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Everyday weather-ways: Negotiating the temporalities of home and work in Melbourne, Australia

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ABSTRACT

Although a number of researchers have responded to calls to better understand human experiences of weather in the context of a changing climate, there remain few studies that analyse the role of weather in everyday urban life, where mediating technologies such as air-conditioners and tumble dryers are widespread. To address that gap, this paper advances a concept of 'weather-ways', in which cultural understandings of weather are conceived as dynamic, unfolding and interactive. Empirically, we examine how weather is part of the daily practices of 20 Melbourne (Australia) participants using interviews conducted across four seasons in 2010–11. Findings show a particular distinction between work and home weather-ways. Office work practices provided a highly structured weekly temporal framework around which other practices were organised. Regardless of the weather, work practices continued undisrupted, particularly in air-conditioned buildings. Away from work, where participants had more freedom to engage with and respond to the weather, they demonstrated a willingness to remain weather-connected, despite having access to technologies. Participants modified their practices in accordance with weather and its variations, through both simple adjustments, such as modifying clothing layers, and broader responses including the temporal and spatial adjustments of leisure and laundering activities that took advantage of 'good' weather or avoided less favourable conditions. Vernacular adjustment strategies that may assist in adjusting to future climate changes are in tension with the structural and collective frameworks of most indoor workplaces.

1. Introduction

The concept of weather contains an embedded temporality in that it is commonly understood as the state of the atmosphere at a particular time and place.[1] Weather infiltrates human experience through combinations of temperature, rainfall, humidity and precipitation, with different intensity and variability. These experiences have their own temporalities, pervading everyday life and its rhythms, routines and disruptions. Yet the process that purifies weather into standardised meteorological measurements has disembodied weather from its cultural meanings (Hulme, 2008), notwithstanding that, as Hulme (2015: 3) puts it, human beings 'can *only* live culturally with weather'.

The recognition that cultural understandings of weather are important has stimulated a range of recent research. For example, there have been a number of discussions on Indigenous (Ingold and Kurtilla, 2000; Green et al., 2010; Peppler, 2012; McNamara and Prasad, 2014) and rural weather-relations (Vannini and Taggart, 2015; Hall and Endfield, 2016; Vaddhanaphuti, 2017). This work contributes valuable insights in the context of climate change debates (Strauss and Orlove, 2003a), including that sustainable vernacular weather responses and coping strategies can be identified (Jalas and Rinkinen, 2016; Ergler et al., 2016). However there has been limited research into the ways individuals and societies experience and respond to everyday weather in urban contexts, at least outside of climate-controlled buildings (Kunz-Plapp et al., 2016; Strengers and Maller, 2017; de Vet, 2014).

This paper addresses those gaps by examining everyday weather temporalities in Melbourne, Australia. Renowned for its 'four seasons in one day', Melbourne's changeable weather provides an important opportunity to examine weather relations across daily temporalities. We do this by advancing the concept of 'weather-ways' to encapsulate how weather is incorporated into the everyday lives of individuals and households. In this conceptualisation, cultural understandings of both

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[1] We use a conventional meteorological understanding of weather itself, as 'the conditions of the atmosphere at a certain place and time with reference to temperature, pressure, humidity, wind, and other key parameters' (Cubasch et al., 2013: 123).

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time and weather are conceived as dynamic, unfolding and interactive. We build on research that has examined everyday urban practices in relation to seasonal change (Hitchings, 2010), and extreme heat (Oppermann et al., 2018). We provide a novel focus on short-term weather changes across daily temporalities.

We argue that analysing capacities and vulnerabilities involves identifying everyday structures that work to limit or afford more resource-efficient weather responses (Strengers and Maller, 2017; Moore et al., 2017). Further, by understanding how individuals and societies currently engage with weather, we can begin to picture everyday life under future climate change and prepare to respond accordingly by reducing reliance on resource-consumptive devices (Shove, 2003; Hitchings, 2011a; de Vet, 2014; Strengers and Maller, 2017). Before proceeding to the empirical study, we locate our work in an emergent body of literature on human-weather relations in relation to climate change, and connect it to discussions of everyday temporalities.

2. Weather-ways and everyday temporalities

Building on de Vet's (2017) research on weather-relations, this paper advances her concept of 'weather-ways' to understand the effect of urban and city temporalities on individuals and households' capacity to move with and remain connected to the weather. Weather-ways

> draws attention to individuals' culturally informed and resource efficient everyday movements with the weather … [it] considers weather as a compilation of elements and the everyday as a plethora of practices and tasks, facilitates the documentation of weather experiences and perceptions, the contextualization and integration of weather into everyday life, vernacular weather adjustment strategies, including points of friction and traction implicated in the strengthening of environmentally sustainable responses, and insights into potential everyday weather-relations under future climate change. (De Vet 2017, p. 152)

We advance the concept of 'weather-ways' to depict how individuals and households experience weather and respond accordingly. Against a backdrop of urban rhythms, household routines and everyday practices, weather-ways highlights the capacities of individuals and households to take advantage of, respond to and/or remain connected with, the weather without relying on resource-consuming technologies, such as air-conditioning. To do so, weather-ways attends to the micro-scale, the daily, even minute-by-minute expressions of weather and how it is considered in the performance of day-to-day actions – how, when and where we eat, dress, travel, work, clean, socialise and exercise. While such weather responses are often subtle and mundane, together they provide individuals and households with the capacity to move with the weather, to rely on their own resources to comfortably and safely move through the day.

Weather-ways recognises weather as more than thermal influences on daily life; temperature having gained considerable attention given global warming preoccupations (Fuller and Bulkeley, 2013; Strengers and Maller, 2017). Weather-ways acknowledges the potential for other weather elements at different intensities and durations – such as rain, wind, humidity, sunshine and cloud cover – to shape the course of local cultures (Vannini and Taggart, 2015; Meyer, 2000; Strauss and Orlove, 2003b).

Weather-ways demonstrates the potential elasticity of practices in the everyday and the capacity of individuals and communities to move with, rather than be disrupted by, the weather (Trentmann, 2009; Hulme, 2016). Weather-ways also acknowledges variation in weather experiences occurring between individuals exposed to the same weather expressions. These variations result from the practices undertaken (and associated dress and physical exertion expectations) and the spaces they occupy (including controlled indoor environments), along with the differences in physiological cycles and transitions (including menstruation and menopause) that mediate how weather is experienced (de Vet, in press). Responses to weather engage sensual experiences with weather's material agency. For example, in their study on wilderness guiding Rantala et al. (2011) explain how snow affords or limits particular activities.

Weather-ways provides a means to bring together meteorological and human experiences and temporalities. Meteorological temporalities include quotidian weather elements, of wind (Low and Hsu, 2007), rain (Vannini et al., 2012), heat (Fuller and Bulkeley, 2013), and changes to snow (Rantala et al., 2011). As we will show, these temporalities are experienced primarily over daily and weekly timescales, as the weather intersects with highly structured social times of work and home.

In summary, the framing of this paper brings cultural analyses of the weather to the scale of daily temporalities. This approach offers the potential not only to identify logjams of increased energy consumption, but also vernacular responses that can contribute to sustainability. We are particularly interested in highlighting people's existing capacities to respond to the weather without relying on resource-consumptive devices, in the hope that these can be fostered.

3. Study context and methods

Melbourne is the capital city of Victoria, located on mainland Australia's south coast. Greater Melbourne has a population of 4.5 million and is Australia's second largest city after Sydney. It is culturally diverse, with more than a third of residents born overseas (ABS, 2016). Residents identify with traditional European seasons – summer, autumn, winter and spring. Melbourne's climate is temperate, having no dry season and warm summers (BoM (Bureau of Meterology), 2008). Its rainfall, compared to more northern Australian cities, is reliable (but with lower annual totals), and it experiences fewer thunderstorms and severe storms (BoM, 2008). Hot days and heatwaves are not uncommon, with the highest summer temperature recorded at 46.4 °C in 2009 (BoM, 2018). These events are projected to become more frequent under climate change, along with '[i]ncreased intensity of extreme daily rainfall events' (Webb and Hennessy, 2015: 11). Residents also experience moderately cold winters, with July temperatures reaching an average of 13.5 °C. Legendary for its 'four seasons in one day', Melbourne's changeable weather is the outcome of its position on the coast, where warm continental temperatures meet cold air rising off the waters of Bass Strait (Sprinks, 1997). These conditions make it an excellent place to examine how urban residents handle short term weather variability.

To gain insight into how weather is incorporated into everyday practices in Melbourne, the study recruited 20 participants. Participants were recruited through flyers hung around the city and through word-of-mouth. Requiring four interviews over an annual cycle (2010–11), to capture variations in weather expressions throughout the year, the study was heavily dependent on willingness to participate. The study sample is not intended to be statistically representative of the Melbourne population, but it may indicate trends that can be explored in future research. By comparison to the overall population of Melbourne, there was an overrepresentation of female participants, participants in rented housing, and participants who were unemployed (Table 1). Most other demographic characteristics are similar. Of the twenty participants, eight (40%) were born outside of Australia, equal to that of Greater Melbourne (40.1%; ABS, 2016). Countries of birth included Austria, Vietnam, Fiji, Lebanon, China and New Zealand. Fifteen participants were not born in Melbourne, and of these, six (30%) were recent residents, having resided in Melbourne for five years or less. This proportion is similar to Greater Melbourne statistics (35%; ABS, 2016). Participant ages ranged from early 20 s to 60 s, with a median in the 30 s. Participant occupations ranged from full-time university students (3 participants), to financial advisors (3 participants), teachers (2 participants), construction planners (1 participant), cleaners (1 participant) and a madam in a brothel who also worked in the health sector (1 participant). Two participants were unemployed. Two sets of

Table 1
A comparison of Melbourne participant attributes and Greater Melbourne demographics.

	Participants	Greater Melbourne		Participants	Greater Melbourne
Gender			*Age (years)*		
Females	12 (60%)	50%	Range	21–mid-60 s	
Males	8 (40%)	50%	Median	~30	36
Birth place			*Duration of residency*		
Australia	12 (60%)	67%	Recent (< 5 years)	38%	34%[1]
Overseas	8 (40%)	33%	Long-term (> 5 years)	72%	76%
Housing Tenure			*Employment/study*		
Owned/mortgaged	6 (30%)	71%	Work full/part-time	15 (75%)	95%[2]
Rented	14 (70%)	28%	Unemployed	2 (10%)	5%[2]
			Tertiary study[3]	4 (20%)	17%
Households living with children			Casual work	1 (5%)	11%[4]
Yes	3 (15%)	23%			
No	17 (85%)	77%			

[1] Indicates the proportion of Greater Melbourne residents who had moved into the statistical area in the past 5 years.
[2] Calculations based on the total population aged 15+ years in full or part-time work.
[3] Includes full and part-time students.
[4] Based on persons working 1–15 h per week. All proportions are based on known status. All Greater Melbourne statistics are based on ABS (2016) data.

Table 2
Work and living situations of participants.

Participant	Industry of work	Living situation	Absent for interview:
Amelia	Education	With partner/Marvin in rented flat	
Andrew	University student	Rented share- house (5 housemates)	2, 3 & 4 – Returned to Vietnam
Anthea	Events management	Rented share-houses	
Daniella	Finance (admin.)	With teenaged son in owned property	3 & 4 – moved out of the area
David (business owner)	Finance With wife/Virginie (interview 1) and adult son (interviews 2–4) in owned house		
Diana	Construction	With partner in rented unit	
Giel	Finance	With partner in: rented unit (interview 1), rented share-house (interview 2), rented house with visiting parents (interviews 3 and 4)	
John	Maintenance and		
Janitorial	Alone in rented unit (interview 1), with family in owned house (interviews 2–4)		
Katrina	Unemployed	Hostel	2, 3 & 4 – reasons undisclosed
Kent	Government policy	With one housemate in rented unit	4 – holidays
Leah	Product development	Rented share-house	
Levi	University student	Rented share-house (3 housemates)	2 – illness
Margret	Health	With partner and two young children in owned house	
Marvin	Information technology	With partner/Amelia in rented unit	
Melissa	University student/retail	With mother in house (interview 1), alone in rented unit (interview 3 & 4)	2 – holidays
Meredith	Construction	With partner in owned house	
Michael	Education	With partner and teenaged daughter (interview 1, 2 & 4) and mother-in-law (interview 3) in rented property	
Micheline	Unemployed	Living alone in rented unit	
Miranda	Community and service industries	Alone (interviews 1 & 4), living with two housemates (interviews 2 & 3)	
Virginie	Finance	With husband/David (interview 1) and adult son (interviews 2–4) in owned house	

couples (4 participants) were interviewed as part of this study (see Table 2).

Cultural weather-related studies have typically used qualitative methodologies, including interviews, (see, for example, Anderson, 2008; Gorman-Murray, 2010; Fuller and Bulkeley, 2013). Hitchings (2012) noted concerns over an individual's capacity to accurately recall specific expressions of weather encountered during a variety of daily practices, explaining that 'interviews happen after the fact such that they can only ever provide an unsatisfactory washed out account of what previously took place' (Hitchings, 2012: 61). For this reason, the previous seven days framed the temporal focus of all interview questions, limiting participants' dependence on memory (de Vet, 2013). Not all participants were able to participate in each of the four interviews, with interview numbers totalling 69. Interviews, each around an hour long, were conducted in a mutually convenient space (including at participants' home or workspace, cafes or parks).

The semi-structured interview format integrated questions focused on core daily practices relating to work, domestic comfort, leisure, transport and household chores as identified in a preliminary interview. Within these practices, particular attention was paid to clothing selection, building design and air-conditioning. All interviews were audio-recorded and transcribed by an external party. The study received ethics approval from the University of Wollongong. As a gesture of gratitude, participants were given a $40 gift card at the end of their involvement in the study. Narrative analysis was applied by the first author to transcripts which were coded through NVivo (v9) software to identify emergent themes within and between practices. Codes were then summarised to identify significant themes, avoiding reliance on

the researcher's familiarity with the data that was likely skewed given the data volume and complexity (de Vet, 2013). Pseudonyms are used for all participants in this article.

In relation to environmental consciousness, all participants were aware of climate change and public discussions on environmental sustainability. However, not all participants felt climate change was: occurring; a result of human activities; and/or was an issue that affected them personally (aside from increased energy prices). Just over half of participants believed climate change was taking place and took measures to reduce their environmental impact. Other participants performed environmentally sustainable actions, but these actions had other primary motivations, such as finances or convenience. Given the subject of this research, it is likely that the proportion of participants with interests in, and concern for, weather and climate change, is higher than among the general population of Melbourne.

4. Weather-ways at home, on the commute and at work

Experiences of weather have their own temporalities, pervading everyday life and its rhythms, routines and disruptions. Our results show how weather-ways – movements with the weather – are entangled with work schedules, transport timetables, household chore timetables and social timetables.

4.1. Home

The home presented a space of control, where substantial adjustments to the weather could be made. House design and living arrangements influenced the adjustment of practices; from shared hostel dorms to owner-occupied houses, from dwellings constructed in fibro to those customised for environmental efficiency and comfort, to households with and without children. Participants also referred to the influence of their financial position, environmental concerns, temperature sensitivities, practices of resourcefulness, personal and family health, and the level of privacy. All households used a combination of resource-consumptive and resource-independent strategies, many demonstrating quite a repertoire of the latter. We discuss three examples of home-based weather-ways; temperature control, laundering and leisure practices.

While the home provided shelter from the direct impact of the elements, internal temperatures oscillated with the sun's movements throughout the day. These temperature changes intensified or were moderated by pervading humidity and wind that flowed through windows, doors or gaps in poorly sealed structures. Participants adjusted to these internal weather conditions primarily through clothing to help regulate their body temperature, reducing or eliminating the need for resource-dependent strategies. In the privacy of the home, where personal appearance mattered little, bulky, uncoordinated or unflattering clothing was happily worn for the sake of comfort.

> … a big woollen jumper on and a beanie on and a scarf on. Like, I was still pretty rugged up … I have pretty decent – I've got good possum wool socks … And I've got some slippers that go on up over my calves … They're soft and then I tie them around my leg … They're knitted. (Leah, Product Developer, winter)

Other strategies included opening and closing windows and doors (13 participants), blinds and curtains (8 participants), moving to different parts of the house (7 participants), and more particular approaches, such as visual warmth provided by candles (2 participants).

Resource-intensive devices tended to be activated after other strategies had become ineffective (cooling) and/or in conjunction with other strategies (warming). Heating systems/devices designed to warm large (12 participants) or small (8 participants) spaces were used during waking hours when at home and conditions were deemed cold enough – '16° or less [indoors]' (David), or 'when I need it' (Giel). Only Marvin never turned the heating on, enjoying colder indoor temperatures (contrasting his partner's preferences). While heating durations were determined by the amount of time spent at home, as well as financial and environmental considerations, the importance placed on home comfort was also a significant factor. Keeping cool using fans was a different story given they were not seen as expensive to run. Air-conditioners, for those who had them (13 participants), were primarily used during hot summer days and the hottest nights of the year. These same participants avoided using their air-conditioners as they were deterred not only by running costs, but by noise, dry throats and cold sensations while sleeping. At the same time, for those who were more susceptible to discomfort from warmer, humid temperatures, the financial costs were justified. As Michael stated 'electricity fees are just astonishing…. But I have to say that it's [air-conditioning's] pretty wonderful.'

The practice of laundering is an important expression of weather-ways. 'When the sun is out' (Virginie), with a 'cool wind' (Michael), and 'no rain' (Margret), these are ideal conditions for drying clothes as identified by most participants. However, only 12 participants were able to coordinate their laundering in accordance with the weather, acting on 'drying' weather, rather than 'washing day'. To inform washing times, participants observed forecasts and made their own weather predictions, becoming acutely aware of the weather and its timing in the process. All participants found the ability to coordinate their lives in this way rewarding, particularly for the environmental and/or financial benefits.

> I'm somewhat obsessed about it [weather and washing]. The best kind of day is a good drying day, as far as I'm concerned. I've been like that ever since I was in my late teens. (Michael, Teacher, summer)

Other benefits of line-drying included clothes that 'smell of the sun' (2 participants); saving space and avoiding overheating rooms with tumble-dryers (2 participants); the sun's natural disinfecting qualities (1 participant); and avoiding indoors clothes horses/'dust-catchers' (1 participant). These benefits were sufficient for three participants to get rid of their tumble-dryer, or decide against purchasing one. For another two participants who washed clothes in a laundromat, the benefits of air-drying encouraged the use of only a partial (instead of full) tumble-drying cycle to lighten the weight of loads carried home before being hung on the outdoor line.

Finding a balance between weather and personal schedules was not always easy – 'it's more than just the washing of the clothes … [it's needing to] pre-empt when you're going to do it' (Margret). As Michael commented, 'It's going to rain… I'll do the big laundry loads the next fine day'. For coordination reasons, along with unavoidable lengthy periods of wet or less-obliging winter weather, back-up plans were necessary – drying clothes inside (8 participants) or partially outdoors on undercover clothes lines before drying inside (4 participants). During prolonged wet periods, only two participants resorted to a tumble-dryer. With back-up strategies in place, few participants encountered problems with their weather-dependent laundering practices.

For the remaining eight participants with weather-independent laundry practices, the primary factor was not convenience, but a lack of secure outdoor hanging space due to high balcony winds that blew clothing away (4 participants); unsecure communal or private lines which put items at risk of being stolen (3 participants); renovations that required the removal of the outdoor washing line (1 participant) and/or the absence of space in hostel accommodation (1 participant). In lieu of outdoor drying, participants relied on indoor clotheshorses which avoided damage to clothes and provided environmental and financial benefits (2 participants); tumble dryers, used for their speed, convenience and unobtrusive space requirements (3 participants); or a combination of the two (2 participants).

The third home-based example of weather-ways is leisure practices. As weather held the potential to enhance or ruin experiences, and since

leisure time was to be enjoyed and not wasted, incorporating the weather into leisure practices was crucial. In response to changing conditions of rain, heat waves and cold snaps and, to a lesser extent, humidity, wind, cloud cover and ultraviolet radiation, participants changed the timing, location, duration of, or their commitment to, activities.

Daylight savings[2] marked the beginning of cold and dark (April) or warm and light periods (October) of the year. In this respect different seasons create different kinds of daily temporalities. Shorter days and prevailing darkness generated a sense of lost time. Combined with cold temperatures, participants reported lacking 'botheredness' to carry out tasks, an increase in negative moods and emotions, and lower energy levels. Participants spent more time at home avoiding socialising (10 participants), exercising alone (6 participants), informal sports (3 participants) and outdoor domestic activities (4 participants).

> I've been going lately earlier to bed because the sun dies down obviously much earlier … When it hits 9.30, your body feels it's midnight … but you're just drained because there's no sun. (Margret, Distribution Officer, autumn)

Conversely, warmer and longer 'good' days were a time of opportunity. As participants had more time, at least psychologically, the pace of life slowed. More leisure activities were embraced, particularly in the evenings after work, including outdoor activities, such as gardening, camping, picnics and barbeques (14 participants) and socialising (7 participants). More time for leisure generated positive outlooks on life:

> [I] do lots of fun outdoor things with friends and stuff – like that has definitely elevated my mood and also lowered my stress levels and kind of made me more tolerant as well. (Anthea, Events Manager, summer)
>
> I'm in a good mood. I want to see people. I've got – I feel like I have more time to do it, even though I don't. It's just because of the light. And I guess other people are more active as well. (Leah, Product Developer, summer)

However, there were limits to warmth and sunlight. When conditions were felt to be too hot (9 participants) and/or ultraviolet radiation levels too high (6 participants), outdoor activities were abandoned.

For 14 participants, rain was also cause to cancel outdoor activities, depending on its nature. Many participants continued activities as long as rain was not 'pouring', 'pissing down', 'heavy' or 'stormy'. The sensation of rain was not the sole deterrent. Risk to personal health and safety, particularly for older participants or those with children, weighed into decisions especially during colder temperatures. While remaining indoors often dampened many moods and emotions – 'you get depressed a little bit' (Melissa), eight participants found 'cosy' solutions – watching television and movies, listening or playing music, arts and crafts, games, indoor renovations, reading and sleeping. These options were often more appealing than scheduled activities.

Not all leisure activities were flexible in their timing. Obligatory activities, such as weddings and team sports, left participants less scope for weather adjustments. Contingency plans were often made for rain, but not extreme heat or cold, direct sunlight or wind. While participants 'died', 'suffocated', 'started burning' and sweating in these 'most uncomfortable' conditions, tolerance was key, as 'you can't leave something that's, like, familywise' (Margret) and 'you don't want to let the team down' (Anthea).

In summary, participants had considerable capacity to engage with and respond to the weather at home. They demonstrated in a number of different examples a willingness to remain weather-connected, despite having access to mediating technologies.

4.2. The commute

Commutes to and from work were relatively unchangeable, but not so the weather in which they were undertaken. Rain, shine, heatwave, or gale, participants continued with their regular drive (9 participants), public transport (9 participants) or cycle (1 participant). Levi, a university student, was the only participant who chose to change his mode of transport with the weather, alternating between tram, cycling and skateboarding in response to the cold, wet and/or wind.

The most comfortable work journeys were reported to be those in the car, where participants had greatest personal control over conditions. But journeys were not without discomfort. Transitioning to and from or entering overheated cars was the least comfortable part of the journey or even day. While strategies such as shaded parking and leaving windows ajar were used to limit internal car temperatures during summer, for most participants brief exposure to the elements was tolerated without extra clothing or umbrellas. Once in the car, protected from rain and wind, temperature was the main concern. Heaters were used unreservedly, but air conditioners were a different story. Six participants reserved artificial cooling for 'those humid days, like last week, the 40°' (David), days in the low 30 s with high humidity (Margret) or not at all, most preferring to 'put my elbow out and put my hand up and the breeze comes in' (Miranda). This delay in air-conditioner use was the outcome of preferences for warm weather and relief after confinement in air-conditioned workplaces. However, continuity with office conditions was maintained when travelling to clients as 'you don't want to arrive all sweaty' (David).

'Most uncomfortable' and 'powerfully unpleasant' conditions caused by heat, cold, burning sunshine, rain and cold, sharp winds were endured by public transport users. The intensity of exposure was dependent on sheltered stops and the promptness or cancellation of services. Cold journeys were more common given participants' early starts, but late afternoon heat could be more intense.

> I probably feel the most uncomfortable when I'm waiting for transport – public transport outside for a period longer than 10 min … Waiting in the cold for public transport, to me, is just incredibly uncomfortable and annoying and inconvenient. (Anthea, Events Manager, autumn)

Once on the train, tram or bus, heat could be amplified by jammed or inoperable windows (4 participants); air-conditioners that 'didn't really work' (John) and/or constricted business attire (Anthea). During heatwaves, participants were forced to endure changes to tram and train commutes, as services were delayed for hours under heat-buckled tracks. During 'incredibly uncomfortable' (Anthea) journeys participants persisted, most adjusting with clothing layers, trousers to combat windy conditions, umbrellas, and water. But for all participants, tolerance was crucial:

> … I already said [to my parents], "Don't expect me home any time," you know. Any time … Well, you've just got to be stoic about it, I think. You've got to be stoic. I'll bring a singlet. I'll take my work shirt off and I'm going to wear shorts to work. It's not my uniform, but … I'll grab a singlet or something, rather than my work shirt, because that's pretty heavy type. I'll just make sure my water bottle's full and have plenty to read for the train. (John, Cleaner, summer)

Overall on the commute, participants showed anticipation of and preparedness for changeable weather conditions, including via layers of clothing, and carrying water bottles or umbrellas. On the other hand, they also demonstrated tolerance for uncomfortable conditions when they did not feel the effort of small variations in practice was justified. Hence, Anthea could have worn more layers. As another example, only one of nine public transport users carried an umbrella. Umbrellas were generally seen as a hassle, a safety hazard or prone to be stolen at work.

[2] Daylight savings sees the clock move forward or backwards by an hour.

4.3. Work

For the 18 participants who were working or studying, everyday life was structured around work timetables. Indoor work routines, designed to promote productivity, left little consideration for the weather. Weather was rarely contemplated in the structuring of work hours and tasks, and the designs of work buildings altered or masked outdoor weather expressions. In this way the practice of weather-ways while at work was constrained, and the need to make weather adjustments substantially negated.

Weather had its greatest influence in naturally ventilated workplaces (3 participants). Heating devices and clothing layers could effectively maintain comfort in cool weather, but less-than-comfortable hot days were intensified by humidity and a lack of airflow. Such conditions challenged participants' capacities to move, and find comfort, with the weather, hampered by stringent dress codes and work timetables and tasks. The effect of these conditions were amplified by all three participants' preference for cooler temperatures (under 20 °C). For two participants, weather and the lack of adaptive capacity negatively impacted their moods. For Michael, a teacher, the 'inhumane' hot and humid conditions that 'irritate the hell out me' were compounded by the smell of sweaty teenagers, conservative dress codes, stringent class timetables, and ill-designed classrooms that had no fans and did not encourage a breeze to flow through. However, once temperatures cooled, most participants' desires for air-conditioning were soon forgotten and they were accepting of thermal variation throughout the day and working week, and were content coordinating their own personal comfort. For Martin, who worked from home for an information technology (IT) company and whose thermal preference while working was 14 °C, temperates 24 °C and above, compounded by humidity, threatened productivity. Martin was the only participant who routinely worked from home; he was able to respond to the weather maintaining productivity by adjusting work hours, wearing minimal clothing, taking hourly breaks and lying down as necessary.

For participants whose workplaces were in air-conditioned (7 participants) and mixed-mode (5 participants) buildings, indoor conditions were regulated. While protected from outdoor weather extremes, participants' level of comfort was no greater than those in naturally ventilated spaces. Discontent came from discrepancies between the thermal needs of other building occupants (including elderly people in nursing homes who kept their rooms 'blistering hot') or differences between the thermal expectation of air conditioning and reality:

> … In the last few months, I've complained [about the air conditioning] a lot more and I've had a real go about it … but there's been a couple of times in the last few months where I've actually had cold air blowing on the back of my head and neck and I've called my boss over and I've said, "I'm not saying that I can't do my work, but I'm saying this is going to make me sick and so if you actually want to see me tomorrow –" … I actually had a beanie in my bag and I put it on in the office and a couple of people laughed and I went, "Well, what am I supposed to do?" (Kent, Public Servant, autumn)

Most participants' work attire reflected outdoor weather. This was particularly the case for female workers whose dress codes had greater flexibility – pants, skirts, long or short-sleeved dresses, and open or closed-in shoes. This variation often caused disputes with male colleagues restricted to rigid corporate dress codes – closed-in shoes, pants, shirt, tie and even jacket. Because male dress codes were more constrained, thermal settings were usually adjusted for male comfort, furthering workers' disconnection with the weather outside:

> I do insist that the boys wear ties … As far as the women go, I've never bothered … We've tended to let the women work it out themselves, which women tend to do … smart casual … In summer, if they want to wear a dress, it's fine, or trousers in winter. … 90 per cent of our clients are probably over the 40-age group and they probably tend to look to that more [men's attire]. … So, they [male workers] complain and want the air-conditioning on … Daniella gets too cold. So, she'll have [to put] a jacket on. (David, Financial Advisor, summer)

While air-conditioning and dress codes could limit participants' weather connection, the absence of such a connection did not go unnoticed. Within stable indoor conditions, the absence of 'fresh air' and variations in internal conditions was discussed as 'oppressive', 'draining', sleep-inducing, causing a dry mouth, and not conducive to productivity:

> It just feels draining. It feels like you've been locked in a cupboard. You haven't smelt anything fresh … It's like far out, I've been locked up in a cube and it's just refreshing to walk out, even though it's going to your car … even though it's cold still, I would open all the windows in my car just to get the full effect … I think for me, you tend to go a little bit insane and your mood swings change. There's nothing really prompting you to change your mood swing from a negative to a positive, there's no real attraction, other than food junk food. (Margret, Distribution Officer, spring)

Going outside for breaks, running errands or moving between buildings was important for most participants, as long as the weather was not wet or extreme in temperature.

In summary, work practices provided a highly structured weekly temporal framework around which other practices were organised. In terms of daily work temporalities, the indoor work environment and the structure of work itself constrained the practice of weather-ways.

5. Discussion

There is a clear distinction between how weather-ways operate in the office space and at home. This is the distinction between a temporality that provides limited flexibility for the individual and aspires to continuity and a seamless flow of work, and one that is more open to constant adjustment. At home, participants' routines were not identical daily and weekly replications, but were adjusted in accordance with the weather in two main ways; by changing the timing of practices and substituting practice elements. When they were free to do so, participants altered the timing of practices to take advantage of ideal or pleasant weather, or avoid impractical or uncomfortable conditions. The clearest examples of this are the decisions to delay laundry until suitable drying weather occurred, and to adjust the timing of leisure activities. Examples of substituting practice elements included simple adjustments, such as modifying clothing layers, sitting under a blanket or carrying an umbrella (see also Strengers and Maller, 2017), or broader responses such as the spatial adjustments of leisure and laundering activities that took advantage of 'good' weather or avoided less favourable conditions.

The vernacular adjustment strategies demonstrated in the domestic and travel contexts provide evidence of considerable adaptive capacity in terms of adjusting to future climate changes, when people are away from the inflexible temporalities and dress expectations of office work. Participants had access to resource-intensive alternatives – the car, heaters, air conditioners, tumble-dryers – but often chose to adjust their practices to remain weather connected while reducing financial and environmental costs. In regularly carrying extra clothing layers, participants are also anticipating future temporalities when conditions will likely change. But in not routinely carrying umbrellas they are also tolerating temporary discomforts.

Work practices provided a highly structured weekly temporal framework around which other practices were organised. Regardless of the weather, work practices continued undisrupted, particularly in air-conditioned buildings where artificial environments are designed to overcome disruptions to productivity that might occur in an outdoor environment. Such findings have also been noted in Hitchings's (2011b:

2847) study on office workers in the United Kingdom (UK), where 'standardised air-conditioned offices … help respondents forget about any distractions and get on with their work'. However, despite the intention to deliver a seamless routine of work in an environment of relatively stable internal conditions, office work places do not always live up to this aspiration. Disruptions seen here include the inflexibility of corporate dress codes, particularly for men, the constant adjustments of dress and behaviour needed in order to be comfortable in such environments, and the discomforts that came from monotonous thermal conditions and desires for change or 'thermal delight' (see also Nicol et al., 2012).

These findings question the necessity of air-conditioned-dependent buildings, particularly given the contentment of participants in naturally-ventilated workspaces to coordinate their own thermal comfort through personal adjustments. To avoid soaring rates of workplace air-conditioning in Australia that risk future occupant 'addiction' (Hitchings, 2011b) and strained energy systems, more needs to be done to retrofit existing buildings and construct mixed-mode buildings in place of air-conditioned-dependent buildings. As the number of hot days will rise under global warming, workplace cultures, particularly those relating to dress (see also Chappells and Shove, 2005) and work temporalities, will also need to change. This would facilitate greater thermal variation in air-conditioned buildings, and reduce energy demands, as witnessed with Japan's 'CoolBiz' and 'Super CoolBiz' (Ministry of the Environment Government of Japan, 2006, 2013).

6. Conclusion

In this paper we have used the concept of weather-ways to bring together meteorological temporalities with human temporalities and practices. We have illustrated this with an empirical study in an urban setting. The study contributes to cultural analyses of weather via a detailed examination of both indoor and outdoor contexts, and in the structural contexts of both work and domestic life. We have built on previous research by focusing on weather changes across daily temporalities.

Everyday practices of attunement and adjustment to weather are most strongly demonstrated in the context of the home but are often in tension with the structural and collective barriers of work, including restrictive workplace timetables and dress codes. Weather-ways are more strongly expressed in the home, where people have control over their temporal rhythms and material environment, than in office-based work. Extending weather-ways more fully to the indoor work environment could help forestall the continuing rise in energy-intensive technologies, but would require adjustments to work practices. Examples of existing capacities, for example the capacity to withstand or tolerate less-than-comfortable or 'uncomfortable' conditions, need to be more widely recognised. Doing so will enhance collective capacities to cope sustainably with future changes to local weather expressions. The participants in this study all worked in indoor or office environments, and there is clear potential to extend this research to outdoor workers who may have very different weather-ways, with very different patterns of adjustment.

We have argued that there are many ways in which people already have strong adaptive capacities. The study also indicates where future stress points are likely to be, as heat and humidity across both day and night were experienced much more negatively than cold conditions. As many parts of the world continue to warm under climate change, it is likely that more radical changes to the temporality of urban life, such as major shifts in working hours or more flexible routines, will be required. It is also likely that infrastructural failure will increasingly be seen through a temporal lens because of its impact on the routines and scheduling demands of everyday life. Disruptions to public transport are already evident during heat waves, for example, and the capacity to increase air-conditioning is not infinite. Weather-ways provide a means to think through and discuss such changes as they unfold.

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