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TITLE: Negotiating nature's weather worlds in the context of life with sight impairment

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ABSTRACT: We have seen longstanding research interest in diverse nature-society relations, including contentious debates regarding what nature is, the role of humans within or apart from it, and how varied types of non-human nature shape different societies and individuals within society. Within this work, relatively little attention has been paid to an important aspect of nature experienced everyday; people's "weather-worlds". These encompass the qualities of sensory experience that are shaped by fluxes in the

medium – the air – in which we routinely live and breathe. Such currents, forces and pressure gradients underwrite our capacities to act and interact with both the animate and inanimate materials and beings we encounter as we negotiate our everyday lives. We focus on these weather worlds here, drawing on the findings of an in-depth qualitative study exploring how people with varying forms and severities of sight impairment describe their nature experiences; with the weather emerging as an immediate and often highly visceral form of everyday nature encounter amongst all participants. We reflect on the ephemeral qualities of people’s weather-worlds, highlighting their potential to comfort, invigorate and connect, but also to disorientate, threaten and isolate, at times supporting moments of wellbeing, at others exacerbating experiences of impairment and disability. In doing so, we highlight how attending to the weather is essential if we are to fully understand people’s emplaced experiences of wellbeing, impairment and disability with(in) diverse forms of multi-elemental, assembled ‘nature’.

KEY WORDS: *England, qualitative, weather, nature, visual impairment, disability.*

1. INTRODUCTION

There has been growing research and policy interest over the last 40 years around the potential for time spent with non-human nature to shape experiences of wellbeing – and to a far lesser extent – of impairment and disability amongst different groups within society (Morris et al., 2011; Frumkin et al., 2017; Horton, 2017). Across the disciplines contributing to this work, nature is variously conceptualised as wilderness or countryside (thereby externalised as an entity “out there”), green or blue space (where nature is seemingly

concentrated in designated urban or rural settings, such as parks, woodlands, gardens and beaches), or deconstructed and critiqued as a false Nature-Society dualism (Whatmore, 2006; Castree, 2014). The latter approach to nature has become particularly apparent with the rising interest in post-humanism and relational ontologies that recognise the dynamic, often messy entanglements of human and non-human actors that shape and co-fabricate the world in ongoing ways (Bell et al., 2017; Maller, 2018). This work challenges the merits of conflating all animal and plant species, landscapes and ecosystems into one macro category of “nature”. It questions the often taken-for-granted notion that all humans possess an innate affiliation with nature (Wilson, 1984), and calls for a more-than-human, *relational* approach to wellbeing; an approach that values and “considers the actions, presence and roles of non-humans in everyday lives” (Maller, 2018, p.101), including different animals, microbes, plants, rocks, tools or technologies and so forth. This approach recognises wellbeing as a process (Schwanen and Atkinson, 2015), rather than an individual acquisition or commodity, engaging with the “complex taking place of wellbeing” (Smith and Reid, 2018, p.2) and people’s shifting opportunities to feel well through the course of their everyday and whole lives. Such relational conceptions of wellbeing therefore emphasise the transformative social, spatial and temporal relationships through which feelings of wellbeing emerge, persist or develop (Atkinson, 2013), be it through moments of connection, comfort, invigoration, autonomy or otherwise. As discussed further below, a similar relational turn is apparent within contemporary disability studies, encouraging researchers to “move beyond an impairment/disability binary” (Hall and Wilton, 2017, p.731), to engage more critically with the “disabling/enabling character of different social-spatial contexts” (2017, p.731).

Despite calls to “foreground the complex relational configurations that shape and reshape the character of specific settings” (Hall and Wilton, 2017, p.733), the role of the weather in shaping both ourselves and the animate and inanimate materials we engage with on a routine basis (Ingold, 2011) has been somewhat understudied within the geographies of wellbeing and disability to-date (Finlay, 2018). Yet, the weather is a pervasive quality of everyday relation and sensation, and the primary means by which many of us encounter nature on a routine basis (Zion 2017). As noted by Brassley (1998, p.120) “natural ephemera range from the slow cyclical progress of the seasons to the momentary effects of sun and cloud”, and contribute to a general state of flux within our everyday environments. Weather is everywhere (Strengers and Maller, 2017), it “happens” to everyone (Laskin, 1996, p.10) and provides “a common focal point in many societies through both commiseration and celebration” (Strauss and Orlove, 2003, p.3). Recognising this, there have been growing calls for geography to “address its elemental prejudices” (Jackson and Fannin, 2011, p.435); calls which have important practical implications for individuals and organisations – for example, land managers, conservation charities, urban planners and landscape architects – tasked with managing and/or creating meaningful, inclusive nature experiences, whatever the weather.

We address this lacuna here, drawing on a two-year study examining how people with varying forms and severities of sight impairment describe their experiences of wellbeing, impairment and disability with(in) diverse elements of more-than-human nature. Specifically, we explore participant experiences of the weather and seasonality, offering novel understandings of how experiences of wellbeing, impairment and disability can be shaped by the ephemeral qualities of people’s “weather-worlds” (Ingold, 2011, p.96); the qualities of relation and sensory experience that are shaped by fluxes in the

medium – the air – in which we routinely live, breathe and interact as we negotiate our everyday lives. In particular, we highlight the potential of different flows and intensities of light, wind and precipitation to soothe, invigorate and connect, but also to disorientate and isolate. We discuss the role of the seasons in shaping different “ensembles of weather elements” (de Vet, 2017, p.144), each enhancing or undermining how bodies both function and flourish (Gorman, 2018). In doing so, we highlight how attending to the weather is essential if we are to fully understand people’s emplaced experiences of wellbeing, impairment and disability with(in) diverse forms of multi-elemental, assembled nature.

1.1. Negotiating weather worlds

Perhaps the most comprehensive consideration of people’s weather relations to date is that contributed by Ingold (2010, p.S131), highlighting “weather as an all enveloping infusion... the weather is not so much what we perceive, but what we perceive *in*”. The currents, forces and pressure gradients of weather shape ourselves as well as the animate and inanimate materials we co-exist with on a daily basis (Ingold, 2011). Yet little is known about how our bodily capacities to act and feel – and to feel *good* – vary as we are swept up in different flows and qualities of weather. Uncomfortable or risky weather has been cited as a barrier to health care provision (Joseph et al., 2013), physical activity (Tucker and Gilliland, 2007), children’s play (Ergler et al., 2016) and active travel (Böcker et al., 2013). However, these studies often overlook the variety of experiences that different weather conditions can elicit (Rantala et al., 2011; Simpson, 2018), and the (re)production of varied weather norms and adjustment strategies over time (Hitchings, 2010; Ergler et al., 2016).

Researchers have therefore called for greater attention to “elemental haptics” (Allen-Collinson and Leledaki, 2015, p.8), including the pleasures or displeasures of mingling, negotiating and being-in-the-elemental-world. This has been touched on to some extent within studies exploring the mobility strategies and challenges faced by older adults and youths with physical impairments during snow-laden Canadian winters (Lindsay and Yantzi, 2014; Morales et al., 2018). As noted by Finlay (2018), for example, despite the isolation and myriad challenges of negotiating Canada’s treacherous white space in winter, many older adults express pride in their levels of toughness and ability to endure this weather, incorporating such weather tolerance (de Vet, 2017) into their sense of self and identity. These everyday adaptations and embodied improvisations to both anticipated and unanticipated weather patterns remain relatively understudied and under-theorised (Strengers and Maller, 2017) within subfields of geography that seek to understand how and why people come to experience a sense of wellbeing or otherwise through particular place encounters (Conradson, 2005; Bell et al., 2018). By paying greater attention to the “diverse aspects of ‘living in’ and ‘against’ the weather” (Ergler et al., 2016, p.69), this paper foregrounds valuable opportunities to explore how everyday experiences of wellbeing, impairment, disability and nature (in the form of people’s weather worlds) emerge relationally.

1.2. Weather relations, impairment and disability

The places that people encounter and negotiate during their day-to-day lives can support moments of wellbeing as well as those of frustration, exclusion and disability (Butler and Bowlby, 1997; Chouinard et al., 2010). These experiences may be shaped by *material*

qualities of place, such as the physical layout or design of different settings, by the *social* encounters that unfold within these settings, by specific place reputations and implicit *cultural scripts* (norms) of how to be, move and act therein (Kitchin, 1998), or by the varied *atmospheres* or moods created by different social-material-meteorological-affective configurations of place at any one moment in time (Duff, 2011). Experiences of wellbeing, impairment and disability therefore emerge within the context of shifting more-than-human relations that co-produce and continuously (re)shape people's bodily capabilities to act and be acted upon (Gorman, 2018).

The contingencies of the body in enabling people to be and move with more-than-human nature in socially normative ways, or the desirability of doing so, have been somewhat neglected to date (Burns et al., 2009; 2013; Horton, 2017). As such, we still have relatively little understanding of how wellbeing, disability and nature emerge relationally within lives characterised by alternative sensory worlds. Touching on this in the context of countryside encounters, Macpherson (2009a: 1044) highlights the "intercorporeal emergence" of iconic Peak and Lake District landscapes amongst walkers with sight impairment, produced through: multisensory material encounters (for example, with weather, light, terrain and equipment); interactions between bodies (sight impaired walkers and sighted guides); and references to collective discourses (shared notions of the picturesque, for example). Although weather relations and responses were not explored in depth by Macpherson (2008, 2009a,b), the influence of the weather was implicit in the sensations described, with walkers feeling "in-touch" with the air and warmth of the surroundings (2009b, p.181). Shifting weather patterns shaped the walking terrain (creating challenging, mud-fuelled encounters after rain) and the degree to which partially sighted

walkers were able to use their residual vision, for example, with fluctuating light levels (Macpherson, 2008).

Autobiographical accounts of blindness have also highlighted the importance of weather relations in shaping people's capacity to perceive and interact with the world with sight impairment. This is perhaps most evident in the writings of the late John Hull, a professor who lost his sight progressively from his teenage years onwards:

“Rain has a way of bringing out the contours of everything: it throws a coloured blanket over previously invisible things; instead of an intermittent and thus fragmented world, the steadily falling rain creates continuity of acoustic experience... The rain gives a sense of perspective and of the actual relationships of one part of the world to another. If only rain could fall inside a room, it would help me to understand where things are in that room, to give a sense of being in the room, instead of just sitting on a chair... This is an experience of great beauty. I feel as if the world, which is veiled until I touch it, has suddenly disclosed itself to me... Instead of having to worry about where my body will be and what it will meet, I am presented with a totality, a world which speaks to me.” (Hull, 1990, p. 25-27)

These limited forays into the weather relations of people living with sight impairment suggest value in exploring this area further to gain new insights into the role of different weather elements within more-than-human assemblages of wellbeing, impairment and disability.

Approximately 253 million people worldwide are estimated to live with sight impairment (Bourne et al., 2017). Ageing populations and a rising incidence of underlying

causes of sight loss (e.g. diabetes) mean that these numbers are set to increase.

Recognising this, a growing body of literature has examined the lived experiences and emotional transitions encountered following the onset of visual impairment (Thurston et al., 2010). Many of these studies convey feelings of loss, including loss of independence, confidence, personal and social identities as individuals adjust to new ways of being in the world (Nyman et al., 2012). However, such feelings are rarely situated or emplaced within the context of people's everyday temporal-spatial routines (Pow, 2000; Worth, 2013), nor complemented with the insights of people born with impairment (Saerberg, 2010). Studies that have considered the influence of specific place interactions have tended to focus on disabling social or built environments (Butler and Bowlby, 1997), without fully engaging with the ephemeral weather worlds that shape people's place interactions in more unpredictable, uncontrollable ways (Macpherson, 2009a,b; 2017).

Reflecting the "relational turn" in contemporary disability studies, this paper moves beyond polarised biomedical or social models that view disability as *either* a product of an impaired body *or* a result of ableist social attitudes (Worth, 2013). It draws, instead, on social relational models that foreground both disability and ability as products of dynamic, embodied encounters unfolding within specific sensory, material and socio-cultural assemblages at particular times and locations (Thomas, 2007). It thereby seeks to unsettle overly simplistic, binary notions of able or disabled bodies, embracing "opportunities to think differently about how *all* bodies become dis/abled in and through their everyday geographies and how such becomings might be made otherwise" (Hall and Wilton, 2017, p.729). By acknowledging that dynamic more-than-human relational configurations have the capacity to (re)produce exclusionary/disabling possibilities, we explore how "micro-scale materialities that exist in the atmosphere" (Simpson, 2018, p.17) are encountered and

negotiated in varied ways by people with sight impairment, shaping everyday experiences of wellbeing, impairment and disability. Throughout, we highlight the importance of “somatic weather learning” or “weather work” (Allen-Collinson, 2018, p.63) in countering experiences of disability; that is, cultivating the skills, resources and confidence required to adapt, make sense of, endure or strive to cope with the vagaries of the elements (Vannini et al. 2012). In so doing, we seek to address the somewhat “absent presence” (Vannini et al., 2012, p.362) of the weather in contemporary scholarship pertaining to geographies of wellbeing and disability.

2. EXPLORING THE WEATHER

The material presented below is drawn from a two-year study examining how people with varying forms and severities of sight impairment come to experience a sense of wellbeing (or otherwise) with diverse types of nature. Despite flaws in the term “nature”, we were keen to avoid framing the study using more ocularcentric terms such as landscape, green or blue space that implicitly privilege the visual sense (Brown, 2017). Participants were encouraged to define from the outset what nature means to them (practically, conceptually and emotionally), which opened up opportunities to discuss facets of people’s nature relations – including the weather – which were not originally anticipated or included as a primary focus for the research.

The overall study was guided by four broad research questions: (a) What is ‘nature’ to people living with diverse forms of sight impairment? (b) What types of encounter promote a sense of wellbeing and meaningful connection with nature? (c) To what extent, if at all, do people feel impaired in varied forms of nature, and how might this change over

time? (d) What could we learn from these ways of sensing and making sense of nature? An in-depth, qualitative interpretive methodology was adopted to explore these questions, combining ethnographic participation with in-depth narrative and go-along interviews. Person-centred qualitative approaches are important when researching the complexities of life with visual impairment (Duckett and Pratt 2001), allowing people to describe and contextualise their experiences and understandings on their own terms in their own time. Ethical approval for the study was secured from the University of Exeter Medical School Research Ethics Committee (Approval Reference Dec16/B/108).

Conducted from February to December 2017 at various locations in England, the fieldwork incorporated two overlapping phases. The first phase involved participating in sight loss awareness and sighted guiding training, before actively volunteering with a range of activity groups around the country, including both indoor and outdoor groups (e.g. walking groups, rifle shooting groups, social groups) designed to bring together sight impaired individuals with common interests. Time spent volunteering with these groups (attending over 15 activity sessions) provided a valuable opportunity to build an initial awareness of people's diverse sensory experiences and to initiate informal discussions about how people living with varied forms of sight impairment might like to share their experiences of nature in Phase 2 of the study. Rooted in these discussions, Phase 2 involved in-depth interviews with 31 people recruited from around the country with the assistance of the Royal National Institute for the Blind 'RNIB Connect' magazine, the Macular Society, the Thomas Pocklington Trust, Blind Veterans, and a number of local sight loss charities who offered to raise awareness of the study via social media and in person with local sight impaired members.

Purposive sampling allowed diverse information rich views to be contributed by individuals at different life stages and with varied forms and severities of sight impairment, rather than focusing on the “typical” or average case (Flyvbjerg, 2006). The sample included: men and women (15 men, 16 women); people self-identifying as White (29) and Asian (2) British; aging from mid-20s to mid-80s; living in rural areas, towns and cities; with a range of conditions (including glaucoma, age-related macular degeneration, retinitis pigmentosa, diabetic retinopathy, congenital cataracts, retinopathy of prematurity, Leber’s Congenital Amaurosis, Leber’s Hereditary Optic Neuropathy, coloboma, retinal detachment, rod-cone dystrophy, and sight loss caused by accident and/or brain injury). Of the 31 participants, 28 were registered either severely sight impaired or sight impaired, with the remaining three contemplating registration. Fifteen participants were born with at least one eye condition, with 12 of these experiencing further sight changes later in life.

Of the 31 people who took part in Phase 2, everyone participated in an initial narrative interview (Riessman, 2008), lasting between one and three hours, examining what nature is to them, how they perceive, experience and negotiate different types of nature in the context of their day-to-day lives, how this had changed through key chapters of their lives, and how they feel about existing efforts to support more inclusive multisensory nature encounters, based on their experiences both within the UK and beyond. Although unable to discuss the significance of these life-course transitions in detail within this paper (for purposes of brevity), we do touch on them where appropriate, recognising impairment as just one of many fluid subject positions that shape people’s nature conceptions, experiences and embodiments.

Twenty-five of the 31 participants took part in a second go-along interview (Carpiano, 2009) within a setting they valued for encountering nature in their day-to-day lives. These emplaced interviews created opportunities “to witness an array of embodied and emotional practices as they are experienced and performed by those involved” (Anderson and Jones, 2009, p.299), including a range of more pre-reflective strategies used by participants to negotiate varied forms of more-than-human nature. Interview settings included participant gardens, local residential road/path networks, urban parks, woodland, coastal and countryside areas, with interviews lasting from between 20 minutes and four hours according to participant preference. Elemental presences were particularly apparent through these go-along interviews, shaping interview scheduling, duration, routes, choice of clothing and footwear, ease of guiding and navigation, and sensations remarked upon while out.

All interviews were recorded and transcribed verbatim, with transcripts anonymised (pseudonyms are used throughout this paper) and annotated to capture any changes in tone or expressions of emotion such as pauses, sighs, frustration, laughter, tears or hesitations. Organising the data using Nvivo 10 (qualitative data management software), the Phase 1 and 2 field diary entries and Phase 2 interview transcripts were subject to in-depth inductive analyses. Multiple lenses (macro, meso, micro, interactional, temporal and spatial) were applied to situate participants’ nature experiences in the personal, social, cultural and physical contexts of their everyday lives (Pamphilon, 1999). Through this analytical process, the importance of the weather as an immediate and visceral form of everyday nature encounter emerged clearly across participant accounts. Whilst previous studies have highlighted the challenges of capturing the complexities of people’s mundane weather experiences (de Vet, 2013; Simpson, 2018), participants in this study volunteered

such experiences readily, both directly in response to open questions such as “What is nature to you?” and “How, if at all, do your experiences of nature change through the year?”, and more indirectly, with weather elements featuring in participants’ nature memories and explanations of how they negotiate and navigate different types of nature. We draw on these accounts here to discuss the importance of weather relations in shaping experiences of wellbeing, impairment and disability with(in) more-than-human nature, situating participants’ weather pleasures and strains in the varied contexts of their everyday lives.

3. FINDINGS AND DISCUSSION

3.1. Elemental haptics

To interact in and with the elements (living or otherwise) of the world is to be immersed in shared flows, forces and pressure gradients of the media (Ingold, 2010), including air and water. Whilst water is gaining increasing attention – under the rubric of blue space (Foley and Kistemann, 2015) – in our understanding of how non-human nature can support experiences of wellbeing, the prominence of air has been largely overlooked, beyond the more specific focus on air pollution and human health (Frumkin et al., 2017). The sensorial pleasures and affective transformations experienced when immersing the body in water – for example while swimming, surfing or scuba diving – are increasingly apparent within the blue space literature (e.g. see Phoenix and Orr, 2014; Throsby, 2013), yet we know little about the whole-body tactility of moving through air; how and why we become attentive to air as it surrounds and envelops the body and how such sensations shape our experiences of assembled terrestrial nature. As such, we echo Ingold’s (2010, p.131) calls to “readmit

the air as an essential material constituent of the inhabited world” and to examine how doing so influences people’s sense of wellbeing in everyday life.

Reflecting the findings of previous research highlighting the comforting “caress” of *water* as it glides over the body (Phoenix and Orr, 2014), participants in our study noted the comforting sensations of gentle flows of *air*, the breeze:

“You can be touched by nature, even in a physical way... There was a woman that I worked with who had long-standing mental health issues. And I could totally relate to what she was saying because I experienced it myself as well. She used to like the breeze, she used to like to feel the breeze. And gentle rain, because it’s almost like, it’s like being touched but it’s non-threatening. And so, you know, it’s not going to hurt you, but it is a touch. So if a human touch might be threatening, or has been abusive and that sort of thing, being touched by nature, you know, grasses, the breeze, gentle rain, it’s all very sort of accepting. I mean obviously it’s all relative. If it was hurricane force wind and torrential rain (laughs), it might be a different thing” (Annie, 60s, congenital eye condition, partial sight).

Given that over a third of people with sight impairment in the UK report sometimes, frequently or always experiencing negative attitudes from the general public as a result of their eyesight, and 40% report feeling moderately or completely cut off from the people and things around them (RNIB, 2015), it is perhaps not surprising that, for some people like Annie, comfort is sought in the form of less threatening, non-human relational encounters. Such feelings may emerge from sensations registered in the moment, or through the awakening of sensory memories linked to earlier experiences or emotions (Vannini et al.,

2012). Later in the interview, for example, Annie recalled hearing the gentle “*pit-pit-pat*” of the rain and breeze enveloping her pram as a child and “*feeling all snugly and safe inside*”; sensations she came to associate with otherwise elusive feelings of comfort and security after losing her mother to cancer when she was just five years old. She described her sense of bewilderment and lack of understanding at the time, noting that “*children weren’t supposed to grieve in the ‘50s*”, so no one ever explained that her mother was not going to come back. In this way, weather-related discussions within the interviews often led to deeper reflection on more challenging life experiences.

For many participants, feeling the elements offered a source of embodied connection to a world, a sense of being alive and less isolated. Alva, a participant in her 80s, indicated feeling “*very drab, very dull, very flat*” when she cannot get outside to experience sunlight or the breeze, while another participant, Eve, described the challenge of what she described as “*weatherless*” days:

“The days I find most difficult are the flat, grey, nothing kind of days where there’s really no weather at all. There’s just nothing. There’s nothing to sense then, if you like. Everything just goes quiet, no birds, no breeze” (Eve, 60s, congenital eye condition and acquired progressive condition, partial sight).

These participants highlighted how different weather elements acted to heighten one’s sense of connection to the world, be it directly through feeling the breeze, the rain or warmth, or indirectly through accentuating other aspects of more-than-human nature, be it the wind stirring leaves in the trees or the humidity bringing out the scents of flowers and plants. One participant, Rachel, was recovering from a sustained period of agoraphobia,

alongside experiences of depression and anxiety, which she attributed to a series of six unexpected bereavements and a personal accident occurring in a short space of time a few years ago. She explained that she does not always feel up to going out but that being in the fresh air can “*really make my head feel good sometimes*”, in the right weather conditions; “*I have to grab when I feel up to it and then I go out, and I’d say when the weather’s good, you want to make the most of it*”. For Rachel, good weather was akin to a warm or cold sunny day with a breeze, but she also appreciated the sensual invigoration of full haptic immersion within more bracing winds, likening it to her daily “caffeine hit”. This was an experience she could appreciate provided she was within a familiar environment that she felt comfortable navigating with her long cane:

“Wind, I love the wind actually, I find it very bracing. I find it gives you a good wake up. It’s like having a bit of a caffeine hit! ... Because where I live here, it’s very, very exposed. So if you come out here and it’s windy, it totally, you really, really do feel it. And it, it kind of, I think when you’re blind, because I’m blind obviously, it’s about sensations. So, there’s no point just looking at something nice. There’s nothing aesthetic about a nice view or anything like that. It’s got to be something that’s got a feel or a smell or a touch to it... So when it’s windy, you know, I love standing in it and just getting, getting the kind of whooooooosh (laughs)” (Rachel, 30s, congenital condition, light perception since birth).

In addition to the sensual invigoration experienced in the moment, such encounters can leave a weather imprint, or as one participant, Trish, described it, “a feel good factor”. This may grow and intensify once back in a warm, sheltered environment, with participants in a

sight impaired walking group describing the retrospective sense of achievement gained through collaboratively enduring and successfully negotiating the haptic “attack” of strong winds, rain or even hail. Notably, however, the intensity of such haptic encounters can also be experienced as threatening without the availability of appropriate support (human or otherwise). For people with little to no sight, auditory clues often support spatial orientation and fluidity of movement; as such, strong winds or any other loud noises that intercept the flow of useful sound can prove disorientating and unnerving:

“Talking to other blind people, you’ve probably got a sense of the use of sound as a navigating, or structuring sense. So when I go into a room, I’ll pretty immediately have a kind of impression of how big it is, how high it is, some things about internal furnishings or that sort of stuff... And when you’re outside, that obviously expands... So, if I’m outside here, I can hear the wind stirring the trees at the top of the garden and, and approaching down the garden. And from that sort of data, you can construct quite a lot of information about the nature of things around you. But it’s variable... and if it’s very windy, that messes up your navigation system, so it’s a, a blind person’s equivalent to fog really” (Miles, 70s, congenital progressive condition, no sight since early childhood).

This extract highlights the importance of attending “to the turbulent and fluctuating media through which movement happens” (Simpson, 2018, p.13), shaping both opportunities for – and the qualities of – independent mobility. Miles likens strong winds to a fully sighted person’s experience of fog, a sensation that has previously been said to intensify the immersive qualities of air in ways that can be both disarming and disorientating (Martin

2011, p.455), obscuring familiar reference points and challenging perceptions of distance. For similar reasons, snow was also highlighted as a particular challenge to navigation, mobility and spatial orientation amongst our participants. This was in part through creating perilous terrains in the transition from fresh snowfall to slush/ice, but also through obscuring (or as one participant described it, “throwing a blanket over”) important auditory, tactile and visual landmarks that participants use for navigation on a routine basis, be it with a cane, a guide dog or through tuning into sound echoes.

In this way, shifting weather conditions can significantly restrict or alter possibilities for action amongst people with sight impairment. Negotiating such shifts requires skilled and creative practice, including qualities of “care, judgement and dexterity” (Ingold and Kurttila, 2000, p.193), but also the ability to improvise and respond continually and fluently to unanticipated shifts in the weather and its influence on everyday landmarks. This was perhaps most apparent as one participant, Viv, recalled her experiences of a particularly heavy – and unexpected – snowfall:

“The winter of 2010, we had a really really bad fall of snow. The worst I have ever seen in my life... It was so deep that I actually ended up taking a piece of string, tying it to the back door, and unravelling it up the garden with me and hanging it over the washing line and then tying it to the garage door so that I could actually find my way back, because all the landmarks had gone ... it was a bit scary that, actually” (Viv, 40s, congenital condition causing later retinal detachment, light perception since mid-childhood).

Having the presence of mind to use a piece of string in lieu of Viv’s usual landmarks, shows how “adaptation involves managing, innovating and ‘making do’” (Strengers and Maller,

2017, p.1433) in the face of ever-changing weather conditions. This continual improvisation constitutes a form of somatic weather learning; a skill that Viv had been able to develop gradually over time, particularly since working with a guide dog, which she described as transformational with regards to her confidence in getting out and about in settings and/or weather conditions in which she used to feel more vulnerable.

Our analysis here demonstrates the importance of attending to elemental haptics when trying to understand the broader ways in which people connect to nature in the context of their daily lives. Such sensations can contribute to feelings of wellbeing (weather comforts and pleasures) but also to disorientation, often rendering the familiar strange. In this way, weather is more than just a barrier to getting outdoors; it constitutes a very condition for connecting with the world. This reflects Ingold's (2011, p.138) observation that "wind, sunshine and rain, experienced as feeling, light and sound, are essential to our capacities, respectively to touch, to see and to hear", that is, to live and to feel. Learning to anticipate and negotiate the ephemeral qualities of such weather elements with sight impairment does, however, require somatic work, which can take time, patience and confidence to nurture.

3.2. The affective power of light

There are many misperceptions concerning life with sight impairment, particularly the tendency to assume that people are *either* sighted *or* blind, often equating blindness with darkness, and failing to recognise the spectrum of visual acuity and sensitivity that lies between (Bolt, 2016). As such, people can fail to recognise the importance of light in shaping one's experience of the world. In our study, the *quality* of light (influenced, for

example, by cloud cover, glare after rain, dappling effects, the angle of the sun's light and seasonal change) emerged as particularly important in shaping experiences of wellbeing, impairment and disability within different relational configurations. Many participants, for example, noted the challenges caused by intense or "excess" experiences of light, be it through bleaching out colour and compromising depth perception, or catalysing feelings of anxiety and discomfort if too "dazzling" or reflective. This effect was particularly problematic within certain combinations of vegetation growth, day length and the angle of the sun in the sky:

"I'm very photophobic as well, so I get a lot of pain from very bright light ... so if it's a sunny day, I try to avoid times of the day when the sun is very low in the sky because (a) it's very glaring, and (b) it casts more shadows, particularly in spring or autumn... because the trees don't have leaves at that time of year, you get all the shadows from the branches. So rather than there being a tree casting a single block of shade, you get that dappled effect, and that is a disaster... if you have a bit of shade and a bit of bright, the bit of bright just totally, totally obliterates any perception within the bit covered by the shade. So it becomes really unsafe. At least if it's all dark, whatever minimal perception you might have, you've got it, and it's consistent. Whereas if it's constantly flashing light and dark, you've got nothing at all, and actually it's worse than that, because it's also painful and distracting. So there are times when I just have to close my eyes, because at least then I can concentrate on using my cane" (Brett, 40s, congenital progressive condition, minimal eyesight).

Participants adopted a range of strategies to manage and tolerate such fluctuating light levels, as demonstrated by Brett's attempts to "move with" the weather by closing his eyes altogether to minimise exposure or by wearing glasses with photochromic lenses (which darken in brighter light conditions). Various material arrangements were imbricated in the strategies adopted when confronted with both excess and *lack* of light; strategies that were often refined through many years of trial and error within different weather conditions. When visibility was compromised with the onset of heavy rain, for example, participants described the trade-offs made between materials that would enhance safety over those offering greater physical comfort. These included abandoning hoods and umbrellas (with the echo of raindrops masking important auditory information, such as oncoming traffic), and prioritising robust waterproof footwear and long cane use. Through continually scanning the ground ahead, participants employed the cane to glean navigational information and clues regarding the location and depth of nearby puddles or new slip-hazards created through the action of the weather on the surrounding surfaces (e.g. waterlogged moss breaking through the cracks in the pavement, churned up vegetation and mud along walking tracks etc.).

Beyond the quality and intensity of light, a fundamental challenge experienced by participants with partial sight stemmed from reduced access to light altogether with the onset of winter, and the significant restrictions this placed on their ability to enact valued everyday mobilities, socialities and routines:

"It's the fact that, you know, there's just so little light... and I really do find interacting through the winter very difficult... it becomes a very claustrophobic, slightly anxious time ... the idea of walking is, you become

very restricted because I wouldn't walk, when the clocks go back, I won't be walking after sort of 3 o'clock or 4 o'clock in the afternoon because it's just, that anxiety" (Abbie, 40s, inherited progressive condition, partial sight).

As noted by Vannini et al. (2012, p.368), "if weather is the medium we move through, then feeling 'trapped' – unable to move through – is a perfectly sensible reaction", particularly for people living with progressive eye conditions, who are constantly caught between immediate past, distant past and present embodiments of the world (Macpherson, 2009a). Indeed, getting out and about in winter required continual adaptation and was often experienced as a relational achievement, with many participants relying on a mix of cane use, working with a guide dog, going out with friends or family, and trying to reschedule practices around the vagaries of the weather.

A small number of participants also described how their wellbeing was *directly* shaped by time spent outside through the influence of daylight exposure on sleep quality, with winter feeling like "*a permanent hangover*". Indeed, daily sunlight exposure has an integral role in synchronising the body's internal biological (circadian) rhythms to the earth's 24-hour light-dark cycle, thereby optimising the body's physiology, metabolism and behaviour with the external environment (Skene and Arendt, 2007). Inadequate or poorly timed daylight exposure hinders the synchronisation process, leaving the body's endogenous rhythm to "free run" i.e. it starts to cycle independently of the external 24-hr day-night cycle. If unchecked, this can lead to sleep disturbances, insomnia, depression and impaired cognition. Studies have found significant associations between blindness (particularly total blindness without light perception) and increased incidence of free-

running (Aubin et al., 2017), which has been compared to “a lifetime of recurrent profound jetlag” (Turner et al., 2010, p.271). As noted by Phoebe, for example:

“I have shocking sleep patterns... and it’s akin to constant jetlag because when – not all blind people – but because I don’t get any light perception, I don’t get the trigger that switches the hormone on and off to tell me to go to sleep. So mine, slowly, get out of sync because the circadian rhythm doesn’t match up with our clock, so they go slowly wrong and yes, I can have horrible nights... when I was little my mum used to try and make me go to sleep, she used to make me go for walks because she didn’t know what to do with me, I used to be like a little cricket at midnight!” (Phoebe, 60s, congenital condition, no sight since birth)

Notably, appropriate synchronisation *can* occur, even in the absence of conscious light perception, so long as the affected individual still has functional photosensitive retinal ganglion cells and adequate daily outdoor daylight exposure (Aubin et al., 2017).

Opportunities for such exposure in winter are, however, limited by the restrictions noted by Abbie above, and several participants explained the importance of trying to make up for this shortfall in the spring/summer months.

Given these experiences, it is perhaps not surprising that many of our participants talked about the pleasures of seasonal change. The cycle of the seasons is integral to people’s weather experiences, with each season bringing a “new ensemble of weather elements” (de Vet 2017, 144), at once enhancing and undermining people’s embodied capacities to both function and flourish. Reflecting this, nearly all the participants (regardless of their sight condition or circumstances of onset) expressed sentiments of

hope and uplift with the shifting qualities of light, temperature and non-human life unfolding with the onset of spring:

“Spring is my absolute favourite season. I think it’s that growing awareness as we come into February that nature’s beginning to stir and come alive again, and that sense of excitement... things just beginning to uncurl and unfurl... that exuberance that you get a sense of even if you can’t see all the details of it. There’s something about the quality of the air and the quality of the light... the way that it feels on your skin, the way that it feels on your face. It’s invigorating to, you know, just breathe it in, to breathe deep, it’s just enlivening I suppose” (Eve).

A range of multisensory seasonal pleasures were discussed by participants, including the emergence of snowdrops as the first signs of spring, the “beautiful scent” of a bluebell wood, catching the scents of roses and honeysuckle while passing people’s gardens in summer, “drinking in” the evocative smells of bonfires and wood smoke in autumn (or as one participant joked, the strange appeal of “decay” as the leaves start to fall off the trees), and making the most of bird song and the dawn chorus. These pleasures highlight the importance of attending not only to shifting weather sensations through the seasons but also to “concurrent rhythms of growth and movement of plants and animals” (Ingold and Kurttila, 2000, p.190) to fully understand how experiences of wellbeing, impairment and disability can be shaped by shifting weather relations. While such pleasures are not unique to people living with sight impairment, for most participants, these rhythms of growth also brought new challenges:

“Everything’s a lot thicker and a lot more grown. So it’s a bit more dangerous because the bushes grow out into the path a lot more so I can’t see like a prickly bush ‘til the last minute, ‘til it’s in my face and stuff (laughs), so I walk into nettles and hedges a lot more” (Ryan, 30s, inherited progressive condition, partial sight).

The friction generated by such overgrown vegetation was noted as a concern in both rural and urban environments, and many participants expressed frustration as poor maintenance of street vegetation rendered some pavements virtually impassable by the height of summer. Varied strategies were adopted to negotiate such changes, including the wearing of visors to better anticipate the emergence of vegetation at head height, donning gloves and relying on antihistamines during the peak nettle/gorse/bramble growing seasons to minimise discomfort.

Whilst the seasons – and the various elemental shifts that come with seasonal change – are often celebrated as a reminder of “the timelessness of nature and the human condition” (Vannini et al., 2012, p.374), our analysis highlights the need to balance such romantic ideals with a recognition of the range of challenges that also emerge in trying to live – and to live *well* – with diverse weather elements of varying intensities and durations through the seasons (de Vet, 2017). By highlighting the varied ways in which shifting weather patterns influence people’s capacity to sense and act from moment to moment, day-to-day and seasonally, we call for greater attention to such ephemeral phenomena in shaping people’s experiences within the broader literatures around wellbeing, impairment, disability and nature.

4. CONCLUDING REMARKS

In this paper, we have highlighted the importance of attending to the somewhat “absent presence” of the weather in contemporary scholarship pertaining to emergent geographies of wellbeing and disability with(in) more-than-human nature. As noted by Vannini et al. (2012, p.369), “the weather brings forth a distinct sensual dimension to place. The weather immerses us into a world of sensations that underwrite our capacity to touch, see, smell and hear place”; a relational quality that is often overlooked in efforts to understand people’s experiences of everyday nature, and the moments of wellbeing and disability that may unfold therein. Drawing on the experiences of people living with sight impairment, we have explored the role of day-to-day weather relations in shaping people’s capacities to affect and be affected in ways that co-produce moments of wellbeing, impairment and disability. In doing so, we have responded to recent calls to explore new avenues for “understanding ourselves in relationship to nonhuman nature” (Kafer, 2017, p.229).

Rooted in dynamic, social-relational models of wellbeing, impairment and disability, we have foregrounded the importance of attending to pervasive yet ephemeral weather elements that both (co)-produce and undermine experiences of wellbeing and disability within the shifting relational contexts of people’s day-to-day lives. In particular, we have highlighted the potential for different flows and – importantly, *intensities* – of wind, light and precipitation to soothe and invigorate, but also to disorientate and isolate. As an everyday form of nature encounter, participants in our study demonstrated how weather elements can be experienced as comforting and “life-giving”, enhancing sleep quality and reducing the feelings of isolation and disconnection that can be experienced with sight impairment. Yet, in excess, various weather elements – particularly wind, precipitation and

light – can also be disorientating, painful and disabling through masking important way-finding and orientation clues (auditory, tactile or visual), rendering the familiar strange, or exacerbating sensitivities that can accompany different eye conditions, such as photophobia.

Our participants demonstrated how living well with the weather relied upon enduring, improvising and “making do”, weaving together various material arrangements (e.g. the long cane, string, glasses with photochromic lenses, waterproof footwear, visors, antihistamines etc.) with supportive relations, be they human or non-human (e.g. friends, family, guide dogs) and, where necessary, rescheduling practices and tasks around the vagaries of the weather. In this way, skilled somatic techniques were developed over time to negotiate more unpredictable and fluctuating weather encounters. Although retreat or avoidance were sometimes pursued in particularly challenging conditions (for example, where minimal hours of daylight coincided with strong winds and heavy rains that further limited visibility and audibility), our participants were not mere “victims” of weather. Rather, they acted “toward the weather much like we do toward people and other inanimate objects, in agentic ways” (Vannini et al., 2012, p.377). Taken together, these findings call for a renewed focus on the multiplicity of ways in which varied more-than-human relations shape people’s “capacities of movement, awareness and response” (Nettleton, 2015, p.770), and to recognise how this shifts at different temporal scales, be it momentarily, daily, seasonally or over longer time-frames.

In recent years, we have seen growing calls for people to “reconnect” with nature, based on concerns that people are increasingly detached from non-human life (Cleary et al., 2017). Yet, there is little acknowledgement in this work of everyday weather as perhaps

the most ubiquitous form of nature, directly shaping our experiences of movement and opportunities for human and non-human interaction each time we step outside. If these connections are to be promoted equitably amongst people with sight impairment, such “somatic weather learning” or “weather work” could usefully be integrated within (re)habilitation sessions, including long cane and guide dog mobility training. One participant likened long cane training to driving lessons, explaining that initially you are “scared stiff” to leave the front door but that you gradually build expertise and confidence to negotiate different situations and risks that might arise through the course of your daily movements. By incorporating weather work into this training, people might feel less limited by, for example, the shorter hours of daylight in winter or the reduced visibility that comes with rainfall. Alterations could also be made to existing path and street networks to include more comprehensive tactile way-finding clues in areas that are, for example, more exposed to high wind speeds or areas predisposed to dappled light or disorientating glare effects. Even the most refined cane skills and comprehensive tactile markers, however, will be challenged by strong winds or snow that obscure the multisensory landmarks upon which people rely. It is therefore important to ensure that relevant individuals or organisations (e.g. families, friends, employers, mobility teams) are aware of conditions or particular times of year when additional support or flexibility might be valued in maintaining or rescheduling day-to-day activities and commitments, allowing people to move *with* rather than *against* the weather.

In this paper we have focused on the weather relations of people living with varying forms and degrees of sight impairment; whilst such experiences were not an explicit focus at the outset of the study, these ephemeral qualities of nature emerged across participant accounts as integral to their day-to-day experiences of wellbeing, impairment and disability

in ways that we had not previously anticipated. Future research could usefully build on this, examining how people living with sight impairment – and/or additional sensory impairments – within different geographical contexts connect to and negotiate the weather on a routine basis. How, for example, might people with sight impairment cope, endure and adapt within areas that experience heavy snowfall throughout the winter months, or within areas where surface quality/composition and vegetation growth are particularly susceptible to changing weather patterns? What can be learnt from the vernacular adjustment strategies (de Vet, 2017) developed by such individuals for those experiencing similar changes in local weather patterns as a result of anthropogenic climate change? How might such changes intersect with cultural variations in weather relations? Frequent and irregular weather changes in New Zealand, for example, traditionally played a major role in the daily lives and activities of indigenous Maori populations, with each region developing unique symbolism, sayings and rituals relating to Tāwhirimātea, the God of Weather. By examining experiences of wellbeing, impairment and disability amongst such varied weather cultures, we could gain important and novel insights into how and why different people and communities are able to build intricate somatic skills, knowledge and awareness whilst improvising, managing and making do with the weather in the shifting contexts of their everyday and whole lives.

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