of sources such as Cicero and Quintilian. This in turn enables formulation of a better understanding of the relationship between speaker and audience – elite and populace.<sup>69</sup> For example, Cicero delivered his speech in defence of Milo on 4<sup>th</sup> April 52 BCE, in unusual circumstances. The Curia having been burnt down, Milo's trial was held in the forum before an audience of Senators. The makeshift court was demarcated by a military guard stationed in front of the temples and Cicero complains that 'the usual circle of listeners is missing; the habitual crowds are nowhere to be seen'.<sup>70</sup> Movement across the forum has been prevented and the populace has been deliberately distanced from proceedings, to ensure that the trial can be conducted appropriately, but Cicero also informs us that 'from any and every point overlooking the forum you can see crowds gazing this way'.<sup>71</sup> Clearly the people were never far away from the action, but how direct was their

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<sup>66</sup> In an open space, in warm, dry conditions, a man's raised voice reaches 50-70m, whereas his shout reaches 67-118m; in cool, damp conditions his raised voice can reach 120m (Hamilton and Whitehouse 2006: 176). Despite the difference in climatic conditions, higher pitched voices evidently travel further, but sound conducts better in cool, damp conditions.

<sup>67</sup> Mart. 6.38.5-6 for the 'hubbub... and the dense encircling crowd' (*clamor... densum corona vulgus*) of the Forum Romanum. For an example of the crowd drowning out the speaker cf. Plin. *Ep.* 9.13.19.

<sup>68</sup> On level or raised ground, with no obstructions, in clear, sunny conditions, small hand gestures are visible to a distance of 160-185m, whilst large, sweeping gestures can be seen up to 250-320m (Hamilton and Whitehouse 2006: 176; Tavoliere Prehistory Project, in preparation). For sweeping gestures cf. Cic. *Brut.* 224; Quint. *Inst.* 11.3.118; Mar. 6.19.9. Cf. Bell (1997: 2) and Corbeill (2004: 127-32) for the physical relationship between speaker and audience.

<sup>69</sup> Cf. Bell (1997).

<sup>70</sup> *non enim corona consessus vester cinctus est, ut solebat; non usitata frequentia stipati sumus* (Cic. *Mil.* 1).

<sup>71</sup> *neque eorum quisquam, quos undique intuentis, unde aliqua fori pars aspici potest* (Cic. *Mil.* 3.1). Cf. Cic. *Cat.* 4.14 (*plenum est forum; plena templa circum forum, plena omnes aditus huius templi ac loci*).

interaction? It seems that the circle of guards at Milo's trial was placed so as to prevent the people not only from interrupting, but also from hearing the speaker. The cool, possibly damp, conditions would have allowed Cicero's well trained voice to carry throughout the forum, almost as far as the steps of the Temple of Castor and Pollux, but the vast crowd was outside this area. A proportion of the crowd would have been able to see him, his careful hand gestures and larger arm movements, also his white toga, visible throughout the Forum Romanum, except where buildings and monuments, members of the crowd and the military cordon obscured his figure.<sup>72</sup> Consequently, discussion of the trial amongst the populace would be based predominantly on interpretation of Cicero's body language, rather than on what was said, presenting both Milo's and Clodius' supporters and detractors with an opportunity to perpetuate their own accounts of proceedings.<sup>73</sup>

### **Movement and Sensory Space in Rome**

Descriptions of food and drink, produce and refuse enable smellscapes and tastescapes to be mapped. The physiological effects of these on the individual can be assessed, their role in social interaction and their spheres of influence (pervading the street, entering and exiting buildings or highly localised to the shop, vendor or consumer). Noise dominates Juvenal's and Seneca's accounts; characters loom large in these as well as Martial's and Petronius' satires. Soundscapes are therefore dominated by people going about their trade, by animals and traffic; also by visits to Rome's public buildings (whether for leisure or out of obligation). Some of the sounds described can be extrapolated to enhance the smell- and taste-maps. References to materials, archaeologically identifiable remains, objects from daily life, people, enable haptic and sensuous elements of the map to be constructed.

Rome's often crowded, narrow, uneven and less than straight streets suggest that visibility along them was often restricted to short sections, with aural, olfactory and

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<sup>72</sup> White and beige linen can be seen clearly up to a distance of 320m in bright sunlight (Tavoliere Prehistory Project, in preparation). Hamilton and Whitehouse (2006: 176); Corbeill (2004: 130-33, 138).

<sup>73</sup> Cf. Laurence (1994) on political knowledge being gained through hearsay and rumour.

haptic cues more relevant to inhabiting and navigating them.<sup>74</sup> The commercial districts of the Forum Boarium, Forum Holitorium, Velabrum and Vicus Tuscus provided ample opportunity to navigate by smell, taste, sound and touch. Each of these locales had its distinctive characteristics, beyond the visual landmarks of monuments in the locality, such as the sweet smell of cattle mixed with their pungent manure in the Forum Boarium.<sup>75</sup> Specifically named by the sources are butchers, bakers, oil merchants and soothsayers in the Velabrum; fish, fruit, poultry, perfume, silk and rent-boys are available in the Vicus Tuscus.<sup>76</sup> The spread of literary sources for the items on sale suggests that during the Republic and early Empire this was a diverse market area. The restricted soundscape of soothsayers in intimate conversation with their customers and the smellscape of livestock, dung, blood, meat, flour, bread and oil (Velabrum), of fish, poultry, fruit and perfume (Vicus Tuscus) pertain to ca. 250-30 BCE, perhaps later.<sup>77</sup> Which of these odours predominated would vary according to the time of day or year and their degree of habituation. Did the perfume stand out (especially in the evening) because it was exotic and designed to mask? Did the narrow street and summer afternoon heat cause an overwhelming smell of fish? Writing a little later than the other sources, Martial introduces the luxurious feel of silk, contributing to the mapping of haptic experience.<sup>78</sup> It is Martial who describes a bookshop opposite the Forum Iulium, books *rasum pumice* ('smoothed with pumice'), presenting fragments of a tactile map for shopping in the areas surrounding the Forum Romanum.<sup>79</sup>

What makes the multisensory map of the Subura distinct from that of the commercial areas around the Forum Romanum is that commercial elements are interwoven with residential. Everything needed in daily life could be found here, this district a microcosm for the city as a whole. Descriptions of the Subura as noisy, dirty, sordid

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<sup>74</sup> Cic. *De Lex Ag.* 2.96; for different types of street cf. Holleran (this volume, 2). For a multisensory example, cf. Mart. 7.61.

<sup>75</sup> Cf. Cohen (2006: 120-1); Porteous (2006: 98-100).

<sup>76</sup> Plaut. *Curc.* 482-3; *Capt.* 494; Hor. *Sat.* 2.3.226-30; Mart. 11.27.

<sup>77</sup> Intimate conversation between men can be heard up to a distance of 5m; in hot weather a flock of sheep can be smelled downwind at 70m, in open air the smell of cattle dung reaches 50m (Hamilton and Whitehouse 2006: 177-8; Tavoliere survey, in preparation).

<sup>78</sup> Mart. 11.27.11.

<sup>79</sup> Mart. 1.117.16; compare also 1.2-4, the latter's opening word *contigeris*.

and dangerous may be exaggerated – even if they were not, we can assume a degree of habituation by the district’s inhabitants.<sup>80</sup> Martial draws our attention to the calls of barbers (male and female), identifying the entrance to the Subura.<sup>81</sup> The sounds and smells of *popinae* and butchers interwove with these, the streets bustling as the various *tabernae* spilled out into the streets.<sup>82</sup> Whilst we are led to believe that prostitutes were to be found throughout the Subura, Martial emphasises the middle of the Subura as a favoured location for prostitutes and brothels, doors and curtains screening the *cellae*, these businesses representing a discrete part of the multisensory map.<sup>83</sup> The airy colonnades of the Porticus Liviae, providing cool and shade from the summer sun, where Martial may have sometimes recited his epigrams amongst the sounds of fountains and scents of the gardens, provide a contrasting sensescape with the rest of the Subura (even allowing for Martial’s exaggerated image of sordidness).<sup>84</sup> Further up the Clivus Suburanus, ca. 220m past the Porticus Liviae, taking the next major right turn (southwards), leads us to a *balneum* located on the left, past a row of five shops.<sup>85</sup> The soundscape and smellscape of this compact set of baths, with its own portico and possible brothel or apartments behind, located in a commercial and residential area on the hillside towards the Esquiline Gate, can be recreated from Seneca’s account.<sup>86</sup>

**Figure 2: Section of the Clivus Suburanus and side road lined with commercial and residential premises and a small bathhouse (FUR Stanford 10g)<sup>87</sup>**

So, by recreating and measuring the combination of sounds, smells, tastes and sensations described by the sources and mapped onto specific areas of Rome, a more accurate and representational understanding of the everyday experience of the city can be established, proving, perhaps, that life in the Subura was less noisy, brutal

<sup>80</sup> Cf. Cohen (2006: 120-3); Porteus (2006: 90).

<sup>81</sup> Mart. 2.17.1.

<sup>82</sup> Mart. 7.61.

<sup>83</sup> *media Subura*. Cf. Mart. 9.37.1; 11.61.3-4. Cf. also Holleran (this volume).

<sup>84</sup> Mart. 7.97.12; Plin. *HN* 14.11; Claridge (1998: 303-4); Macaulay-Lewis (this volume).

<sup>85</sup> *FUR Stanford 10g*, 10opqr.

<sup>86</sup> Najbjerg and Trimble (2003); Sen. *Ep.* 56.1-4.

<sup>87</sup> Copyright Marc Levoy.

and deviant than represented by Petronius, Martial and Juvenal.<sup>88</sup> Writing about the Via in Selci, which follows the route of part of the Clivus Suburanus, Claridge notes that: ‘The character of the modern street is not unlike its ancient ancestor, lined with craftsmen’s workshops and tall tenements, narrow, noisy, hot, and dusty in the summer’.<sup>89</sup> A fitting locale for conducting sensory experiments.

### **The Future of the Multisensory Mapping of Movement in Ancient Rome**

The examples in this chapter have demonstrated how available sensescape data can be applied to movement through Rome, giving a taste of what can be done with sensescapes. Future studies will be more localised, detailed and focused on specific time periods, which will limit the literary and archaeological evidence being used, such as a walk from the Argiletum to the Subura in 14 CE.<sup>90</sup> Pauses and interactions between people need to be considered, to detail the full array of sensory experience; this should not be just another walk through Rome. As each sense is brought in, new questions are raised, some of which will remain unanswerable owing to the fragmentary nature of the archaeological, epigraphic and literary records. It is nonetheless important to ask the questions, since those that can be answered will give deeper insights into aspects of life in the city of Rome and its people.

Contemporary accounts of daily life in Rome and other Roman cities, such as Seneca’s account of public baths, have often been combined with the rich architectural remains to bring the ancient city vividly to life.<sup>91</sup> Add a multisensory approach to mapping daily life in the city and we can draw a more accurate and detailed topographical map of republican and imperial Rome. It is noteworthy that some authors privilege particular senses, or at least give them more attention: Martial’s descriptions have a tendency to be tactile, Seneca favours sounds and smells (if we extrapolate a little), Juvenal’s focus is on noise and sordid sensations.<sup>92</sup> If current empirical phenomenological research into the distances that sounds,

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<sup>88</sup> Toner paints a bleak picture of life for 99% of Rome’s population, in an attempt to go beyond the elite perspective (2002:49-79). Multisensory mapping of the city can also test hypotheses such as his.

<sup>89</sup> Claridge (1998: 304).

<sup>90</sup> By 14 CE Augustus had transformed Rome, his Forum dominating this route.

<sup>91</sup> Sen. *Ep.* 56; Favro (1996); Holleran (this volume).

<sup>92</sup> Larmour (2007).

smells, shapes and colours travel and have an effect is integrated with the physical and literary remains of the city, these data will enable more accurate interpretation of the impact daily life had on the definition and use of Rome's spaces and places. They will allow exploration of the sensory-spatial impact of particular events (Cicero's address of a *contio* on 2<sup>nd</sup> January 63 BCE)<sup>93</sup> and activities (a visit to the *balneum* near the Porticus Liviae), which can only enrich our experience and perceptions of the city, encouraging new questions to be considered regarding the use of space and movement between places in Rome. A multisensory approach to understanding the ancient city of Rome will help begin to build a multi-dimensional model of the cityscape as experienced not only by the elite, but also the urban plebs (including women and children), freedmen and foreigners, both inhabitants of and visitors to the city. It will help us to better understand how specific buildings, areas and streets of Rome related to one another and were used by the city's populace. The examples in this chapter demonstrate how the empirical phenomenological data gathered so far may be applied to the cityscape and how the literary and physical evidence for Rome can be used to gather further data. There is a great deal of work to do before an urban phenomenological framework is established, but once it is, it should be applicable not only to Rome, but to other towns and cities of the Roman world.

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<sup>93</sup> Bell (1997: 1).

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