Toward a poetics of air: sequencing and surfacing breath

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This paper develops the concept of a poetics of air: a notion borrowed from cultural anthropology that denotes an awareness of the simultaneous material, affective and aesthetic impressions of air and atmosphere. While there is a rich and growing body of work on atmospheric geopolitics and aeromobility, much less attention has been given to the affective and aesthetic dimensions of being in and witnessing air and atmosphere. This paper uses the sensory, affective and aesthetic experience of engaging with an artwork – Dryden Goodwin's large-scale urban installation *Breathe* – to reflect on the possibility and promise of an airy poetics for expanding disciplinary concerns with air and atmosphere. It is through producing a moving image that is sustained, ventilated and activated by air – achieved through the artist's production of a visual sequence and 'active surface' – that *Breathe* performs an airy poetics: it conveys the porosity of breathing bodies, the texture and materiality of air, and suggests what a collective sensing of atmosphere might look and feel like.

Key words air; atmosphere; materiality; art; affect; poetics

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Introduction

This paper begins in London, on Westminster Bridge. It is a night in October and I am standing above the Thames, between Westminster and the South Bank, under a lamppost that illuminates mist. In this hazy environment I gaze across the river towards the skyline to the south, where, nestled among shadowy grey buildings, there is a large white screen, on which I can clearly discern the image of a body, breathing. The ghostly form inhales and exhales, sometimes slowly, at others more rapidly; at intervals the shape of the figure collapses into a single point at the centre of the chest, as if retreating into the pixels of the screen (or the dust of the city). This is the site of *Breathe*, a public installation artwork by artist Dryden Goodwin. From 9 to 28 October 2012, the installation was illuminated from twilight until 1 am. The artwork was not accompanied by a noticeable title or curatorial statement, except for a small plaque near the base of the projection. It remained for viewers near the Houses of Parliament and crossing Westminster Bridge to form their own multisensory engagements with the moving visual form. Drawing from one year of site-based fieldwork organised around the production and display of this large-scale urban installation, this paper uses the sensory, affective and aesthetic experience of engaging with this work as an opportunity to reflect on the possibility and promise of an 'airy poetics'. By devel-

oping a concept of a *poetics of air* – a notion borrowed from cultural anthropology that denotes an awareness of the simultaneous material, affective and aesthetic impressions of air – this paper offers an important cultural-aesthetic dimension to geographical inquiry concerned with air and atmosphere. My contention is that, as part of the cultivation of this poetics, encounters with a work like *Breathe* point to the importance of an aesthetic sensibility open to the worlding of air and atmosphere as they fold and shape forms of life.

Through an account of the inspiration, production and display of *Breathe*, this paper is intended as a contribution to a series of recent efforts to attend to air and atmosphere in human geography. Drawing from the conceptual lineage of Henri Bergson and Gernot Böhme, and the Heideggerian critiques of Luce Irigaray and Peter Sloterdijk, geographers have of late questioned the metaphysical assumptions that favour land and territory as platform(s) for the study of discrete objects and beings (Anderson and Wylie 2009; Elden 2012 2013; Jackson and Fannin 2011). At stake are both the kinds of attentions paid to material entities and their embedded networks (Whatmore 2006), and also a positive inclination to account for those media and processes that flow, dissipate and permeate atmospherically (Ingold 2005 2007). Indeed the notion that air gathers a constellation of political and scientific concerns, epitomised in Barry's (2001) explication of air as an 'informed material', enlivens crucial debates

on the public understanding of air quality and respiratory health (Bickerstaff and Walker 2003; Cupples 2009) and the security of air in times of protest (Nieuwenhuis 2013). Resonating with the disciplinary interest in affect and emotion, Anderson (2009) has theorised the qualities and ambiguities of 'affective atmospheres' and McCormack (2008 2009) has argued fluently for a conception of atmosphere that enfolds both meteorological and affective registers, taking the balloon as an object whose 'thing-power' generates modes of 'sensing stillness in motion'. Crucial to this scholarship and to my own is the understanding that affects have airiness: emanating, circulating and circulating, circumventing (Anderson 2009) from vibrations (Bissell 2010), bodies (Colls 2012; McCormack 2004), words and gestures (Stewart 2007) and technological perturbations (Ash 2013), among many other things. Further tracing air's many social and political figurations, Adey (2006 2008 2013) has addressed the biopolitical, securitised atmospheres of airport terminals, the development of 'air mindedness' and the atmospheres of megacities. Moreover, reflecting on the nuanced focus on air travel and aerial sovereignty furthered by Paglen (2010) and Williams (2007 2011), Adey *et al.* investigated how the elemental force of a volcanic ash cloud pressures 'the geopolitical lines of the state and its management of airspace' in addition to the nature of 'life on the move' (2011, 338). While accounts by these authors foreground an elaborate 'atmospheric politics' acutely manifested in the logic of aeromobility, my interest is specifically in the affective and aesthetic dimensions of *being in* and *witnessing* air and atmosphere.

As recent work in the discipline has shown, there are different and creative ways to think with and within air. A special issue on 'aerographies' exemplifies this. The issue (edited by Mark Jackson and Maria Fannin) included submissions addressing the phenomenology of fog (Martin 2011) and atmospheres of contagion (Mitchell 2011) in addition to the poetry of Paul Celan (Groves 2011) and James Turrell's 'Skyrooms' (Saito 2011). Furthermore the editors cite the work of artists Robert Barry, Yves Klein and HeHe (Helen Evans and Heiko Hansen) (Jackson and Fannin 2011). Thus, in attempts to marshal geographic thinking on air and atmosphere, and to propose 'aerography' as a necessary complement to studies of the 'geo', artworks are productively enrolled. There may be a number of reasons for this. One may be that artworks can 'force thought', generating new (and hybrid) situations, terms and metaphors for thinking through the (im)materialities of air (Gabrys and Yusoff 2012; Stengers 2005; Whatmore 2013). Another might be that artists enlist metaphor, simile and speculative fictions (among other figurative devices) to convey the 'complex somatic sensations' inherent in airy experience (Paterson 2009).

Of late, much scholarship emerging from air's agency within spheres of environmental justice, policymaking and aerial sovereignty has focused on its status as a politically enrolled material; less attention has been paid to its personal and aesthetic resonances (Adey 2013; Barry 2001; Williams 2007). A concern with airy poetics is not to turn away from questions of the social and political, but to further engage the key affective and aesthetic dimensions of air, where aesthetics is taken to mean the broader, not necessarily human organisation of the sensible (Hawkins 2012; Serres 2008). In my writing and that of Choy (2011), for example, the affective and aesthetic are bound up with, but not reducible to the 'matter of air' (Connor 2010). Therefore, a primary contention of this paper is that artworks specifically concerned with air, of which *Breathe* is a recent case, offer rich conceptual resources for geographers attempting to articulate the manifold physical, affective and aesthetic intensities born by air and atmosphere.

Such recent geographic scholarship on airy matters can be placed in constructive dialogue with that of art critics and humanities scholars like Monika Bakke, Brian Dillon and Steven Connor, who point to the increasing engagement of contemporary artists with tropes of air and atmosphere. An interest in air is certainly not new to the realm of art, but today 'Air is no longer an ideal image for art, but an object for it to work on, and by which to be itself worked out, worked loose even from its self-identity' (Connor 2007, 12).[1] Tomás Saraceno, for example, envisions 'aero solar' futures of 'cloud cities': structures resembling bubbles, neurological synapses and spider webs, which would float nomadically above Earth's surface, and are partly materialised by the installations *Air-Port City* (2008), *On Space-Time Foam* (2013) and *In Orbit* (2013).[2] In an ongoing work called *Public Smog* (2010), Amy Balkin enacts the first conservation initiative in the air, retiring emissions credits to register a 'Clean Air Park' over the Los Angeles Basin. One of the latest artworks by Christo is *Big Air Package* (2013) at the Gasometer Oberhausen: a monumental inflated envelope made of a silvery, high tensile polyurethane fabric. While Connor goes so far as to describe a contemporary 'air-art' movement, these examples at least evidence contemporary artists' fertile experimentation with the airy and atmospheric (Bakke 2007; Connor 2007; Engelmann 2012).

Against this interdisciplinary context, this paper addresses two sets of provocations. The first is the challenge set forth by McCormack, Dewsbury and Edensor among others to explore new ways to register and trace the materiality of atmospheric space (Dewsbury 2003; Edensor 2012; McCormack 2009). To this end, at the core of my study is a borrowing of cultural anthropologist Tim Choy's concept of 'air's

poetics' that in its broadest sense denotes a mode of attentiveness to the deeply affective and personal resonance of airy matters. As I will elaborate in the following sections, Choy's 'airy poetics' 'gives us this space of witness where we are exposed to the fact that the immaterial is something' (Dewsbury 2003, 1923). More specifically, it can be marshalled as a significant attempt to elaborate what McCormack in this journal calls a 'geopoetics of air' in which air is 'apprehended as a constitutive and turbulent participant in the distributed natures of lively worlds' (2009, 39). The second provocation is that made by Massumi (2002 2011) and taken up by Dixon (2009), Hawkins (2010 2013), Gabrys and Yusoff (2012) and Yusoff and Gabrys (2011) among others, to reinvest in the expressive and transformative potentials of art. Artworks – especially those concerned with air and atmosphere – have the potential to inspire new ideas, concepts and methodologies for thinking through what Stiegler (2008; cited in Kinsley 2014) calls *'evanescent* states of matter'. If understood to open new spaces of methodological experimentation, artworks 'let in a breath of fresh air from the chaos that brings us vision' (Deleuze and Guattari 1994 [1991], 204). Or, as Dewsbury succinctly states, 'The key of art is in "just" presenting' (2003, 1914). In response to these proposals, this study thinks through a case of artistic (re) presentation – Dryden Goodwin's *Breathe* – as a performance of air apprehended through the breathing form, and a resource for thinking through the material-affective nexus of air and atmosphere.

If airy poetics inspires a re-evaluation of the sensual registers we take to matter, it also has political consequences, as it therefore expands notions of witnessing 'beyond being "all too human" to being open to the world as a whole' (Dewsbury 2003, 1908–1909; Dixon 2009; Dixon *et al.* 2012). Through a site-specific performance, Dryden Goodwin's *Breathe* expands our material optics and attentions from the solid to the airy, and mobilises the figure of 'the breather' as metonym for a collective being-in and witnessing air (Choy 2011). In developing this argument by way of an 'atmosphero-poetic' attunement, the paper is organised as follows (Choy 2011; Stewart 2011). First I define and discuss air's poetics, attending to three ways in which it provokes thought toward the material, aesthetic and affective qualities of airy experiences: in brief, it dissolves distinctions of body–environment boundaries, renders explicit air's materiality and fosters an openness to the affective intensity of air in shaping the patterns of atmospheric space-time (Ash 2013). I then introduce Goodwin's *Breathe* in greater detail, employing photographs that depict the site and apparatus of the installation. Following this, I show that it is through producing a moving image that is sustained, ventilated and activated by air – achieved

specifically through the artist's construction of a sequence and 'active surface'– that *Breathe* conveys the porosity of breathing bodies, and also suggests what a collective sensing of atmosphere might look and feel like. In closing, I attend to the wider disciplinary relevance not only of a 'poetics of air', but also of the aesthetico-political concerns that animate the artistic practices discussed here.

The promise of air's poetics

> Air muddies the distinction between subjects and environments, and between subjects. This thickness and porosity rendered by air is part of what makes the air and the airborne such deeply felt elements. (Choy 2011, 157)

The project of understanding how to feel, record and express airy matters means taking account of phenomenological conceptions of air and atmosphere, and the social, geographical and political projects in which they are entwined. Following recent work in cultural geographic inquiry into atmosphere, we might begin to understand that moments of affective intensity born by air are also moments in the formation of political and social identity, and inspire different rhythms of life or ways of existing (Adey 2013; Anderson 2009; McCormack 2008). Exercising this mode of thought, in a book called *Ecologies of Comparison* (2011), cultural anthropologist Timothy Choy develops 'airy poetics' as a mode of reflection and attention to the affective materiality of being-in-air. Through his study of contemporary, highly polluted Hong Kong he finds air is a tangible, abrasive material as well as a symbolic and expressive field: it enfolds the incredibly personal experiences of respiratory illness with the economies of transport and the 'technological zones' of the city's Air Pollution Index (Choy 2011; see also Barry 2006; Latour 2004).

In a mode that parallels Kathleen Stewart's (2011) 'atmospheric attunements', Choy's writing is expressive of the atmospheric. He defines 'air's poetics' as an alertness to 'the co-productive engagements between people and air' (Choy 2011, 157). Air's poetics means attending to air as 'something embodied that engages with humans through bodily practices' (2011, 157). Beyond recognition of air's textured and shifting composition, air's poetics denotes familiarity with permeability, porosity and 'melting edges' (2011, 157). Echoing Gaston Bachelard's reading of aetherial poetic imagery in *Air and Dreams*, Choy argues that to fully grasp their power, these airy attentions must be performed (Bachelard 1988). Choy accounts how the historian Shigeyshi Kuriyama allows 'air to permeate his own figurations and similes', conveying a vivid and visceral sense of human permeability and impermanence that would have been precluded by a less writerly hand (Choy 2011, 153). The poet Zuangzi

allows 'wind to whistle' through his lines to a similar affect (2011, 153). Choy himself composes his writing as a series of 'condensations' that provide vividly ventilated accounts of Hong Kong's atmospheric bodies and events (Choy 2011, 158). Thus, a poetics of air is allied with an expressive style willing to depart from ordinary framing of case study and argument in favour of creating memorable and resonant impressions of the way air flows, permeates and settles. There are no rules to this mode of address; however, in Choy's case it manifests in brief vignettes, rich description, typographical experiments and a departure from a linear dialectics in favour of an experimental assemblage of historical accounts, personal narrative and lyrical imagery.

How does an airy poetics extend ongoing efforts within and beyond the discipline to find conceptual vocabularies that convey the matters and affects of air and atmosphere? First, air's poetics dissolves the isolated, intact form: it challenges the dichotomy of pure inside and toxic outside that runs through common interpretations of the body in the urban landscape (Bickerstaff and Walker 2003). In the sense furthered by Choy, an airy poetics suggests that the body–city relationship is porous and permeable, a vibrant exchange akin to Grosz's 'interface', perhaps even more abstract and less human (Grosz 1999). While Choy is not explicit in his characterisation of the body's autonomy, his accounts of breathlessness, pneumatic disease and mobility in Hong Kong suggest a conception of the body less as a container or volume, and more like a cloud. Through air's poetics, it is easier to grasp a sense of the 'post-human' body in Spinozist terms, so that 'a moving body of enveloped gas and a moving body of wind are in almost complete agreement' (McCormack 2009, 33; Whatmore 2013). In other words, thinking through air as something embodied and bodies as loci of atmospheric density means that 'Bodies become aerostats, gusts of wind, enveloped hydrogen, circulating materials' (McCormack 2008, 426).

Second, air's poetics accounts for the particular texture (granularity) and vitality of airy entities. Choy writes,

> To explore a material poetics of place, and air's function within it, we need to ask after the material and meaningful ways in which air enters into human and geographic lives as such. (2011, 154)

Like the effects of artificial illumination, which involves a peculiar confounding of materiality and immateriality, a poetics of air starts from a conception of air as 'thick' (Edensor 2012; see also Casey 2001; Duff 2010). This sense of thickness is necessary for perceiving the way matter is conveyed in and through air in felt exchanges and dissipations rather than

frictionless passage, and foregrounds the affective intensities of airy engagements: 'the nonverbal ways air operates poetically' (Choy 2011, 155). An 'atmosphero-poetic' project apprehends air not as solidity's lack but as 'an heuristic with which to encompass many atmospheric experiences, among them dust, oxygen, dioxin, smell, particulate matter, visibility, humidity, heat', flow, shimmer, glare, refraction etc. (Choy 2011, 145; Edensor 2012).

Third, air's poetics involves the deliberate cultivation of receptiveness to the cosmicforce of air and atmosphere as they fold and shape forms of life. It manifests in the courage to allow air to permeate the lines of an essay, article, poem or those of a drawing, so that a relation between the body and air is *presented* rather than re-presented. Cresswell quotes the poetry of Gillian Wigmore: 'The skin and air intermingle/each so near to the other/there is no space/between thought and water/regret and growth' (Cresswell 2014, 143). A poem can create an atmosphere in which, 'Geography becomes fully embodied and lived within the weather and elements' (2013, 143). Born and Barry (2010) would interpret the gesture in Wigmore's poem (and Cresswell's article) as '*epideixis*': 'the transformative power of speech and art, a *power to move*' entities, objects, thoughts and affects (italics mine; 2010, 116). The movement here is towards a conception of air as creatively, emotionally and affectively generative of ways of inhabiting atmospheric space. Thus, a concern with the poetics of airy matters 'takes seriously a commitment to different modes of address and presentation' that communicate the richness of subject–environment and subject–atmosphere relations, as evidenced in the recent work of De Silvey *et al.* (2013) and DeLyser and Hawkins (2014) among others.

If Wigmore's poem figures the liminality and miscibility of air–earth boundaries, Dryden Goodwin's *Breathe* is a public experiment in the airy-atmospheric and pneumatic relations of the human body. As such it performs the airy poetics discussed in this section. But to assert this is not enough – *Breathe* succeeds in expressing an airy poetics because of specific practices exercised by the artist, and altered as the artwork resonated with its urban conditions. My argument takes two resources from *Breathe* – its *sequence* and *surface* – as techniques that 'spaced air' into the publicly displayed video-image and facilitated a range of audience experiences in which air and atmosphere are not part of the artwork's context or background but palpable spatial and aesthetic elements. By distilling these two devices at work in *Breathe*, my aim is also to show how they operate independently of the artwork, and might be employed in further scholarly and creative research concerned with the gathering and circulating impressions of air and atmosphere.

Dryden Goodwin's *Breathe*

Breathe emerged from the combined efforts of a select group of actors working to promote cross-disciplinary collaboration and effective public communication of science in the UK. The artwork was curated by Invisible Dust, a non-profit arts organisation 'working with artists and environmental scientists to explore air, atmosphere and climate change' (ID website). The idea for *Breathe* grew out of a series of discussions between director and curator Alice Sharp, sketch artist Dryden Goodwin and Professor Frank Kelly, head of the Environmental Research Group (ERG) at King's College London. Alice introduced Goodwin and Kelly on the hunch that Goodwin's direction in recent artworks would lend itself to depicting the subjects and dimensions of Kelly's research. After speaking with Professor Kelly, Goodwin was particularly moved by the work of the King's College EXHALE research team, which involves a long-term study of the medical effects of air pollution on children's respiratory health in schools across Tower Hamlets. In turn, Professor Kelly was interested in the opportunity to raise awareness about air pollution in London, and he already admired Goodwin's past projects. These initial conversations resulted in an application to the Wellcome Trust's Public Engagement with Science Programme, to fund a collaborative art–science project about the effects of air quality on children in London.

Professor Frank Kelly's EXHALE study is an investigation of the impact of the Low Emission Zone (LEZ) and traffic-related air pollution on children's respiratory health in East London. The study aims 'to assess whether the reduction in exposure to traffic emissions resulting from the LEZ will be associated with improvements in lung function' and 'involves conducting health assessments in 8 to 9 year-old children at selected schools in Tower Hamlets and Hackney' (The EXHALE Programme 2013, np). The tests given to children include 'biomarkers of exposure to traffic-related air pollution', 'genetic susceptibility to the effects of air pollution' and physical systemic responses to air pollution (The EXHALE Programme 2013, np). While children are tested for lung health and function, they are also asked to respond to a qualitative questionnaire that aims to discern their activity level, route to school and home environment. These health data are matched with air quality data provided by the ERG, to analyse whether there is any correlation between the changes in air quality produced by the degree of traffic reduction under the LEZ and children's lung health. The study has now completed its fifth year, and aims to produce preliminary results by the beginning of 2014.

While Sharp, Kelly and Goodwin began discussing the project in June 2010, it gained momentum in 2011, when funding was secured from the Wellcome Trust, Guy's and St Thomas's Charity, and Arts Council England. However, the real genesis of *Breathe* probably occurred in a private meeting between Goodwin and Kelly one afternoon at King's College, during which Kelly showed Goodwin some properties of lung structure and function, and explained the lung as a negative pressure system.[3] Working with the concept of the lung as a specific kind of muscular *vacuum* – one that works to draw air in to the body rather than holding or containing it – Goodwin developed a style of rendering that would suggest the different capacities of the lung, and the various styles and rhythms of breathing. The artist described this specific meeting as 'exhilarating'; Kelly said he wouldn't go so far as to say 'exhilarating' but that it was 'certainly refreshing' (Goodwin and Kelly interviews). It was also during this meeting that Kelly suggested the site of St Thomas's Hospital, across
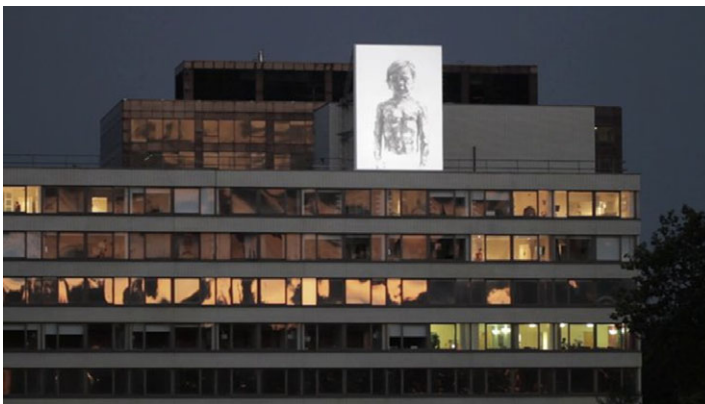

Figure 1   View of *Breathe* from Westminster Bridge
Source: Photo by Dryden Goodwin

the river from the Houses of Parliament, as an ideal location for the artwork (Figure 1). The fact that the 'atmospheric artists' Monet and Turner had painted the smoggy skies of London from the same vista was no accident (Sharp 2012, np; Thornes 2008).

What Goodwin brought to the collaboration with Kelly was an acute sensitivity to what Sloterdijk calls 'respiratory economies': the small zone of atmosphere immediately enveloping individuals and constantly expanding and contracting in urban conditions (Sloterdijk 2009). Respiratory economies are evoked in many of Goodwin's portraits, in which urban dwellers have auras, halos and lace-like patterns around their heads and upper torsos. In *Cradle* (2002), Goodwin took photographs of strangers in everyday urban environments, catching their facial expressions at moments of pensiveness; he then scratched lines into their faces and necks using a small compass.[4] In another series, *State* (2004), Goodwin used a single copper plate as a palimpsest, rubbing it down repeatedly, so that each new impression held traces of the drawing's previous 'accumulative "states"'.[5] While often incredibly photo-realistic, Goodwin's drawings are always contingent, floating, shape-shifting. This is a sensibility that one immediately recognises in *Breathe*: each frame of the animation was less a representation than a state-shift, a semblance.

Breathe ultimately consisted of 1300 unique sketches of a young boy breathing; when digitally processed and strung together, they formed a 12-minute animation that was looped continuously from sunset to 1 am each evening in October 2012. The *Breathe* installation site was demanding for viewers. Since the projection screen was placed on Gassiot House, parallel to the Thames River, it could be viewed from the entranceway to St. Thomas's Hospital, along the entirety of Westminster Bridge, and along a section of the opposite riverbank near the Houses of Parliament (Figures 2 and 3). As residents of London are familiar, Westminster Bridge stretches over the Thames River for 250 metres, and is often vibrating with the traffic of buses, black cabs, cyclists and tourists. It was from this narrow strip of pavement over the Thames that many viewers experienced the artwork.

In part because of its urban, multi-rhythmic context, and also because of Goodwin's process of stylistic rendering, the *Breathe* installation exceeded its status as a two-dimensional video animation. In personal interviews, Dryden Goodwin highlights 'an evolution of volume' within *Breathe*, which is about 'a slippage between the sense of the flat screen filling with volume as it fills with air' and 'reducing as air is expelled from it' (Goodwin interview). For Goodwin, a 'sense of the sculptural' is very important: he refers to experiments in folding and scoring paper to distort his two-dimensional drawings into three-dimensional shapes

Figure 2   View of *Breathe* from Westminster Bridge
Source: Photo by Thierry Bal. Commissioned by Invisible Dust

(Goodwin interview). Goodwin's use of the terms 'volume' and 'sculptural' highlight part of what is peculiar about *Breathe*. The palpable 'slippage' of the breathing figure, changing states from the flat and airless to the sculptural and inflated, means that *Breathe* is a work permeated and activated by air. In other words, the artwork could not have existed without airy relations, and it depended on these for its affective capacity.

In the sections that follow, I relate the consequences of two elements of the artwork – its sequence and surface – which might also be figured as practices – *sequencing* and *surfacing*. Sequences and surfaces are semi-abstract techniques that open up a range of spaces to think air as conceptual, affective and aesthetic. In crafting a sequence or a surface, attention is drawn to space, process and texture (the haptic), so that the materiality of atmospheric bodies and events is rendered sensually explicit. Like Janis Jeffries' technique of *patterning*, the devices of *sequencing* and *surfacing* help to produce 'physical evidence of abstract knowledge, material evidence of the oscillations of the world' (Jeffries 2012, 126–127). My aim in unpacking these creative techniques is to convey how air flowed into *Breathe* as a material concern from the artwork's

Figure 3   *Breathe* on Gassiot House, St Thomas's Hospital
Source: Photo by Dryden Goodwin

genesis in Goodwin's studio, and how this fashioned a work that conveyed intense affective and aesthetic experiences of the passage of air through the breathing body to viewer-participants. As processual devices and tools, sequences and surfaces may inspire methods for registering the mobilities and affects of air within and beyond the work of human geography, expanding spaces of witness for airy entities.

The sequence

Goodwin's decision to complete each of the 1300 animated frames by hand is significant, not least because of the hundreds of hours the artist committed to the production and development of this sequence (Figure 4). The rendering of the sequence was ritualistic, requiring an intense amount of concentration and a carefully prepared environment. An examination of *Breathe* thus necessitates a consideration of the specific demands of the process of *sequencing breath*. Moreover, it is through the act of sequencing that air was *spaced-in* to the artwork and conveyed viscerally to viewers.

Listening to Dryden Goodwin speak about making *Breathe*, as I did on several occasions during personal interviews and public presentations, one is impressed with a sense of the pencil's carbon particles, the image of Goodwin's tall, lean body bending over small paper sheets, and a palpable emotional tension, as if the life of the subject – the artist's five-year-old son – depended on the fragile drawings. Goodwin often conflates drawing with breathing: he says he 'breathed' rather than drew the lines. On one occasion he explained the subtle changes of the respiring figure:

> When you start to tune in to the act of breathing, when you consciously watch someone draw breath, you notice how the

Figure 4   *Breathe* sequence in Dryden Goodwin's studio
Source: Photo by Dryden Goodwin

body changes in form. The physical dimensions alter as the chest expands and inflates, the skeleton shifts with the inward rush of air. The muscles of the torso, face and neck, flex and twitch. (Goodwin 2012, np)

For Goodwin, the act of breathing acquired a magical significance. He expressed interest in the play of invisible particles and forces within the composition of the body:

> The act of breathing embodies the transcoding of air. Drawn into the body, the intangible is given solidity. The invisible takes on structure and form. Air becomes almost a material substance that permeates the human figure, animating and sustaining life, yet also potentially carrying with it diverse altering and often-harmful residues. (2012, np)

Goodwin's stated aim was to 'engender in the viewer a heightened awareness and self-consciousness about the reflex action, implying the range of different experiences we have of breathing' (2012, np). The 'different rhythms, speeds and sequences given to the over thirteen hundred pencil drawings' when edited together, create 'this multitude, and subtle variation, including, importantly, the tension of the held, sus-pended image, when breathing appears to stop, or falter, in a momentary cessation' (2012, np). A key feature of Goodwin's image was a latent potential to pause, to stop moving. At its core, then, *Breathe* was '*a reflection on the fundamental relationship between the still and the moving image.* In *Breathe* the static single drawings are animated. The breath of life has been drawn into them' (italics mine; 2012, np).

Goodwin's sequencing process generates important reflections on the status of breath as a cyclical rhythm, and harnesses the affective potential of a breathing image made still. It also represents a peculiar relation-ship between artist and artwork – aptly figured with what Peter Sloterdijk calls 'The Pneumatic Pact' (Sloterdijk 2011). Sloterdijk reminds us that the first act of 'animation', as it is described in the account of Genesis, depended on the 'divine technology' of breath (2011, 39). Adam was a mere 'vascular creature', a hollow clay receptacle lacking a 'specific supplement' until God breathed life into him (2011, 39). In Slot-erdijk's formulation, to create via 'breath-technology' is to reckon with a returning impulse, a living, pulsing thing, rather than an inert object. The notion of an 'originator' is misleading; rather, the link between the figures in 'bipolar intimacy' is 'a canal' filled with 'endless double echo games' (2011, 41). In this intimate system, the breath is not asymmetrical, but 'conspiratory, respiratory and inspiratory from the outset; as soon as breath exists, there are two breathing' (2011, 41). The way Goodwin expressed his intimate relationship with the 1300 sequenced drawings resonates with these terms; as he 'breathed the lines', he also sensed the inhalation and exhalation of the image before him.

In order to render 1300 sequential images of his five-year-old son's respiring body, Goodwin immersed himself in a specific rhythmic environment. He felt surrounded: 'I was just completely enveloped by that image' (Goodwin, interview 15 February 2013). In my interviews, the artist repeatedly employed the term 'sustaining', as if the space between his body and the drawings was dependent on a very active friction: 'it became about sustaining this … not art but cycle of breathing with a continuity'. One could say the drafting process involved a continuous, circular breath between draftsman and image, the creator and his twin. In Goodwin's words, it was 'a kind of obligatory embrace' (Goodwin 2012, np).

This level of rhythmic and pneumatic intimacy between artist and image has consequences for the airy poetics of the work as it was displayed and witnessed. Sequencing is a kind of spacing – it is a pulling apart of processual materialities. According to McCormack

> it is only by developing a more expanded notion of sensing-spacing that the more disquieting affectivities of things in differential complexes of movement and stillness can be apprehended. (2009, 38)

The sequence of *Breathe* worked the disquieting affectivity of various states of breath into view: it rendered these palpable both for the artist as well as for viewers. Each evening during the *Breathe* exhibition I spoke to pedestrians, bikers, tourists, hospital staff and commuters as they traversed Westminster Bridge. My method was inspired by Warren's (2012) 'audiencing' of James Turrell's Skyspace at Yorkshire Sculpture Park, but was more informal: I held semi-structured inter-views with passers-by, asking them to discuss the artwork in any terms they felt appropriate.[6] Despite the difficulty in asking people to pause on the busy walkways, and the informality of my conversations, I received extended responses from over 60 people. Notable among them were those who discussed the image as a 'palpating' or 'dancing' presence (partici-pant interviews 12 and 21 October 2012).

Bianca Manu, a project manager at Invisible Dust, noticed that she subconsciously began to 'breathe with' the animated image, and experienced a feeling of 'hyperventilating' during a segment of the animation when the figure's respiratory rhythm increased (Bianca Manu, interview 20 February 2013). Based on such accounts, Goodwin's breath-sequence generated rhyth-mic synergies in other bodies. Thus, the practice of sequencing in *Breathe* not only allows us to come to terms with a non-hierarchical model of artist and object, and highlights the subtle state-shifts of the body-in-breath. Sequencing is also a method for 'sensing-spacing' that, in the case of the respiring body, helps us recognise breathing as a fragile cyclical repetition for which both speed and stillness have acute affective and physical consequences (McCormack 2009). In addition, through the sequence, *Breathe* evoked the space of the lung, not as an easily inflated volume, but as a muscular

'vacuum' that actively pulls air into the body. In the following section the gestural and surficial facets of the *Breathe* image will furnish additional insights on the airy propositions this work transmitted.

The surface

If the sequence, and the process of sequencing, fostered a specific synthetic relation between the artist, the image and the air spaced-in to the installation artwork, the surface and *surfacing* of this image is equally implicated in Goodwin's process. Surfaces, whether figured as 'material interfaces, natural structures, aesthetic phenomena, geometric protrusions, or fetishistic distractions', have long captivated the attention of science, social science and humanities scholars (Forsyth *et al.* 2013, 1013). If Yi-Fu Tuan once argued that western thought betrays a 'neglect and suspicion of surface phenomena' (1989, 233), this is contrasted by recent disciplinary contentions that 'Surfaces *matter*' and function equally as 'limits of matter and as spaces of material exchange' (Forsyth *et al.* 2013, 1014). Indeed, recent studies on the intermingling and play of surfaces of camouflage point to bodily-surficial attunement (Forsyth 2013; Robinson 2013), and the surfaces of bodily interiors, invisible to the human eye and hand, offer insights on, 'the "surface" not as barrier, boundary, or site of inscription but, rather, as an "opening" a site of/for "exchange", and a "mediating space"' (Colls and Fannin 2013, 1087).

    Studying Goodwin's sketches in granular detail, here I attend to *Breathe's* animated surface as a second device through which the installation recasts experiences of air from the immaterial and evanescent to the textured and substantial. Goodwin's oft-articulated concern for producing an '*active surface*' is central here. In the case of *Breathe*, generating an 'active surface' required a consideration of the visual dynamics and legibility of the pencil's lines projected over the distances of Westminster Bridge. The artist explained:

> I realised, for the image to inevitably appear diminutive within the cityscape, but to be legible from a distance . . . the changes within the drawing had to be such that it created a very *active surface*, that the mark, with a point three pencil . . . had a kind of robustness . . . (italics mine; Goodwin interview)

    The term 'active surface' is both a unique way of describing Goodwin's drawing style, and a metaphor for perceiving the way the artwork functioned within the spatial context of its site. Goodwin conceptualised his practice in terms of *rendering a surface* that generated particular aesthetic experiences (in terms of the image's fragility, legibility and robustness) on a panoramic scale. In other words, there was a 'matrix of scale' that

Figure 5   Goodwin drawing *Breathe* image
Source: Photo by Dryden Goodwin

influenced the artist's decisions regarding the relations between and among the single drawings and their ultimate display as a large-scale animated video (Goodwin interview). Even while working on 4 × 5 cm sheets of paper in his studio, Goodwin was drawing for the spatial economies of Westminster Bridge (Figure 5).

    While a longer study of the surficial qualities of *Breathe* would attend more thoroughly to Goodwin's habits of gesture and technique, here it is most important to convey that the combined factors of Goodwin's stylistic surface-marking, and the enlargement of the image from tiny paper sheets to an eight-metre-high screen, had specific consequences for the perception of surface, movement and air. Imparting their impressions of the artwork, several audience members described the installation in terms other than the visual: they spoke of textures, patterns and rhythms (participant interviews 21 and 25 October 2012). We might describe these articulations as 'haptic' knowledge: experiences that are 'as much visual or auditory as tactile' (Deleuze and Guattari 1988, 493). In Paterson's (2007 2009) examinations of touch, haptic knowledge comprises a set visual, nonvisual and

somatic sensations, and can occur over distances: 'The ability to touch and be touched at a distance concerns more than mingling ... indicating a larger tactile-spatial imaginary' (2009, 781–2). Following feminist writing on bodily surfaces and morphologies, 'surfaces of vision' alone are inadequate to apprehending 'the depths of bodily spaces, passages and membranes' (Hawkins and Straughn 2014, 132). However the haptic sensations afforded by *Breathe* emerged from the touch/touching of Goodwin's pencil lines, which evoked much more than a 'common conception of a cutaneous subject conveniently enveloped (limited) by skin' (Paterson 2009, 780; McCormack 2009). Rather, they suggested 'a body that is always porous and permeable', emerging through the negotiation of a shape and rhythm in the densities and vorticities of air (Hawkins and Straughn 2014, 133).

Paterson (2009) also points to the difficulty of describing and relating the haptic, urging geographers to attempt poetic and experimental methods and writing. In my attempt to 'grasp' the haptic qualities of *Breathe*, and especially 'the touch of the lines', I made my own sketches of the *Breathe* image, both while standing on Westminster Bridge and at my desk (Figure 6). These sketches aided me in understanding the labour and ritual involved in Goodwin's sequence. While my own sketches came nowhere near the dexterity of Goodwin's originals, I became aware of a qualitative consistency in the marks and movements of the lines (Ingold 2007).

This creative practice influenced my conversations with viewer-participants, since some people were more interested in speaking to me when they saw I was sketching. The similarities and differences between my sketch and *Breathe* became a 'way in' to a longer conversation. I discussed the sense that there were several 'planes' in the drawing sequence with Helen Wood, a scientist at King's College, London. She explained:

> It [*Breathe*] fluctuates on many levels, it's not just that you see the breathing movement ... there's the breathing movement, there's the light shade, and there's the details versus the very simple ... so it's moving to me, in at least three kind of planes if you want to call it, and time as well. Whereas I kind of thought that the main thing would be the breathing movement. (Wood, interview 8 November 2012)

Wood expected that an animation of breath would involve a two-dimensional diagram of the lungs. While the figure certainly breathed, many other things seemed 'to happen' as well – especially along other 'planes' of organisation, sensation and detail. In highlighting these 'planes', Wood articulated an aspect that was central to Goodwin's creative process – the creation of different surface patterns across the sequence:

> I was very conscious of that *sense of touch within the lines* with the pressure of the pencil inscribing the form ... the

Figure 6   Sketch of the *Breathe* image made on Westminster Bridge
Source: Author's sketch

progression developed the *different patterns* the drawings had. (italics mine; Goodwin interview)

What was evident to viewers like Wood, and became clear to me as I mimicked the sketches, was that Goodwin's drawings composed and recomposed – there were elements that moved separately while intimately entangled. The individual images in the sequence were much less important than the differences between and among them. Wood described the consequences of perceiving surface patterns: 'pattern provokes our bodies into a visceral response rather than a purely visual grasping' (Jeffries 2012, 130). In other words, what catalysed her observations was *Breathe's* 'active surface'.

The practice of using surface patterns to create various 'planes' offers one conception of the way the *Breathe* image created surficial relations with the atmospheres of its site. Indeed, scholars like Erin Manning have taken the surficial qualities of two-dimensional artworks as evidence of sculptural qualities (Manning 2009). For Manning, paintings of Futurist artist Umberto Boccioni reveal a 'sculptural ambition'; the artist creates a 'recomposing body that "seeks complete fusion of environment and object by means of the *interpenetration of planes*"' (italics mine; Manning 2009, 16). This is what viewers like Helen Wood

observe in Goodwin's image sequence: an act of seeking-toward fusion with its atmospheric surroundings. Similarly, Wood's observation of the lack of a consistent blueprint of the lung is perhaps better articulated as surprise at the *sculptural* qualities of Goodwin's animation. It is not surprising, then, that Goodwin often references the paintings of sculptor Alberto Giacommetti as an influence on his drawing technique:

it's particularly [Giacommetti's] paintings, that he seems to draw with paint, where it seems to express the *desire for form* ... there's something in the idea that *it isn't fully delivered, but it's fully expressed* ... and I like that tension very much. (italics mine; Goodwin interview)

The surface-tension of the *Breathe* image – its expression (if not delivery) of both inflated and deflated states through two-dimensional media – is an opportunity to think about surface-to-air relations more broadly. For Brian Massumi (2002), a surface is not a discrete or absolute quality of matter, but a 'regime of passage'. The effect of hardness, for example, 'is relative to the nature of the movement that comes to pass, its scale, and speed' (2002, 203). Through this logic, there would be no surface of the skin without the specific characteristics of air: the surfaces of skin and air are co-constituted by their relative compositions and speeds. This is precisely what Goodwin's artwork manifests: in creating a skin-surface that evokes several 'planes' of material emergence as well as a grainy, textured exchange, the animation does not suggest an effortless pneumatic relation as much as a sustained and sometimes fraught 'regime of passage'. The 'active surface' of *Breathe* conveys the sense that the space of the lung is tense and contingent: air is expelled as the pneumatic vacuum relaxes. In this section, I have argued that surfaces are generative of haptic experiences of air, and can evoke the way air is pulled into the porous space of the lung. An attention to the haptic and spatial relations among surfaces and atmospheres might contribute to recent efforts to understand the 'shape' of the atmosphere (Galaragga and Szerszynski 2012), to trace the affinities of the elemental (Adey, forthcoming) and to studies of other airborne, membranic and 'atmospheric things' (McCormack 2014). In conclusion, I will briefly suggest further disciplinary resonances of air's poetics, especially in methodological approaches to atmosphere, and its wider relevance for other modes of ethical and ecological witness.

Conclusion

In answer to the two sets of provocations I highlighted at the beginning of this paper, *Breathe* offers a performance of air–body relations that actively registers the passage of air through the atmospheres inside and outside the body, and does so through the employment of two devices that are both metaphors to think atmospheres through spaces of sequence and surface, and methods that might be employed by geographers in studies of air–body, air–environment and air–object relations. Cultivating distinct experiences of bodily permeability, air's substantiations and the affective intensities born by airy impressions, *Breathe* is, I have argued, a presentation and performance of air's poetics.

Nevertheless, it is important to remember that 'poetics' in this case is not confined to the lines of Wigmore's poetry, Choy's figurative accounts or Goodwin's gestures, but is equally present in the ways in which air-quality scientists like Frank Kelly research the interdependencies of human bodies and atmospheres of the city of London, studying subjects' exposures to pollutants alongside their personal and routine experiences of the city's air. Moreover, a conception of air as a 'constitutive and turbulent participant in the distributed natures of lively worlds' (McCormack 2009, 39) necessarily implicates

the liminal boundaries between inside or corporeal purity and the outside or pollution dangers, and, perhaps most intriguingly, the feedback between or co-construction of the body and the (city) environment. (Bickerstaff and Walker 2003, 57)

It is a broader conception of 'air's poetics' as a scholarly attunement and a mode of relation and presentation (whether in academic writing, or other forms of creative display) that can inspire geographic scholarship on air and atmosphere, especially in articulating the simultaneously material and affective resonances of being-in-air. In this way, air's poetics is not an organised programme, but an articulation of some of the resources, concepts and methods that geographers have already begun to employ in investigating airy relations. However, as an orientation for these engagements, an airy poetics is also a locus around which momentum for future studies might be born and executed.

Airy poetics may find its most immediate reception in the group of 'affective materialisms that have been gathered under the name of nonrepresentational theory' (Anderson and Wylie 2009, 319). The work of nonrepresentational theories has to some extent been invested in developing a material imagination that 'avoids this taken for granted equation of matter with the state of a solid' and instead conceives matter 'according to the in-between qualities of expansiveness that constitute airiness' (Anderson and Wylie 2009, 323; Irigaray 1999). Studies of movement in cities (Creswell 1999 2010; Latham and McCormack 2004), spatial textures (Dewsbury 2003; Hetherington 2003), spaces of decay and ruination (DeSilvey 2007; Edensor 2005), mobile phone technology (Ash 2013) and

vibration (Bissell 2010) already produce 'rich articulations' of the miscibility and mutability of spaces and matter (Thrift 2008). The airy attunement fostered by air's poetics is not a radical proposition but a hovering adjustment to these patterns of thought. Perhaps an attention to the visceral but impersonal currents of affect as embodied in material flux, already prominent in this body of work, might be invigorated by attending to the distinctly atmospheric 'circulations and circumventions' of affect, those which Anderson (2009) has argued move between physical, aesthetic and sensory registers. Airy poetics would thus require a concerted shift from an affective logic of linear 'flows' to one in which affect condenses, environs, ventilates and dissipates around human and nonhuman bodies and objects, described fluently in the work of Brennan (2004) and Ash (2013), among others. Finally, it would seem that nonrepresentational theory's attentiveness to what exceeds or precedes representation is ideally suited for understanding the emergence of air–body and air-as-body relations, for which representations are understandably uncommon.

Furthermore, I want to speak to the broader, disciplinary relevance not only of a reinvestment in the affective and aesthetic study of air, but also of the socio-political relevance of experiences that generate new conceptions of being-in and witnessing air. I implied earlier that my argument has implications that extend beyond the purview of human geography which, for the most part, has been the 'home' of those writing on the material-affective nexus of air and atmosphere. What *Breathe* amply demonstrates, I want to suggest, is the relevance of creative practices for inventive modes of registering the materiality of air and atmospheric space. I do not mean to suggest that geographers must become artists (or work with them). I simply want to propose that artists and artworks might offer novel, sensuous and slightly more radical ways of registering, witnessing and tracing evanescent states of matter and their surficial exchanges. Moreover, as McCormack (2012) has argued, and as I hope I have demonstrated in my method of site-oriented sketching, there is little argument why some of the semi-abstract and diagrammatic resources employed by artists to evoke both the concrete and the invisible might not be practised by geographers to generate new and eventful thought-spaces in and with air.

The political implications of a 'redistribution of the sensible' (Rancière 2013) that would accommodate air and atmosphere as tangible forces in the composition of all sorts of landscapes, social conditions and subjectivities is of concern to a wide range of geographers, physical as well as human. It might reinvigorate public interest in the vital, scientific and sensual characteristics of air, making visible the policies, practices, inscriptions and rhetoric that emerge from atmospheric science and regulation (Bickerstaff and Walker 2003; Dixon 2009). The figure of 'the breather' as displayed in Goodwin's work presents one interesting metonym for achieving such a shift in the sensible. While Marx's 'worker' transformed the solidity of the Earth's surface into capitalist currency, 'breathers' are

> those who accrue the unaccounted-for costs that attend the production and consumption of goods and services, such as the injuries, medical expenses, and changes in climate and ecosystems. (Choy 2011, 145)

The question 'Who is not a breather?' is an open-ended provocation to think of a politics in terms of the atmospheric and the 'more-than-human' (Choy 2011; Whatmore 2006). The 'breather' exemplifies 'living/ness' as

> a relational condition that reconnects the intimate fabric of corporeality, including that of human becoming, to the seemingly indifferent stuff of the world that makes living possible. (Whatmore 2013, 4)

In this way it advances what Whatmore calls an 'onto-politics' (2013, 4) that foregrounds the already rich compositions of human bodies with other entities and their environmental contexts and atmospheres. The striking pneumatic relation performed by *Breathe* has consequences beyond generating intense physical and affective experiences of air for a limited group of human viewers: it presents us with a metonymic diagram for a collective airy attunement and witness, a speculation that is as political as it is poetic.

Acknowledgements

Notes

1 Peter Sloterdijk and Steven Connor cite Marcel Duchamp's *Air de Paris* as one of the first artworks to take an airy volume as its medium and conceptual experiment. Duchamp famously bottled 50 cc of air in Le Havre, labelled it 'Air de Paris' and brought it to the Arendbergs in New York.

2   My knowledge of Saraceno's 'aero solar' work is based on one year of site-based fieldwork at Studio Tomás Saraceno in Berlin. My research and collaboration with the artist is the primary focus of my doctoral dissertation.

3   My knowledge of this conversation is based on personal interviews with Frank Kelly and Dryden Goodwin, separately.

4   See *Cradle* website description (http://www.drydengoodwin.com/cradle.htm) Accessed 20 March 2013.

5   See *State* website description (http://www.drydengoodwin.com/state.htm) Accessed 20 March 2013.

6   'Audiencing' owes its roots to cultural theorist John Fiske, who argued that audiences of mass media are actively engaged in the formation of meaning. Gillian Rose defines audiencing as a 'process' through which an image has 'its meanings renegotiated, or even rejected, by particular audiences watching in specific circumstances' (Rose 2012, 30).

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