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Driving cultures

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Faculty of Social Science

Department of Geography and Sustainable Communities

Driving Cultures

Theresa Mary Harada

**"This thesis is presented as part of the requirements for the
award of the Degree of Doctor of Philosophy
of the
University of Wollongong"**

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ABSTRACT

This thesis provides rich insights into the lived experiences of mobility by investigating the embodied dimensions of transport choices. In a context of climate change and the need for adaptive transport behaviours this thesis goes beyond conventional and long-standing Cartesian dualist thinking that separates mind and body. Instead, this thesis proposes a more holistic approach to understanding why car driving remains the dominant form of daily transport. Inspired by the work of post-structuralist feminist scholars and the non-representational turn in geography and cultural studies, this thesis takes a visceral approach. This approach utilises feminist readings of philosophers Deleuze and Guattari (1987) to conceptualize everyday car driving practices as processual assemblages where bodies, materials, objects, ideas, affects and emotions come together in heterogeneous and dynamic relations that can develop along particular trajectories. The findings of the thesis illustrate that knowledge and awareness of the contribution of vehicle emissions to climate change were not enough to change car driving practices. Car driving practices were entwined with emergent subjectivities and social practices that helped to create, reinforce or disrupt understandings of different aspects of identity. This thesis makes a contribution to the current mobilities literature by building on and applying a range of innovative methods in the light of the recent theoretical developments highlighting the importance of affective and emotional registers. It addresses the gap between the dominant, quantitative, rationalist transport paradigm and the more abstracted, masculinist approach of mobilities literature by providing a grounded empirical account of everyday transport behaviours and a feminist interpretation of self, others and place. From a policy point of view, the thesis contributes to sustainable transport strategies by provoking thinking beyond current paradigmatic boundaries. Through a visceral approach the thesis highlights opportunities for encouraging a modal shift in transport policy.

ACKNOWLEDGEMENTS

The completion of this thesis causes me to reflect on the last few years and how various assemblages have kept me afloat; the Australian Post-Graduate award, AUSCCER friends and colleagues, my supervisor Professor Gordon Waitt, conferences and seminars, and an array of inspirational scholars. I have only praise and gratitude for the support of my supervisor who has been understanding, inspiring, critical and encouraging at all the right times. It has been a great privilege to work with him and other AUSCCER students and staff. I want to thank Professor Ian Buchanan for having time to help me muddle through the Deleuze and Guattarian concepts that I grapple with in this thesis. Special thanks also to Dr. Candice Boyd from Melbourne University and Dr. Michelle Duffy from Monash University for their friendship and inspiration and finding the time to work collaboratively on various papers and presentations. The ideas in the methodology chapter have been published as a journal article and I am grateful to the anonymous referees who provided their insights for this paper. Many thanks to David Clifton for his help with my dodgy diagrams.

Alongside the assemblage of the university the home assemblage offered a different set of affective relations. Working on the thesis was often a welcome refuge from tempestuous domestic relationships and emotional highs and lows that are a part of family life. Having said that, I acknowledge the support of my family and friends as they encouraged, pestered and downright nagged me to finish the thesis. Even though I alternated between being preoccupied/absent-minded/vague and cranky/emotional /irrational for much of the last couple of years our sticking power has endured! Special thanks to my stalwarts Terrence and Nao.

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CHAPTER 1. DRIVING CULTURES



Figure 1.1 Flinders St. Wollongong, 21/12/2010, 6.48 a.m.
The street is quiet before the morning rush of traffic on the usually busy main thoroughfare.
Source: participant Trevor

1.1 Introduction to the thesis

This thesis explores the role of the car in the everyday lives of twenty inhabitants of Wollongong city, New South Wales, Australia. As the dominant mode of transport for increasing numbers of urban inhabitants worldwide, there is a need to better understand the car as a naturalised part of contemporary life in different contexts. Transport geography tends to view car driving in terms of travel times, speed and distance in kilometres and cost. While this largely quantitative perspective can provide helpful predictions of demand and strategies to reduce and manage road congestion, it overlooks the social and cultural relationships that people have with their cars. A significant dimension of car driving therefore remains under-investigated and it is this lacuna the thesis seeks to address.

Rather than just a technological device for conquering distance, car driving is embedded in cultural understandings of what it means to be modern, free and autonomous. For many people, driving cars is unquestioned as the most practical way of negotiating the demands of everyday life (Urry 1999, 2004). For the drive to work or school, to pick up the shopping, or to stay in touch with family and friends, cars are normally framed as fast, convenient and flexible. Indeed, cars are the ultimate convenience device (Shove 1998). But beyond measures of speed and cultural practices sustained by the social norms of the convenience and flexibility of car driving, cars also evoke particular affective relationships and emotional ties. Many of us will have experienced the joy of the open road, the thrill (or fear) of driving at high speed, or the frustration of waiting in traffic congestion or looking for parking. The practices of driving are thus not only discursively produced, but are lived experiences that evoke particular bodily, emotional and affective responses that shape how social life is organised along particular lines. As Sheller and Urry (2006) concluded, transport geography has much to gain from the emergent, so called ‘mobilities paradigm’.

The mobilities paradigm focuses attention on the socio-technical, cultural and political dimensions of movement (Urry 2007). Within this paradigm a diversity of approaches are embraced including those that consider the embodied, material and phenomenological elements of movement. Most recently this is informed by Non-representational theory (Thrift 2007) and gave rise to a strand of affectual geographies that position mobile bodies at the centre of attention. In this scholarship, affective intensities help constitute the dynamic inter-relationships and structures of feeling that emerge from engagements with bodies, objects and spaces. The challenge taken up by this thesis is to employ concepts of affect to develop a visceral approach to automobility. In doing so, the thesis responds to feminist critiques of affect geography (Bondi 2005, Thien 2005, Tolia-Kelly 2006) by illustrating how gender, age, class and ability are felt through mobile bodies. As such, affective geographies are enriched by an engagement with feminist perspectives and emotional geographies.

The starting point and rationale for this thesis was the work of climate change scientists and a changing political reality in regard to worldwide concern for reducing the anthropogenic contribution to greenhouse gas emissions. Climate change scientists highlighted the contribution of car driving to greenhouse gas emissions (Girod et al.

2009, International Energy Agency 2009, Takeshita 2011, United Nations Framework Convention on Climate Change 2010). At the international, national, state and local government level climate change mitigation and adaptation remain a core policy focus. In Australia, the implementation of a carbon pricing mechanism in 2012, and current bills before parliament advocating for its repeal mean that many householders now consider their behaviours in terms of the financial cost of carbon. More than ever before, the economic, environmental and social consequences of everyday behaviours like eating, shopping and travelling are in the political spotlight. While responsibility for mitigation falls largely to governance, householders are increasingly being called on to alter everyday practices as a part of climate change adaptation (McManus 2005).

To shed light on how governance, policy implementation, infrastructure, sustainable transport discourses and technologies work at an embodied level to produce practices which frame bodies as environmentally ir/responsible, this thesis examines the practices of twenty people who regularly drive cars in the context of Wollongong. Thus the focus of the thesis is on drivers and their understandings and experiences of driving, in relation to their responsibilities as environmental citizens, and in the light of emergent subjectivities, such as breadwinners, homemakers, parents, grannies/grandfathers, students, girlfriends/boyfriends and so on. The thesis explores how the lived experiences of automobility that sustain everyday life are often more compelling than the discourses of sustainability that advocate for alternative transport modes. The thesis brings together concepts from diverse paradigms to explore how non-conscious and conscious processes that comprise embodied geographical knowledge are instrumental in sustaining established driving practices along particular lines, despite high levels of knowledge and environmental concern.

The remainder of the chapter is structured into four sections. The first provides a background to the political context of the research, especially the then Gillard Australian Labor Government's response to climate change. This is followed by a brief socio-historic outline of the City of Wollongong to justify its choice as the site for the empirical field work. This is followed by an outline of how the project came to unfold and then a statement of the thesis aims and objectives. Finally, I provide an overview of the thesis structure.

1.2 Australian Government Response to Climate Change

In order to address emissions of greenhouse gases, environmental scientists and governments alike have come to agree that there must be a transition to a lower carbon society (Cancun Adaption Framework [CAF] 2010, Organisation for Economic Co-operation and Development [OECD] 2010, United Nations Framework Convention for Climate Change [UNFCCC] 1992). Although the behaviour of the global climate is somewhat unknown, the best information from models and predictions indicate that a reduction of CO₂ emissions will work towards stabilising global temperatures and reducing the risk of significant climate change impacts (Intergovernmental Panel on Climate Change [IPCC] 2007, Stern 2008). Australia's accession to the Kyoto protocol in 2008 meant that responding to climate change through mitigation and adaptation became a key policy focus.

The Australian government's response to climate change over the last twenty-five years has been characterised as 'punctuated equilibrium' (Christoff 2013, p362). This refers to the long periods of climate change conservatism under successive Prime Ministers (Hawke, Keating, Howard), where the dominant neo-liberal discourses of a market-driven economy meant that much of the focus on climate change was on the economic cost of mitigation and adaptation. However, for this thesis, it is the period of 2010-2013 that is more relevant, when the discourses of ecological modernism infiltrated the dominant economic narrative. Underpinned by the findings of the Garnaut Report (Garnaut 2011) which recommended Australia take action on climate change and growing political and public debate, the Labor government under then Prime Minister Julia Gillard (2010-2013) put forward a range of policies and strategies that aimed to reduce emissions and achieve a 'clean energy future' (Australian Government Website, 2012). The policies, in the form of a legislative package which came into effect in July 2012, were aimed at reducing carbon emissions through pricing mechanisms and transitioning the economy to sustainable energy production through the renewable energy sector.

The 'stationary energy sector' (for example, electricity generation and petroleum refining) is the largest contributor to greenhouse gas emissions in Australia, making up more than fifty-one per cent of the total in 2009 (Department of Climate Change and Energy Efficiency 2010a). Thus, the first major step towards a lower carbon society

focused on the underlying infrastructure of energy generation. A future of clean energy is envisaged as one that can be achieved concurrent with growth of a capitalist market economy. The ‘clean energy plan’ emphasises the support for jobs and maintaining Australia’s economic growth and prosperity through a transition to ‘green industries’. This strategy sits well within a neo-liberal economic framework providing what Schellnhuber called ‘an industrial revolution for sustainability’ (2008, p14240).

As populations grow the demand for travel is predicted to increase and private vehicle transport emissions are framed as an urgent ‘problem’. The Stern Review (2006) predicts that fugitive emissions arising from global transportation will double by 2050. In the United States, Canada and Australia, with large land mass, proportionally smaller populations, economies, cities and ways-of-life designed around the car, per capita carbon emissions from transport are far higher than the populations of the so-called developing countries. Australia is the fourth highest per capita transport carbon emitter of thirty one OECD countries with a population of over one million (see Figure 1.2).

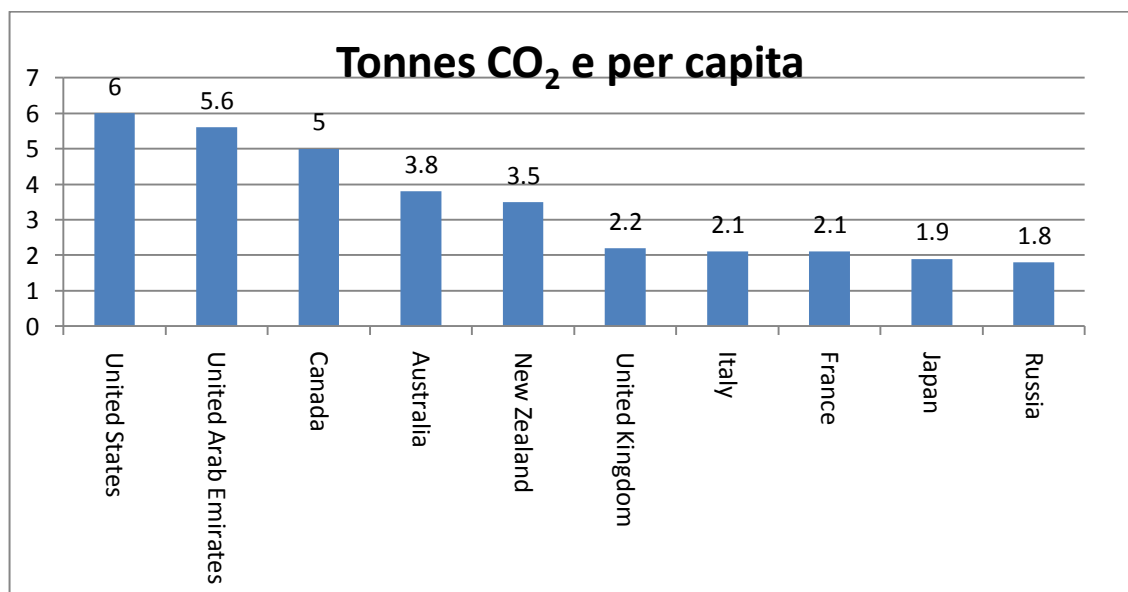


Figure 1.2 2007 Transport carbon emissions for selected OECD countries
Source: International Energy Agency 2009

Not only are per capita emissions comparatively high, but the total of greenhouse gas emissions from the Australian transport sector continued to rise in the past decade. As shown in Figure 1.3, emissions in 2010 were around 55 per cent above the level for 1990, reaching almost 83 million tonnes of CO₂ equivalent.

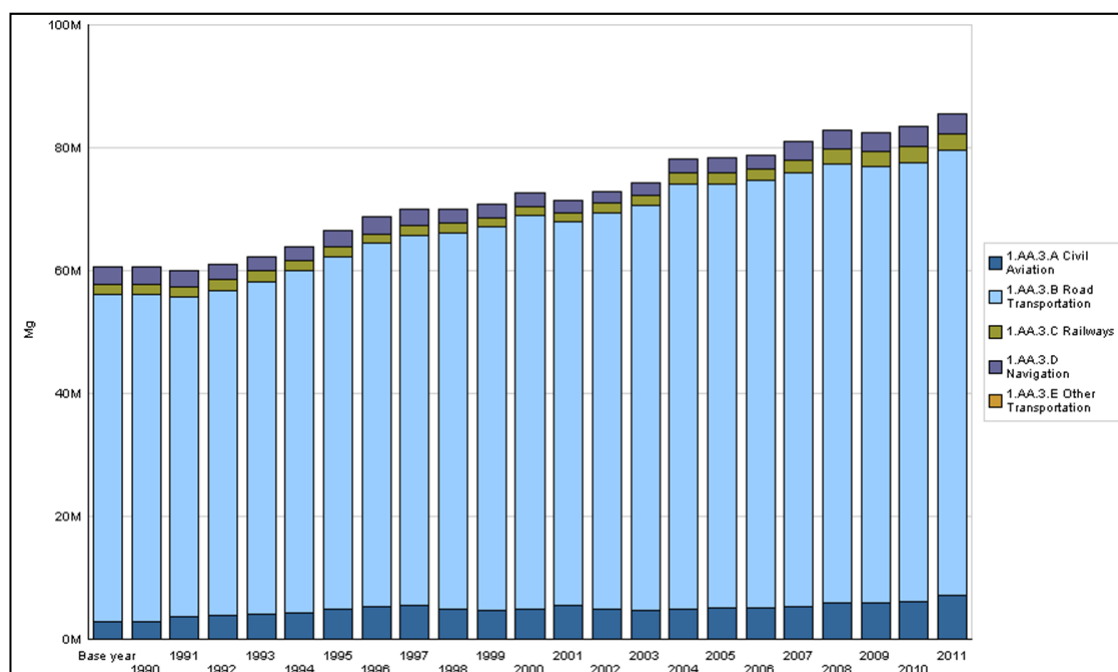


Figure 1.3 Annual transport aggregate greenhouse gas emissions for Australia 1990-2011.

Source: United Nations Framework Convention on Climate Change data interface.

Figure 1.3 illustrates the trend for increased emissions from private car use in Australia. Already outstripping the projections for 2010, by 2020, the base case emissions for road transport are projected to increase to around 68 per cent above 1990 levels (at around 100 million tonnes of CO₂ equivalent) (Bureau of Infrastructure Transport and Regional Economics [BITRE] 2003). CO₂ emissions from transport in Australia make up sixteen per cent of total domestic emissions with private cars contributing over 50 per cent of this figure (Department of Climate Change and Energy Efficiency 2010b). While improvements in vehicle and fuel efficiency are predicted to lower this figure, along with pricing mechanisms and rising oil prices, overall passenger vehicle emissions will continue to rise (Girod et al. 2013).

Whilst some might argue that 16 per cent of national emissions is an insignificant amount (a popular opinion with the road lobby) in comparison to other sector emissions, it is worth noting that in Australia, around half of the greenhouse gas emissions from households are generated from transport (Australian Greenhouse Office 2002). Trips of around three to five kilometres comprise around 61 per cent of these journeys and thus represent a laudable and effective way to reduce greenhouse gas emissions by

encouraging the use of alternative transport (Cosgrove et al. 2012). Yet, in the greater metropolitan area of Sydney, which includes the statistical division of Illawarra, despite small shifts in the number of private car journeys, modal share remained constant for cars (67.9%) with public transport (11.3%) and cycling (0.6%) remaining low (Household Travel Survey 2009/2010).

The Australian federal government is addressing greenhouse gas emissions from private vehicles by endeavouring to encourage behavioural change through public education, awareness and information. LivingGreener.gov.au is a government website that provides information on how Australians can 'do their part' in the move to sustainable living. The website offers a calculator to determine the greenhouse emissions of a range of vehicles and encourages the use of public transport, cycling and walking. Adaptive behaviours are rated in terms of cost, environmental impact and convenience. The top priority on this list is 'purchase a fuel efficient car' while 'drive more efficiently' is placed tenth, 'use public transport' is placed thirtieth and 'drive your car less' is last in the list of thirty two recommendations. This campaign aims to educate citizens about the wider environmental consequences of their transport choices. The choice to drive less is frequently positioned as an ethical decision. Rationally, driving less seems achievable and desirable; yet rising rates of car ownership in Australia (Australian Bureau of Statistics [ABS] 2010) suggest that ditching the car in favour of public transport or active transport is a difficult idea to sell.

This resistance to changing transport modes must be viewed through a framework of Governmentality. A Foucauldian view of Governmentality highlights how policies and strategies operate to normalise particular culturally dominant ideas around mobility, sustainability and the 'notion of an active self-managing and responsible citizen both on an individual and community level' (Cupples & Ridley 2008, p256). Here, citizens are enlisted to enact behaviours channelled along particular trajectories that support the current political discourses around sustainable development. Thus the relations between political, economic, technical and environmental understandings of driving private vehicles are socially mediated and serve to illustrate the inter-relations between structures of power at various levels and individual practices. Central to understanding how structures of Governmentality work to restrain or enable certain practices is how

modes of transport, technologies and infrastructure co-evolve through how they are framed and conceptualised within political discourses (Dowling & Simpson 2013).

As such, set against European, North American and South-East Asian examples of successful strategies to reduce car driving, it is clear that Australia lags well behind in terms of infrastructural change in response to climate change. Consider for example the successful incorporation of car share and bicycle share schemes in Paris or New York, (Botsman & Rogers 2010) the roll out of electric-vehicle charging facilities in London and Manchester (UK Office for Low Emission Vehicles 2013) and established hydrogen systems of public transport in Germany, Korea and Japan (Davis 2012). As well, the establishment of Low Emission Zones across northern European countries (which limit vehicle access by emissions standards based on EU recommendations) combined with congestion charging and road taxes prove effective ways to alter transport behaviours. Testament to this, the Netherlands, Denmark and Germany reversed a trend towards increasing levels of car mobility in the mid-1970s when the rates of active transport had fallen to rates comparable with the UK (Puscher & Buehler 2008). Car driving was discouraged by reducing speed limits, traffic calming, creating car free areas and imposing heavy taxes and restrictions on ownership, use and parking (Puscher & Buehler 2008). Though it can be argued that geography, topography, climate and cultural norms made the uptake of cycling and active transport more socially acceptable in these contexts, these examples serve to highlight the way that structures of governance are implicated in the framing of ideas around how mobility is conceptualised in relation to what constitutes a sustainable 'good life'. In these scenarios, at the local level, communities enjoyed reduced noise and air pollution, reduced traffic congestion, improved health outcomes for a wide range of age groups, and more participatory social spaces, as an outcome of thinking about cycling as a legitimate form of daily transport rather than a recreational activity.

Thus, when viewed through a framework of Governmentality it is important to recognise how the inter-connections between levels of national and federal policy, state and local interpretation and implementation of strategies, and civic engagement are tenuously negotiated around discursive framings of sustainable behaviours and geometries of power. In light of the significance of discursive framings, Cupples and Ridley (2008) argued against binaries that position behaviours as either environmentally

‘good’ or ‘bad’ and for more pluralist and heterogeneous views of environmental responsibility. Similarly, Vreugdenhil and Williams (2013) argued that a transition to low-carbon ways of life is hampered by isolating the material from the technical, the social or the experiential. As such, transitioning to low-carbon modes of transport requires thinking about the interplay between embodied difference, social and cultural norms and institutionalised ideas.

That said, the present New South Wales O’Farrell state government proposed a draft Transport Masterplan to address the problems of traffic congestion and increased travel times across the Sydney metropolitan area (New South Wales Transport 2012). With a primary focus on the expansion of the current road infrastructure, climate change is addressed by increasing the number of public transport services within the existing system along with a proposed 200 kilometre cycleway plan. While Australian federal, state and local government strategies acknowledge the greenhouse-gas benefits of a more balanced provisioning of transport options (Department of Climate Change & Water 2009; New South Wales Government 2012) this recognition has not translated into a shift in funding priority. For example, the federal government committed to investing 53 billion dollars in Transport and Roads over the next four years and only 4.5 billion dollars in public transport by 2014 (Australian Government 2010). Thus the current road-dominated system of personal mobility remains unchanged.

On the one hand, the Australian government may argue it is discharging its duty by enabling a shift to a lower carbon society by implementing policies that attempt to regulate the levels of carbon production. Drawing on discourses of ‘ecological modernism’ means that the government positions the problems of climate change as a largely technological challenge to be solved by improvements in science and technology. Yet, on the other hand, budgets to address the problems of increasing demand for personal mobility remain focused on the fossil-fuelled car. Australian transport institutions have historically clung to the imported American model of the efficient ‘freeway city’ (Low & Gleeson 2001, Mees 2002). Continued road building, a heavily subsidised but rapidly contracting Australian car industry, and the exemption of household transport fuel from carbon charges does little to facilitate a transport mode shift to public or active transport. Perhaps not surprising then, are census figures that indicate rising rates of car ownership and private vehicle use as the main means of

travel to work within the last few decades in Sydney and Wollongong (ABS 2008 2013).

The framing of transport mode decisions as an ethical choice obscures issues of unequal access to the car. The young, the elderly, the disabled, and low socio-economic groups are disadvantaged by the priority given to car driving in two main ways. Firstly, for these groups without access to a car, there is little choice other than to negotiate an inadequate public transport system. This means that social participation and access to employment can be severely restricted (Hine 2007). Secondly, spending on road infrastructure primarily benefits car drivers and results in the marginalisation of low carbon forms of transport like cycling and walking. As Ahmed argues, marginalised groups normally bear the consequences of increased mobility for more privileged groups within society (Ahmed 2004a).

All of this leaves the urban car driver in an unenviable position. Armed with greater knowledge and concern for the impacts of climate change and confronted with shifting political priorities, the average driver must weigh up their actions in terms of negotiating environmental, economic, and personal costs. The transition to a lower carbon society is one that will require not only the invention and subsequent uptake of low carbon technologies, but also significant changes to the individual choices and household rhythms that comprise everyday life.

1.3 Local Climate Change Transport Policies

The local government area of Wollongong is located within the Statistical Division of the Illawarra and extends from Helensburgh in the north to Gerroa in the south (see Figure 1.4). The topography means that transport infrastructure runs between the coast to the east and the escarpment to the west, rather than a more conventional radial pattern with the main road and rail services along a north-south corridor (as indicated by heavy lines).

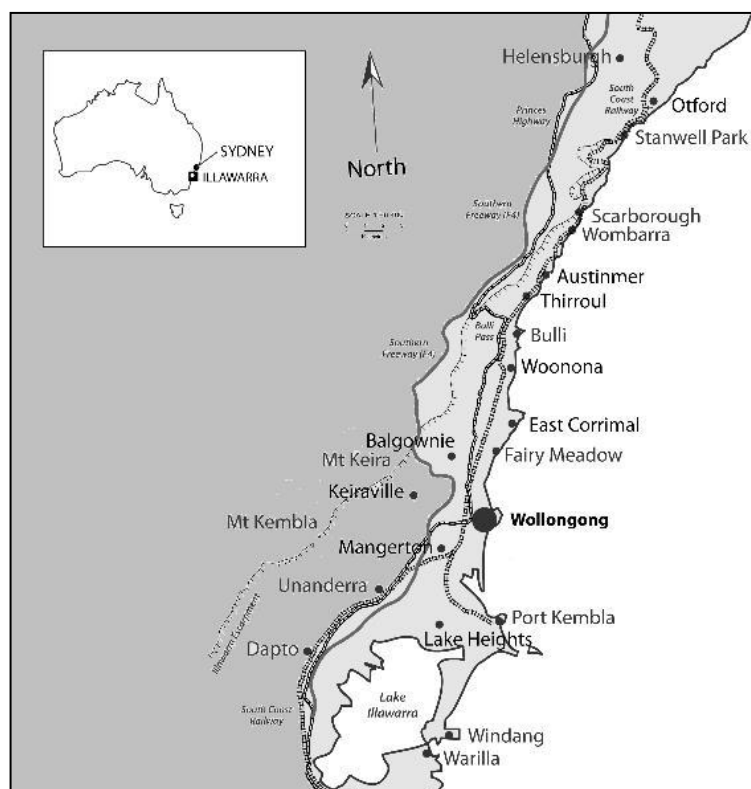


Figure 1.4 Location of Wollongong
Source: author

Wollongong was chosen as the site for this research because the city is fashioned around car culture. From the 1960s the growth of the city was planned around roads and car parking. All major centres such as shopping strips and malls, clubs, the racecourse, the steel plant, hospital and the University of Wollongong (UOW) provide parking facilities. With a train and bus line predominantly servicing the main coastline, it was necessary for people who lived in the suburbs of Wollongong to own a car. Not surprisingly then, the percentage of households with three cars outnumber households with no car (ABS 2011).

This regional centre of around 200,000 (ABS 2011) people is an industrial city which remains reliant on road and rail transport for the coal mining and steel processing for economic prosperity despite decreases in production and employment. Norgaard (2006) argued that a focus on regional economic prosperity reliant on carbon intensive industries can allow a culture of collectively ignoring climate change to emerge. Yet Wollongong local government has identified the need to transform and diversify from an industrial city to a service-led, knowledge-based economy as a response to climate

change imperatives. As such, Wollongong is now pitched as both a ‘City of Innovation’ research hub and a tourist destination for nearby Sydney residents. Underpinned by previous government education funding (in 2009) the development of the Sustainable Buildings Research Centre at the Innovation campus of UOW has led the way in the development of benchmarks for sustainable materials, and energy and water efficiency and conservation. Alongside the university, programs like the Sustainable Illawarra ‘Super Challenge’, community education, and Green Jobs Illawarra promote reducing carbon emissions through sustainable everyday practices and as a result, many Wollongong residents are highly knowledgeable about the potential impacts of climate change (Gibson et al. 2011).

Yet working against this knowledge is how local strategies that purport to pursue sustainable objectives in fact, remain grounded in the rationalist economic paradigm. For example, a part of the NSW state government’s Illawarra Regional Strategy is a focus on transport by the *T-team*- a committee formed in 2004 by the Kiama, Shellharbour and Wollongong City Councils to launch a regional transport strategy:

The plan aims to create a regional transport system that is safe, reliable, integrated and attractive to use. It encourages residents out of private cars and on to trains, buses and bicycles; aiming to avoid the congestion and pollution problems looming, if current transport habits are not changed.

‘Moving Together - A Transport Strategy for Kiama, Shellharbour & Wollongong, 2004’.

Despite the reference to the problems of congestion and pollution from private vehicles, since this policy launch the majority of these council projects have remained focused on road extensions and upgrades, providing more car parking for the central business district and improving accessibility of rail stations (New South Wales Government 2007). The Wollongong City Council has addressed the sustainability imperative in three ways: (1) regulating parking in the central business district; (2) improving the integration of rail and bus services; and (3) upgrading pathways and cycleways in order to promote a transport mode shift (Wollongong City Council 2012). Considering the first policy approach, Wollongong City Council noted that:

The Pay and Display ticket machines are part of a long term strategy to free up the best located car spaces for people visiting town to shop and do business while encouraging all-day parkers to consider alternatives, such as cycling, public transport or carpooling (Wollongong City Council website, 2012).

As a part of the promotion of the area as a tourist destination, the Wollongong City Council markets access by the 'Grand Pacific Drive' (a coastal road) and seeks to increase the overall number of vehicles parking in the Central Business District to promote economic activity while encouraging workers and local residents to '*consider alternatives*'. Indeed, between March 2010 and March 2012 there was an increase of more than 90 per cent in the weekly number of cars parked in the central business area (Wollongong City Council 2012). On the one hand, the council purports to be committed to reducing the total amount of carbon emissions from private vehicles which are responsible for congestion and pollution. Yet on the other hand, this strategy encourages the increased flow and number of vehicle trips. Encouraging local residents to decrease their car use and adopt sustainable low-carbon modes of transport is seen as addressing the sustainability policy imperatives while the increased carbon emissions from visitor traffic are overlooked in the interests of promoting regional economic activity.

In 2009, to address the second point, the State Government in collaboration with local government bodies funded a sustainable transport strategy in the form of twelve free bus shuttle services that serviced train stations across regional New South Wales. In 2013 with a high number of passengers to kilometre ratio, the 'Gong' shuttle was one of four services that retained state funding despite cuts to remaining services in the wider Sydney area (New South Wales Transport Department 2013). This is a free bus service that operates seven days a week and transports around 55,000 people daily. The circular route connects key destinations in the city, including the central business district, the hospital and UOW campuses. As well, from March 2010, The Roads and Traffic Authority, in conjunction with local bus company Dion's, trialled a night bus primarily aimed at reducing the number of drink-drivers on the roads, running routes between Wollongong and Thirroul from 11 pm until 4 am. Thus, since 2004, Wollongong City Council has implemented a number of sustainable transport policies. However, despite these initiatives aimed at improving public transport services, the inadequacy of

services remains one of the most important concerns in a recent council survey of Wollongong residents (Community Voice Survey 2011).

Wollongong City Council's sustainable transport initiatives are supported by carpooling initiatives at UOW, a major employer and centre for around 15,000 students. UOW promotes carpooling as a way to reduce traffic congestion. A UOW report claimed carpooling removed 650 cars from the roads on the first two days of the strategy launch (UOW website 2013). As well, UOW promotes walking and cycling for students living within two and a half kilometres of the university by providing training and secure storage facilities for 600 bicycles on campus. However, 65 per cent of the 15,000 people arriving daily at UOW choose to drive. Even though UOW is serviced by a connecting shuttle bus from the train station every ten minutes from 7 am to 6 pm weekdays and every 20 minutes on weekends during academic semesters, the majority of trips are still made by car (UOW website, 2013). This may be related to the bus services not being entirely co-ordinated with the timetable of the major rail services and the infrequency of services between Sydney and Wollongong suburban stations. Often there is a wait of up to an hour between services with trains being particularly crowded at peak times.

The third prong of the local councils' strategy was to improve cycleways and walkways to promote active transport. However, in policy documents cycling and walking are positioned as outside work-time leisure activities rather than as legitimate forms of daily transport. Upgraded walk and cycleways are concentrated along scenic coastal areas, focusing on Lake Illawarra, Kiama and promoted as a way to access leisure activities, including bird watching, swimming, fishing and picnicking (see Figure 1.5). There is no cycling infrastructure into or around the Wollongong business district. In the Wollongong City Centre, secure bicycle parking is limited to two locations outside the council and gallery buildings; although some train stations offer bicycle storage facilities for hire. Finally, cycleways are often disjointed and many come to an end abruptly at no particular destination. As such, it is perhaps not surprising that the car remains the main mode of transport with 75 per cent of journeys to work in Wollongong being made by car (ABS 2011).

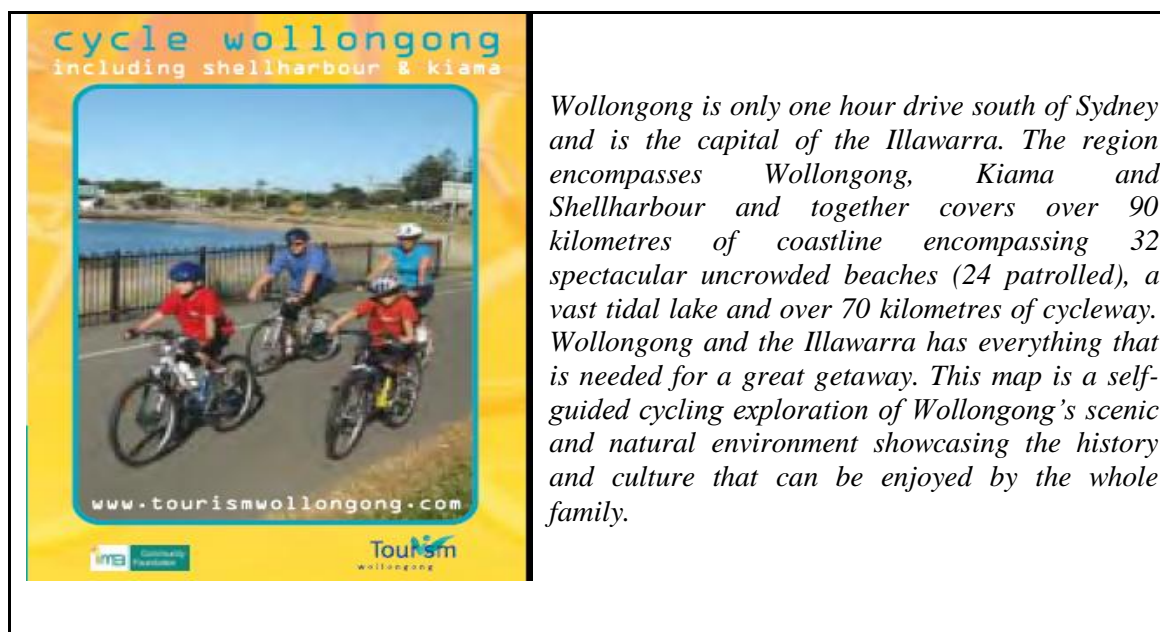


Figure 1.5 Brochure cover and excerpt from 'cycle Wollongong' which promote cycling as a recreational activity and Wollongong as a leisure and tourism destination.

Source: www.tourismwollongong.com

Thus, a range of implemented policies aim to encourage the use of low carbon transport modes. Yet, the aims and outcomes of these strategies remain fragmented and uncoordinated. The emissions from private vehicles are re-distributed rather than reduced, timetables of buses and trains are not effectively co-ordinated, walkways and cycleways are haphazard, and sustainability policies based on active transport for residents clash with tourism promotion based on driving cars. As such, although Federal, State and local government policies endorse plans to promote sustainable transport initiatives, implementation of these strategies remains largely ineffective for reducing emissions and altering transport behaviours.

1.4 Genesis of the project idea

This research is based in The Australian Centre for Cultural Environmental Research (AUSCCER) at UOW, New South Wales; and, is part of a larger Australian Research Council funded project that seeks to explore issues of household sustainability in the Illawarra region (*Making Less Space for Carbon: Cultural research for climate change mitigation and adaptation*, __DP0986041). The large survey of 11,555 Illawarra households was undertaken by the CI of this Discovery Project in 2009. The data gathered on sustainability practices provided insights into which households were doing

the work of climate change; those headed by women, lower income and free-standing houses (Waitt et al. 2012). Further to the survey, a number of ethnographic studies investigated particular household practices/technologies including water tanks (Moy 2012), food choices (Appleby 2010), clothing consumption (Gibson & Stanes 2010), the gendered role of sustainable practices (Organo, Head & Waitt 2013), and extended households (Klocker, Gibson & Borger 2012). Further, Gibson et al. (2013) argued that it is critical to understand the underlying cultural drivers of unsustainable everyday practices in order to address climate change. As such, understanding why households who live in one of Australia's carbon 'centrals', at risk from sea-level rise, with high knowledge levels and concern for the environment, continue to drive their cars in Wollongong is an appropriate research topic.

The findings from the 2009 Illawarra household survey confirmed the ABS (2011) statistics that the majority of trips to and from work were undertaken by car. Short local car trips were also more common than walking or cycling. This survey revealed that while some participants reduced the amount of driving they did in the previous twelve months; few were motivated by environmental concern (7%). Rather, the main reasons for reduced amounts of driving were cost (38%) and changes in life circumstances for example, retirement (21%). Car use remained one of the most obstinate behaviours despite householders participating in a range of other pro-environmental and pro-sustainable behaviours. Wollongong offers a unique opportunity to explore how a growing metropolitan centre responds to the demands of climate change adaptation and mitigation through investigating the everyday mobility choices of residents. Wollongong provides a setting to investigate the impact of Government policies and initiatives which aim to promote the use of sustainable transport options.

In part, the desire to investigate what kept people driving also stemmed from previous work on driving in an affluent area of Sydney (see Waitt & Harada 2011). This study demonstrated the reciprocal relationships between subjectivities and space through particular normative driving practices. This study hinted at the centrality of the intersection between discourses, affect, emotions, materiality and the spatial, to better understand everyday driving as an embodied practice. Inspired by the Non-representational 'turn' and centring of the body in geographical enquiry, this thesis aims to investigate the corporeal dimensions of car driving. The insights gathered from a

feminist geographical perspective that conceive driving as an everyday embodied performance related to situated subjectivities offers new insights to mobility. My personal experiences are included throughout the thesis in boxes (see Box 1.1) and serve as a reference point from which to understand my changing subjectivities negotiating this project, in particular my relationships with cars and participants.

Box 1.1 Giving up the car

As the new owner drives away, a few tears spring to my eyes. Memories of the last eight years trundle down the driveway. The ‘old bomb’ had seen me through a divorce and two interstate moves. I had moved an entire house full of furniture, beds jutting from the open hatch, plants and lamps and suitcases up to the roof. How would I ever survive without it? I worried that I would not be able to visit friends who lived in remote areas. How on earth was I going to get there without a car? Social isolation loomed.

Reflective diary 8 Oct 2009

1.5 Aims and objectives

The overarching project objective is to better understand why people choose to drive cars in a context of changing climates. In order to consider more sustainable transport behaviours, it is necessary to first understand how car driving is incorporated into social and cultural practices in specific contexts. Thus, it is necessary to investigate how car driving helps people to make sense of themselves, others and places in relation to understandings of responsibility for climate change. I wanted to better understand if, and, how, it may be possible to change car cultures for a changing climate. Driving this project are two questions: 1. How do the embodied driving practices and lived experiences of driving sustain everyday life in a context of climate change? 2. How might this knowledge promote understandings about the possibilities to encourage a modal shift to lower-carbon forms of transport? To help answer these two questions, the project aims are threefold.

The first aim is theoretical. This aim is to build on current theoretical advances within the mobilities literature that have opened up debates about the body, affect, emotion and difference. This project is a response to the calls for a feminist engagement with mobilities studies in order to investigate how differentiated bodies experience everyday

mobility (Law 1999, Hanson 2010). Thus, I develop a visceral automobility framework which conceptualises mobility as simultaneously performative, discursively produced and regulated, as well as subjectively experienced through the affective and emotional registers of the body. It necessitated bringing together a wide range of concepts from feminist readings of the non-dualist relational philosophies of Deleuze and Guattari (1988) as well as Foucauldian discourse analysis. This body-centeredness allowed for the consideration of the complex inter-relationships between normative beliefs, discursive regimes and emotional and affective encounters which work to shape and reshape the everyday practices of mobility.

The second aim is methodological. In designing the methodology I was mindful of the inadequacies of conventional methods like semi-structured interviews for capturing the sensuous nature of mobility (Lorimer 2003a, Law and Urry 2004, Waitt & Cook 2007). Thus, I employ a range of conventional social science methods that included semi-structured interviews, solicited travel diaries, time-space prisms, photographs and sketches to provide a starting point for understanding the routines, patterns and destinations of participants. This provides narrative and representational accounts of participants' everyday transport behaviours. However, in order to gain access to the more embodied dimensions of driving a further three less-conventional mobile methods were employed; including audio-recording (see Dib, Petrelli & Whitaker 2010), video-recording (see Spinney 2009) and accompanied journeys or 'ride-alongs' (see Laurier et al. 2008). Mobile methods provided a way to access the unwilled and unforeseen aspects of driving as they happened, with and without the presence of the researcher's body (Büscher & Urry 2009). Largely inspired by sensuous, multi-modal ethnography (Pink 2009) and visceral approaches (Probyn 2000, Longhurst, Ho & Johnston 2008, Hayes-Conroy & Hayes-Conroy 2010) these methods generated an abundance of verbal and non-verbal data. Interpreting audio and video data necessitated refining a range of techniques that were inspired by scholars such as Marks (2000), Sobchack (1999) Monson (2009) and Duffy and Waitt (2011). These scholars advocate that the body is implicated in a range of affective and emotional relations when responding to sounds and images. Thus, the embodied approach to non-verbal data created opportunities as advocated by Longhurst, Ho & Johnston (2008) to use the researcher's own body as an instrument of research. This meant a heightened awareness and attention to the changing dispositions of the participants' and researcher's bodies within different

research contexts through the subtleties of tone, timbre, inflection of voice as well as pauses, bodily noises, glances, gesture, clothing and comportment. These relatively novel approaches to data collection on-the-move offered significant benefits which are discussed in detail in Chapter 2.

The open-ended, participant-led and non-directive approach is inspired by feminist approaches to fieldwork which encourage devolving the authority of the researcher (Parr 2001). Here, participants are positioned as the experts in their own lives, had control over the type and attributes of the data generated, as well as being invited to participate in the interpretation of the data. The methodology was structured to suit the needs of the participants and this proved to be a successful strategy for securing long-term participation in the project. Thus, conventional methods were augmented by a range of less-conventional methods which offered flexibility and versatility to how the data were generated and constituted an innovative methodological approach.

The third aim is to provide a grounded empirical account of the lived experiences of driving. I apply recent theories that relate to sensual bodies to implement conventional and innovative methods and apply these in an empirical setting to document the embodied experiences of driving private vehicles. I remain alert to the changing embodied subjectivities of the participants and the researcher within the research context, and how this was mediated through the sights, sounds, smells and touches of driving. The aim is to understand how driving is used to create, sustain or disrupt particular understandings and aspects of identity by attending to the visceral responses of bodies. As such, each of the discussion chapters focus on the visceral relationships that emerge between human and non-human bodies in the space of the car and can provide insights into how embodied geographical knowledge is produced through everyday driving practices. Thus, these insights shed light on the resistances and opportunities for change in the challenge to promote the uptake of alternative low-carbon forms of transport. In turn, these critical insights provoke consideration of how this embodied knowledge may be used to greatest advantage to identify productive avenues for the effective implementation of more sustainable transport strategies.

1.6 The structure of the thesis

The thesis does not endeavour to produce an all-embracing explanation for the reasons why people find it difficult to change their driving habits. Rather, it presents a series of chapters that provide insights into the complexities of the lived driving experience. It highlights some of the less tangible and subtle reasons why people continue to drive even in the light of knowledge and concern for climate change. As such, each chapter makes a particular contribution through the use of specific methods with the aim of building up a rich, multi-layered understanding of the ways that bodies, objects, emotions and affects can contribute to the decision to continue driving.

The thesis is structured into nine chapters. Chapter 2 provides the conceptual framework for the thesis and a review of the current literature. It sets out the epistemological and ontological perspectives that serve to frame the project. The main concepts that are employed are justified and outlined. Chapter 3 discusses how the methodology evolved with the conceptual framework in mind and provides a detailed explanation of the methods that were employed. As well, how different methods influenced the type of data produced is discussed. Ethics, positionality and modes of analysis are also addressed in this chapter. Chapter 4 by way of an introduction to the results chapters uses discourse analysis to explore the sets of ideas around climate change, responsibility, sustainable household practices and driving from an Australian perspective. This chapter examines how participants understood climate change responsibility and how this played out in their everyday household practices. This chapter highlights how sets of ideas around convenience, comfort, control, freedom and a sustainable 'good life' underpin the decision to continue to drive. This is followed by a further three results chapters that present the empirical findings from other methodological and conceptual perspectives. All chapters however draw on the concept of viscosity (discussed in Chapter 2) where mind/body, body/object boundaries are blurred and porous and mediated by affective intensities and emotional relations.

Chapter 5 focuses on the alignment, positioning and proximity of bodies within the space of the car and how this contributes to a particular type of sociality within the car. This chapter illustrates how the space of the car offers an alternative to the socio-spatial boundaries of home for the enactment of family values and relations of love and care. Chapter 6 focuses on the affordances of music and illustrates how for homemakers, the

car can offer a restorative space that helps to keep-everyday-life-together. Through the use of music, participants were able to alter the affective intensities and emotional relations within the car to connect with gendered aspects of identity that helped them cope with the stresses and demands of everyday domestic life. Chapter 7 highlights the significance of touch and smell to the driving experience. It provides insights into how texture, colours, touch and smell help carve out different spaces of comfort that are related to gendered, aged or classed understandings of self. In Chapter 8, I consider how routines and rhythms of driving are experienced through the body at the non-conscious level through a focus on the sounds of driving. Here the embodied sounds of driving; engines, gears, roads and air, work to attune bodies with particular rhythmic patterns and hence entrench driving behaviours as embodied and habitual. However, I suggest that disruptions to these embodied routines and habits come about at critical life junctures, rather than resulting from a reflective contemplation of responsibility for climate change. Finally, Chapter 9 is an overview of the main findings and a summary of the results. It points to the ways that driving has become a habitual everyday social practice through conscious and non-conscious processes. I demonstrate that changing travel behaviours goes beyond rational calculated responses to information and knowledge, but rather draws attention to how embodied habits and dispositions work at the non-conscious level to sustain unreflective driving practices. In this chapter I present some reflections on the possibilities for how future research might approach these practices with sustainable transport in mind.

CHAPTER 2. CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW



Figure 2.1 Wollongong, at the lights, 11/09/2010, 1.36 pm. The rear-view mirror illustrates how co-ordination, judgement, timing and awareness of the relative position of other vehicles on the road are everyday driving skills.

Source: participant Elouise

2.1 Introduction

In this thesis I consider how the body is implicated in decisions about transport choices. I employ a visceral approach that acknowledges the importance of the affective and emotional registers of bodies. I argue that a visceral approach gives insights into how people make sense of themselves, others and place and opens up thinking about an embodied politics of mobility. This strand of feminist thinking draws on concepts from two main bodies of literature: affective and emotional geographies. I advance discussions in mobility studies by a focus on how affective intensities and emotional bonds are an integral part of transport choices. This approach allows thinking about how discursive ideas come to be materialised through the body in the course of the practices of everyday life, and to consider how in turn, these embodied practices change the way that the body perceives, senses and acts. A visceral approach brings the potential to uncover ways that located bodies, embedded in uneven geometries of power, may be

mobilised to act along particular lines through attending to the affective and emotional registers. As such, a visceral approach can open up possibilities to re-think ways to promote environmentally sustainable transport options by better understanding how everyday practices of mobility are both embedded in socio-cultural systems and embodied.

The purpose of this chapter is to lay out the theoretical underpinnings of the conceptual framework and to provide a review of the current literature. In doing so, the chapter highlights the conceptual divide between transport and mobility studies, and, the gap in the literature surrounding the lived experiences of everyday mobility in relation to discourses of sustainability and climate change. What becomes clear from the literature review is that different paradigmatic boundaries work against points of convergence and undermine the potential to further understandings of sustainable transport futures. The in-depth understandings of everyday transport behaviours within mobilities literature as meaningful socio-cultural practices are often absent from policy perspectives. This thesis provides a grounded feminist account of everyday mobility that connects new trends in social theory to lived experiences of using transport. Advancing the mobilities literature I hope to encourage thinking about how a visceral politics of driving can enrich transport studies.

A visceral approach draws together recent theoretical developments within the social sciences which re-conceptualise bodies as caught up in the circulation of affect and emotion. What is required here is a way of theorising that does not rely on strict binary oppositions nor resort to essentialist reductionism; one that can interweave body and mind, physiological and psychological, affect and emotion, while still situating the body within subjectively experienced discursive space. Thus, I build on the work of Hayes-Conroy (2009) in order to take a visceral approach to everyday mobility and address the gap in transport and mobility studies. Advancing concepts of multiplicities, intensities and productive possibilities through feminist thinking about the body helps to develop richer understandings about the links between everyday mobility practices, culture and social transformation. The rest of the chapter is structured into four main parts as follows. Firstly, I provide a brief review of how mobile bodies are conceptualised within the transport literature. In the next section I chart the different theoretical approaches to automobility within the mobilities literature. This leads to a consideration

of how Non-representational theories of affect have been taken up in relation to mobile bodies. In the third section I outline how feminist conceptualisations of bodies allows going beyond notions of pre-formed subjectivities and provokes alternative ways of thinking about how both human and non-human bodies are situated in the world. In the final section, I outline the range of concepts I draw upon and explain the implications of their use.

2.2 Missing in action – bodies in the transport paradigm

Transport studies are an important starting point for a thesis interested in everyday mobility patterns and choices. Transport studies historically draw on a positivist frame of reference with increasingly complex models for specific applications for example; parking, national traffic forecasting, public transport, urban freight movements, and logistics management (see Beck, Rose & Hensher 2011, Currie 2011). These complex quantitative computer based models which require expert interpretation are the foundation for many transport decisions in Australian cities. For example, quantitative research underpins transport systems research at state and federal levels, including that of peak bodies such as Infrastructure Australia, the Department of Infrastructure and Transport, Roads Australia, the Institute of Transport and Logistics Studies (Infrastructure Partnerships 2013).

Yet, the adequacy of reductive models is increasingly questioned. For example, Evans, Burke and Dodson (2007) criticised the Four Step Model which is the framework for transport planning decisions in Sydney, and most major Australian cities. They argued that the complicated technical modelling systems which inform transport planning strategies are not adequate for understanding other important aspects of transport use (see Hidas & Milthorpe 2009). Reductive models work with oversimplified categories and ignore commonly reported transport behaviours because existing quantitative models are not designed to handle qualitative data (Lee & McNally 2006). The focus of conventional modelling is on reducing trips based on measures of distance, cost and time. Thus, transport planning decisions are normally made with little consideration of complex travel patterns, and no consideration of embodied knowledge. Within conventional transport planning frameworks individuals are reduced to rational and logical decision makers who weigh up the economic and personal costs and benefits of different transport modes to frame their mobility choices.

The question of ‘sustainable transport’ forced transport planners to revisit models, particularly the variables they include and questions they ask. For example, topics include: the motivations for transport mode switching (Cairns et al.2008, Fuji & Taniguchi 2006, Garling & Fuji, 2009, Kearney & DeYoung ,1996); issues of equity and social exclusion (Currie et al.2009, Geurs et al. 2009, Lucas 2004 2006 2010); and, self-reported life satisfaction (Currie & Delbosc 2010, Delbosc & Curry 2011, Stanley, Henscher & Vella-Broderick 2011). Admittedly, these studies go beyond more conventional transport models, extending to include concepts of ‘psychological wellbeing’ and ‘life satisfaction’ [the Psychological Wellbeing Test (International Wellbeing Group 2006), Satisfaction with Life Scale (Diener, Diener & Diener 1995) and the Positive and Negative Affect Scales (Watson, Clarke & Tellegen 1988)]. Yet, while these studies broadened the scope of variables incorporated into transport models, they remained largely reliant on objective measures, categorisation and quantitative testing and analyses.

Transport studies also designed spatial models to predict how changes to material infrastructures and levels of amenity provisioning can impact transport behaviours. For example, commonly provided ‘park and ride’ stations - which are intended to encourage a modal shift away from cars - were found to have uneven and unintended effects. Parkhurst and Richardson (2002) found that providing more parking at suburban train stations paradoxically increased car use. A range of studies investigate how physical infrastructure, the character of land use, development and zoning regulations or congestion charging might impact on travel behaviours (Boarnet & Crane 2001, Cervero 1989, Crane 2000, Pisarski 1987 1996 2006, Schwanen & Mokhtarian 2005, Singell & Lillydahl 1986, Wachs et al. 1993, White 1977, Zhang 2004). These studies tend to script bodies along particular gendered or classed lines, imagining them as relatively unchanging, coherent entities. Similarly, the physical environment of built structures, roads, highways, stations and paths is conceptualised as neutral materiality viewed mainly in terms of utility and functionality. In sum, on the one hand, I acknowledge the significance of quantitative transport studies to reporting and predicting patterns of mobility. On the other hand, transport studies provide no insight into the lived experiences and practices of everyday mobility.

Questions of sustainable transport choices also encouraged scholars to question the underpinning assumptions of positivist inspired research. For example, Banister (2008) suggested that the ‘sustainable mobility paradigm’ required a re-thinking of the underlying assumptions of transport geography. Banister pointed out the underlying contradictions between transport planning concerns for ‘speeding up traffic’ and a sustainable mobilities approach which promotes ‘slowing traffic down’ (2008, pp74-75). He argued that transport planning concerns which focus on the physical dimensions of urban form and mapping traffic flows should be balanced by considering the social dimensions of why and where people choose to travel. It seems critical to go beyond essentialist understandings of bodies and spaces as passive, inert and lifeless so that transport studies can develop and implement effective strategies that target the uptake of adaptive low-carbon transport behaviours. Transport studies do not yet ascribe to the way that movement entwines technologies, infrastructures, governance and objects with bodies, places, times and dynamics of pleasure and pain. Movement remains a disembodied concept understood through the rationalist lens of calculative and mapable trips. Despite the differences in conceptual and methodological approaches, transport studies and mobility studies have significant commonalities –an interest in space, place, scale and landscape, as well as an interest in how the social and cultural intersect with embodied patterns of movement (Shaw and Hesse (2010). As such, there are productive possibilities for a greater engagement between transport studies and the mobilities literature. The next section turns to examine the different approaches within the mobilities literature.

2.3 Governance and social distinction

The processes and outcomes of globalisation alerted scholars across many disciplines to the centrality of mobility for how people understand and participate in the contemporary world (Clifford 1997, Kaufmann 2002, Urry 2000, 2006). It is beyond the scope of this chapter to consider the literature that examines the mobility of capital, objects, and ideas. The focus of this section is on the mobility of bodies; and, particularly on thinking about the private car.

One long-standing approach to automobility draws on Foucauldian ideas of subject formation where the relationship between cars and individuals is related to taste or social distinction (Katz 2000, Thomas & Butcher 2003, Urry 2006). Here, people

conceived as subjects use cars as ‘technologies of the self’ (Foucault 1988). Following Foucault, people may enlist the symbolic and representational meanings of particular cars to create or reinforce a particular identity. Consider for example, the way that cars are differentially marketed to groups of executives, trades-people, mothers, young single people or families and the range of meanings, symbols and representations associated with particular brands, makes and models (see Conley 2009, McLean 2009). For example, high-end branded luxury vehicles are indicative of high socio-economic standing but may also confer associated ideas of prestige, power, entitlement, social class and status. However, the Foucauldian subject in this way of thinking is not an abstracted empowered individual, but rather a product of the power of various discourses. For example, economic, political and juridical discourses work to affirm and perpetuate the idea of an individualised self, yet the subject is created, constrained and restrained by these discursive structures. Subjects are bound by institutional and automotive regulatory frameworks that control who can drive (age parameters, licensing, registration, insurance), where and how to drive (road infrastructures, road rules, speed limits), and the specifications of vehicles (vehicle testing, mechanical standards). This framework of governed car ‘tastes’ is helpful to explain how modes of transport are therefore caught up in fashioning car-body relationships (Brandon 2002, Thrift 1999) within particular discursive regimes. Embracing these ideas, car preference has much to do with self-regulation and how the car is linked with the understanding the driver has of themselves, under the surveillance of others within a nexus of framing ideas (Packer 2008, Seiler 2008).

2.4 Actor Network Theory

In the early 1980’s Bruno Latour and Michel Callon developed Actor Network Theory (ANT hereafter) as a way to investigate complex mobile practices. An ANT approach highlighted the need to ‘follow the actors themselves’ (Latour, 2005, p12) to make sense of the inter-connectedness and inter-relatedness of social structures. Here actors were not just human, but included non-human bodies, objects, technologies, institutions and ideas, temporarily connected by networks, relations and nodes. ANT highlighted the contingent and relational nature of social structures and distributed a form of agency to non-human bodies and objects. A Latourian-inspired analysis of driving would suggest that the materiality of driving – as in cars, seats, radios, mobile phones, windows and so on – changes the bodies involved, and thereby alters human and non-

human relations (Bull 2004, Dant 2004, Merriman 2009, Packer 2008, Thrift 2004). Thus, the technology of the car is conceptualised to shape society along particular visions, interests and norms rather than being a site of taste and social distinction (Böhm, Jones & Patterson 2006, Featherstone 2005, Urry 2004).

Building on a networked approach to automobility meant that some scholars investigated driving as a set of interlocking social, cultural and material practices. This work highlighted the dialectic nature of movement where immobilities were bound to mobilities. The materiality of the bounded and the sedentary, for example gas stations, pipe-lines, mechanical workshops and roads was necessary to afford and produce various types of mobility (Büscher & Urry, 2009; Büscher, Urry & Witcher 2010, Cresswell 2006, Urry 2007). Thus institutionalised ideas and infrastructures, the materiality of place and everyday practices result in a 'system' of automobility where driving becomes normalised' (Urry 2004, Hannam, Sheller & Urry 2006). Drawing on the argument of Lefebvre (2004), Edensor (2010) argued that rhythms and styles of driving combined with the materialities of place to produce driving practices that are geographically and culturally distinct. The emphasis here is upon relations between the social and material networks in which cars are inserted and of which they become a part. While these arguments alerted scholars to the social and cultural history of these relations and their unfixed qualities, they tend to overlook the active role of the body. Thus, another set of arguments that focuses more specifically on the skill, affect and emotion born from a sensory engagement with the materiality of different mobile practices contributed to what is known as affectual geographies.

2.5 Affectual geographies

Affectual geographies attend to a range of practices that involve mobile bodies and grew from an engagement with Non-representational theories (Thrift 1997). Non-representational theories drew attention to the embodied and performative aspects of everyday life by employing the concept of affect to examine how bodily movement is entwined with unstructured bodily intensities. The interpretation of affect most commonly used (although not exclusively see Curti et al. 2011) is based on Massumi's (2002) readings of Deleuze and Guattari as put forward by Thrift (2008). Here, affect is conceptualised as an intensity that works at the biological or pre-conscious level before thought or recognition. Within Non-representational literature, affect works as an

impersonal, non-cognitive, trans-personal force that is external to the body (Bissell 2009, Dewsbury 2003 2011, Harrison 2007, McCormack 2003, Thrift 2004a).

Affective geographies attend to how affects are ‘generated and quiesced through entanglements with people, physical locations, material objects at different times and in different spaces’ (Bissell 2010a, p83). Affective geographies are marked by ‘an attention to events and the new potentialities for being, doing and thinking that events may bring forth’ (Anderson & Harrison 2010, p19). Within the realm of mobility, thinking through affect has been used to examine walking (Edensor 200b, Ingold 2000, Lorimer 2010a, Wylie 2005), climbing (Barratt 2011), flying (DeLyser 2010), commuting (Bissell 2010b, Jiron 2010, Edensor 2010b), cycling (Spinney 2009) and ‘parkour’ (Saville 2008).

With a focus on automobility, Thrift (2004) argued that affective encounters with the materialities and technologies of driving have produced new embodied experiences and ways of anticipating the world. Likewise, Sheller’s (2004) affectual geography of car mobility - which draws inspiration from Thrift’s critical turn - acknowledges a push, force or energy that circulates within and between bodies. Sheller (2004, p227) attends to how ‘motion and emotion’ are ‘kinaesthetically intertwined and produced together through a conjunction of bodies, technologies and cultural practices’. Much of this work illustrated that habitual embodied practices are inextricably entwined with affective bodily intensities. That is, ways of moving are intimately connected to ways of thinking, sensing and acting that go beyond representational and symbolic meanings. As such, an increasing focus on the non-intentional, non-discursive relations between human and non-human bodies and the felt dimensions of movement provoked a proliferation of assemblage thinking (Anderson et al. 2012). Deleuzian ideas of assemblages highlight the relational attributes of situated bodies. Here, assemblages are not things, but processual emergences, the constant arrangement and re-arrangement of material and immaterial elements, the coming together of a heterogeneous mix of bodies, things, ideas and affects that enter into composition with each other (Anderson et al. 2012).

This renewed focus on the assemblages of mobile bodies and intensities of affect resulted in the so-called ‘new mobilities paradigm’ (Sheller & Urry 2006). This paradigm produced rich insights into mobility as a complex mix of relational, embodied and performative practices (Bissell 2010b, Creswell 2006, Larsen, Urry & Axhausen

2006, Sheller & Urry 2006). This strand of geographical research sought to explore mobilities in Adey and Bissell's sense as 'a key conduit for understanding the connections, assemblages, and practices that both frame and generate contemporary everyday life' (Adey & Bissell 2010, p2). These studies showed how people behave very differently in privately owned automobiles compared with public forms of transport (contrast Brown & Laurier 2005a, Sheller 2007 with Bissell 2010b). In essence, thinking about mobile practices through assemblages highlights how spatial forms and processes are provisionally held together through the co-functioning of constantly changing bodies, technologies, objects, ideas and affects (Deleuze & Parnet 1977). Yet the Non-representational focus on the unknown potentialities of emergent practices raised issues around the place of the subject within this 'resolutely anti-biographical and pre-individual' (Thrift 2008, p7) way of thinking. Much of the critique emanated from feminist scholars. In the next section I turn to examine the similarities and differences between post-structural feminist perspectives and affective geographies.

2.6 Feminism and affectual geographies

There is much shared ground between affectual geographies and post-structural feminist approaches to mobile bodies including that of proximity, movement and fluidity. Yet, there are several significant points of difference. Firstly, I want to address the different uses and interpretations of the terms 'affect' and 'emotion'. Feminist approaches consider how bodies are produced through relations that link subjectivity to the on-going formation of identity. They tend to employ the term emotion as a socially constructed concept to explain how bodily sensations come to be known and named. The more post-phenomenological approach of Non-representational theory however is distanced from accounts which privilege subjectivity and instead positions affect as prior to any known and nameable emotional states. Thus Non-representational accounts tend to rely on the term of affect rather than emotion. Yet, the two terms sometimes are employed interchangeably (see Sheller 2004), despite having distinct epistemological pedigrees (see Pile 2010). On the one hand, feminists used affect to describe the 'motion of emotion' (Thien 2005, p451). On the other hand, Non-representational accounts used the language of emotion when referring to affect (Sheller 2004). Feminists were criticised for their tendency to name and compartmentalise emotions and were accused of naivety and over-reliance on narrative accounts by proponents of affective geography (Anderson & Harrison 2006, McCormack 2006). Likewise,

feminists argued that more biologically-inspired accounts of affect within Non-representational approaches tend to diminish the role of emotions as somehow personal and irrelevant to masculinist scientific discourse (Thien 2005). Thus, it becomes obvious that regardless of conceptualizations of emotions as socially mediated and affect as pre-personal, the terms themselves remain highly contested. This contest hampers productive engagement between the two strands of literature (Bondi & Davidson 2011).

The second key point of difference is in relation to how bodies encounter spaces. As outlined in the previous section, affectual geographies employed Non-representational approaches to conceptualise mobile bodies as implicated in the making of space through their affective and embodied practices and performances (Abrahamsson 2010, Bissell 2009, Evers 2006, Gokariksel 2009, Jones 2005, Obrador-Pons 2007, Nast and Pile 1998, Simpson 2009, Straughan 2010). While these studies focused on performative bodies and reflected on bodily intensities through employing the concept of affect, they tended to overlook how the materiality of the body changes the experience of space. Non-representational approaches employ non-personal and pre-personal notions of affect which tend to assume a universalised body by default. There are no differently sexed, abled or raced bodies in much of the literature that focuses on expressive events of embodiment and bodily practice (see Dewsbury 2000, Dewsbury et al. 2002, Wylie 2002). Affective geographies tended to avoid discursive or psychic understandings of the body and rather, focus on the way that the ability to affect and to be affected precedes, and exceeds any stratified formations of power-knowledge (McCormack 2003).

Feminists, on the other hand, are interested in examining how embodied difference is related to discursive structures, space and geometries of power. Early feminist conceptualisations of performative bodies stressed the importance of iterative practices to create, maintain or disrupt aspects of gendered identity. Perhaps best known is Butler (1993, 1999) who drew on Foucault and psychoanalytic theories to posit that subjectivity was fluid and unfixed, only reinforced through constant performance. However, it was by attending to bodily difference that feminists were able to illustrate the ways that discourse worked to endorse or disavow (non)normative bodies and that this was essentially how bodies were disciplined to perform within structures and

relations of power (Bordo 1993, Diprose 1994, Douglas 1982, Gattens 1996, Monk & Hanson 1982). This attention to the body as a site of power-knowledge is evidenced in the growing body of 'emotional geographies' which seeks to overcome Cartesian dualisms that separate mind and body (Collis 2007, Colls 2004, Longhurst 1997 2001, Parr et al. 2007, Johnston & Longhurst 2007). This work emphasises the importance of embodied experiences for producing meaning in everyday life while addressing the relationality and spatiality of emotions. This means considering how the situatedness of bodies, places and objects work to evoke particular emotions (Bondi 2005a, Anderson & Smith 2001).

Many feminist geographers critique Non-representational geographies because they tend to reinstate masculinist dualist thinking of mind and body that ignores gendered bodily differences and de-emphasises the humanity of embodied experiences (see Hayes-Conroy & Hayes-Conroy 2008, Probyn 2004, Thien 2005, Tolia-Kelly 2004). Bondi (2005b, p438) argued that 'feminist geographers find research informed by Non-representational theory too abstract, too little touched by how people make sense of their lives, and therefore too 'inhuman, ungrounded, distancing, detached and, ironically, disembodied'. In sum, affective studies of movement although focused on the performative body, tend to overlook how socio-spatial practices are lived through the intersection of ethnicity, age, gender, ability or class (Valentine 2007).

A third point of conceptual difference between (and within) feminist literature and affective geographies concerns the process of subject formation. Some feminist literature arises from a distinctly psychoanalytical grounding and retains a focus on the subject as the site of agency, here performative practices are the result of an agentic and cognitive self (Bondi 2005b). Other feminists have more commonality with recent Non-representational geographies in their utilisation of Deleuzian conceptualisations of affect to focus on the potentiality and possibilities of 'becoming' (Braidotti 1991, Grosz 2005, Probyn 2000). Thinking through assemblages, subjectivity is conceptualised as arising out of the affective and emotional relations that structure everyday practices and performances. Here, agency does not lie solely within the body-subject but rather is disseminated to other bodies, objects, ideas and intensities of affect. While Non-representational geographies share a similar approach through examining assemblages of affective relations, they tend to avoid the philosophy of the subject through a focus

on the un-representational attributes of the event of embodied performance. For the most part, the formation of the subject within affectual geographies remains pre-given, assumed or under-examined (though see Wylie 2012). Thus, how bodies are entwined within discursively produced relations of power is not featured in more abstract conceptualisations of embodied experiences of affect (Anderson 2000, Dewsbury 2003, Harrison 2000, Latham 2003, Lorimer 2010a, Wylie 2002).

Two rather different approaches to the body-subject are present in the feminist literature that share a focus on performance and embodied practices as well as how they are experienced through affective registers. Figure 2.2 illustrates this important conceptual point which is fundamental to understanding the political relevance of the approach taken in this thesis (which is addressed in section 2.7).

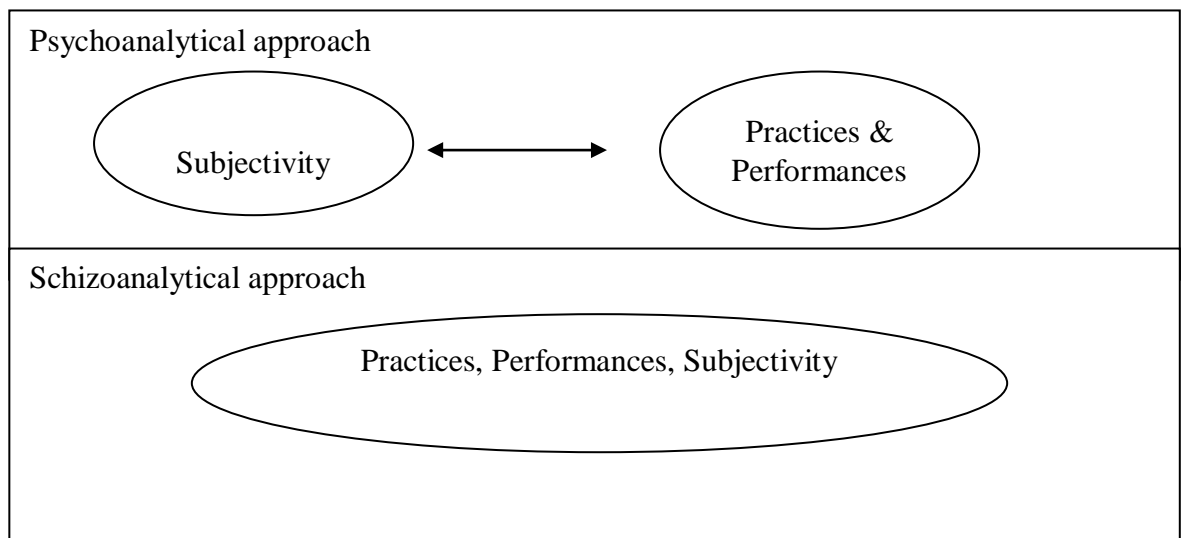


Figure 2.2 Diagram of Psycho- and Schizo- analytical approaches to subject formation.
Source: author diagram

On the one hand, from a psychoanalytic approach, agency largely resides within the body-subject and is considered in terms of human emotion. Following a psychoanalytical approach, decisions about everyday life practices are attributed to a knowing and agentative subject. Subjectivity is imagined as pre-formed, though still requiring reinforcement through performance. A psychoanalytical approach works from the underlying assumptions of known and knowable bodies, with discrete boundaries between mind and body, and causal linear relationships. As indicated by the double-

headed arrows in Figure 2.2, the mind and subjectivity are altered by the materiality of practices and performances, yet body and mind still remain discrete and bounded.

On the other hand, a schizoanalytic approach works from the starting point of the mutual, on-going inter-dependencies between bodies, objects, ideas and affects which constitute the becoming of bodies and indeed the world. As such, subjectivity is positioned alongside practices and performances in Figure 2.2. Deleuzian concepts dissolve differentiations between human and non-human, the material and immaterial or body and mind by an attention to the forces of affect. A schizoanalytical approach emphasises the unknown capacities of bodies, and instead, considers human and non-human bodies in terms of their capacity to affect, and be affected. Here the material and immaterial, objects and ideas, body and mind are vibrant and active, without discrete boundaries, and contributing to the on-going development of bodies along particular trajectories. As bodies develop through the corporeal, affective and emotional registers, subjectivity emerges from the conditions of the assemblage. Thus, the starting point for analysis from a schizoanalytic point of view is the specific assemblage of bodies, affects, ideas and objects which allow for the emergence of subjectivity.

Thus, in order to address how subjectivity is entwined in transport decisions I start by examining the conditions of the assemblages of particular transport modes so as to better understand the ways that material and immaterial conditions and affective and emotional intensities influence how bodies think, sense and act along particular lines. Rather than a focus on how education and information may work to change transport decisions and behaviours from a psychological point of view, a schizoanalytic approach focuses more on the contemporary conditions that allow particular behaviours and practices to emerge in the light of subjective positions. Thus, a feminist approach which acknowledges the materiality and situatedness of bodies can productively engage with affective geographies to embrace concepts of affect and emotion that go beyond the constraints of a strictly Non-representational approach. An attention to the affective and emotional intensities within assemblages which include the power of discursive ideas and the material situatedness of bodies is one way to overcome the restraints of Non-representational theory.

However, before turning to some of the Deleuzian concepts to better understand the significance of this point, I first map out the main strands of literature that inform this

way of thinking. Firstly, the work of Donna Haraway (1991) was instrumental in fostering thinking about the nature of affective relations with technologies. Haraway's concept of cyborgs as hybrids of organic bodies and technological machines opened up thinking about the artificiality of social constructions around dualistic ideas that separated nature from culture. She argued that the biological and the technical operated through mutual receptivity, adjusting and multiplying the potencies of bodies. Drawing on Foucault, she highlighted the way that masculinist technocratic discourses produced an 'informatics of domination', highlighting the power of ideas to affect bodies (1991, p203). Haraway illustrated the way that bodily engagements with transformative technologies fed into new forms of domination associated with Western contemporary high-tech world orders. Thus rather than reinforcing Cartesian binaries that separated mind and body through attribution of an internalised and agentive self, this way of thinking pursued non-dualistic conceptualisations of the body while still acknowledging the power of Foucauldian discursive ideas. This work was extended by Whatmore (2002), Hobson (2006, 2008) and Shove (2004) to examine the reciprocity of human relationships with everyday objects and technologies. This work clearly illustrated how material technologies are inseparable from discursive ideas and evolving social practices. Such ideas have led to a renewed attention to the material interface between human and non-human bodies (Bennett 2009, Braidotti 2002, Braun 2006 2009, Cloke & Jones 2001, Cole & Frost 2010, DeLanda 2009, Popke 2009, Rose & Tolia-Kelly 2012).

Furthering this thinking Grosz (1994, 2008) (drawing on the philosophy of Nietzsche, Spinoza, Deleuze and Freud) argued for Deleuzian-inspired 'intensities' and 'affective forces' that distribute agency across material and immaterial borders. Through the concept of assemblage, she acknowledged the productive capacities of non-human and inorganic bodies to conceptualise how particular dispositions or subjective positions can arise. Grosz rejected dualistic psychological interpretations of subjectivities which posited agency with the self and instead examined how bodies were implicated in the processes of subject formation through Deleuzian concepts, such as assemblage, affect, forces and becoming. Grosz developed a way of thinking that emphasised multiplicities, flows and fluxes and the unfixed attributes of bodies. Subjectivity in this conceptual framework was fluid and contingent, open to possibility.

In a similar way, Elspeth Probyn (2005) (drawing on the work of Bourdieu and psychologist Silvan Tomkins) argued that bodies were unstable and indeterminate, with permeable boundaries in a constant dialectic exchange with the world. Probyn's attention to irrepressible embodied reactions - for example the blush of shame or the wave of disgust - led her to posit that these corporeal occurrences offered opportunities for a realignment of thinking. She expanded the concept of affect to conceptualise it as a force that produced sensations experienced at the 'gut level' and that constituted ways of bodily knowing. Though drawing on concepts from different ontological paradigms, Grosz and Probyn both subscribe to an open-ended view of the body, where the body is constantly in the process of formation and becoming, rather than a fixed and pre-determined entity. Hence, they each advocate for exploring the productive potential of bodies, through moments of reflectivity and interiority, reiterating the Spinozan notion that the capacities of bodies are as yet still unknown. Grosz (2008) and Probyn (2000) rely on assemblage thinking to de-centre the human subject and distribute agency across human and non-human bodies and forces. Thus, in this way of thinking, the body-subject is a product of forces:

What acts are forces, and these forces are not the effects of a subject but its causes, they are not the intentional object of a subject, but something altogether outside the subject (Grosz 2008, p3)

Braidotti's (2011) 'post-humanist' feminism reiterated these non-dualist conceptualisations of bodies and argued the need to consider how new subjectivities might fluoresce. Her post-human ethics and affirmative post-humanist politics argued the need for new conceptual frameworks in order to address the social injustices and environmental problems caused by the current system of capitalism. Braidotti, drawing on a wide range of theorists, and in particular Deleuze and Spinoza, argued that 'the post-human subject is the expression of successive waves of becoming, fuelled by *Zoe* (bare life) as the ontological motor' (2011, p136). Thus, for Braidotti, lived experience, and the experience of difference through embodiment, and interactions with materiality, highlighted not only the processes of becoming but also the imperative of investigating what the productive possibilities of becoming may offer. As such, Braidotti's feminist reading of Deleuze takes a schizoanalytic approach which highlights the unfixed qualities of bodies within relations of affect, and where performance is conceptualised

as the *outcome* of affective encounters through the process of assemblages rather than being the cause.

Much of this literature challenges thinking that demarcates the material from the immaterial and troubles the conventional, static models of matter by conceiving it as always coming into being. This suggests the merging of bodies with materialities, objects and technologies creates socio-technical assemblages which incorporate not only inanimate bodies and things but also immaterial affects that can alter ways of thinking, sensing and acting. It is through these interactions, in the words of Grosz, how *'the living transform non-living objects and they in their turn transform the parameters and possibilities of life'* (2005, p151). For this thesis, the co-constitution of bodies with material and discursive spaces is germane to thinking about how car driving has changed the ways that bodies experience and anticipate the world. A schizoanalytic approach provides an alternative to psychoanalytic frameworks which work within a paradigm of 'lack'. This is important when thinking about changing everyday choices for a changing climate. Rather than the starting point being a focus on the lack of knowledge about climate change or greenhouse gas emissions from cars, attention is drawn to how driving is one of a multitude of assemblages that makes sense to people to sustain the roles, responsibilities and places of everyday life. This brings us back to the important conceptual point represented in Figure 2.2 and which I now turn to elaborate.

2.7 The potential of the schizoanalytic approach

What is evident from Deleuzian inspired feminism is that greater engagement with Non-representational concepts of affect can create affirmative and productive possibilities. Psychoanalytic frameworks work from a position of lack, where what is absent, must be provided, as a way for the subject to achieve full potential. For example, being a woman, being differently-abled or being black is conceived as another category of identity that is layered over subjectivity. This way of thinking is limited as it posits that if the issues of equality for differentiated bodies are addressed, then bodies will tend towards some sort of universal position of justice and equality. It tends to view difference as problematic rather than as productive. A schizoanalytic approach, however, works from the position of the productive possibilities of difference through desire. Here practices and performances are produced by the constant enactment of subjective understandings of self, others and places through the processes of the

assemblage. Thus a schizoanalytic approach is well suited to a feminist approach which embraces the productive capacities of bodies through an attention to desire. As Buchanan and Colebrook (2000, p5) have noted: 'feminism has addressed theory not merely in terms of what a philosopher might offer but also in terms of what feminism might become.' Thus, in the interests of pragmatic feminist post-structuralist engagement I propose a visceral framework that draws on Deleuzian-inspired concepts of affect as a force exterior to the body, and thus 'impersonal', but significantly able to evoke embodied responses. The latter are only able to be experienced through the body and therefore necessarily situated and 'personal'. Grosz (2008, p3) explains:

Sensations, affects, and intensities, while not readily identifiable, are clearly closely connected with forces, and particularly bodily forces, and their qualitative transformations. What differentiates them from experience, or from any phenomenological framework, is the fact that they link the lived or phenomenological body with cosmological forces, forces of the outside that the body itself can never experience directly. Affects and intensities attest to the body's immersion and participation in nature, chaos, materiality.

Thus a visceral framework means that rather than addressing affect or emotion as strictly defined terms, the focus is instead on the interplay between emotion and affect as it moves across, between and through bodies and how this alters the capacity of bodies to sense, think and act in particular ways. Dawney (2013, 628) refers to this as '*the sociality of affect and the somatisation of politics*'. This strategy positions the conceptual debates between affectual and emotional geographies as unproductive, by pointing out the difficulty if not impossibility of separating affect from emotion and questions the need for such nuanced distinctions at all.

2.8 A feminist approach to mobility

A psycho-social approach is one which acknowledges that emotions always spill over from one domain to another creating a multiplicity of spaces that produce and are produced by emotional life (Davidson, Bondi & Smith 2007). While there is a wealth of literature on mobilities that take a psycho-social approach to focus on the networked and relational attributes of advancing technologies to change the experience of space and social practices (Larsen et al. 2010, Lash & Urry 2004, Elliott & Urry 2010,

Büscher & Urry 2009) considerations of differentiated bodies are largely absent. Bodily difference has been approached through a consideration of gender, class or race as pre-given and relatively unchanging categories. For example, gender clearly impacts on mobility choice, access and experience. Research has shown that women have lower levels of community participation (Raju 2010, Sundberg 2007); restricted access to public places (Hanson & Pratt 1995, Silvey & Elmhirst 2003); higher public transport use (Rosenbloom 2006); and, increased responsibility for the movements of children (McDowell 1999, Murray 2008, Skinner 2005). The edited collection by Uteng and Cresswell (2008) attends to a range of issues related to gendered mobility patterns including changing perceptions of sexuality with trans-national travel (Frohlick 2008), racialised mobilities (Subramanian 2008) and low-income accessibility to transport (Srinivasan 2008). While these studies acknowledged the importance of emotion for experiences of transport they do not embrace notions of Non-representational affect and hence remain grounded in more psychoanalytical interpretations of subject formation.

Law (1999) noted that despite the indications that mobility is experienced differentially along the axes of gender, race, age and ability, studies of transport and gender have progressed rather narrowly in two related yet disparate fields. Firstly, this is illustrated in studies which address issues of constrained mobility through women's fear of the threat of violence (Goddard, Handy, & Mokhtarian 2006, Loukaitou-Sideris & Fink 2009, Wekerle 2005); and, secondly unequal access to mobility through the disability literature (Cormode 1997, Driedger, Crooks & Bennett 2004, Porter 2002). In response to this lacuna Hanson (2010) suggested there is a need for more grounded feminist understandings of how everyday transport behaviours are experienced through the intersections of class, race, age and ability by attending to how affect and emotion are caught up in fashioning transport choices. There is a need to recognise the corporeal specificity of spatially-situated driving subjectivities, in which unstructured affective and emotional relationships (bodily intensities) are brought together with an appreciation of how difference is continually structured by discursive labels and categories. Attention to the body as it enacts everyday transport practices within a schizoanalytic framework is most closely aligned to the visceral approach taken up by feminist geographers like Hayes-Conroy and Hayes-Conroy (2008) and Longhurst, Ho and Johnston (2009).

2.9 Thinking through a visceral approach


A focus on how particular bodies are sensually entwined with the social, material and discursive, then, is one way of re-thinking the choice to drive through a visceral feminist perspective. Underpinned by feminist thought that conceptualises the body as always dynamic, Hayes-Conroy and Hayes-Conroy (2008) propose the visceral as a way of opening up consideration of an embodied politics of everyday life. Hayes-Conroy and Hayes-Conroy define the visceral as ‘the realm of internally-felt sensations, mood and states of being, which are born from the sensory engagement with the material world’ (2008, p462). This approach is significant as Hayes-Conroy and Hayes-Conroy argue:

addressing the visceral realm – and hence the catalytic potential of bodily sensations – has the potential to increase political understanding of how people can be *moved* or *mobilized* either as individuals or as groups of social actors (2008, p469 *italics in original*).

Feminist geographers demonstrate how a visceral approach to the concept of taste offers insights into re-thinking the politics of food in the context of reconciliation (Probyn 2000), the ‘slow food’ movement (Hayes-Conroy & Hayes-Conroy 2008, Hayes-Conroy & Martin 2010) and international migration (Longhurst, Johnston & Ho 2009, Longhurst & Johnston 2013). Similarly, a visceral approach to the notion of touch provided opportunities to re-think the politics of sexuality (Morrison, Johnston & Longhurst 2012, Morrison 2012). Significantly, Morrison (2012) proposed that touch offers a way to re-think material relationships in the performance of gender. Rather than just a focus on the emotional responses to material objects, Morrison argued that bodies are touched by the materiality of objects and that this alters bodily capacities to act. Bodily judgements are acknowledged by feminist geographers as significant to generating visceral responses that provide clues to the emotional and affective relationships with people, objects and places. A visceral approach therefore can be helpful for thinking about driving (see Table 2.1).

Table 2.1 A visceral politics of driving
illustrating the inter-connectedness of body, mind and world.
Source: adapted from Hayes-Conroy (2009, p5)

AFFECTIVE MATERIAL RELATIONALITY			
EVERYDAY LIFE	Material world	↔ Sensory engagement ↔	Minded body
	Landscapes, objects, décor	Sights, Tastes, Textures	Memory, cognition, perception
	Technology	Kinaesthetic, proprioceptive	Internal sensations
	Micro-climate	Touch, temperature	Moods
	Music, speech, utterance	Sounds	Energy levels
	Other people, bodies	Smells	Comportment
CAR DRIVING	Material world	↔ Sensory engagement ↔	Minded body
	Regular courses (roads, routes, landmarks)	Individual and collective rhythms (tempo, signals, styles)	Normative ideas (comfort, speed, convenience)
	Government regulation (speed, road rules, parking)	Vibration, resonance	Symbolic representations (class, distinction)
	Traffic congestion, accidents, injuries, pollution	Pain, strain, stress, pleasure, relief, release	Discursive ideas (citizenship, entitlement, equality)



A VISCERAL POLITICS OF DRIVING

Bodily judgements are reinforced by the affective experiences of car driving
despite cognitive knowledge and awareness

A visceral politics of driving draws on the concept of affective material relationality. It is a way of thinking about how bodies are immersed in interactive exchanges and multi-sensorial engagements that alter the capacity of the body to act, think and sense. The body and mind, material and immaterial are engaged in constant dialogue as sensory information works to reinforce or disrupt not only circuits of ideas, but also circuits of affects and emotions between and across human and non-human bodies, objects and materials. In this way of thinking, the materiality of car driving is not entirely reducible to physiological experience, emotional encounters or iterative representational practices.

A visceral politics of driving draws on a schizoanalytic approach where subjectivities emerge through bodily immersion in material and discursive spaces, the constant interchange via the senses between body and mind, internal and external worlds, creates new judgements through new experiences and encounters. Affective experiences become stratified through the body to materialise the intangible ideas, anticipations, imaginings and memories that are evoked in everyday driving practices. In the words of Longhurst, Johnston & Ho:

Using a visceral approach is another way of thinking through the body, not just as a surface that is etched with social messages but something that encompasses surface and depth, outside and inside, solids and fluids, materiality and spirituality and head and heart (2009, p339).

Probyn (2000) and Longhurst, Ho & Johnston (2009) argued that the visceral is a productive way to investigate bodies and subjectivities and how these relate to wider discursive structures. A visceral approach to car driving is attentive to mobility as socially, culturally and institutionally situated within relations of power. A visceral approach to automobility also attends to the way that affective and emotional intensities connect bodies, materialities, ideas and places to create bodily judgements which enhance or increase bodily capacities to think, sense and act. To give the reader more insight into why these underlying theoretical concepts matter, in the next section I outline two further conceptual points.

2.10 Conceptual tools

Having provided a working explanation of the main concepts of subjects, assemblages, affect and emotion, in this section I provide an outline of another two concepts from the work of Deleuze and Guattari (1987) that are central to the thesis: ‘lines of flight’ and the ‘Body without Organs’. Rather than attempting to work through an explanation of the inherent complexities of this philosophy (see Buchanan & Lambert 2005, Fuglsang & Sorensen 2006, De Bolle 2010) I want to work with more general ideas and explore how they can help to think in creative ways about how social life is experienced, a kind of ‘applied Deleuzism’ which is suggestive and experimental ‘in favour of liberating creativity’ (Buchanan 2000, p8). In essence this means, in relation to concepts, an approach that embraces ‘openness’ (Thanem & Linstead 2006, p49). While the

numerous concepts of Deleuze and Guattari are interwoven and arguably inseparable, I draw on only a selection of concepts and neglect a more detailed explanation of others because of their complexity and in the interests of clarity in this section. I start by explaining why the notion of ‘lines of flight’ is important to the framework.

According to Deleuze and Guattari, desire is the pure becoming of bodies situated within the processes of assemblages; bodies desire to affect and be affected in order to alter their capacities. Bodies in this schizoanalytic way of thinking develop out of the stratification of affective experiences; strata are ‘accumulations, coagulations, sedimentations, foldings’ (Deleuze and Guattari 1987, p502) yet are highly mobile. There are constant inter-minglings and transcodings across and between strata that are evoked as bodies encounter the world affecting and being affected. It is the arrangement and stratification of experiences within assemblages that lead to bodies becoming organised along particular ‘lines of flight’. Lines of flight refers to the potential for creative arrangement, as assemblages become developed along one line of flight, the potential to develop along other lines of flight become less likely. Thus bodies develop potentials and capacities that move them to sense, think and act in particular ways and along particular trajectories. This is a significant point for thinking about how bodies may or may not develop along lines of flight that pre-dispose them to different forms of mobility.

Deleuze and Guattari suggest the strangely named notion of a ‘Body without Organs’ to explain how desire is productive of the becoming of bodies (1987, p163). The Body without Organs is a set of practices that the body is always involved in as it seeks out the limit of desire, through the movement of affective intensities. In other words, it is the striving of the body to find a place of zero desire; the unachievable desire of non-desire (or more simply, the lack of lack). Here desire acts as a force that is productive of difference. Therefore the notion of a Body without Organs is where ‘everything is allowed: all that counts is for pleasure to be the flow of desire itself’ (Deleuze and Guattari 1987, p156). This relational non-dualist approach to an unfolding body where, according to Deleuze and Guattari (1987, p263), ‘spatio-temporal relations, determinations, are not predicates of the thing but dimensions of multiplicities’ is perhaps the most attractive point for feminist thinking about the productive potential of

bodies. It throws open the question of what works to intensify the affective capacities of bodies to act, to sense or to think in particular ways:

We know nothing about a body until we know what it can do, in other words, what its affects are, how they can or cannot enter into composition with other affects, with the effects of another body, either to destroy that body or to be destroyed by it, either to exchange actions and passions with it or to join with it in composing a more powerful body (Deleuze and Guattari 1988, p257).

Grosz attests to the power of affect as a way to investigate a form of embodied politics : ‘politics can be seen as the struggle between imperceptible forces, forces in and around us, forces in continual conflict, forces mobilising pleasure, pain and desire’(2005, p193). Understanding the affective dimensions of stable (yet not static) assemblages like that of body, car and road can help to trace how embodied intensities work to mobilise bodies along particular trajectories. Conceptualising desire as a force of becoming means that examining how bodies differentially experience the assemblage of car driving can provide insights into the conscious and non-conscious reasons that people continue to drive. Starting from the point of differentiated capacities to affect and be affected allows a tracing of the movement of desire as the Body without Organs produces material and discursive spaces. As subjectivities arise from these processual assemblages, it becomes possible to connect bodies with cultural, economic and social structures and uncover the relations of power that structure everyday life. It also brings to the fore the unfixed qualities and creative potential of bodies. If affect/desire/becoming is a force that can mobilise bodies to think, sense and act in particular ways, then investigating the micro-geographies of car driving can help understand how bodies might be set in motion along alternate lines of flight that have more (or less) sustainable outcomes. A feminist engagement with Deleuzo-Guattarian concepts offers a hopeful and creative way of investigating the politics of sustainability through connecting subjective experiences to discursive frameworks and possibilities of individual and social transformation.

2.11 Conclusion

In this chapter I outlined several strands of literature that are relevant to this thesis. I contrasted the conceptualisations of bodies, spaces and subjectivities between transport

and mobility studies. The literature review revealed that current transport studies have largely failed to engage with mobilities studies and thus overlooked the opportunity to interpret the choice to drive cars beyond the conventional conceptual boundaries of transport modelling.

I traced the emergence of mobility studies under the influence of Non-representational theory to a strand of affective geographies. I discussed the points of difference and similarity between feminist-inspired emotional geographies and affectual geographies through an examination of the conceptual nuances that are the result of different epistemological origins. I provided a review of the limited feminist literature that directly addresses everyday transport behaviours. Following this, I proposed a visceral approach to the politics of driving as a way to combine a feminist perspective with the conceptual advances in geographical thinking.

Finally, I outlined the Deleuzo-Guattarian concepts that inform this thesis and suggested how they can help to broaden thinking about how policy makers understand everyday transport behaviours. This conceptual framework incorporated thinking from different epistemological and ontological paradigms and offers a pathway to address the challenges of climate change adaptation and sustainable transport options through stressing the productive potential of a visceral approach. I argue that a visceral approach to everyday transport choices can provide rich insights into the way that car driving has become a naturalised and taken-for-granted part of life. Having mapped out the conceptual framework for the thesis, in the following chapter I turn to outline the project design and methodology with these ideas in mind.

CHAPTER 3. METHODOLOGY



Figure 3.1 Driving at night to a friend's place, 23/9/2010, 8.06 pm.
The blurred forms and reflected lights captured from the back seat of the car give some indication of how body-car movements are co-dependant.
Source: participant Jason

3.1 Introduction

This chapter justifies and explains why the methodology is appropriate to address the research aims. The chapter is structured into four main sections. The first section locates the researcher within the project. I also outline why this project goes beyond conventional data collection methods of semi-structured interviews. Attention is given to documenting the difficulties with recruitment that resulted in amending the project design and implementation. The second section details the mixed-methods approach and justifies the use of semi-structured interviews, solicited travel diaries, diagrammatic time-space prisms, sketches of driving, photographs, audio and audio-visual recordings as well as accompanied journeys. The third section discusses how rigour was incorporated into all stages of the research process: design, data collection and analysis. Attention is given to ethics. The fourth and final section discusses the different methods and corresponding modes of analysis that were employed to interpret different types of

data. Some parts of this chapter are published elsewhere (see Harada & Waitt 2013). To begin, the chapter reflects on the personal.

3.2 Rationale- what is driving the research?

I start by outlining my relationship with cars to give some insight into my own embodied geographical transport knowledge. Growing up in a household where my father collected and restored old cars meant that I have a long history with cars and driving. From my earliest years, I remember polishing the chrome work on classic Australian cars (like my personal favourite - a pale green 1962 push-button operated automatic, Chrysler Valiant with fins and upright tail lights) for many hours on a Saturday afternoon. From around ten years of age, my father would let me move the cars around the yard, backing them in and out of the double garage. I soon appreciated the different arrangements and positions of gears sticks, handbrakes, pedals and mirrors that varied with make and model which had to be mastered as a part of these tricky parking manoeuvres. Cars had their quirks; they rattled, chugged, stalled, broke down, they needed to be handled in particular ways that meant different driving skills for different cars. Aesthetic qualities were also important. There was a real difference between spending an afternoon begrudgingly polishing a small blue ‘ugly’ Toyota Bellet and an afternoon of pleasure seeing the glint of the elegant lines and tail fins of the Valiant. With nicknames like Herbert and Rosie they became anthropomorphised; members of an extended family. It seemed only natural to get a licence at seventeen and start driving.

Guided by my father’s advice on make, model and price I drove a Holden Barina hatchback that was economical, quick, convenient and fulfilled my desire to feel safe when travelling alone often at night from inner-city alleyways to the deserted streets of far-flung suburbs. As a single woman, the car allowed me to socialise with family and friends in all parts of the cities of Brisbane, Sydney and Melbourne wherever and whenever I wanted. After I married, and had children, the car became an even more vital part of suburban Sydney life. The hectic schedule of driving to schools, sports and various after school activities along with work and household duties meant that the car became a necessity. Juggling roles and responsibilities meant that driving took up a significant portion of each day. Living in the southern suburbs of Sydney where roads are busy, there are frequent traffic jams, parking is at a premium and school zones

create traffic chaos, I became increasingly frustrated with driving. Well informed about the impact of driving on greenhouse gas emissions I decided to reduce the amount of driving that I did with the aim of becoming car free.

Having taken up this personal challenge I began to reflect on own embodied geographical knowledge of active transport modes. At first, I derived a great deal of pleasure from riding my bicycle with my son to school or to the local shops - *'This will be easy'* I thought. However, relinquishing the car for a train trip of up to four hours per day to travel to university to work I was often overwhelmed by a range of shifting emotions- including pleasure alongside disgust, anger and frustration-as I often missed trains, arrived late and felt more time-pressured than ever. In the early days, I quickly learned that much like driving, train travel demanded developing new skills, habits and routines that included understanding timetables, ticketing zones and pricing, mapping routes, making connections, finding the right platform, and even getting on the right train and being able to recognise a 'good' seat. As well as these changed bodily habits, there were also new social situations to be negotiated within the unfamiliar spaces of public transport. New ways of moving meant new sets of social norms to be negotiated - what did one do when any number of unfamiliar events erupted; like when the person sitting next to you on the train started singing loudly, or having an agitated phone discussion? I kept a diary of my everyday travel routines and tracked the flows of affect and emotion circulating within and between bodies. This was aligned to learning about the embodied dimensions of transport and the challenges of asking people to put into words their embodied knowledge of mobility.

3.3 How and why the project changed

The initial project design involved a planned intervention. However, in the early recruitment stages it became clear that an intervention of a period of car free travel was never going to work. Recruiting people to talk about the inner-life of their cars was difficult enough, inviting people to commit to being car-free for any set period was almost impossible. Recruitment began from a 2009 survey which examined household sustainability entitled *'Tough Times? Green Times? A survey of the issues important to households in the Illawarra'*. From 11,555 respondents to this survey, 40 people were contacted who had indicated a willingness to undertake further research around the theme of sustainability. However, from these 40 contacts, only two participants were

recruited. Thirty-eight cited the inconvenience of the intervention as the main reason for non-participation and many were wary of the time requirements of a project of this kind. Likewise, a call for participants through the distribution of leaflets (see Appendix 1) did not result in any further recruitment despite being circulated in Wollongong libraries, the convention centre, community centres, workplaces and several local transport forums. Equally, only three people tenuously agreed to join the project following a press release from the University media unit that resulted in a report in the local newspaper; *The Illawarra Mercury* (see Appendix 2) on 4/6/2010. A local radio interview with Illawarra ABC resulted in two further participants being recruited with conditions. These participants agreed on the condition that there would be flexibility around the planned intervention.

In the light of this response, potential participants were invited to consider the possibility of substituting alternatives to the car at a time that was suitable and more convenient. The planned car substitution intervention was no longer a strict requirement of participation. The next recruitment strategy was to draw on my role as a current student undertaking a coursework subject to call for participants and this resulted in three people who were unknown to me agreeing to participate. University networking events resulted in two people being introduced via a third party and one person expressing interest directly. The remaining seven participants were recruited by the technique of snowballing where participants are introduced through social networks (see Figure 3.2).

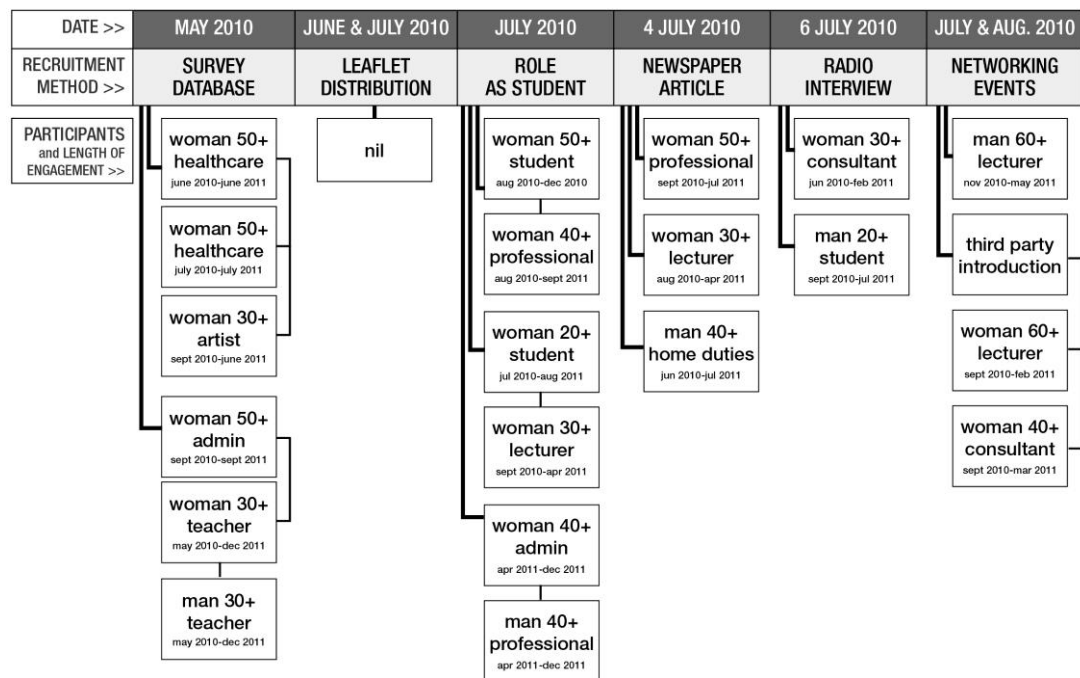


Figure 3.2 Recruitment Strategies Employed

Source: author diagram

Participants shared private car ownership, a reliance on car mobility, made primarily short drives (less than 35 kilometres) on a daily basis and had lived in Wollongong for at least twelve months. All were of Australian, English, Irish and Dutch backgrounds and all but one were Australian-born. Generally middle-class, with high levels of educational qualifications and many are employed as professionals. The cohort reflected the demographics of the Illawarra where around 46 per cent of the population hold formal qualifications and are of English descent (Wollongong City Community Profile 2013). None commuted by car to Sydney for regular work. In terms of socio-economic characteristics, the twenty people who consented to participate in the project were diversified by age, household composition and occupation (see Table 3.1).

Table 3.1 Participant Profiles

#	Pseudonym	Age grp	Employment/occupation	h/hold composition	cars/Household
1	Krissy	40+	p/t Office manager	married, two children not at home	2
2	Jude	50 +	p/t Health professional	married, two children not at home	2
3	Kay	50+	p/t Health professional	single, no children at home	1
4	Steve	40+	f/t Home duties	married, two children at home	2
5	Jodie	40+	p/t Psychologist	married, no children at home	1
6	Jack	20+	f/t Student	single, shared house	2
7	Elouise	40+	p/t University lecturer	separated, no children	2
8	Carla	40+	f/t Business professional	married, three children at home	2
9	Kathleen	30+	p/t High school teacher	married, three children at home	2
10	Mathias	30+	f/t High school teacher	married, three children at home	2
11	Susan	30+	f/t Consultant	single, independent living	1
12	Lisa	20+	f/t Student	single, shared house	2
13	Angela	30+	f/t Artist	married, one child at home	1
14	Trevor	50+	f/t University lecturer	married, three children not at home	2
15	Harriet	40+	f/t Business professional	lives with partner, no children	2
16	Maureen	30+	f/t University lecturer	married, no children.	1
17	Margie	40+	p/t Office manager	married, one child at home	1
18	Nick	40+	f/t Marketing professional	married, one child at home	1
19	Jane	40+	f/t student	married, no children	1
20	Danielle	50+	f/t university lecturer	partner, no children	1

As shown in Figure 3.3, geographically, the participants were located along the coastal corridor from Otford in the North to Shellharbour in the South. Most participants lived in close proximity to bus stops and the South Coast train line local stations (within a five minute walk), except those living in the western suburbs who had greater distances to travel to train stations though who still had access to bus services.



Figure 3.3 Geographic locations of participant residences.
 Note: participant numbers from previous table match locations as shown on map.
 Source: author diagram

3.4 Implementing the project

The recruitment process alerted me to the fact that giving up car driving in the name of unpaid research was not an attractive idea for most people. As such, the implementation of research tools and the scheduling of data collection became responsive to the needs of individual participants rather than insisting on a more standardised framework. Participants were invited to choose from a wide range of qualitative methods, to use methods that they were both comfortable with and could deploy at convenient times. Rather than a focus on how embodied geographical knowledge may shed new insights to the resistance and footings for transitioning from one transport mode to another,

participants provided insights into how car driving came to make sense in the context of their hectic daily lives. The next section outlines how a mixed-methods qualitative approach was appropriate to enable a rich multi-layering of empirical data from different contexts, while also building trust and rapport to facilitate participants' talk about the emotional dimensions of driving.

3.5 Driving ethnographies: Mixed-method qualitative approach

In planning fieldwork, particular attention was given to designing a project that could trace participants' everyday transport choices through integrating the analysis of talk about cars with the unfolding in-the-moment embodied practice of the phenomenon. In order to generate a portfolio of empirical materials that traced participants 'doing' everyday mobility, the research programme employed a non-prescriptive, mixed-methods approach that combined what might be categorised as conventional methods augmented by less conventional methods. This included combining travel diaries, semi-structured interviews and sketches with mobile methodologies that included 'ride-alongs' and audio and video recordings. Over the duration of the project participants undoubtedly became increasingly self-reflective about their driving practices. There were remarks from participants to this end. Comments were made such as: 'I never realised I drove so much', and, 'I never realised how much I enjoy driving'. Interestingly, as participants became more reflective of their driving, none attempted to reposition themselves as an environmentally responsible citizen by driving less. The revised project information sheet emphasised that the project aim was on tracing, rather than modifying, everyday transport choices.

3.6 Travel log and time-space prism

Conventional textual-based methods served a number of important roles. The aim of the travel diary was to record, over a two week period, destinations, routes and different types of mobility. Participants were given the option of recording patterns of movement either in words or as a time-space prism to illustrate temporal rhythms, arrival, and departure points. Drawing a sketch or time-space prism to represent their idea of everyday mobility was an appropriate method to help facilitate initial conversations about transport preferences (see Figure 3.4).

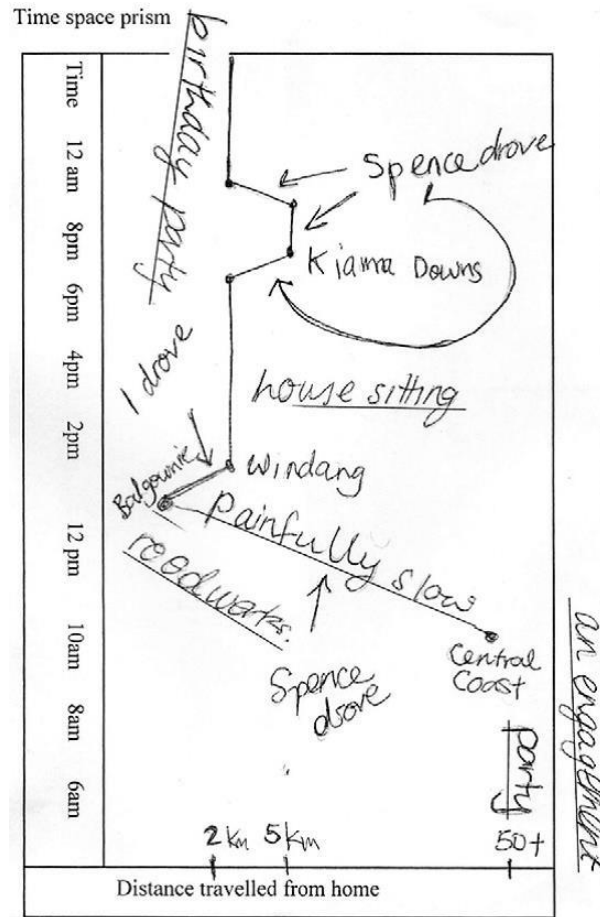


Figure 3.4 Example of a Time-space path 17/10/2010
Source: participant Lisa

The time-space prism was put forward by Torsten Hägerstrand (1970) as a tool to bring the spatial and temporal dimensions of transport behaviours to light. Hägerstrand generated a strand of literature known as time-geographies which is integral to humanistic approaches (Thrift & Pred 1981). Yet, time-geographies are often critiqued for sustaining a masculinist, rationalist view of mobility and overlooking the embodied dimensions of movement (Rose 1993). Notwithstanding this critique, the time-space prisms drawn by participants provided insights into the embodied aspects of driving by generating conversations around aspects of particular journeys. For example, in the diagram above, the participant recalled her annoyance at being held up by traffic for almost an hour and how she and her boyfriend shared the driving due to fatigue. Thus time-space prisms were useful for participants to reflect on the ideas, relationships and forces at play in car journeys.

3.7 Semi-structured interviews

Semi-structured interviews provided an opportunity to discuss attributes of these weekly mobility patterns that illustrated themes including routes, rhythms and velocity. The first interview was structured around three main themes; present car ownership and driving patterns, past driving experiences and current understandings of climate change. The issues of climate change were approached through open questions that explored participants' knowledge, awareness, and concern about sustainability. The second interview was also structured around three themes; the motivations for driving, activities that were undertaken while driving, and the pros and cons of driving. As well, follow-up conversations employed open questions for example, if they used a pet name for their car or how they anticipated driving speeds, to explore their relationship with cars. These methods of questioning generated textual accounts of mobility. Interviews are a commonly used tool in the social sciences however they are limited because they provide accounts based only on what people *say* they do (Limb & Dwyer 2001, Punch 1998, Shostack 2006). In addition, as noted by Büscher, Urry and Witcher (2010), Law & Urry (2004), Lorimer (2003) and Waitt & Cook (2007), because textual-based methods are disembodied they oversimplify the experience of mobility. Talk about the body gathered in semi-structured interviews deals poorly with the fleeting; the sensory – vision, sound, taste, and smell; the emotional – outbursts of rage, pleasure, disgust, and pride; and the kinaesthetic – the pleasures, pain, and fatigue that are integral to the movement and displacement of people. Therefore, it was necessary to employ research techniques that enabled participants to communicate both verbally and non-verbally, and provide them with opportunities to create their own research encounters on-the-move.

3.8 Mobile methods: the ride-along

Dewsbury (2010) has pointed to the inherent difficulties of conceptualising the research encounter as performative, where researcher and participant take part in knowledge making that is at once representational, yet attends to the non-representational. In order to enable participants to communicate both verbally and non-verbally, they were invited to create their own research encounters on-the-move and were asked to give the researcher permission to 'ride-along'. As Büscher and Urry (2009, p103) argued, mobile methods require techniques that allow researchers to 'move with and to be

moved by subjects'. Laurier (2004) used this 'ride-along' technique in his research on office working on the motorway. He concluded that the space of the car allowed for the unfolding of particular types of conversations, gestures and interactions, which illustrated the relational quality of driving with others.

'Ride-alongs' offered at least three distinct benefits. First, mindful of the work conducted by Laurier et al. (2008), riding along with participants sustains a particular type of conversation. Drive talk is in part fashioned by the motion of the car and how the interior of the car is made private through individual ownership and personalisation. Equally important to drive talk is how bodies are aligned through the position of forward facing seats, making maintaining eye contact difficult between driver and passenger. Hence, drive talk often relies upon the subtleties of timbre, tone, and inflection alongside use of bodily gestures (Kanter 2007 cited in Ferguson 2009). For this project, the seated alignment of bodies within the moving car helped sustain an affective atmosphere of comfort that was conducive to participants sharing intimate details about themselves, their driving, and their relationship with cars. Riding along with participants sustained engagement with their ways of thinking in the car.

Second, riding along with participants provided opportunities to observe/sense the non-verbal communications during the drive that are integral to making and sustaining embodied geographies. These embodied dimensions are communicated through emotional registers and bodily reactions, including faces, eyes, postures, gestures, and inflections of voice (Crang 2003). Through participant observation/sensing, the researcher strived to be alert to bodily gestures and bodily comportment.

Third, the 'ride-along' offered an opportunity for the researcher to use their own body as an 'instrument of research' (Longhurst, Ho & Johnston 2008). This required an attention to the embodied qualities of research contexts and to the clues provided by the researcher's body to the affective and emotional dynamics of research encounters through being alert to changing sensations and moods experienced through bodily intensities. Embracing arguments that knowledge does not exist independently of who, where, and when it was created; positionality in mobilities research also requires remaining alert to the bodily effects of becoming mobile (see Box 3.1). The field notes from a ride-along with Lisa demonstrate how the embodied histories of bodies plays a

part in how the research event is encountered, and alters us to the bodily affects of becoming mobile.

Box 3.1 Ride along with Lisa

The car has lots of stuff in the back; I can see books, a bag, a cardboard box with wine bottles inside and shoes on the floor. We talk about the car and she pats the steering wheel affectionately and rubs her hand on the side of the seat when she talks about it. She starts the car and puts it into gear, it is a manual. Lisa looks around up and down the street and then pulls out with a jerk and a squeal of the tyres. I feel myself stiffen and plant my feet firmly on the floor as she drives off with speed. We drive up to the closest roundabout and she keeps her speed up anticipating that she can cross the roundabout without having to stop and give way to an approaching car on the right. The accelerator noise hesitates as Lisa's foot wavers over the accelerator pedal. She increases the speed and we nip through the roundabout. As we drive and talk she gestures freely with only one hand lightly on the steering wheel, changing gears up and down with a jerk of the leg and a slight motion as she leans forward. The car is warm and stuffy. As we hurtle around corners the wine bottles in the box on the backseat clank against each other, the engine makes a raw sound; a staccato of stopping and going. There are pauses and hesitations as Lisa contemplates changing lanes or turning and I can see her foot hesitating above the pedal. This adds to the feeling of uncertainty and unpredictability which seem to press onto me. She seems to quiver on the point of decision, accelerate and take the turn? Or wait for a bigger break in the traffic? At one point turning across a busy road, Lisa decides to wait, even though oncoming traffic is more than a safe distance away. I wonder if this is for my sake. At times her driving is a combination of overly cautious and daredevil close. As we talk, Lisa tells me laughingly of how at certain times she is overcome with an inexplicable desire to drive directly into the path of oncoming traffic, imagining the tangle of metal and the pain of impact. She relates how sometimes she has driven at speeds over the speed limit in a quest to 'feel some sensation' or how she imagines plunging her car off a bridge. 'Holy shit' I think, and feel the muscles in my neck go tight. We are driving through a busy intersection and all it would take would be one turn of the wheel. Her relaxed manner of talking and turning to me to make eye contact indicates that she feels comfortable driving and chatting. Her focus shifts from our conversation to the demands of driving, back and forward, her speech slows and her body turns to the direction of the road, leaning forward slightly, head up, as she reads the traffic and then again, leans back with her body against the seat and picks up the thread of our conversation, turning her head to me. She pats the steering wheel again. She drops me off in a side street and then stays in the car to make a phone call to arrange her afternoon with a friend. I feel my body relax as I walk away.

Field notes 18/11/2010

3.9 Audio and video recordings

To help reduce the affective capacities of the researcher's body from the car assemblage, participants were also invited to make independent audio and/or video recordings of their regular car journeys. The researcher became present as an audio or video recorder. This is not to say that the recording device itself was without its own affective capacities. Bernard (2006) documented how participants at first may be highly aware of recording devices and tend to over-perform, and stage activities and conversations with this in mind. However, he agreed with Mehl et al. (2001) who found that after several days this affect tapered off and participants became less aware of the recorder over time. In fact, most participants admitted that they routinely forgot about the presence of the recorder and were often surprised, amused or embarrassed at the candid nature of the recordings. Following the advice of Duffy and Waitt (2011), audio recordings of sounds meaningful to participants offer a technique to explore the unwilling and unforeseen. Sounds are an integral part of the common sense understandings of everyday practices and play a crucial role in the social relationships that help comprise a particular spatial context. Duffy et al. (2011) argued that the affordances of sound – rhythm, tempo, beat, melody, and mood – are at once cognitive and corporeal. Duffy et al. (2011) built on arguments of the philosopher Merleau-Ponty (1962, 1996) that listening should not be regarded as simply a registration of sensation of the ears, but of the body as a whole. In other words, none of our senses works alone, but in relation to each other. Furthermore, Duffy et al. (2011) suggest that the precognitive experiences of sound in and through the body are aligned to affective registers – that is, the capacity of bodies (not just human or even organic ones) to affect other bodies and be affected by them.

To help further animate journeys, the project also incorporated video recording in order to situate movement at the centre of my methods. Video methodologies are more widely used within geography to examine everyday practices (Ash 2010, Laurier & Philo 2006a 2006b, Morton 2005, Spinney 2009). Mirroring the work of Brown and Laurier (2005) and Laurier et al. (2008), video methods created possibilities to access the bodily affects of happenstance, motion, velocity, and rhythm. Like audio recordings, video footage documented unfolding events during particular journeys. The interest in both audio and video recording was as a way of 'moving with' participants without the presence of the researcher, and also opening up the possibility of 'being moved by' the

data (Lorimer 2010b). Participants were given few instructions, other than to record events that were significant to them, allowing them control over what was produced. Some mounted the recording equipment on dashboards and taped whole journeys, while others asked passengers to hold the recording equipment and gave directions on when and what to record. The open-ended research process was valuable because it revealed a number of different ways the affordances of sound and movement mediated the bodily affects of driving. As it happened, these events regularly centred on journeys to work, journeys with family members and ‘going out’. One of the benefits of using video was the opportunity for close inspection of more subtle details multiple times, and as such something that had not been apparent in the ‘doing’ of a regular drive might take on more significance on re-viewing (Simpson 2011). Although re-viewing can never capture fully the actual event, video created possibilities for researcher and participant to re-live moments in ways that would not be possible any other way. Because video shares some of the synaesthetic qualities of film it can appeal to bodily senses other than just the visual (Pink 2007). In this way, the sounds, vibrations and resonances worked to augment the visual and helped to call up memories and imaginings, emotions and ideas about the events - it allowed participants to talk through embodied events (Spinney 2009).

However, working with sound and video recording to access the emotional bonds and affective ties sustained by driving brought a new set of challenges. For some participants, sets of ideas surrounding what constituted valid research topics and methods were a source of both confusion and friction. For example, for some participants when asked to re-listen to the sounds of driving found it difficult to provide further insights. Some tended to be dismissive or to become annoyed rather than providing further qualitatively rich and deep contributions. Instead, several commented that they were ‘*just the normal sounds of driving*’ (see Box 3.2). For those participants most familiar with social science research methods, audio and video recordings did not align with their understandings of what rigorous research should entail. Indeed, these participants questioned audio and audio-visual recordings as constituting ‘valid’ and ‘valuable’ data. Finally, for others, the non-directive approach was puzzling. Despite repeated assurances that the project focus was on the ‘boring’ aspects of everyday driving, these participants often said that ‘there was nothing interesting to record’.

Participants were constantly reassured of the importance of recording the familiar, routine, unremarkable, and the ordinary.

Box 3.2 Conflicting Paradigms

I sense Susan is uncomfortable with the interview when I try to bring it around to the sounds of driving again. She sits up a bit straighter and I could see her face was flushed. She brings the discussion back to the rationalities of driving to work, the cost, the time, not arriving dishevelled, the need to make several mode changes. I try one more time to get onto the subject of how she might 'feel' when driving but she gives me a death stare and I lose heart and start to flick through my interview notes. There is an uneasy silence for a few moments. She stands up saying 'well if those are all the questions then, I'll be going' officiously shakes my hand and walks out of the coffee shop. I feel terrible that I have upset her and feel like a lousy researcher to boot. Susan does not respond to any of my communications after this date and refuses to see me when I attempt to deliver her shopping voucher for participation that I later post to her.

Field notes 16/6/2010

Having justified a mixed-methods qualitative approach, in what follows I outline the strategies incorporated into the research design to ensure methodological rigour (Hay 2005) and highlight the importance of the notion of the embodied researcher.

3.10 Incorporating processes of research rigour

Lincoln and Guba (1985) provide a useful framework for ensuring rigour in the research process. They provide four essential elements: credibility, transferability, dependability and confirmability as essential considerations for carrying out research (see Table 3.2).

Table 3.2 Criteria for evaluating qualitative research
Source: Adapted from Lincoln and Guba (1985)

Criteria	Definition	Strategies employed to ensure rigour
Credibility	Authentic representations of experience, theoretical approach comprehensible to non-academic community.	Purposeful sampling – recruitment of people who fit into an identified target group i.e. regular car drivers. Debriefing - regular consultations with supervisor and peers. Conference and seminar presentations throughout research process, completion of a literature review.

Criteria	Definition	Strategies employed to ensure rigour
		<p>Member checking - revisit participants to confirm that interpretation/analysis is a satisfactory representation of their experiences.</p> <p>Positionality statements provided relevant to the topic.</p> <p>Triangulation - multiple methods of investigation, direct quotes from participants, observation of embodied responses.</p> <p>Prolonged engagement - regular contact with participants through email, phone, face-to-face informal meetings.</p>
Transferability	Fits within contexts outside the study situation; significance and originality	<p>Thoroughly describe methodological and analytical strategies.</p> <p>Literature review undertaken to set context.</p>
Dependability	Minimization of idiosyncrasies in interpretation. Variability tracked to identifiable sources	<p>Interviews recorded and transcribed by researcher. Extensive field notes kept to record general circumstances or irregularities.</p> <p>Copy of transcripts offered to participants for validation.</p> <p>Work examined by supervisor.</p> <p>Member checking – joint listening/viewing of audio and audio-visual material to eliminate researcher bias.</p>
Confirmability	Extent to which biases, motivations, interests or perspectives of the inquirer influence interpretations	<p>Employ critical reflexivity.</p> <p>Positionality statements provided.</p> <p>Research diary utilised.</p> <p>Reflective journal utilised.</p> <p>Employ methods that reduced the impact of the presence of the researcher.</p>

Throughout the course of the research project I endeavoured to maintain rigour by implementing a range of strategies that included constant reflexivity, maintaining relationships of trust with the participants through regular meetings and discussions and being open to participant-led events. This often meant taking part in everyday activities like sharing a coffee or a meal at a favourite spot, helping to unload the shopping, visiting relatives and friends, and picking up supplies from the local hardware shop or even attending birthday parties and barbeques. The research design was one of constant re-iteration where different types of data were considered in relation to other types of

data (see Figure 3.5). For example, travel diaries with few journeys recorded over a period could be compared to the frequency of ride-alongs over a different period to highlight inconsistencies or anomalies.

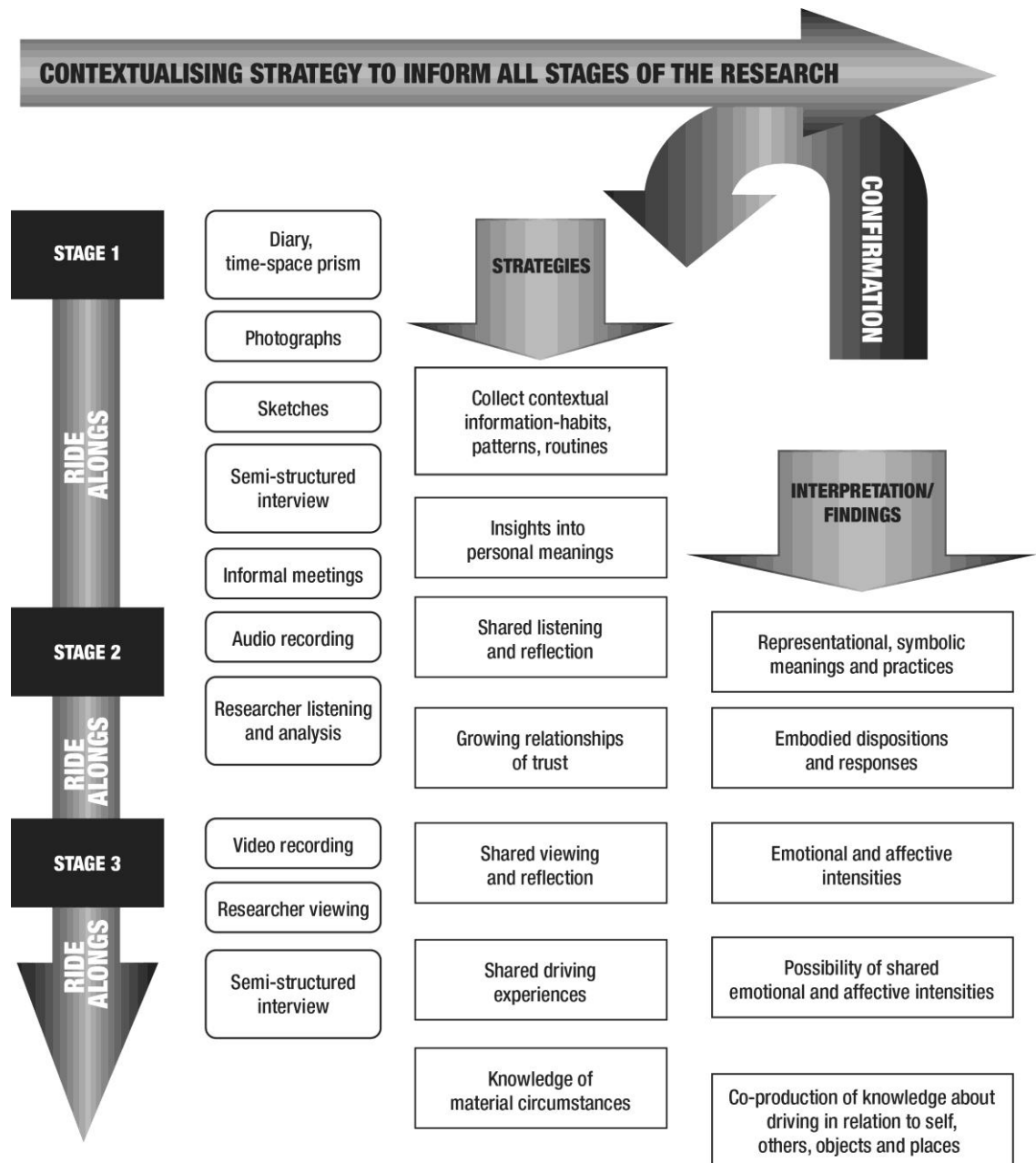


Figure 3.5 Diagrammatic representation of the research design process
Source: author diagram

Each participant built up a portfolio of layered qualitative data from different contexts. This enabled opportunities to investigate the nuanced meanings of car driving in

relation to personal and domestic circumstances by reading across the data (Jackson 2001). Further, to confirm interpretations I also relied upon informal meetings where it was possible to discuss interview transcripts, watch audio material or listen to sound files. This co-production of knowledge should be considered in terms of the relationships of power between the researcher and the participant. Consequently, the following section turns to take into account the notion of the embodied researcher.

Clifford and Marcus (1986) and Smith (1993) pointed to the way that knowledge generated in an interview situation is always situated due to how sets of ideas impact upon researcher and participant relationships. Commonly, this is dealt with by providing a positionality statement that addresses issues such as the gender, age, ethnicity or class of the researcher in order to clarify how the researcher is positioned within the research process. However, Rose (1997) goes further to suggest that researchers reflect on how being embedded in the research process impacts on and changes the body of the researcher as well as changing the research process itself. Furthermore, Longhurst, Ho & Johnston (2008) urge researchers to reflect on how they perform different embodied subjectivities in different places. They argue for using the body as an instrument of research (Crang 2003) as a way to uncover 'embodied difference'. For example, previous involvement in a car accident meant that I participated in ride-alongs with a pre-formed embodied disposition to driving. This included an acute awareness of the car's relative position within changing traffic – including travelling too fast or too close to another car – and how this could trigger involuntary bodily reactions of distress including sweating and pushing on an invisible brake. Hence, I became aware of how my own bodily reactions could change the relations within the automobility assemblage. Rather than presenting a picture of a rational, autonomous researcher it is important to consider the way that various irrational, embodied and emotional responses come to matter in the context of the research. As such, the personal reflections included in boxes throughout the thesis aim to make explicit the processes of knowledge production (Wagner 2002) (see Box 3.3). The reflective diary entry below illustrates two points. Firstly, how the research project impacted on my body, at times giving rise to emotions including frustration, impatience and annoyance. Secondly, it reflects my shifting understandings of participants' points of view. On re-reading the initial frustrations of implementing the project, I came to realise the centrality of driving for how participants organised their lives in Wollongong.

Box 3.3 Uphill battle

I feel frustrated. Things are taking a lot longer than I expected. As I meet up with another participant and hear the long list of how hard it would be to catch public transport, the need to schedule around grandmother's birthday, or the dog's visit to the vet, or the funeral that must be attended and they are not sure if they can find the time to do it, I find myself thinking 'yeah yeah. blah blah. Another inventive excuse for not participating in my project'. I'm annoyed. As I trudge up the hill towards the train station feeling miserable after the meeting I'm struggling with my laptop bag and umbrella in the icy wind and rain. My participant pulls up and swings open the door of her car. 'Hop in I'll give you a lift back to uni'. It looks so cosy and comfortable. God damm it, everyone wants to drive. Even me. I feel deflated and defeated.

Reflective diary, 2/7/2010

How the researcher's body is positioned within research settings is worth more careful consideration for data collection in this project. Bain and Nash (2006) illustrated the importance of choice of clothing, comportment, unreflexive gestures, looks, and reactions and so on. Embracing these ideas, I consider how this played out in fashioning a range of different gendered research relationships. Out of a total of twenty participants, fifteen were partnered (married or defacto) women nine of whom had children (refer to Table 3.1). As a middle-aged Anglo-Australian woman, married with children, there was the obvious commonality of family and household and domestic responsibilities. This was often a starting point for initial conversations when meeting up in coffee shops or participant homes for interviews. Participants were keen to learn things such as how many children I had, the age of my children, my husband's occupation and where I lived in order to establish some points of connection. However, my usual dress style of casual jeans, runners and t-shirts without make-up or jewellery and my use of public transport meant that I was positioned as something of a 'greenie'. On the one hand, this worked to facilitate conversations around practices of household sustainability which allowed an insight into participants' ideas of responsibility for climate change. Equally, once participants established that my concerns and environmental views were similar to their own, I was invited to take part in shared experiences that went beyond car driving (see Box 3.4).

Box 3.4 Mutual interests

After a drive from Wollongong to Shellharbour we go for lunch at a café not far from Kay's house. We both have the vegetarian meal and sit in the sunshine having a coffee. Kay takes me to a little shop that has ornaments and clothes. Before I know it we are browsing through the shop like old friends, the craft items and clothes we pull out and show each other reflect our similar tastes. Later she takes me to her house and shows me her latest efforts at producing natural dyes to colour hand spun wool. Gorgeous coloured and textured items adorn her house in a kind of haphazard way that makes me feel comfortable and relaxed. We end up doing a tour of the back garden, looking at the worm farm, the compost heap and sampling fruit and flowers from her beautiful flowering organic garden. She gives me a couple of plant cuttings to take home.

26/2/2011 Fieldnotes

On the other hand, when meeting participants who dressed in a more overtly groomed and conservative manner my casual dress style sometimes caused me to be positioned as subordinate (see Box 3.5). These participants often expressed concern for my health and well-being and questioned my ability to juggle a full-time study load with children and household responsibilities. Their continued participation in the project at times seemed based on maternal caring instinct and genuine concern. For example, hearing that I was walking to take the bus or train from our meeting places often evoked comments such as 'oh you poor thing' and their insistence on driving me. Learning that I had separated from my husband mid-way through the project, some participants became determined to drive me around more often to supply me with 'more material'. Thus more frequent meetings and ride-alongs with some participants were an outcome of my own changing subjectivity and how this was indirectly negotiated with participants through their care and concern for me as a woman rather than being motivated by a regard for the research.

Box 3.5 Measuring up

Met Krissy at coffee shop on Saturday morning. It was crowded and very noisy with coffee machines grinding in the background. Krissy is about my age and has two children and a husband. She is immaculately dressed in various shades of pink. Hair coiffed, nails painted, make up on, perfumed, adorned with delicate gold jewellery and looking rather elegant I feel a bit of a dag in baggy jeans, trainers and jumper with my hair out. We get through the interview and afterwards she suggests that next time she may take me to another much nicer coffee shop that has a 'lovely view'. As she says this she looks me up and down slowly and rather critically but still smiling sweetly. I squirm a bit under her critical gaze which reminds me of my own mother's disapproval of my indiscriminate dress sense and make a mental note to 'dress up' for the next interview.

Fieldnotes, Initial interview 19/5/2010.

There was also a contingent of eight participants who worked within Wollongong University. Regard for the value of research may be at the basis of why they agreed to participate in the project. Four people worked in the university in a teaching capacity (two people were unknown to me and two I had some knowledge of from my undergraduate degree), three were students (all unknown to me) and one worked in administration (known by sight and name only). One teacher and one student learnt of the project through the newspaper article and the radio interview. Five were introduced by snowballing and one was approached directly. Ganga and Scott (2006) reflected on the paradox of being a researcher as an 'insider' of a particular community where other social differences come to be felt. As a part-time employee and student of the university I was aware of my ambiguous position and had to negotiate the uneven power dynamics of these social relationships that sustained and produced hierarchies.

On the one hand, the more formal dress of the lecturer and the academic surroundings of texts and weighty books when conducting interviews in an office meant that I was positioned as a student. University lecturers preferred to be interviewed in their offices despite my invitation to share a coffee or tea in a cafe. This was no doubt due to the time restrictions caused by their academic workloads and I was conscious of not taking up an inappropriate amount of time. However, this resulted in conversations remaining formal and fairly short, and to feelings of nervousness and inadequacy despite making efforts to dress and present myself in a professional manner, for example wearing an ironed shirt instead of a t-shirt (see Box 3. 5).

Box 3.6 Professional presentation of self

I agree to go for an impromptu drive with a participant who is finishing work early. There are two hours before I have an appointment with one of the university lecturers and I figure I have plenty of time, so head off for a cruise along the beachside, stopping to chat at various surf beaches along the way. After around 30 minutes I get a lift back to the train station and am upset to see my train just pulling out of the station. I call ahead to university and flag that I am running behind schedule. There is no train for another 45 minutes. I decide to try a bus from the nearby highway. I walk to the bus stop- it is a scorching day of around 40 degrees Celsius and the bus shelter offers no protection from the blazing afternoon sun. Dressed in ironed pants and shirt I am sweating profusely. After twenty minutes I can't take the heat any more and squeeze myself between the bus shelter and a thick hedge - panting and feeling ridiculous. After another twenty minutes, a bus finally comes but it is not the bus I need. Back to the hedge. Another fifteen minutes and the bus arrives and I gratefully climb into the air-conditioned comfort. After the twenty minute trip back to the university I run across the campus aware that I am almost an hour late for my appointment. I arrive sheepish, red-faced, sweaty, crumpled, out of breath and forearms scratched and bleeding from my tussle with the hedge. Not the best advertisement for public transport or my own professionalism.

Field notes, 26/2/2011

On the other hand, when interviewing students I was positioned as a fellow student by wearing jeans and a t-shirt and agreeing to sit on a grassed area on the campus. Conversations with younger participants often centred on their social lives, music, movies and 'going out' and were generally relaxed and informal. Here it was easy to maintain a sense of what England (1994) calls 'betweenness'. This sense of betweenness is one where the researcher is positioned in such a way as to be able to appreciate the participant's point of reference. Thus, the social relationships of power were constantly changing not only through different locations or venues but through the clothing, comportment, demeanour and attitude of both researcher and participant.

The unstable power dynamics of the interview situation were negotiated around both researcher and participants' discursive ideas of heterosexual normative behaviour in relation to bodily touch. Arendell (1997) illustrated the gendered dynamics of bodily touch in interviews with men, where varying degrees of physical contact meant that the female researcher was in a position of subordination. In my experience, for the most part touch was absent except in the form of a handshake, and bodily boundaries were carefully maintained by the five male participants all of whom were in long-term

relationships. However, as the research relationship progressed, for one participant, the alignment and closeness of bodies during ride-alongs and the chance to talk about personal issues with a woman, tended to blur the boundaries around what constituted appropriate bodily closeness or contact outside of the car (see Box 3.7).

Box 3.7 Negotiating bodily boundaries

After a shared drive Steve is enthusiastic about meeting up again. At his suggestion we meet at the 'unibar' where he drinks a beer and I have water. The conversation is productive but I am uncomfortable with the way we have to sit close together in order to hear each other over the music. I counter this with a suggestion that we meet in one of the university study rooms for the next meeting. At the next meeting I try to bring a slightly more formal tone to our conversation and position my chair on the opposite side of the table but Steve brings his chair adjacent to me. At one stage, he rests his hand lightly on mine for a few seconds as he is making a comment. Though the gesture may have been innocent enough, it galvanises me to wind up the interview. Steve seems a little surprised and I leave with misgivings about how to negotiate the ethical divide between researcher and participant. I avoid face-to-face meetings after this though we maintain contact through phone and email.

Field notes 4/12/2011

Sandoval (2009) noted that men seldom have a chance to talk about their private domestic lives and that with a female researcher positioned as a passive listener, for some this can be a therapeutic experience. This was evidenced by the participant frequently commenting 'no-one is usually interested in this stuff, it's a great chance for me to talk about how I feel' and 'it makes me feel worthwhile, like I am contributing something'. So despite efforts to establish 'in-betweenness', the question of ethical behaviour of the participant in research was raised through his choice of venue, bodily closeness and unwanted touch. The next section turns to give closer attention to the ethical considerations of this project.

3.11 Ethical considerations

This project received approval from the Human Research Ethics Committee, University of Wollongong (Appendix 3). This application outlined the key ethical considerations of the use of a gift-voucher to acknowledge participation, protecting the confidentiality of the participants, making participants aware of the demands upon them, avoiding harmful or distressing lines of questioning, and informed consent to enable the inclusion

and use of any photographs, diary material, audio and audio-visual material as well as the use of direct quotes. Participants were offered a copy of any transcripts of recorded interviews. Audio and audio-visual material was carefully examined, interpreted and cross-checked with participants in follow-up meetings. Participants were advised that the researcher would draw on observations made during shared ride-along events and these reflections were available to the participants on request. Participants were also made aware of who would be authorised to access the material and where, how and for how long the data would be stored. The participants agreed to the use of their material for academic purposes and that a pseudonym was preferable in the interests of privacy and confidentiality.

Ethical dilemmas were presented while conducting the research. Three dimensions of the project design raised ethical dilemmas: the gift-voucher, the ride-along and the long-term engagement with participants.

A one hundred dollar shopping voucher was offered as a gift in order to thank people who completed all four parts stages of the project, namely a semi-structured interview, a travel diary, an audio recording and an audio-visual recording component. The gift itself raised questions over the motivation for participation and introduced inequalities. Two participants choose to hurriedly complete the minimum requirements of the project then stopped. The gift-voucher appeared to operate in this context not as a 'thank you' but as purchasing participation. Thirteen participants continued to participate in the project over many months, and five participants remained engaged for almost two years. For these participants the gift-voucher appeared inadequate for the longstanding and committed participation.

The ride-along, on the one hand, proved to be a rich source of data in terms of the insights to everyday lives shared by participants and the non-verbal communicative strategies. Not only are car spaces and journeys conducive to conversations, people often revealed very intimate dimensions of their lives. On the other hand, the intimacy of the shared journey was occasionally misconstrued by some participants as something more than academic interest in their everyday lives. This was compounded by the numerous interactions with these participants over a two-year period. These interactions underpinned a growing relationship of trust between the researcher and the participant. Yet for some participants, these interactions meant that the social boundaries between

research participant and friendship became harder to distinguish. Admissions of emotional vulnerability or anguish from personal problems had to be handled sensitively because while these were discussed in the light of the therapeutic space of the car, I wished to avoid causing any harm to participants. Consequently, I had to make decisions about what material was ethical to include in the thesis. Written drafts and interpretations of material were provided to participants and their approval was sought. Thus, personal crises feature in some parts of the thesis although very detailed intimate dimensions of personal lives have been omitted. Having considered the range of ethical dilemmas, I now turn to outline where and when different types of data were collected.

3.12 Empirical Data Collection

The staggered starting times for participants meant that gathering data was an on-going process that spanned from April 2010 until December 2011. The majority of the participants took part in two semi-structured interviews, completed a travel diary and provided photographs of their driving experiences (refer to Table 3.3 for a breakdown of individual sets of data). Interviews and informal meetings were usually conducted at local coffee shops or participants' homes and the schedule of questions is included in Appendix 4. However, I noted that participants responded differently to the choice of the three mobile methods. For example, some participants were prolific and produced many hours of audio data. This was perhaps because the small size of the audio recorder which resembled a mobile phone, and its ease of use, made it seem a familiar technology. However, despite collecting a large number of audio recordings, some participants were unreflective when re-listening and could not explain why the sounds they recorded were significant. Other participants, who were more reflective, could identify specific moments, places, people, moods and events through the textured sounds and noises they had recorded and provided rich insights into their driving practices. Video recording was similarly either embraced or shunned. Some expressed nervousness and an aversion to employing video recorders, citing a lack of technological aptitude, or having nothing interesting to record, but were happy to supply multiple photographs. Others recorded many hours of their regular driving practices, alone or with friends and family. Many participants declined to provide a sketch of driving, citing a lack of artistic ability despite reassurance that this was of no consequence. As well, there were also many planned and spontaneous 'ride-alongs'

which involved the researcher visiting the participant's home or other significant destinations.

Table 3.3 Summary of the data collected-types and quantities by participant

Participant #	Participant	#audio files	total time	video files	total time	#photographs	Planned Ride-alongs	Impromptu ride alongs interviews	reflections	sketches	diaries	Time- space-prism
1	Krissy	12	02:48:07	46	00:16:40	53	4	9 2	2	2	2	10
2	Jude	82	07:53:07	8	00:25:47	37	2	9 2	2	2	2	2
3	Kay	32	14:42:54	59	00:42:27	12	8	8 2	2	2	2	6
4	Steve	7	00:44:21	7	00:24:08	0	4	2 2	3	0	1	6
5	Jodie	10	00:43:19	0	00:00:00	10	2	1 2	2	1	2	6
6	Jack	10	00:21:17	0	00:00:00	101	2	0 2	2	2	2	14
7	Elouise	35	01:33:15	6	00:09:07	69	2	0 2	2	2	2	14
8	Carla	6	01:20:00	3	00:18:06	10	4	3 2	3	2	2	14
9	Kathleen	29	00:00:00	16	00:17:49	19	2	4 2	2	0	2	13
10	Mathias	31	04:15:51	3	00:14:04	12	4	3 2	2	0	2	7
11	Susan	5	00:03:18	0	00:00:00	60	0	6 2	1	0	1	7
12	Lisa	29	22:54:12	14	00:24:27	37	5	5 2	2	0	2	14
13	Angela	27	16:36:08	0	00:00:00	18	0	0 2	2	0	2	14
14	Trevor	44	08:10:09	23	00:45:43	186	4	0 2	3	0	2	14
15	Harriet	1	00:16:23	9	00:09:15	2	1	0 2	2	0	1	5
16	Maureen	9	00:41:05	0	00:00:00	40	2	0 2	2	0	1	5
17	Margie	0	00:00:00	1	00:31:43	5	2	0 2	1	1	2	7
18	Nick	1	01:16:58	6	01:30:05	6	2	0 2	2	1	2	14
19	Jane	4	00:00:00	0	00:00:00	0	0	1 2	2	0	2	12
20	Danielle	14	01:17:15	6	00:03:03	10	2	0 2	2	0	1	7
	Totals	334	4:13:37:39	167	0:06:12:24	522	52	51 40	42	15	35	192

The informal participant-led timetable for completion of tasks resulted in a longer-term involvement, and this formed the basis for an ethnographic engagement. Ethnography usually implies that the researcher participates in, or learns to participate in the activities that are normally undertaken by the research participants (see Atkinson, Delamont & Housley 2007). Ethnography usually entails methods such as participant observation, interviewing and physical engagements in the contexts of the practices of everyday life that are under investigation (Pink, Laszlo & Afonso 2004). A great number of informal meetings and unplanned ride-alongs which aligned with an ethnographic approach occurred because of the way participants came to understand the aims of the project. By this I mean, when participants came to the realisation that I wanted to explore their everyday driving practices in real time, the mundane and the ordinary, they often enthusiastically demonstrated their driving practices in a spontaneous rather than premeditated way. For example, planned driving events were mapped around short and long term commitments like the annual holiday, Easter, Christmas celebrations, birthdays and anniversaries or weekends away. Despite advance planning these events were often cancelled at the last minute due to unforeseen circumstances, like illness or bad weather, which served to underscore how the flexibility of driving helped participants to manage their everyday lives. Thus, a change in the weather or work schedule could trigger a trip to a scenic location for a coffee, or a trip to the shops. A visit to a sick relative or delivering a sick dog to the vet meant driving in the vicinity of the University and the chance for a quick chat because participants *'had the car out anyway'*. These informal journeys were invaluable for gaining a sense of participants' rhythms, tastes, and ways of seeing and moving through the world. By actively participating in these practices, I came closer to being able to appreciate how the car and driving helped participants make sense of themselves and their everyday lives. As such, this ethnographic engagement was the base for a strong research relationship. A strong research relationship meant that participants remained engaged with the project over time, negotiated their position as 'experts' in relation to the authority of the researcher and worked towards fulfilling the aims of the project through on-going negotiations of trust and friendship with the researcher.

3.13 Management of data

In the interests of transparency and validity this section addresses the mundane details of data management and the specific approaches taken to analyse and interpret the

material collected for the project as advocated by Freidhoff et al. (2013). In order to deal with the large amount and variety of data that was produced over a two year period, several data management procedures were implemented. Firstly, all data were systematically incorporated into a data base as soon as possible after collection. Each participant was allocated a personal electronic folder and data were classified and sorted into four categories: images (sketches, photographs), audio (independently recorded sound files), audio-visual (independent and collaborative video recordings) and miscellaneous (field notes, interview transcripts). Recorded interview material was transcribed by the researcher as soon as possible after interviews. Field notes were similarly written up promptly after events. Audio and audio-visual material called for a more time-intensive treatment but in general, the time frames between collection, viewing by researcher and shared listening/viewing were kept as short as possible. Secondly, the data were securely stored and accessible only to the researcher. Electronic copies of data were stored on an external hard drive and hard copies of diaries, sketches or field notes were kept under lock and key as necessitated by the Human Resources Ethics Committee.

3.14 Analysis of data

In this final section I provide an overview, rather than a detailed discussion of the analytical techniques used in the thesis. Each 'results' chapter provides a fuller discussion of the analytical tools used to interpret the empirical data. In brief, the range of material produced meant that several different techniques were employed to analyse the data. A combination of content and narrative analysis was used to interpret interview transcripts and other written material. For both approaches, familiarisation was the first step of analysis, texts carefully read and re-read for sets of ideas, experiences, moods and sensations. Next 'in vivo' coding led to higher-level analytic coding (Cope 2003). Analytic coding was used to uncover the common themes that arose in the context of everyday driving through narrative analysis.

The dominant themes that were uncovered by the analytic coding and narrative analysis were then examined in the light of discourse analysis. Foucauldian discourse analysis is a technique that reveals how particular ideas help forge social realities which then become understood as commonsense. Narrative analysis is commonly used in geography and other disciplines to access discursive understandings through how

people talk about themselves and their worlds; it ‘points to the way that spaces and social relations are reproduced through talk’ (Wiles, Rosenberg & Kearns 2005, p91). Diaries and other written material were subjected to this type of descriptive and analytical coding and analysis. Sketches and photographs were examined in the light of Pink’s (2007) exhortation that visual materials become reference points through which researcher and researched can communicate their own sense of reality to each other. Rather than an objective analysis of the content of the photographs and sketches, more important were the ways that participants spoke about the physical and social environments.

3.14.1 Sound Diaries

The technique of producing visceral sound scores was developed in order to help make sense of the large number of audio files collected as sound diaries. While appreciating the Non-representational qualities of affect, the visceral sound scores are diagrams that trace how the circuits of affect and emotion manifest in bodies through changes in bodily intensities. The analysis and interpretation of these files brings together and builds on work of Alison Monson (1996) Susan Smith (2000) and Michelle Duffy (2009a). In practice, this meant listening carefully multiple times and making notes in a style similar to marking out a musical score (see Figure 3.6).

Time in secs	Non human sounds	Steve	Lily	Phillip	Comment/interpretation
0.00			La la la la La la		
0.05	Thud Step step step jingle jangle Keychain caching	Friday, going into town, in the car, with the kids			Bolded words are spoken with emphasis. Steve sets up the pace with the determined tone of his words. We can hear how he sets up a regular rhythm through his interspersed speech (to the microphone and his children), stamping of footsteps, slamming of doors and calling out. The regular tempo of multiple sounds reflects the practiced pace of this routine.
0.20	Bang door lock clicks	Sorry, these recordings are all over the place on this thing			The assemblage is maintained through the interplay of speech, sound and movement.
	Step step step step step step step step			Errh errhh	Maintains the pace through moving about, the regular crunch of footsteps on gravel.
0.25		Hoh Hoh! Good boy! Good boy!	Why why Why why Why you have the changer Why why Why why Why do you want a phone in your hand?		Steve calls out to his son. Reinforcing the pace of the journey, Lily joins the rhythmic pulse, repeating the words 'why why' in a lilting tone.
0.40	Step step Rustle Door thud	Ah this isn't a phone... this is something else I am doing a little job for a lady	okay	oooh	The sounds of movement become a part of the way that Steve negotiates the journey. While explaining he calls out, opens, closes, directs, walks and clicks his fingers
0.45	Fingers snap click! click!	Ok Philly! Come on Philly!			
0.50		Into the car please Lily.			

Figure 3.6 Visceral Sound Score of Steve's Drive
(mp3 file 23/11/10) part a

Individual sound elements, different speakers, bodily noises, non-human noises were separated out into columns and recorded alongside a vertical time score. Initially different font colours, styles and sizes were used to indicate changes to volume, tempo, pitch and rhythm that were detected by the researcher. These were then correlated to other changes which included the sounds of movement (wind, rain, traffic, bodies), the speed of the vehicle, the style of driving, emotional or affective tones of voice, sighs,

pauses, shouts, laughter, singing and so on. After carefully considering how the affordances of sound allowed a tracing of the movement of affect and emotion, specific moments of affective intensity were pinpointed. These moments were highlighted by shapes that drew together particular elements of the sounds. After producing a written soundscore, the researcher and the participant took part in a joint listening exercise where different aspects and interpretations of the soundscore could be discussed. Pink (2001) argued that employing methods where researcher and those researched jointly produce knowledge, disrupts power geometries and can reduce traditional academic biases that may pass over significant aspects of experience. Hence, the analysis of the visceral soundscores was shared with participants, and their responses recorded. In this way the researcher gained a sense of the embodied histories of each participant as well as their embeddedness in particular socio-cultural and political contexts. When combined with Foucauldian discourse analysis and participant ethnography, this visceral soundscore offered an interpretation that aimed to explore the inner-relatedness of discursive, affective and emotive relations.

3.14.2 Audio-Visual material

In this thesis I draw on the work of film scholars Vivian Sobchack (1999) and Laura Marks (2000) and their use of ‘embodied empathies’ or ‘haptic visuality’ to interpret material produced by participants. Sobchack (1999) drawing on psychologist Meunier and his readings of the phenomenology of Merleau-Ponty, convincingly argued that the way we view a film requires us to take up a particular subjective relation to the images presented before us. She argued that when viewing images we can view the events, objects and people depicted in two main ways: *longitudinally* and *laterally*. Longitudinal refers to my own subjective and embodied knowledge of an event, practice or person depicted and the affective states attached to it. When viewing a film *laterally* my attention is on how the events, objects, people and practices are portrayed in relation to each other rather than an embodied knowledge - it is a more generalised knowledge. This provides information that can be interpreted in relation to my *longitudinal* knowledge of those events, people and practices in the lived world and hence both types of knowledge, or viewing relations, can be, and are used to evoke an embodied affective response. For example, when viewing a video of driving alone at night, the grainy images, the harsh glare of the lights and the haunting music may call forth previous experiences of the loneliness and fear of driving alone at night as a woman. Thus, it is

possible to view a 'documentary' style film produced for the purposes of research as more of a 'home movie' that can call up past memories of the researcher's subjective experience. As such, it is possible to 'view' a film - that is take up a particular subjective relation to the events, objects, people and practices depicted within it - in ways that offer possibilities for different readings of video-graphic data.

Likewise, Laura Marks (2000, p2) proposed a 'haptic visibility' where 'the eyes function like organs of touch'. She draws on Deleuze and Guattari and Henri Bergson to posit that cinematic images call forth embodied memories that involve a range of senses: touch, taste, smell. For example, when we view a film that depicts an object like a fluffy teddy bear, we draw on our knowledge of the textures, properties and sensual qualities of these objects through sight. We do not need to touch the teddy bear to know that it feels soft and furry- rather, we rely on the visual alone to call up other senses. Marks (2000) argued that these affective responses are evoked by the embodied memories of the sense of touch. As well, Marks argued that when viewing audio-visual material the researcher has an embodied history as a viewer of for example, television, home-movies, the cinema, you-tube and social media and that this works to facilitate how we imagine or interpret meanings through the images presented. Thinking along these lines, audio-visual material was viewed multiple times by the researcher, and notes made on the affective or embodied responses that were evoked. Drawing on the techniques outlined above, it was possible to view the audio-visual material not from an objective rationalist point of view, but rather from an embodied, empathetic stance that aligned with the participant's way of thinking. Similar to audio files and the visceral sound scores, these notes and the videos were presented to the participants for re-viewing and discussion so as to clarify the interpretations of the material.

3.15 Conclusion

The chapter aim was to address the question of rigour by discussing the project methodology. To do so, the chapter discussed the researcher's entry point to the project and justified the methods. The chapter justified a mixed-methods qualitative approach to provide deep and rich insights into driving, including the use of the less-conventional mobile methods which included ride-alongs, audio recordings and audio-visual recordings. Securing insights to the personal inner-lives of people who drive was not

without its significant challenges. This chapter reflected on the challenges presented by project design, recruitment, methods, participation and ethical considerations.

Examples were provided of how relationships with participants were negotiated around geometries of power, gendered dynamics and appropriate bodily boundaries. Positionality was considered from not only the point of view of age, gender, ethnicity, class and ability but also took into account the ways that bodily comportment, clothing, venue, gestures and touch were a part of how social relationships were negotiated. Transparency was addressed by providing summary tables of participant attributes and the data collected from each participant. The data management procedures were detailed to illustrate the systematic and careful handling of all types of data.

The outline of the analytical techniques utilised to interpret the empirical material was mindful of the difficulties of research seeking to engage with embodied geographical knowledge. In conclusion, the chapter aim was to make explicit the range of inter-textual strategies that were employed, as well as why and how they were employed. Having justified that the methodological approach is appropriate to address the research aims, the following five results chapters each present an interpretation of how people make sense of driving the car around the dominant themes.

CHAPTER 4. DRIVING CLIMATE CHANGE



Figure 4.1 Looking for parking, Wollongong, 20/10/2010, 11.05 am.
In thinking about the conveniences of driving, we often overlook how finding a parking space can be a time-consuming and frustrating business.

Source: participant Jason

4.1 Introduction

This chapter explores the sets of ideas that frame the car in everyday life in relationship to the discourses of sustainability. I propose that discourses which surround car driving are fashioned at the nexus of ideas around sustainability, freedom, flexibility, control, privacy and convenience. I focus on the scalar politics of driving and sustainability to draw links between responsibility for climate change, ideas of environmental citizenship, sustainable household practices and car driving. Thinking through geographical scale illustrates the way that conceptualisations of responsibility for climate change as hierarchically nested and discretely bounded, work against generating heterogeneous knowledges and practices. Discourse analysis illustrates how responsibility for climate change is enmeshed in relations of power which work along certain lines, to create a range of subjects and mould particular mobility practices. I build on Foucauldian ideas of Governmentality as ‘the contact between the technologies of domination of others and those of the self’ (Foucault 1988, p16) to think

about how individual practices are constrained or enabled by the long-standing discourses of scalar politics of mobility and environmental citizenship in particular contexts.

The empirical examples illustrate how thinking about responsibility for climate change through hierarchical scale promotes disconnections, rather than connections between demarcated planes, and results in a limited range of normative sustainable behaviours. Thus, particular socio-cultural contexts work to limit or enable particular pro-environmental behaviours and sustainable practices. In the Wollongong context there were no significant differences in the range of pro-environmental behaviours that were undertaken despite diversity in age, gender, socio-economic status, education and expressed concern for climate change. Common practices included recycling, reducing water and electricity use, purchasing green products, growing food and composting waste. However, expressed concern and knowledge and awareness of the environmental impacts of car driving had little effect on the amount of car driving undertaken. Seemingly, ideas of responsible citizenship do not extend to reducing car driving- it remained an entrenched behaviour that was framed as impossible to reduce.

The chapter is structured in four main parts. In the first section I provide an outline of the literature that points to the car as an inevitable part of contemporary life. Some clues to this scenario can be found in Urry's notion of 'automobility' (2006). One way the car becomes inevitable is through envisaging automobility as a discursive project intertwined with institutional, governmental, financial, political and social systems. The dominant discourses of ecological modernisation and sustainable development are examined in the Australian context. With an appreciation of the way in which power is exercised in relation to discourse, I consider how the ideas of sustainable development and ecological modernisation have not disrupted anticipating a future of continued driving. In the second and third sections I draw on Foucault's theoretical use of discourse to illustrate how participants spoke about climate change and mobility. I provide examples of how the nexus of ideas around sustainability, climate change, cars, Wollongong and driving 'systematically form the objects of which they speak' (Foucault 1972, p49). I use discourse analysis to interpret interviews, solicited diaries and sketches. The aim of this analysis is to shed light on the way that car driving is positioned in relation to discursive ideas around sustainability and responsibility for

climate change within socially constructed hierarchical structures. I explore the three main emerging themes around driving: convenience and control; comfort and privacy; and, inevitability. The final section provides a conclusion to the chapter which reiterates how driving becomes subsumed into sustainable practices through the way it makes life comfortable, allows control over schedules and plans and aligns with the trajectory of ideas around what constitutes a modern, progressive life. The chapter concludes by acknowledging the value of going beyond an analysis of discourse and provides a segue into the subsequent results chapters.

4.2 Sustainable automobility?

Conley and McLaren (2009) argued that automobility is the prevailing system for personal movement regardless of geographical scale. The production and consumption of cars and the myriad related institutions, infrastructures, products and services become '*locked in*' due to the political imperatives of a neo-liberal society bound by large scale investments and economic returns (Denis & Urry 2009, p236). Within a neo-liberal democratic framework that privileges the forces of the market driven economy, automobility may be envisaged as a discursive project heavily influenced by political and corporate interests (Soron 2009). The institutionalised system of automobility is synonymous with discourses of technological modernity, economic prosperity, national progress and futurity (Böhm, Jones & Paterson 2006, Tranter 2005, Trumper & Tomic 2009). Alongside these wider discourses, individual driving practices in turn generate a range of meaningful symbols, images and discourses that are socially and culturally constituted and felt (Carrabine & Longhurst 2002, Patterson 2007b). As highlighted in Chapter 2, cars are inherently related to discourses of social distinction (Bourdieu 1984), personal freedom (Urry 2008), rites of passage (Falconer & Kingham 2007) and the 'good life' (Mitchell, Boroni-Bird & Burns 2010).

In government policy, automobility and sustainability are inextricably linked. On the one hand, the technology of the car is a symbol of modernity and national manufacturing pride (Davison & Yelland 2004, Knott 2000). On the other hand, car research and development is positioned as a part of the taken-for-granted technological solution to the problems of industrialisation and modernisation associated with climate change. Within the discourses of automobility, the focus is on technological improvements to industrial processes, vehicle efficiency, engine types and cleaner fuel

alternatives (Lovins 2005, Turton 2006) rather than any questioning of the underpinning system of automobility itself (Moriarty & Honnery 2007). Driving greener cars aligns with the dominant discourses of ecological modernisation and sustainable development; such as those surrounding 'hybrid' and electric cars. However, car driving as an everyday social practice takes on increasingly contested meanings as governments aim to encourage behavioural change through information and awareness campaigns that encourage responsible environmental citizenship through driving less.

4.3 Meta-discourses: sustainable development and ecological modernisation

Sustainable development discourse began in The Brundtland report *Our Common Future* (United Nations Report 1987), which argued for a future where the needs of the present generation did not impinge on the ability to meet the needs of future generations. By this definition, sustainable consumption was positioned as continued economic and social progress coupled with a wise use of natural resources and a minimalisation of harmful practices. This rational approach was based on a number of assumptions, including that a calculative scientific solution to the problems of unsustainable levels of consumption could be achieved under the current capitalist market system (Sachs 1992, Smith 1996). Redclift (1987) pointed out that the concept of sustainable development was readily taken up by the UK government because it did not necessitate any major policy changes. A focus on technological progress or ecological modernisation became a way to incorporate free-market national economic policies of growth into sustainability discourses by suggesting a re-structuring of industry to encompass ideas of environmental responsibility (Hajer 1995, Mol 1995, Spaargaren & Mol 1992). Buttel (2000, p61) argued that ecological modernisation works from the paradoxical position that many of the environmental problems facing modern society are generated through the rise of industrialisation, free market economies and modernisation (technologies), and yet that these problems can be solved with technology and more, rather than less, government regulation - a '*super-industrialisation*'.

Alongside the discourses of sustainable development and ecological modernisation are discourses of green Governmentality and civic environmentalism which in essence reflect the top-down and bottom-up approaches to managing the problem of climate change mitigation and adaptation. Green Governmentality highlights how the

protection, management and domination over the so-called ‘natural world’ is a global institutionalised project (Backstrand & Lovbrand 2006). Green Governmentality tends to allocate the majority of responsibility to international governments, agencies and scientific organisations to provide expert advice on the best ways to mitigate climate change. Hence, within this framework citizens are expected to act as compliant agents of an authoritative body which acts from a scientific-rationalist point of view. Civic environmentalism takes a different approach to encourage an inclusive, ground-up democratic participation in environmental decision-making processes at the local level (Elliot 2002). While civic environmentalism aims to democratise the decision making process it tends to limit which groups become involved because of the time, money and interest that this requires. As such, both approaches segregate and allocate responsibility along particular power hierarchies which work against the idea that everyday practices are a productive site of change necessary for climate change adaptation. While there are weak and strong versions of these discourses in play, it is the dominant discourses of sustainable development and ecological modernisation that underpin the Australian political outlook in the twenty-first century.

4.4 Political snapshot 2002-2013

In Australia, conflicting views between the two major political parties over how to best respond to the challenges of climate change have played out in extraordinary ways. A significant starting point from which to understand recent political attitudes is 2002. The then Howard conservative liberal government refused to ratify the Kyoto protocol to limit greenhouse gas emissions arguing that Australia would be economically disadvantaged by such an obligation (Bulkeley 2001, *Sydney Morning Herald* 2005). In 2007, the left-leaning Labor government under Prime Minister Rudd ousted the Howard government and signed the Kyoto protocol to indicate a change of attitude towards mitigating and adapting to climate change. Labor’s green Governmentality turned to the social science of economics to introduce a carbon market as a regulatory framework for decreasing greenhouse gas emissions. It signalled a willingness to act on the issues of climate change by implementing a range of policy strategies that aligned with the ecological modernisation discourse (Curran 2009, Tranter 2011). However, changes in political leadership (Rudd, Gillard, and then Rudd) combined with poor management of schemes like the Home Insulation Program, the rollback of the Solar Credit rebate, the scrapping of the green car innovation fund, the controversial carbon tax and mining tax

in 2012, meant that Australians were increasingly dissatisfied with the fragmented policy implementation. These attempts at ecological modernisation proved to be politically costly. In 2013 the Liberal government led by Tony Abbott defeated Labor in an election that hinged largely on the issue of carbon tax (*The Australian* 2013). Arguments of ecological modernisation lost currency in a country with huge export earnings from coal, powerful mining lobby groups and corporate interests, as well as increasing levels of community dissatisfaction with Labor's incompetence.

Prime Minister Tony Abbott moved to repeal the carbon tax and abolish several peak bodies: the Clean Energy Finance Corporation, the Climate Change Authority and the Climate Change Commission (Australian Broadcasting Commission [ABC] 2013). Prime Minister Abbott's focus on national economic growth and his well reported sceptical views on the science of climate change raise questions about the form of green Governmentality that will emerge under his leadership (*International Business Times* 2013, *Sydney Morning Herald* 2013). The liberal party's 'Direct Action' plan proposes to pay polluters to cut carbon emissions, rather than set a market price on carbon, and tends to frame climate change as a distinctly 'national' issue where '*[A]ll money spent will be on Australian green projects, not foreign carbon credits, keeping more jobs in Australia* (Liberal Party online site, 2013).' However, lack of political will combined with powerful corporate and lobby groups interests suggest that for the Liberal government, it will be 'business as usual' rather than radical reform. With a focus on economic growth, it seems likely that the discourses of sustainable development and ecological modernisation will weakly underpin the incoming government's approach to address climate change, regardless of policy detail.

4.5 Dominant discourses-automobility and sustainability

Having given an outline of the Australian political context I now consider how the discourses of automobility and sustainable development work within nested hierarchies of scale along similar lines. In doing so, it is possible to draw links between sets of ideas that work to reinforce automobility as a part of environmentally sustainable practices, through how car driving allows control over time and space, making a sustainable 'good life' not only possible, but comfortable and convenient. Here, nested scales work to reinforce particular attitudes and understandings of appropriate practices and behaviours which enable the deflection, transference or re-allocation of responsibility for climate

change (Waite et al. 2012). As such, structures like the supranational, national, regional or household are often imagined as natural and pre-given categories, bounded and discrete and which are produced by, and produce, institutionalised relations of top-down power. An attention to social inequalities that frame discourses is one of the limitations of discourse analysis as a methodology (Swyngedouw & Moyersoen 2011).

However, Foucault reminds us that power is not a stable entity, but rather that it is dynamic and fluid, able to emerge and ebb in sometimes unexpected ways. Foucault (1980, p94) argued that 'power is exercised from innumerable points, in the inter-play of non-egalitarian and mobile relations.' Thus, conceptualising responsibility for climate change within a hierarchical framework that works along bounded planes closes down thinking about more heterogeneous ways of encouraging adaptive behaviours by overlooking opportunities for creative possibilities. Recognising how ideas come to inform practices, there is a need to investigate how adaptive pro-environmental behaviours are positioned within contemporary climate change discourse. For example, Cupples and Ridley (2008) argued that conceptualising cycling as the ultimate solution to the need for adaptive transport behaviours worked as an exclusionary practice and a form of what they termed 'cycling fundamentalism'. Thus, this rather narrow fundamentalist outlook discouraged participation from many who were unable to cycle for reasons of, for instance age or ability. They argued that narrow discursive framings of adaptive behaviours worked against enabling more heterogeneous shifts to sustainable lifestyles. Similarly, I want to provoke thinking around how the discursive framing of automobility and responsibility for climate change is entwined in multiple discourses across multiple scales, but which coalesce around ideas of convenience and control, comfort and privacy and, inevitability.

The dominant discourses of responsibility for climate change work through a scalar politics results in the demarcation of responsibility into a nested hierarchy. Here, the household is relieved of the majority of the responsibility for the mitigation of carbon production, yet is called upon to enact a range of socially responsible and adaptive pro-environmental behaviours as a part of responsible citizenship. The range of behaviours so far has been limited to those that are convenient and easy to use, and require little personal discomfort or changes to the rhythms of everyday life. Yet government policies which aim to encourage households to reduce driving out of concern for climate

change do not adequately consider how convenience is a central consideration for incorporating new low-carbon sustainable practices and behaviours. Positioning the choice to drive as an ethical decision overlooks how convenience is central to the production and maintenance of a sustainable ‘good life.’ Thus, there are increasingly conflicting and contested meanings around driving and sustainability in the context of everyday life. The next section starts by examining how participants understood climate change through an analysis of the empirical material collected by conducting interviews, ride-alongs and sketches.

4.6 Expressed concern and responsibilities for a changing climate

To start this section I examine how participants framed climate change as a concern, and the responsibilities of climate action. All twenty participants who took part in the project reported high levels of knowledge about climate change. What was common across all groups was their expressed concern for climate change as an issue that required government action and personal action at the household scale. For example, when asked for their opinion on climate change, participants often expressed unease:

*It's absolutely terrifying. I fear for the future and certainly for my child. I think it's horrendous. It's horrifying and I understand that the economy, you know has a **big** part to play in society in the way we live. And also I can't understand for the life of me how it can be put first. I don't understand how the main focus can be on job loss. Because I truly believe that jobs will be found in other areas. So I just don't understand how that can be the main focus always, that coal miners are going to lose jobs and I am not saying that lightly because, that's ok for me I'm not a coal miners' family... but there will be jobs created no matter what. I don't think the whole focus can be on jobs. But I mean there will be jobs created no matter what. I think it's terrifying and I also think the legislation has to be put in place to just deal with it.*

Interview, Margie, 36, administration assistant, 19/8/2011

Here, Margie illustrates the way that geographical scales are nested. Framed firstly as a regional employment issue against the backdrop of local coal and steel manufacturing industries, Wollongong is positioned as a climate change hotspot of carbon emissions (Waite et al. 2012). Margie rejects the regional discursive framing of climate change as

an economic problem and instead is able to shift responsibility for climate change to another level within a hierarchy of responsibility. However, rather than understanding responsibility for climate change at a personal level, she deflects the responsibility to the national level by drawing on the discourses of sustainability and ecological modernisation. Margie advocates for 'green jobs' with the expectation that life will continue on as usual for households: coal miners will find green jobs. Similarly, when asked about the role of the government in addressing climate change, Krissy indicated that the majority of responsibility to 'government'. Krissy's expectation was that government, perhaps at some or all levels, should formulate and implement policies to improve environmental outcomes especially in relation to the corporate sector:

I think they (the government) have a responsibility to the people to ensure a safe environment, that's a very wide scope and can be interpreted in infinitesimal ways according to how different people view this; each party of course would have their own view. But I think most importantly the government's role is to ensure industrial compliance with emissions standards working with companies to achieve goals rather than beat them with a big stick. This would not only relate to production but also to what they produce... for example environmental cars.

Interview, Krissy, 48 administration, 27/1/2011

Krissy draws on ideas of ecological modernism within the nested hierarchies of power relations, by positioning the government as responsible for regulating and enforcing compliance over the corporate sector. Car driving is not seen as a problem but rather as an opportunity 'to achieve goals'. Krissy suggests that the goal of producing environmentally-friendly cars in conjunction with industry addresses the imperatives of both sustainable development and ecological modernisation. A future of production and consumption of green cars is positioned as a logical solution to the imperatives of both neo-liberalism and sustainable development discourses:

Why not produce environmentally friendly cars? Technology is evolving so quickly it will happen all of a sudden I think. One day we will be driving petrol cars and the next we will all be in electric cars...the government just has to get the ball rolling so to speak.

Interview Krissy, 48, administration, 27/1/2011

In contrast to Krissy's optimism that a technological tipping point is imminent (see Denis & Urry 2009), other participants were more critical and expressed frustration at the ineptitude of government to implement the necessary changes. For example, when asked about his own environmental practices Nick was quick to criticise the government for not supporting schemes to bring about a shift to a lower carbon economy:

Well we don't have any air conditioner, we have gas hot water. We looked at the solar stuff and that but that is just a shemozzle at the moment. The government ...I don't know why they come up with these crazy schemes and then cut back. I don't know why they don't just think about it and do it properly. They are not sustainable. What is the point of having these dumb schemes? It costs a fortune, it's half-baked and then they pull it. Take for example the home insulation scheme. They are just a bunch of clowns. The social side of it...if they gave people real incentives and made it pay for itself it would be different... it would work...but it never does.

Interview Nick, 43 professional 8/8/2011

In this quote we can detect Nick's dissatisfaction with government policies, strategies and schemes as failing to support a transition to lower-carbon lifestyles. We gain a sense of how the disconnections between geographical scales work to distance the climate change from the personal level. Nick is critical of politicians and their 'short term populist policies that do nothing for climate', while pointing out the missed opportunities to employ 'real incentives' which would impact on 'the social side of it' for example, household budgets around energy conservation or generation. Thus, conceptualising responsibility for climate change through geographical scales imagined as bounded and discrete does little to foster productive connections and possibilities for exploring truly sustainable transformations across multiple levels.

It is just waiting for the technology to catch up really. The government should take more responsibility for climate change. I mean they need to target the big corporations really. They are the ones pumping out stuff.

Interview Nick, 43, professional, 8/8/2011

This quote again illustrates how responsibility for climate change mitigation is imagined through hierarchical levels of obligation with the national being the most dominant (Curran 2009). Industrial regulation and technological solutions are framed as an inevitable part of a sustainable future tied to a neo-liberal economy. This framing of corporations as key contributors to climate change reinforces conceptual divides between households and wider structures and institutions, and shifts the focus away from households as a site for enduring sustainable change. Nick overlooks how households are inextricably implicated in the relations of production and consumption which maintain the high-carbon lifestyles of the global north.

Consider for example, how the underlying driving force of consumer demand for automobility has environmental consequences: the embodied energy and waste production associated with global parts production and assemblage, transportation miles, as well as the on-going demand for the petroleum based energy required to power cars, and the supporting industries that are necessary to maintain the system of automobility - roads, service stations, mechanics, tow trucks and so on. As well, consider how automobility is integral to social structures- police cars, ambulances, taxis, couriers, hire cars, government fleets and quotidian mobile services like hairdressing, dog washing, car detailing, food-delivery and so on. While we continue to address climate change through nested scales of responsibility, this way of thinking allows households to overlook how collectively, everyday high-carbon practices are a significant part of the problem of climate change. As such, it is not surprising that the carbon emissions from household driving practices were deemed unimportant when compared to large scale industrial and agricultural processes. When asked if reducing driving was an effective way to address climate change Trevor responded:

I think the focus should be on for example, the leaching of metal nutrients, land clearing, agricultural processes and energy production, they are far more harmful to the environment than thinking about driving.

Interview Trevor, 68, academic, 22/1/2011

Trevor drew on his scientific knowledge of processes of environmental degradation to partition responsibility between national and household levels. Again this aligned with ideas of a nested hierarchy of geographical scale, where individual responsibility for driving less was positioned in relation to the extent of environmental harm caused by farmers or energy corporations. As well, strategies that targeted the household to alter behaviours were often viewed as unjust while corporate regulation was not being addressed. For example, Elouise demonstrated how she was able to deflect the responsibility for climate change to another level by contrasting the amounts of emissions produced:

I feel a bit guilty when I am driving now...but then I think it's a bit unfair the way responsibility is pushed onto the people. I mean why should I have to make huge changes when there are these huge corporations making a huge impact on the environment?

Interview, Elouise, 33, professional, 15/4/2011

As such, it becomes clear that this segregation of responsibility to hierarchical geographical scales does not foster an integration of discursive ideas of climate change as a global problem that necessitates greater individual action and responsibility. Individual driving behaviours were able to be positioned as comparatively inconsequential within a nested framework of responsibility, and thus individuals were released from personal responsibility to alter the patterns of their everyday lives. Participants were willing to undertake convenient practices such as recycling or saving water, but were unwilling to make changes to their personal driving habits as an adaptation to climate change. Complicating this was an underlying sense of mistrust towards corporations and their efforts towards sustainable practices. For example, when asked if they were willing to pay more for green energy participants commented:

Not on your life. That is just a total scam. How do I know what they are doing with the money? They certainly aren't planting trees so no. No I don't want to pay for that. Why should I when everyone else does what they want?

Nick, 43, professional, 8/8/2011

How do we know if they are really planting trees? I only know the things that I do, like composting and planting trees in my own garden.

Krissy, 48, administration, 7/7/2010

Participants were unwilling to pay more to mitigate climate change and contested tree planting practices as an effective corporate strategy (Backstrand & Lovbrand 2006). This reinforced ideas of climate change as an abstracted global problem in contrast to their everyday personal behaviours and household practices. Nested hierarchies of responsibility meant that for many of the participants, it was difficult to connect ideas of global climate change vulnerability with individual action. For example, Steve comments:

I can't see how my actions have an impact on others you know ...overseas. I mean think about that aluminium factory that just had a huge melt down in Hungary. You know that is a huge environmental problem... but does it affect me? No, not really. I try and think of the environment at the local level, you know if I don't drive then that's one less car on the road in the Illawarra so it's about the emissions we generate here. I just try and do the best I can at home.

Interview, Steve, 48, house husband 8/10/2010

In this quote Steve illustrates the disconnect between global and local geographical scales. International crises had no impact and little bearing on how Steve experienced the streets of Wollongong. Rather, it was through his everyday practices that he understood the environmental impacts of driving as air quality, congestion and noise. However, knowledge of the environmental impacts of driving did not work to alter his practices beyond a certain limit. Despite his expressed concern, the 'best' that Steve could do, was to replace one car trip out of an average of around twenty short trips per week with an alternative low-carbon option like walking or cycling. Commonly,

participants expressed willingness to change – but within the limits of comfort and convenience.

4.7 Environmental citizenship

Despite consigning most of the responsibility to government, most participants implemented a range of normalised pro-environmental behaviours. For example, recycling of plastic, glass and paper was generally the first activity mentioned when asked about ways to reduce carbon emissions. All participants listed a range of similarly normalised behaviours that were appreciated as pro-environmental, including: reducing water usage, reducing electricity consumption through turning off lights, installing energy efficient technologies (for example compact fluorescent light bulbs or energy efficient appliances) and the use of reusable shopping bags as opposed to plastic bags. Over three quarters of the participants (n=17) reported composting organic waste and growing vegetables and fruit. Three participants had installed solar panels for electricity generation, two were considering installation at the time of writing, and the fifteen remaining participants cited the cost of installation as prohibitive (except for one participant who cited aesthetic reasons for non-installation). Overall, these participants may be characterised as ‘strong environmental households’, engaged with a number of sustainable practices that came under the policy label of pro-environmental:

I think we can all shift our behaviours a little bit. Not out of the comfort zone though, there is a line to how far you can go.

Interview, Krissy, 48, administration, 19/5/2010.

While participants expressed a willingness to enact pro-environmental and sustainable behaviours these were framed in terms of convenience and comfort. As Krissy illustrated in the above quote, participants were willing to adopt pro-environmental behaviours as long as they fitted with their expectations of comfort and convenience. In her words – ‘there is a line to how far you can go’. For example, when asked about the range of household practices that were motivated by concern for the environment Kathleen states:

I'm definitely concerned about the environment...We always try to recycle things. I use the dryer maybe twice a year. Always hang the washing on the line. As much as possible we try not to waste food you know always eat the left-overs. mm...packaging too, when we go shopping...instead of buying pre-packaged food we usually buy...the way we do it ...we just put it all in the green bag .We save old cards and things for the kids for their arts and crafts and that sort of stuff so as much as we can. And quite conscious of electricity and stuff like that. But I guess with the car that's one thing that I can't compromise with. We need it.

Interview, Kathleen, 36, teacher, 22/3/2011

So while Kathleen was willing to alter the way she approached consumption practices through reducing waste and reusing and recycling resources, limiting driving was not a part of the household strategy to lower carbon emissions. In other cases, participants illustrated the norms of car driving to argue that car driving short distances was the sustainable choice:

My justification (for driving) is that trains and buses are still using fuel. I see a bus with two people on it.... There's... there's probably a bus using a lot more fuel doing a huge route where it doesn't need to go. I don't know - that's just how I look at it. Yeah... so sometimes I think it's less environmentally damaging to drive. If I'm going to get a bus and I'm the only person on that bus and its doing all the bus stops....

Interview Carla, 48, professional, 18/7/2011

Carla's quotation illustrates the social norms of driving rather than catching a bus, where travelling directly from door to door is comprehended as the most efficient use of fuel, despite the fact that cars produce up to four times more carbon than bus travel over the same distance (Greener journeys.com). Driving is such an entrenched behaviour that taking the bus seems illogical to Carla. Being the sole traveller on the bus means her flawed logic around greenhouse gas emissions reinforces the social norms of travelling by car as fast, efficient, direct and therefore sustainable.

In this section I have illustrated the sets of ideas around responsibility for climate change and how this plays out in everyday household practices. In the next section I explore how ideas of convenience, freedom and control come to matter in relation to understanding responsibility for climate change.

4.8 The convenience of the car

The primary reason given for continued driving was convenience. Yet, the concept of convenience is contested, with multi-layered meanings that can change in different contexts. As such, I start by providing a literal definition of convenience (Cambridge English dictionary online):

1. *the fact that something is suitable for your purposes and causes no difficulty for your schedule or plans and:*
2. *a convenience is also anything that is easy to use and makes life comfortable.*

Thus, the convenience of car driving can be examined through the three, sometimes overlapping themes that emerged: the way it allows scheduling of plans and control over time, the way it makes life comfortable through control over space, and the way it becomes a part of understandings of what constitutes a modern, progressive, full and sustainable life.

4.9 Freedom-scheduling and control over time

As suggested by Urry (2008) the twenty-four-seven availability of the car meant that it was the primary tool for managing the temporal rhythms of everyday life. This was important for the juggling of fragments of time in harried daily schedules, time-saving and the need to organise tasks and manage time efficiently. For example asked why driving was important Jodie responded:

The car is very convenient; I don't have to fit in with schedules and other people. I am free to change my mind or change my route if I feel like it. Come and go. Stop and start when I want.

Interview Jodie, 50, professional, 26/2/2011

For Jodie, the car allowed independence from the timetabling of public transport and the schedules of other people. Sheller and Urry (2000) argued that cars allow for co-ordination of complex patterns of leisure and consumption, the juggling of fragmented times to weave together desynchronised schedules. As such, for busy mothers with children, like Kathleen, the freedom from the strict timetables of public transport made car driving the logical choice:

I have multiple drop offs and pick-ups so it is too hard to take public transport. Usually I don't even consider it. Driving is the automatic choice.

Interview, Kathleen, 36, teacher, 22/3/2011

These examples illustrate Urry's (2004, p28) point that automobility is a system that 'coerces people into an intense *flexibility*' (original emphasis). Flexibility as control over routes and times was often framed in terms of freedom and this idea is illustrated in Figure 4.2 below:

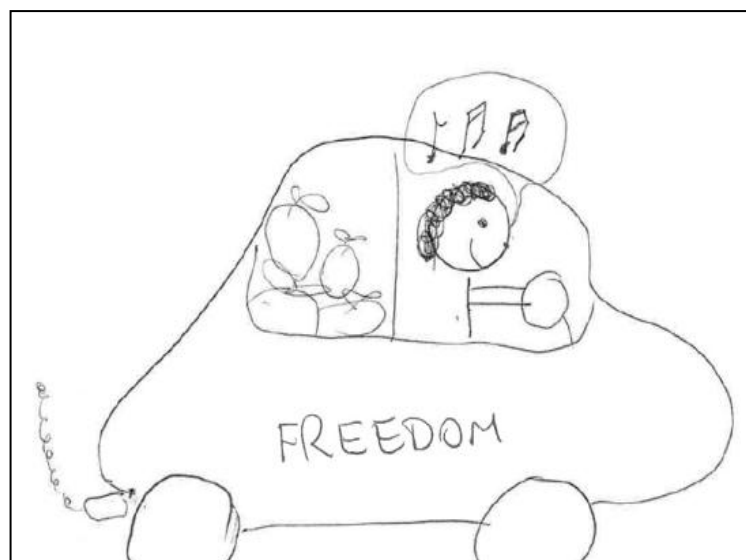


Figure 4.2 Sketch of driving, Elouise, 33, n.d.
Source: participant Elouise

When asked why the car was important to her Elouise comments:

It's much easier, in terms of convenience, much faster. And cheaper to drive a car

Ride-along, Elouise, 33, professional, 27/5/2011

For Elouise, the car was named as a source of freedom, reinforcing the discourses of automobility as fast, efficient, economical and an important part of managing everyday life. Driving was 'much easier' (than public transport) which made organising daily life comfortable. But as Shove (1999) noted, increasing levels of comfort and convenience tend to have knock on effects which result in increasing expectations around acceptable levels of comfort and convenience.

4.10 Comfort and control over space

The changing conventions of comfort are not just subjectively fashioned but are a part of collective understandings of how routines and habits co-evolve around new technologies (Shove 2003). In order to understand how the car makes life comfortable, we can consider how it allows control over not only time but also space. Firstly, movement through space by car meant the freedom to access multiple destinations with ease. In contrast to public transport, the car allowed freedom from timetables and routes. For example, when participants were asked what they liked about driving it was often expressed as convenience:

I think cars are convenient. It's really easy... You just jump in it and go somewhere. It's not that expensive to do. It certainly doesn't take any effort on anyone's part. Oftentimes if we go into Wollongong we have to go here, there and everywhere and the train doesn't stop here there and everywhere.

Interview, Nick, 43, professional, 8/8/2011

In talking about the convenience of the car, participants drew on a range of sometimes overlapping discourses associated with freedom, control and comfort. Here, we see how the convenience of the car is understood by Nick in terms of the ability to come and go at will, through how it makes planning unnecessary while allowing the juggling of the many tasks of everyday life with ease and economy. Control and comfort worked to reinforce the car as convenient.

Control over space also allowed participants to fashion the interior of the car as private. This is reinforced by the sketch in Figure 4.3:

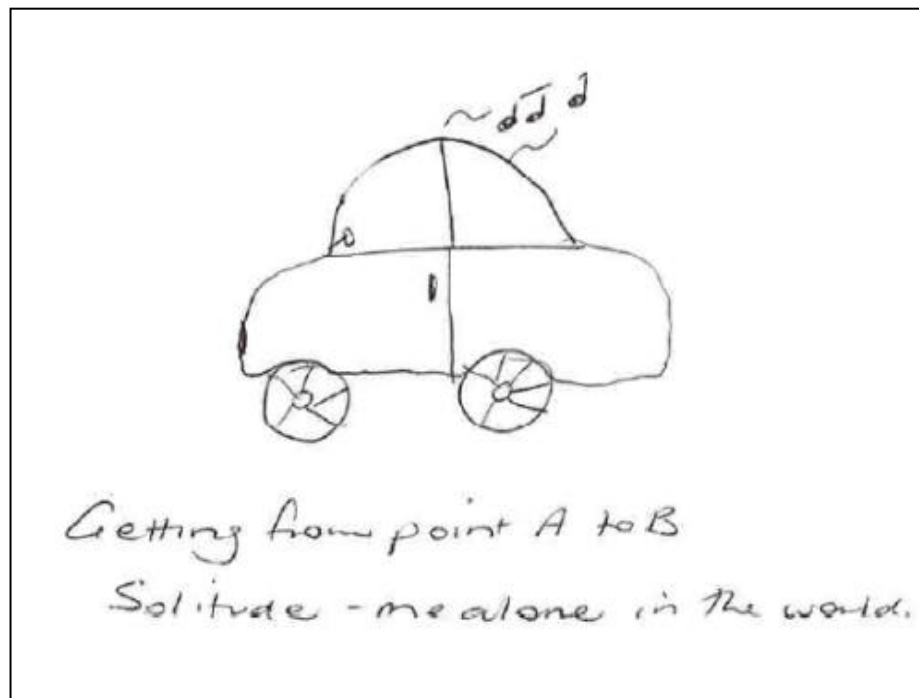


Figure 4.3. Jude's sketch of driving, nd.
Source: participant

In Jude's sketch we see how she constitutes the space of the car as private and comfortable through control over space, through playing her music and excluding other bodies. Bull (2001, 2004) and Katz (1999) show how drivers enjoy the comforts of the interior of the car especially through the use of music. Here, Krissy names the privacy of the car as 'solitude'. In contrast, the space of bus or train was constituted as 'public', through how participants exercised less control over the activities and interactions that unfolded over the course of the journey. Consider a sketch of public transport (Figure 4.4).



Figure 4.4 Krissy's sketch of public transport 9/6/2010
Source: participant diary

In this sketch, Krissy taps into ideas of discomfort by fashioning the shared space of the bus as sardines in a can. As well as the need to share space with other bodies, public transport was understood as inadequate for meeting the multiple demands of everyday life. When asked about reducing driving as a strategy to address climate change she responds:

Short answer: no. In reality it is not going to happen because it is just not practical. The trains and buses are too slow, they are late, they are crowded and dirty and I just don't like them. If I wanted to get to work I would have to take two buses and it would take so much longer so it is not worth it. It is very quick and direct in the car. I couldn't do it- take the bus- it would be hell getting to work. I would be distraught by the time I got there.

Interview, Krissy, 48, administration, 27/1/2011

Thus, for Krissy, the convenience of the car through speed and privacy allowed her to avert the spaces of public transport and made life more comfortable. Control allowed her to minimise physical discomfort and position the car as a practical necessity. This

example illustrates Hitching and Lee's (2008) argument that assumptions of comfort are negotiated around social practices and sensual expectations. Control and comfort worked to sustain everyday driving practices. This was reiterated by Kathleen when asked if she would reduce driving as an adaptive response to climate change:

I have a tight time-frame and I don't usually look at the bus. Cause its usually multiple destinations I'm going to. So I might go drop one at preschool and then another one at school and then go and do the grocery shopping and go to swimming lessons then so just for convenience and carrying all the bags that are associated with those activities that I am doing, um a bus doesn't seem like a good option... and if I need a pram as well, I don't have enough hands to carry it with me.

Interview Kathleen, 36, teacher, 22/3/2011

Kathleen constituted the space of the car as convenient through how it made life comfortable. The utility of the car to transport goods and people across multiple destinations quickly, and the freedom from timetables and the discomforts of public transport spaces meant that she could co-ordinate the multiple demands of everyday life.

One of the competing demands of everyday life was the adoption and practice of a range of pro-environmental behaviours. For example, in order to carry out pro-environmental household behaviours, the car was often framed as a necessary convenience device which enabled participants to implement specific projects and practices. Some participants argued that the car was necessary to access, purchase and transport the necessary tools, equipment and materials (for example, plants, chickens, gardening implements, hay bales) and to access destinations (community gardening projects, swap meets, markets) which would be impossible by public transport. Significantly, the convenience of car driving allowed them to allocate the time needed to adopt and incorporate these pro-environmental projects and practices into household schedules. In other words, car driving made implementing some pro-environmental behaviours more convenient and thus contributed to ideas of a sustainable 'good life'.

4.11 The inevitability of automobility for a sustainable ‘good life’

Having examined how the discourses of freedom and control, comfort and privacy work to embed car driving as a convenient practice, I now turn to examine how participants spoke about a future of driving private cars as inevitable and largely unavoidable. This future of continued car driving was grounded in the discourses of automobility and of ecological modernism where advances in technology were bound up with notions of progress and modernity. Automobile dependence in the global north was discursively positioned along a historical trajectory that ensured a future of car driving. The project of automobility was framed as developing in a linear fashion from slow and outdated forms of transport, to continually increasing levels of speed and convenience, which drew on understandings of time as a natural progression from past to present to future (Grosz 2004). For example, when asked about the future of automobility Nick replied:

There is not really an alternative to the car. There's no horses... Cars are a bit of a defacto part of life.

Interview, Nick, 43, professional, 8/8/2011

Nick's view confirms Freund and Martin (2009, p477) argument that 'the car is here to stay'. The lack of alternatives made driving inevitable. Similarly, when the same question was posed to Krissy, she commented:

We can't go backwards in terms of mobility...I mean Grandma rode a horse to school... but everything is achievable these days, we all want to upgrade our cars... we expect more in terms of what we can do.

Interview, Krissy, administration, 48 27/1/2011

Krissy draws on the discourses of ecological modernisation to suggest impossibilities in the possibilities of change. Horses are positioned as retrograde; while human innovation is imagined as offering solutions. For most participants, increasing levels of convenience and speed helped redefine the possibilities of everyday life. Driving private fossil-fuelled vehicles became part of the discourse of the contemporary modern citizen who manages a full and active life (Bauman & Haagard 2008). Thus, practices of automobility and sustainability became entwined around the discourses of comfort and

convenience, which made reducing driving an antithetical project. A ‘good life’ was positioned as full, fast, efficient, comfortable and convenient. A sustainable ‘good life’ was possible only as far as those practices that could easily be assimilated into existing everyday household practices and which remained within the boundaries of comfort and convenience. Jodie demonstrated how driving underpinned her sustainable practices, which included becoming a certified organic producer when she stated:

Well, there’s no way I could get that (pointing to a bale of hay in the boot of the car) home on the bus (laughing)...or even get to the community garden without the car.

Ride-along, Jodie, professional, 50, 26/2/2011

As such, amongst even the strongest environmental households driving becomes fashioned as part of the sustainable ‘good life’. Driving a car allows individuals to participate in a range of practices that are aligned with sustainability while still maintaining convenience, comfort and control.

4.12 Conclusion

In this chapter I explored how the discourses of automobility and sustainability operate along similar hierarchical and nested scales of responsibility. The taken-for-granted attributes of these embedded structures mean that disconnections between scales of responsibility worked to abstract the problem of climate change to a set of policies, practices and behaviours that were defined along hierarchical levels of power. As such, most of the responsibility for adapting to climate change fell to governments and the need to regulate the corporate sector to achieve more sustainable industrial practices.

Technological progress and innovation were positioned as the solution to greenhouse gas emissions from cars through an alignment with common ideas of modernity, progress and futurity. However, conceptualising responsibility for responding to climate change through geographies of scale allowed a re-allocation of responsibility rather than fostering ideas of how to creatively and collectively respond to the challenges of shifting to a low-carbon lifestyle.

The discourses of sustainability worked to produce a range of normalised pro-environmental household behaviours that were convenient and easily incorporated into everyday routines. This sustainable behaviour at the individual level constituted what many felt was part of the shift to a lower carbon lifestyle, yet car driving remained an integral practice for managing everyday life. Individuals viewed car driving as vital to a contemporary 'good life' which was full, busy and fast. The ability to shift the responsibility for climate change meant that participants were able to view car driving not through the discourses of sustainable development as polluting and avoidable, but through the discourses of a sustainable good life, where a range of pro-environmental behaviours and practices could be incorporated into everyday life while still maintaining current levels of speed, comfort and convenience.

For most participants, the historical trajectory of automobility meant that a future of car driving seemed inevitable. Lower carbon forms of transport did not align with the powerful symbolism of the car as futurity and modernity. Rather than imagining a return to a slower, localised and more connected styles of community living as advocated by some sustainability scholars (Condon 2010, Hargreaves, 2004), participants anticipated a future of continued driving that could enhance their capacities and capabilities to achieve more. As such, automobility was entangled within contemporary discourses of a sustainable good life, where the problems of climate change are assumed to be a challenge for government, corporations and scientists.

Having used discourse analysis to explore how participants talked about driving and climate change, the following results chapters undertake the challenge of investigating how these discourses come to be felt. The following chapters examine the embodied and experiential aspects of car driving while remaining alert to the power of discourse. To start, Chapter 5 begins by focusing on how relations play out within the space of the car to produce particular types of sociality which are important for maintaining familial configurations.

CHAPTER 5. THE SOCIALITY OF THE CAR-BECOMING A FAMILY



Figure 5.1 Driving with the kids, Wollongong 4.14 pm.
While the children sleep in their car seats, their parents enjoy ‘private’ time in the front where they can discuss significant personal and domestic matters.
Source: participant Kathleen

5.1 Introduction

The previous chapter highlighted the importance of discourse for understanding driving as both a sustainable practice and a source of convenience, comfort, and control. In this chapter, I argue that driving is an important social practice that allows families to negotiate the everyday cultural enactment of family norms. The design and materiality of the car helps to sustain flows of affective relations and configure emotional bonds that are felt as intimacy. I focus on how intimacy is a working arrangement of the close proximity, coded positioning and alignment of bodies, working alongside sights, sounds and smells. Attention to the subtleties of movement, inflections of voice, pauses and bodily noises provides insights into the visceral responses to car driving as an assemblage understood as family. As a reminder, the visceral refers to the bio-social body, one that is embedded in flows of affect between discursive ideas, past

experiences, social relationships, cultural representations and everyday material practices (see Chapter 2 for a full explanation).

Extending the work of Laura Marks (2000) and Vivian Sobchack (2004) I employ 'embodied empathies' to produce visceral readings of audio and video data. Embodied empathies means acknowledging the researcher's embodied history as a viewer/listener of audio and visual material and 'encourage(s) a bodily relationship between the viewer and the image' (Marks 2000, p164). The visceral responses of the researcher's body provide a starting point for considering how participants may (or may not) have similar embodied responses. Thus, the affective intensities felt through the researcher's body were used to produce visceral mappings (see Chapter 3.14), that highlighted particular moments and movements in the audio or video recordings. At joint listening/viewing events of audio and video data, the visceral mappings were shared with participants and interpretations were negotiated through informal conversations. Hence, I draw on Foucauldian discourse analysis of interviews, ethnographic insights generated from ride-alongs and reflections from shared listening/viewing events, to produce visceral mappings of the audio and video material to argue that car driving is a social practice that is entwined with the enactment and negotiation of heteronormative family values and relationships.

There are four sections to this chapter. In the first section, I review the mobilities literature that points to the space of the car as one that allows particular types of sociality to unfold. The space of the car is recognised as a distinct relational arrangement that affords particular practices and produces embodied knowledges. In the second and third section, I present empirical material in the form of two case studies from two households. The households illustrate how the flow of affect and emotion between bodies, within the space of the car, helped to create and maintain the performance of heterosexual familial relationships. These examples were chosen because they illustrate how the discourses of sustainability that advocate for reduced car driving come into conflict with the discourses of the heteronormative enactment of the family and the desire for intimate relationships. Thus, campaigns that promote reducing driving for environmental reasons are not surprisingly trumped by the embodied geographical knowledge of caring for family. The fourth section is the conclusion that draws together the main arguments of the chapter and underscores the inadequacies of

alternative transport to the car, in sustaining and maintaining social, emotional and affective relations of home life on-the-move. In the following section I start by outlining some of the relevant literature and then present the case studies.

5.2 Driving - Intimate spaces for work and play

Sociologist John Urry (2000) illustrated how driving produces distinctive ways of 'inhabiting' the car. He proposed that the quasi-private quality of cars reorganised work, pleasure, leisure and family life. Urry (2003) argued that the complex juggling of time and space that car driving allows also produces opportunities for multiple socialities and meaningful moments of co-presence. Importantly, bodies in close proximity in the car take part in 'embodied communication', that is 'conversations are made up of not only words, but indexical expressions, facial gestures, body language, status, voice intonation, pregnant silences, past histories, anticipated conversations and actions, turn-taking practices and so on' (2003, p165). Urry (2003) is arguing for the importance of paying attention to how affect flows within and between bodies-on-the-move. Similarly, Thrift (2004) with a focus on the increasing comforts and technologies of the car highlighted the way that boundaries between machines and bodies are increasingly mediated by affective engagements. Likewise, he argued that new forms of embodiment are being created. In Sheller's (2004a, p.228) words '...the car ... transforms the way we sense the world and the capacities of human bodies to interact with that world'. Thus, a focus on the affective flows and emotional relations that unfold within the space of the car can shed light on the way that social practices shape, and are shaped by everyday life-on-the-move.

Taking up this line of thought, Laurier (2002) Laurier & Philo, (2003) and Laurier et al. (2004) highlighted the way that the space of the car can serve multiple purposes. Rather than primarily a means to travel to work, the car often became a part of how office work was done (Laurier 2004). They argued that interactions were shaped by the particular spatial arrangement of bodies within car interiors. For example, how bodies were aligned through the position of forward facing seats, and restrained by seatbelts, made maintaining eye contact between driver and passenger difficult. Hence, 'drive talk' - that is the conversations in the car - often relied upon the subtleties of timbre, tone and inflection alongside use of bodily gestures and reflective pauses (Laurier et al. 2008).

Similarly, Ferguson (2009, p275) highlighted the importance of the intimate space of the car in carrying out social work. He argued that the types of conversations that unfolded within the moving car would have been awkward or difficult in other more formal or static settings. Hence, the car became an important site for sensitive communication, what he termed 'therapeutic journeys'. Ross et al. (2007) similarly found the proximate arrangement of bodies in the car facilitated an approach to what may be difficult topics, such as responsibilities, relationships, emotions and life-course decisions. They pointed to the length of time of the journey as significant to how conversations unfolded. The pauses and silences between passengers and driver meant that difficult issues could be talked through over the duration of the journey.

Similarly, Laurier et al. (2008) suggested that the flattening of power dynamics through the driving and passenger roles meant that conversations are often enabled by the distractions of the journey, the pauses, the window gazing or requirements of technical driving skills. The transition between locations, the known length of the journey, the unfolding of the journey was itself a way of negotiating a social situation. Composed of moments of fixity and flow, pauses and interruptions, conversations and reflective interludes, the car ride highlights the relationality between bodies and places. The car journey also serves to illustrate Adey's (2006) contention that mobilities and immobilities are inherently inter-related. Neither continuous flow nor complete stillness, mobility of bodies, affects, emotions, objects, ideas and meanings vacillate and oscillate, creating dynamic spaces of flux and emergence. If we consider the close proximity of bodies, the heightened need to be aware of non-verbal cues, as well as the motion and sounds within the car, we can imagine how these factors contribute to how bodies become sensually attuned to a working arrangement that is named as privacy and/or intimacy.

While this literature attends to the affective relations between human and non-human bodies within the space of the car, what is missing in is an attention to the situatedness of bodies. Approaching the visceral experiences of mobility through assemblage thinking demands understanding how bodies are situated within wider power geometries that sustain the roles and responsibilities of mothers, fathers, employees, students, boyfriends or girlfriends and so on. By linking the embodied geographical knowledge of driving to subjective understandings of self, others and places we can

better understand how discursive ideas come to be lived through rethinking driving as assemblages.

The family is conceptualised by Harker (2010) as a part of a political and ethical social ontology. He suggested that rather than working with a discursively constructed ideal of a homogenous heteronormative family, that the spaces and practices of the family should be further investigated. Harker argued that different family arrangements impacted on how mobile practices came to unfold across spatial and temporal dimensions, and thus expressed geographically distinct political realities. Investigating the complex and heterogeneous spaces of everyday family life on-the-move allows understanding the links between everyday practices of the family and wider structures of power. Jensen (2011) agreed that the politics and practices of mobility are embedded in multiple forms of power. She pointed to how discursive framings, Governmentality, emotions, urban structures, senses and atmospheres came together in mobile practices to produce taken-for-granted embodied knowledges. As such, in the next sections I turn to give a situated account of how life-on-the move in Wollongong was fashioned by embodied knowledges and discursive understandings around family, place and sustainability. By doing so, I illustrate how driving practices were entwined with the workings of power around family which sustained certain everyday practices and disavowed others.

5.3 Daily arrangements-accessing lived experiences

The planned research event of the ride-along allowed the researcher to witness and take part in everyday journeys. These journeys, though producing rich sources of non-verbal data, were altered by the presence of the researcher and the recording equipment. The dynamic between researcher and participant was therefore negotiated around discursive understandings of what constituted valid research data. To compensate for the impact of the researcher's body, participants were also invited to record audio and audio-visual accounts of their everyday journeys and as such, the affective capacity of the researcher's body was replaced by the affective capacity of the recording equipment. As participants recorded everyday car journeys with family and friends there were often moments of spontaneous affective intensity. This could be heard in the heartfelt singing, playful banter and laughter that erupted as participants undertook regular journeys. Listening back to or viewing these recordings often lead to participants remarking on

the ‘everydayness’ of these experiences, how driving was generally perceived not only as a necessity but as a social and enjoyable part of life.

I provide specific examples, often banal moments of affect and emotion that emerged in the space of the car, to illustrate how these were significant to enacting family life on-the-move and stabilising the car as a mobile-home. The examples illustrate how the affective experiences of driving produced embodied responses associated with the emotions of love and joy, alongside fear and anxiety. Discursive ideas around the heteronormative family became materialised through the bodily practices of car driving, and conversely, car driving allowed the embodied practices of mothering and fathering to unfold. I argue that the visceral experiences of driving therefore produced embodied knowledges and bodily judgements of driving as right, and thus for many participants driving felt right as the way to sustain family home-life on-the-move.

5.4 Spaces of domesticity and the young family

The first case study is centred on a two car household. For 36 year old married teachers Mathias and Kathleen, with three young children aged seven, five and three years, car driving was central to organising their busy lifestyles. They demonstrated how driving with their children provided rare moments to form emotional bonds in their hectic schedules of work and became a part of mobile home-making practices. This couple were committed to a range of pro-environmental practices around the home including growing their own fruit and vegetables, composting, and reducing electricity and water use. For this family, reducing driving illustrated the dilemmas and challenges surrounding driving less. Mathias often referred to his motor-vehicle as the ‘offending car’. When asked why he reflected:

*I look at the car and I just go... look at me... how lazy am I? I’m driving the car again. Makes me feel like I should get off my backside and do something. I feel a modicum of guilt. I s’pose you could say....it doesn’t worry me **too** much, but it still does worry me. I think, that is another thing I could cut, pare down... that I could cut down on.*

Ride-along Mathias, 36, teacher, 18/7/2011

For Mathias, a mix of concern for climate change, efforts to live a ‘low-carbon’ lifestyle, and ‘*a modicum of guilt*’ did not work productively towards behavioural change. Wardekker et al. (2009) and Moore and Nelson (2010) reported that responsibility for climate change is often perceived as a moral issue that requires personal action. Yet Markowitz and Shariff (2012) argued that negative motivators (like guilt and fear) do not work productively towards behavioural change. Rather, guilt can result in the shifting of blame to others (governments, corporations), a focus on the financial cost of adaptation (purchasing more efficient technology) or denial of the capability of individuals to make a significant difference (lack of large scale and wider adaptive responses). But in this case, for Mathias the guilt felt from continued car driving is labelled as laziness—an inability or lack of motivation to squeeze more pro-environmental practices into the already hectic schedule of everyday life’s work. Guilt works to highlight the disparity between his environmental concern and lack of action, the so called value-action gap (see Barr 2006, Blake 1999, Lorenzoni et al. 2007, Whitmarsh 2009). Mathias lived with the guilt and continued to drive.

The ‘weekend car’ (Toyota 4 wheel drive) and ‘the small car’ (Holden Astra) were used every day. Mathias delivered his son to childcare before work and Kathleen dropped their daughters to school, and then continued on to her workplace three or four mornings a week. Despite expressing concern for climate change and living within 2.5 kilometres of both parents’ workplaces they could not envisage a way to reduce driving because of the need to organise and deliver their three children to two separate locations before eight-thirty in the morning. Mathias cited time pressures as a reason to drive:

Mathias: Well you can’t take three kids, I mean how hard is it (taking a bus)? You can’t take three kids on the bus and get there on time (pause) whereas in the car 15-20 minutes. On the bus you’ve got to set aside an hour.

Interview, Mathias and Kathleen, 1/8/2011

Harker (2010) argued that familial relations fashion, and are fashioned by a range of material practices that are inherently mobile. Here, styles and practices of mobility help to create and reinforce specific spatial and temporal understandings of self and place. As such, for Mathias and Kathleen, car driving practices became framed within the

discourses of good parenting and a part of everyday home-life on-the-move rather than a problem in the light of climate change.

5.5 Performing the family in the space of the car

For Mathias and Kathleen, not only did driving allow them to juggle the commitments, responsibilities and fragmented timetables of their hectic everyday lives across geographical spaces, but also created valued family time and space. For this household, there were limited opportunities for conventional shared family spaces, such as the evening meal. Working against conventional shared family spaces was balancing work responsibilities of two careers with the domestic workload of caring for three young children. As such, the space of the car was valued in sustaining affective ties and emotional bonds that upheld the notion of family:

We love to talk to the kids in the car. You know, we get time together which is rare enough anyway... but the fact that the trip to the grandparents takes a while, it means that we get a good chance to share a few jokes and fool around...you know, it's usually fun. We can have a laugh.

Reflective listening Kathleen 17/8/2011

While Longhurst (2013) has pointed to the way that technologies offer alternative ways to parent children, in this case, Mathias and Kathleen actively shape the material space of the car in order to negotiate family relations without recourse to technology. Driving became a way to enact ethical ideas of responsible parenting and was implicated in the fashioning of an interactive and cohesive nuclear family unit that confirmed heteronormative discourses (Oswin 2010):

We have got a lot of friends that have bought DVD players and stuff for the kids and they just strap those on and go anyway and press play. But we don't do that.

Reflective listening, Mathias and Kathleen 17/8/2011

Consequently, without the distraction of mobile devices the regular journeys between home, work and school were central to everyday family interactions and communication between parents and children. Kathleen acknowledges the importance of these routine journeys; for example the 'normal school run' for connecting with her daughters:

It is a really important part of the day. I get all the gos [gossip] about what is going on at school.

Reflecting listening Kathleen 10/9/2011

Ride-alongs with Kathleen on a normal 'school run' gave insights into the way that the embodied practices of driving were entangled with the discourses of feminised nurturing and caring associated with mothering (See Box 5.1).

Box 5.1 Picking-up the kids

We cruise into town and join the long line of parents circling the school. Inching forward towards the pick-up zone, the buzz of hundreds of little children excitedly talking and shouting builds to a crescendo. Teachers direct and lines of children stand up and shuffle forward. Kathleen's daughters spot us and wave and smile excitedly. They rush forward and are bundled into the car, with the slam of the door we speed away from the school. There is a rush of energy as the girls urgently relay the events of the day to their mother, Kathleen responds with cooing and appropriate surprised noises, all smiles, frequently glancing at them in the rear view mirror, her voice caresses them. They probe me as well 'what are you doing here?' 'have you been driving around with mum?' 'my mum's a good driver you know'. There is a feeling of being covered in a warm wave of family closeness. Being close, moving together, everyone pipes up with bits of nonsense and we all laugh at Ana's jokes about someone at school. Before you know it we are at home and with the opening of the doors it is like an air lock being released. The girls take their bags and disappear into their rooms and Kathleen and I sit in the kitchen.

(Fieldnotes from ride-along with Kathleen 10/9/2011)

In the space of the car, my body became an instrument of research (Longhurst, Ho & Johnston 2008, Paterson 2009) where I could not ignore the corporeal experience of being swept up in an affective intensity between bodies that were interacting physically, symbolically and emotionally (Aitken 2001, Punch 2001). Tones of voice, energy levels, bodily touches and glances worked together in the intimate space of the car to forge connections between bodies. This enabled a sensing of the routine embodied driving practices that structured the life-worlds of the family. For the six or so minutes of the journey, I was aware of the affective qualities of ritualistic and embodied forms of communication where noises, comportment, glances and qualities of voices circulated between bodies to evoke affective sensations of pleasure and excitement.

5.6 Paternal care

Deleuze and Guattari (1987, p263) argued that ‘spatiotemporal relations, determinations, are not predicates of the thing but dimensions of multiplicities.’ They pointed out that the affective experiences of assemblages are not reducible to universals, but give rise to a range of multiplicities. I want to think about how these multiplicities allow for the embodied performances of discursive understandings of the responsible parent within the assemblage of driving. Dowling (2000) and Murray (2008) illustrated how ‘good mothering’ is now taken-for-granted in particular driving practices. Mothers chauffeur their children to ensure their personal safety, further their life chances by attending extra-curricular activities and efficiently managing and co-ordinating complex individualised schedules around domestic duties. These studies illustrate how discourses of good parenting are organised around gendered ideas of car mobility. Yet, almost absent in the literature, is an attention to the relationship between car driving and fathering. As such, visceral mappings of audio and video data allowed an exploration of the way that for this nuclear family regular short drives facilitated the embodied performances of fathering as well as mothering. Like the ride-along, multiple audio recordings of the short drives (approximately three to four minutes) to and from the child-care centre illustrated the everyday affective intensities that made it possible for Mathias and youngest son Pete to connect (See Figure 5.2).

Time sec	Non-human sounds	Mathias 38 years old	Pete 3 years old
0:00:01	Radio in background Car starts	Ok it's a brand new day its Friday... and...	
0:00:07 0:00:13	Accelerating slowly	I'm taking Pete to preschool	Put star wars on dad (slow, rhythmic monotone)
0:00:15 0:00:23		<i>Star wars</i> ...you're a <i>star wars</i> man. Aren't you? (expressive)	In book... put star wars on
0:00:25	Accelerating faster	You <i>love</i> star wars don't you Petey	Give me one... You <i>like</i> ? (rising tone)
0:00:32		You <i>like</i> ... <i>star wars</i> ...(elongated, rising) exaggerated, rising tone)	Me... Me <i>like</i> (elongated, falling tone)

Figure 5.2 Visceral mapping of audio file 11/6/2011

In this visceral mapping, oval shapes are used to overlay the text and to highlight specific moments where an affective intensity circulating in the space of the car was detected by the researcher. Here, changes in the tones, textures and resonances of voice were interpreted as expressing the emotions of affection, love and care. Because of his son's age the conversation unfolds more through how Mathias' pitch and tone are expressive beyond the actual words, they illustrate how conversation is embodied through timbre, resonance and timing (Massumi 2002). Reflecting on this audio recording Mathias remarks:

Well I guess I just do that unconsciously. I mean it is probably something I do with all little kids. If you make it sound interesting there is more of a chance that they will listen. It's kind of like play acting. He likes to hear it and I guess I like to do it...it engages him... makes him feel more comfortable. I wouldn't do it if I am being stern or when he is older.

Reflective listening, Mathias and Kathleen 17/8/2011

Thus, at a non-conscious level Mathias drew on the affective qualities and affordances of the timbre and tone of his voice as a strategy to forge connections with his son and overcome the power geometries inherent in the alignment and positioning of bodies as they were restrained in their customary positions (Noy 2012). As driver and parent in control, Mathias initiated playful verbal exchanges with his son which worked to constitute the space of the car as private and intimate. These exchanges generated affective sensations of mutual pleasure evident in the sonorous tones: *'he likes to hear it and I guess I like to do it'*. For Mathias, at one level car driving allows him to perform the duties of a father by safely conveying his son to childcare. At an unreflective and embodied level, the visceral pleasures of driving work towards bodily judgements of driving as feeling 'right' as Mathias performs his heteronormative fathering role. I argue that it is the productive possibilities of affect that arise in the space of the car that worked towards creating and maintaining emotional bonds that help configure the subjects of father and son.

5.7 Relational bodies - touch and smell

Having given attention to the affordances of sound for constituting the space of the car as intimate and relational, in this section I want to think about how touch and smell are also integral components of driving as assemblage. For this family, weekends usually meant driving in the 'weekend car' to Bunnings [a hardware store], or to visit family and friends in nearby Sydney. These journeys provided opportunities for mundane conversations and interactions. At the practical level, shared journeys allowed Mathias and Kathleen to discuss the humdrum concerns of running a domestic household: the family budget, planning birthday parties, buying birthday presents, grocery needs and home repairs. Yet these domestic concerns were entwined with heteronormative relations of care that helped configure what it meant to become a family. For example, I asked Kathleen if the generally fixed seating arrangements of the cars reinforced understandings of adult space in the front of the car:

Theresa: I was thinking about the car as kind of adult space up the front and kid space in the back.

Kathleen: yeah that's true, it sometimes feels like that. But it depends on the car and on the drive. If we take the big car which is automatic quite often I will just have my hand resting on his leg and we might have a quick kiss at the lights, nothing full on just a quick peck. And it's nice you know, the kids can see that from the back. If it is the manual then I don't tend to do it cause he is moving his leg and his hand to change the gears...And if I am driving Mathias is always grabbing me (laughing) and doing things to me. I'm always telling him to stop because I worry that he is going to make me have an accident or something.

Reflective listening, Mathias and Kathleen 17/8/2011

Here, Kathleen frames adult space as sexed space. This quote illustrates Morrison's (2012) point that bodies and spaces are mutually constituted as heterosexual through touch. I argue that the interactions, exchanges, touches and caresses worked to fashion the space of the car along heteronormative lines through how Mathias and Kathleen could perform as a heterosexual couple. The visceral experiences of driving: the sights, sounds and touches, became a part of the way that affective exchanges and emotional relations between bodies could unfold. As argued by Bondi (2005) affect and emotion

are not located in particular bodies, but are intrinsically relational, able to flow between bodies and permeate social and physical spaces. As such, the relational space of the car allowed the embodied performance of gender and the heterosexing of space.

Contributing to this heterosexing of space was how regular weekend drives to Sydney (around 50 minutes) meant spending ‘time alone’ while their children slept in the back seat of the car (See Figure 5.1). As argued by Ferguson (2009), the known length and rhythm of a journey can determine the flow of conversation within the car and the topics that arise. Laurier et al. (2008, p20) also suggested that the car is one of the places reserved for the most serious conversations about ‘life, love and death’. Kathleen confirmed that the hour long drive to Sydney provided opportunities to ‘thrash out any issues’ or to broach sensitive topics. For example, consider the audio recording of when they enjoy a story on drive time radio together:

Time	Radio	Mathias	Kathleen
0:03:17	Older man’s low pitched voice: <i>‘We had a wonderful sex life’</i>	Ha ha ha ha ah!! (laughing loudly)	Good on him (laughing) and three nights when you didn’t have sex in 73 years ! (loudly, incredulously)
0:03:22		What the hell’s going on with <i>us</i> ? (rising) (laughing) you hear that? see....that’s what <i>normal people</i> do Kathleen (seriously).	Ha ha ha!! Pausing What was the secret?
0:03:33		She did everything I told her to (stilted, stern, sarcastic voice)(laughing)	Ha ha (high pitched, inflected) I thought I was having sex.

Figure 5.3 Visceral mapping of mp3 15/7/2011

The oval shapes in Figure 5.2 trace the movement of affect as it circulated between bodies as detected in the interplay of affirmative laughter, timbre and tone of voice, pauses and inflections as the conversation unfolded around the drive-time broadcast on the local radio while driving. Although good humoured and convivial, the reflective pauses and changes to tone of voice hinted at a tension between humour and gravity.

Within the relational space of the car, conversations around (lack of) sex, money or the domestic division of labour were acknowledged by Mathias and Kathleen as most likely to arise on a regular basis. Here, we can appreciate how the space of the car is constituted as intimate and private through bodily touch, glances, affective tones of voice and reflective pauses, helps to configure the emotional relations between bodies. The visceralities of driving reinforced social, cultural and discursive understandings of the family, but importantly provided a way to negotiate the emotional demands of everyday home life and heterosexual relations on-the-move.

5.7 Who farted? Breaking bodily boundaries

In other situations, the family drive illustrated how the close proximity of bodies allowed a sharing of not only sights, sounds and touches but also bodily smells. A bodily smell diffused by air molecules and registered by nasal receptors provided an opportunity to forge the affective and emotional relations that sustain a family by evoking conversations around what biological and social bodies are and what they do. Consider a video recording of a short drive around Wollongong (Figure 5.4).



Figure 5.4 Video stills from driving in Wollongong,
Source: participant Kathleen

In this example, Kathleen records the video and makes comments off camera, when a shared bodily smell prompts irruptive laughter, groans and a protracted discussion. The sharing of bodily smells was labelled as ‘disgusting!’ and judged as unacceptable even between family members within the space of the car. Ahmed (2004) argued that disgust arises from proximity, from coming too close to something that might be taken into the body, a fear of contact with something that is categorically ‘other’ to the self. Disgust works to register difference at the boundaries of the body, and is felt through affective intensities on, and through the body, but is also bound up with ideas and impressions of and from other bodies (Ahmed, 2004). Thus for this family, the circulation of a bodily smell designated as disrupting moral and social codes, worked to demonstrate how affective forces work on bodies. The groans, writhing of bodies, pinching of nostrils and pained facial expressions were a part of how bodies pulled away from the threat of contact with the smell. In the visceral politics of family driving, smell worked to

reinforce some bodily practices as appropriate and others as disgusting. In the relational space of the car, the circulation of the affects of shame and disgust played out in tangible embodied responses. Probyn argued:

Simply put, one of the effects of experiencing shame and disgust is a sense that categories of right and wrong, agreeable and distasteful, desirous and abominable, are rendered pressing and tangible (2000, p132).

If we view the processual assemblage of driving as a part of bodily becoming, then we can understand how affects and emotions work alongside discursive norms of family. Touch, sights, sounds and smells became a part of embodied knowledges that reflected discursive understandings of respectability and morality, that is, bodily capacities were developed along particular trajectories. Reflecting on this video Kathleen commented:

Any of those interactions in the car are important; all those opportunities that come up are a chance to teach them how to behave in life in general...the social aspects. It's not necessarily something I do in a conscious way...it is a part of being a parent in living day to day life.

Reflecting back, Kathleen 10/9/2011

Bodily responses and sensations worked to reinforce bodily judgments of driving as 'right' through facilitating the embodied performance of normative ideas around what it meant to be a 'good' and respectable family. But significantly, the social practices of driving were inseparable from the sensual engagements and embodied responses that were evoked within the shifting flows, fluxes, trajectories and heterogeneous becomings that comprise the assemblage. The visceral experiences of driving - the sights, sounds, smells and touches gave texture and meaning to the co-presence and proximity of bodies, producing a relational home space, constituted and felt as both private and intimate. The desire for intimate familial relations created a working arrangement where spending time together produced, and was produced by the discursive understandings of the heteronormative nuclear family.

In the next section, I turn to consider how driving as assemblage was experienced by a blended family with older children and demonstrate how this played out in a different set of shifting affective and emotional relations.

5.8 Keeping connections open through the assemblage of driving

The second case study is focused on a two car household of a blended family with teenage children. For Carla, a 47 year old twice married, full-time employed mother of three teenage children, car driving was an important practice that offered a way to negotiate the stressful relationships of a blended family outside the spatial confines of the house as home. Responding to the challenges of climate change was a moral issue for Carla and she implemented a range of pro-environmental behaviours. As manager of the domestic household, Carla was responsible for pro-environmental behaviours like purchasing green products, fair trade products, energy efficient appliances and avoiding plastic bags, composting and recycling. She commuted to work by train every weekday and often walked to the local shops. She managed the household's use of electricity and water and was 'constantly following everyone around turning lights off'. Carla illustrates the way that the work of sustainability is gendered, with the majority of the household work often undertaken by women (Organo et al. 2013). Having given up the drive to work, she nonetheless made multiple, short trips every day to chauffeur her children to their part-time jobs, friends' houses and the shops. I argue that the affective intensities of these journeys helped to re-constitute emotional bonds and subjectivities often missing in the relationships configuring the house as home.

For Carla, negotiating family relationships between her second husband and her children was a continuous challenge. Blended families often face significant personal communication challenges (Berk 2003). Hetherington (1993) reported that girls often react to step-fathers with sulky, resistant behaviours. Hetherington and Stanley-Hagan (2000) pointed out that especially older adolescent girls feel threatened and often disengage from their step-parent. It is not surprising then, that for Carla's three daughters, relations with step-father, William, were a source of tension within the house. Consequently, the children tended to withdraw into their rooms and minimise interactions (See Box 5.2).

Box 5.2 Family tensions

At Carla's place on Saturday morning. We are sitting in the lounge watching a driving video that she has made. We are talking quietly. There is a lot of loud door slamming as a teenage daughter makes her way between bedroom and bathroom and back again several times. William (husband) comes out of his room in his pjs looking tired and angry. He yells about the selfishness of some people and makes it known that he had been working until very late. There is an exchange of heated words between the two and more even louder door slamming and they go back to their respective rooms. Carla laughs nervously and we whisper quietly as we watch the rest of the video.

Field notes 20/3/2012

For Carla, driving was an important part of the way she negotiated the strains of familial relationships. The affective and emotional relations that arose within driving as assemblage helped to maintain and reinforce ideas and practices of maternal care. The sketch from Carla's diary illustrates how, as a mother of teenage children, the car facilitated practices of care (Figure 5.5).

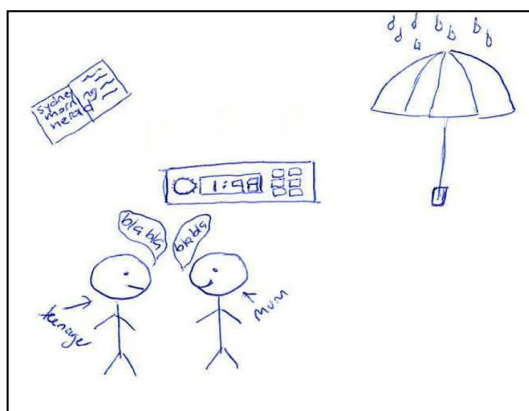


Figure 5.5 Sketch of driving, Carla, nd.
Source: participant diary

In this sketch of driving, Carla depicts a range of shared activities that she enjoyed while driving with her daughters. Mother and teenagers enjoyed music and listening to the news on the radio, safe and dry from the weather outside. Word balloons and the orientation of the stick figures looking towards each other indicate that conversations are facilitated within this space. Yet, what is missing in this sketch is any sign of the car itself, rather what Carla depicts are the affordances of car driving. The car has become an imperceptible background to the activities it affords. The design and layout of the

car, where bodies are restrained and largely immobile, aligned and forward facing while in close proximity means a chance to forge intimate connections.

Short drives (less than ten minutes) to work or the train station to pick up her daughters were a part of the unpaid work of mothering that helped keep-family-life-together. For Carla, the importance of this work was bound up with the frequent opportunities to make and re-make affective connections and emotional bonds. Furthermore, the habituated practices of driving were understood as precious 'time-out' from the roles and responsibilities of keeping family life together. These interpretations are supported by several diary entries:

8.00 a.m. Drove Sarah to train station. A little annoyed as she's never ready, always a rush to get there (only two blocks away). Felt good to be not fighting with her for a change. 2.00. I picked Sarah up from Port Kembla, I don't usually pick her up but she texted me and begged me to get her as her exam had finished and she didn't want to wait for a bus and a train. I realised as I was driving that I like the 'time-out' in the car when on my own but I also appreciate time to get to chat to Sarah as she normally doesn't speak to me much at home. She is always in her room, music blaring and on the net. Typical teenager I guess!

Diary entry, Carla, 47, professional, 16/9/2010

In this narrative account of a short journey, we can appreciate how within the space of the car, the affective intensities between mother and daughter shift between what Carla names as irritation and annoyance, to pleasure and appreciation. The diary entry also highlighted the importance of the car as a space for 'time-out', a therapeutic space where busy mother Carla could maintain a sense of calm necessary for keeping everyday domestic life together - (This is a theme that is examined further in Chapter 6.) Yet, this representational account gives few insights into the lived reality of experience, and emotion and affect remain as largely disembodied concepts. Visceral mapping of video data brings into sharper focus the way that affective and emotional movements between bodies are lived through the body and are central components in constituting the space of the car as a familial assemblage, a working arrangement of home life on-the-move.

5.9 Delightful mother-daughter time!

In this section, I start to trouble ideas of the space of the car as a utopian space of belonging by highlighting the dynamic nature of affect and emotion. Recent feminist thinking about the affective qualities of love, as able to change the capacity of bodies is useful within the visceral framework. Morrison et al. (2012) argued that we should attend to what love does, rather than what love is. While love acts as a relational force within the space of the car, I argue that it works alongside the affects of pain, fear, anxiety and anger through how it circulates between bodies. In the words of Massumi: *It is the relations between movement and rest which, though sometimes imperceptible, are in essence affect* (2002, p24). Thus, we can consider how the circulation of affect and emotion which can be detected in the sounds and movements of bodies are a part of the processual emergence of subjectivity and the becoming of the family.

Consider Carla's video recording of a shopping trip with her daughters Sarah and Jackie, which captures the affective and emotional interactions as they unfold within the space of the car. Driving together, her teenage daughters swear, moan loudly, and burst into raucous laughter and talk of drinking, smoking, hang-overs, prostitutes and drugs. Carla remonstrates with them (*Jackie ...I want you to stop smoking!*) and admonishes them (*Sarah slow down!*) Yet, it is obvious that she relishes the confidences around sex, drugs and drinking they share as her voice oozes pleasure and delight even while protesting about their inappropriate language and conversations. These conversations illustrate arguments within the drinking literature about how parents position themselves more as friend than parent as a way to develop more open and non-hierarchical relationships with their children (Valentine 2004, Valentine et al. 2010). The space of the car is constituted as private and emotionally close through how mother and daughters laugh, exclaim, shriek and share ribald stories. Their voices are petulant and insistent; the atmosphere is buoyant and eruptive almost argumentative as they vie for turns, interrupting and directing each other continually (See Figure 5.6).



Figure 5.6 Stills from video of Carla shopping with her daughters in Wollongong.
Source: participant Carla

The space of the car becomes constituted and felt as intimate and private through how the affordances of voice, the bodily noises and movements, the laughter and banter evoke affective intensities and emotional bonds between bodies. The assemblage of driving provided a working arrangement where Carla's desire for intimate relations could unfold beyond the spatio-temporal boundaries of the house as home. Commenting on the video she remarked:

At home they stay in their rooms anyway. They don't even watch TV with us. I love driving them...it's a good catch up with the kids...it's the only time you can actually pin them down and they can't escape.

Reflecting back on video, 20/3/2012

Regular short drives with her daughters are valued as rare opportunities for interactions that do not easily play out in the space of the house as home. Within the working arrangement of domestic home life on-the-move, affective intensities work on, through and between bodies to enhance capacities for emotional connection. The affective affordances evoked through driving as assemblage are recognised and interpreted by Carla as emotional love. Yet rather than explore emotions in isolation, I want to think about the processual qualities of assemblages of driving, as producing a range of emotional and embodied responses.

5.10 Overcoming embodied responses

Although this driving video is filled with affective intensities that generate laughter and obvious pleasure there are also moments of uncertainty and fear. This is in part because inexperienced driver Sarah is driver in control of the vehicle, while her mother records the video. The video is punctuated with momentary bouts of panic:

Sarah: Go?...

Carla: Um... yeah. ... cause that car...Uuurrh! (Loudly, fearful) ...(loud breath inwards) Stop!

Sarah: (slamming on the brakes) What? (hoarse voice, annoyed)

Carla: Jesus (sounding relieved)...Go! (sternly) I thought you had your own lane...but if he wasn't turning you would've probably...sorry I didn't know how this...slow down Sarah.

Video transcript

At this juncture in the video, affect can be traced through the changing pitch, tone and volume of voice. Carla expresses fear, shouting a high pitched warning. Sarah reacts, quickly stopping the car; her voice hisses accusingly. Carla loudly breathes a sigh of relief and we can hear her pause before taking control and directing her daughter to continue in a controlled voice. When asked to reflect on this moment, Carla speaks of her embodied response:

I can't relax when I'm in the passenger seat and I'm always on the lookout for potential danger. It is extreme anxiety and if I sense we are going to be in an accident (which is pretty much what happens), I clench my body, close my eyes and prepare for the 'hit'.

Reflecting back on video, 20/3/2012

The dynamic movement of sounds across bodies and the irruptive events of sudden stops and starts of the moving car illustrate what Bissell (2010, p4) calls a 'ductile assemblage'. The agitations, ruptures and disconnections of the journey work to modify the capacities of bodies to affect and be affected. Thus sounds can agitate and incite, emotions can arise and dissipate, and bodies can absorb or respond to a changing dynamic of affect. The affective moment captured in the video draws attention to the movement of affect between bodies. Carla's embodied history, the trauma of a previous car accident is felt through her body, evoking an embodied response of closed eyes and clenched body to produce a state of 'extreme anxiety'. Yet, the anxiety quickly dissipates when the car stops, and Carla is able to re-form her emotional bonds of love with her daughters. In this example, fear and anger are entwined with relations of love and care. It illustrates Morrison et al.'s point that '*where there is love there is also hate, shame, fighting and emotionally charged discussions*' and I argue in this example, anxiety and fear (2012, p12).

The excerpts from the video recording illustrate Grosz's (p117) point that bodies are 'living narratives' capable of being written in contradictory ways. Carla's cumulative history of a fear of driving, though able to provoke an embodied response to affective moments of perceived danger can be written over by the affective forces of love. Morrison et al. (2012) argued that love's power is constructed through discourse, language and representation but a focus on how, where and why people love can provide insights into how love works to shape places and people. For this blended family, the productive effects of love within the ductile assemblage of car driving altered the capacity of bodies to think, sense and act. Here, love acted as a force to reproduce practices and identities associated with the social institution of the heterosexual family. Yet more than this, the visceral experiences of driving felt through bodies as pleasure and pain, love and anger afforded intimate connections and sensual attunements.

(Laughing) See!...delightful mother and daughter time!

Video recording transcript

For Carla, short, regular car journeys with her daughters were special. The distinctive qualities of these car trips can be understood in terms of strengthening emotional familial bonds which for Carla could not easily play out in the parental house as home.

'I guess it (inside the car) is (pause) a special kind of place'

Reflection on video 20/3/2012

As such, the flows of affect and the circulation of emotions within driving as assemblage afforded opportunities for embodied performances of the family. Ahmed (2004) argued that emotions, like love, are relational, constituting relations between bodies, objects, collectives and nations. As such, love empowers bodies to act for or against particular bodies and thus has an affective dimension that connects the personal to the political (Ahmed 2000). Within a visceral politics of driving, I argue that affect worked to sensually attune Carla's body to continue driving, and to produce bodily judgements of driving as the right way to sustain family relations.

5.11 Conclusion

In this chapter I examined how different types of sociality played out in the assemblages of driving through an attention to the flows of affect and emotion. The examples provided are an illustration of how the discourses of comfort, convenience and privacy that were highlighted in Chapter 4 play out in embodied ways. I explored how sets of discursive ideas around car driving when conceived as an assemblage, produce and are produced by, social understandings of what it means to become a family. For these participants the assemblage of car, bodies, objects and ideas provided an intimate relational space that allowed affective and emotional connections and disconnections between bodies which altered their capacities for thinking, sensing and acting. For Mathias and Kathleen, car driving afforded mundane engagements with heteronormative domesticity that reinforced what it meant to become a nuclear family. For Carla, car driving was associated with mothering, becoming a friend rather than parent, and enacting care for her teenage children as they negotiated the tricky terrain of

adolescent identity formation against the tensions of a blended family home. Heteronormative discourses are those that invisibly work to position social concepts such as the heterosexual 'family' or 'marriage' as unshakable constructs (Gamson 2000).

These two case studies illustrated the way that the moral imperatives to respond to the problems of climate change are negotiated around the lens of self and family. The visceral responses to car driving, the ideas, affective experiences and emotional bonds operated at conscious and non-conscious levels to produce embodied knowledges of driving that were incorporated into the on-going performance of becoming a family. Hence I argue that the accumulation of these embodied knowledges, the stratification of affect through the body which is produced through the regular enactment of the social practices of the family, are central to the choices people make to drive. Better understanding of the role the car in sustaining the roles and responsibilities of parenting may provide social marketers with new starting points for climate change campaigns designed to encourage people to think about transport choices.

CHAPTER 6. THE SOUNDS OF DRIVING: KEEPING-EVERYDAY-LIFE-TOGETHER



Figure 6.1 Visiting a friend's house, Wollongong, 14/9/2010, 6.41 pm.
The car is part of the landscape in suburbia; concrete paths, garages and sensor activated lighting are how households cater for the drivers.
Source: participant Elouise

6.1 Introduction

The previous chapter illustrated the importance of the affective qualities and affordances of sounds and voice for producing particular driving assemblages alongside sensuous events of touch and smell. In this chapter, I turn to examine how sound and more particularly playing music while driving, provides clues to the affective and emotional dimensions of why driving less, for a changing climate, is often non-negotiable. This chapter focuses on visceral soundscores from audio files, contextualised by drive-alongs and semi-structured interviews to provide insights to how using music as a resource enables some homemakers to keep-everyday-life-together. The visceral responses to sound provide clues to the reluctance of those people

who are principal homemakers to stop driving short distances, by providing insights to the roles, responsibilities and relationships shaped, reshaped and undone by automobility.

A focus on sound encourages an appreciation of the ways in which car spaces and subjectivities are co-constituted through the performatives and practices of listening and hearing. I aim to theorise geographies of mobility by making explicit bodily judgements to sound in the making and remaking of driving knowledge. Bodily judgements of sound are critical to the co-construction of car spaces and subjectivities of bodies that drive. I consider moments of affective and emotional intensity to illustrate how bodily judgements of sound help to constitute a car space that enables both the formation, and dissolving of the spatial and social boundaries, associated with the domestic realm and masculine/feminine subjectivities. In particular, bodily experiences of sounds while driving illustrate the importance of the car as restorative or therapeutic, through an ability to instil calm. Drawing out the therapeutic capacities of driving short distances, I conclude that thinking through the bodily judgements of sound offers insights to what mobilises people to choose the car over other forms of mobility.

There are four sections to this chapter. The first provides an outline of the literature around sound, music, hearing and listening to consider how sound is conceptualised within different paradigms. It explains how a visceral approach to automobility through music can offer insights into situated subjectivities. The second section provides the first of two case studies to illustrate how bodily judgements of driving sounds provide clues to the space of the car as restorative. The examples were chosen because they demonstrate how people enlist the affective capacities of playing music, as a way of connecting with alternative subjective positions which are themselves a part of the on-going formation of subjectivity. Music enables 58 year old Jude to become viscerally connected with an understanding of herself that is not tied to domesticity and disability. In the third section, I demonstrate how Steve's visceral experiences of the rhythmic affordance of sounds generated during a short trip to the post-office with his children tells us a great deal about his emotional and affective relations with the space of the car as a house-dad. Steve deploys music to change bodily dispositions by creating a car space where his body feels comfortable, by making visceral connections that instil a sense of calm through reconstituting a sense of self around his younger, masculine

subject. Finally section four provides a conclusion and summary of the main ideas expressed in this chapter.

6.2 Situating sound

In geography, questions about the relationship between sound and place are not new. One enduring strand of research pays attention to the phenomenology of sound. For example, Rodaway (1994, pp82-114) dedicated a whole chapter to ‘auditory geographies’ in order to explore the relationship between sound and place. This subject-centred epistemology directs attention to how sound registers on the ear to make sense of place. Another important strand of literature addresses the politics of sound (see Connell & Gibson 2003, 2004, Gibson 2009, Kong 1996, 2006). Drawing on the ideas of Foucault, this strand understands sound within national or racial discursive constructions. A third strand explores the embodied politics of sound and directs attention to the body as well as the multisensory and material qualities of sound. This work often draws upon Deleuze’s (1988) ideas of materiality around the spatialities of the lived body, practice and affect. Yet, this strand is comprised of multiple and often discordant conceptual positions. Important contributions include those made by feminists (Duffy 2000, 2005) and affect scholars (Anderson 2004 2005 2009, Bissell 2010c, Saldanha 2002). Implicit in these approaches is how bodies play an active role in making sense of sound. Attention turns to how bodies are enlivened or deadened through how the affordances of sound – including rhythm, vibration, melody, tone and colour – mediate the flow of energies in-between human and non-human bodies. The embodied politics of sound has brought attention to relational thinking about the body. Equally important is how the affordances of sound may increase or decrease the capacity of bodies to do things, enabling a particular temporal and spatial order, or ‘atmosphere’ by (re)making connections or disconnections between ideas, things, people, plants and animals.

Bodily judgements of sound are always situated, constituted and embedded in uneven economic, social and cultural power geometries that are sensory regimes. Hence, in terms of the everyday driving sounds, the starting premise is that sound in car spaces can tell us about the sensory regimes of particular moments in time and how driving might reinforce or subvert such regimes. A visceral approach is an open conception of automobility where place is conceived as a constellation of trajectories working across

geographical scales. Such assemblage thinking highlights the importance of relationality – the visceral requires remaining alive to thinking about places, cars and bodies as assemblages; that is an unstable and heterogeneous matrix of becomings, flows, connections or disconnections, between ideas, things, memories, molecules, and organisms.

6.3 The multisensory qualities of sound

The visceral realm is about the co-training of the sensuous body and the multisensory qualities of sound. The bodily judgements of the brain, nose, fingers, eye, tongue and ear are conceptualised as flowing over each other rather than as operating independently of each other. A visceral approach alerts us to the possibilities that hearing – the cognitive process of understanding and comprehension – and listening – a precognitive process where we do not fully interpret such experiences (see Nancy 2007, Simpson 2009) – are related rather than discrete practices that operate through the multiple sensory registers of bodies, rather than only the ears. The visceral requires conceptualising listening and hearing as operating through our bodies simultaneously, shifting between registers in bodily and/or cognitive modes — through the social norms of everyday life practices.

The visceral requires remaining alert to how different bodies have distinct affective capacities. At the core of a visceral approach to sound is the active role of the material body and the possibility of unpredictable shifts in socio-spatial formations, within the weight of historical trajectories of everyday life. The intensities of visceral responses triggered by sound may vary as they pass between, or through, and come to inhabit bodies; and may be narrated in various ways as they are understood within particular contexts – such as noise or music. The visceral response to sound therefore provides important clues to how individuals position themselves in relation to others, and things that make, remake and unmake understandings of sounds, subjectivities and spaces. For one individual, a sound may help cohere subjectivities, places and a sense of ‘belonging/togetherness’. At the same time, for another individual the same sound may provoke a sense of alienation if experienced as noise and understood as disruptive or harmful. Sound connects us to uneven networks of power through how people’s ideas about sound may already be embodied, and integral to the formation of subjectivities.

Finally, a visceral approach is about the intensities of affective energies and emotional ties triggered from the embodied knowledge of sound as understood within the context of power geometries that shape our social worlds. Considering the affective qualities of sound, Saldanha (2002, p58) highlights the material qualities of sound, arguing that ‘music is the cultural form best suited to extract the energies already oscillating in and in-between human bodies.’ Anderson (2004, 2005) discussed how the affordances of melody may become a therapeutic resource by changing the affective contours between human and non-human bodies. However, it is important to avoid the assumption that the affective affordances of sound have some ubiquitous, essentialistic, uni-directional and unmediated quality that compels individuals to respond in particular ways.

Hence, I argue that the affordances of sound ‘work not through the ‘meanings’ per se, but rather in ways that pick up density and texture as they move through bodies, dreams and social worldings of all kinds’ (Stewart 2007, p6). In a visceral framework it is important to think about these densities and textures as relational. The interpretations relied upon exploring bodily judgements through tracing the flow of affective and emotional relationships within particular moments of everyday driving through ‘visceral sound scores’. In the next section I present the first of two case studies to illustrate why people may choose to drive privately-owned cars short distances as a way of keeping-everyday-life together.

6.4 Gendered domestic roles

Jude is a 58 year old married Anglo-Australian mother, and part-time worker who drives her own Holden Commodore sedan. She has lived with her husband in the northern suburbs of Wollongong for over 30 years. Both her sons have left the family home. Jude is the principal homemaker. For this two-car household, heteronormative understandings of family life prescribe strictly gendered roles to domestic life and responsibilities. For example, in terms of social reproduction around the domestic sphere and the car, a gendered division of household labour endures. For example, Jude explained how her husband regularly washed and vacuumed the car. As well, each day on his return from work he went to the garage and carefully checked the car over for any signs of damage or scratches. When asked to elaborate Jude was brusque, saying:

You know what men are like; he is very particular about the car.

(Fieldnotes, 9/10/2010)

In Jude's home, the division of domestic labour was gendered, with car maintenance aligned with men.

Her tacit geographical familiarity of Wollongong has built up over the years from navigating her car around the streets. Employing Deleuze and Guattari's schizoanalysis helps us understand how, for Jude, the short drive is both recuperative and disruptive. Driving a car, Jude's body is able to disrupt what she is normally permitted to do, or not do, within the gendered roles of domesticity. Behind the wheel of the car her voice is more confident and assertive, with an almost aggressive edge in comparison to the reserved and softly spoken tones sitting around the kitchen table in her house. For example, moments where Jude's anticipated driving rhythms, pace and flow were broken generated deep-seated emotional responses. Reversing from her driveway, Jude barked: 'That's a good place to park lady. Right where I am backing up.' Equally, searching for a space to park, she snapped: 'Don't smile your bloody face will crack'. Her choice of words, alongside the tone and stress, convey the frustration that is an integral part of driving in Wollongong.

Jude prefers driving alone. Tensions are exposed that strain Jude's ability to keep-everyday-life-together when her husband assumes the reified gendered role of a front-seat driver.

I am very nervous when my husband is a passenger...I was thinking that the other day..... he makes me nervous. He got in the car. Turned my music off. Turned the heater off. 'Why did you go around that truck?' 'Why don't you get in this lane?' 'You'd be better if you went this way' ...I am much more confident when he is not in the car.

Informal conversation with Jude 26/11/2011

For Jude driving with her husband reproduces the power geometries of the domestic home. The norms of heteropatriarchy disrupt Sue's control over the private space of the car, the music that she can play and the style of her driving. In other words, her sense of

self is constrained by the lingering gendered relations of the home which prescribe what she can and cannot do.

6.5 Normal styles of mobility

For Jude, the kinaesthetic familiarity of driving alone around Wollongong affords greater independence and control of her busy daily routine. The habitual routes and rhythms of her short drives enable her to keep the intricate thread of everyday life's work together, including her part-time job, hobbies and domestic scheduling of shopping, cooking, sewing, cleaning and washing. Jude's car-talk framed her preference to use the car in terms of convenience. The car enabled her to shift and juggle multiple obligations. Furthermore, she faced significant challenges in doing everyday life's work from a childhood illness that restricts her physical agility. Consequently, as Jude explains, '[being without the car] would be too depressing; I would have to rely on others. I couldn't do what I want to do' (informal conversation with Jude, 22/01//2011). Jude confirms longstanding arguments that automobility directly promotes increased car use by sustaining the notion of freedom within increasingly hectic personal schedules (Miller 2001, Thrift 2004). Hence, while there is a bus stop almost at her front door and a train station nearby, the car is understood as more convenient in doing the paid and unpaid work of everyday life to secure familial happiness.

For Jude, driving her car is deeply affective. A visceral approach suggests that sound provides clues to her capacity to meet discursive expectations about mobility associated with working mothers, including standardised speeds, distances and ways of moving. Driving alone allows for a shift in the felt relations of power between her body and other bodies. Jude's bodily capacity is enhanced through the technology and utility of the car: she travels further and faster. Pleasures arise from how she can perform the embodied styles of 'normal' car mobility. Andrews et al. (2012) suggested that differently abled bodies can feel 'out of place' not only because of the way they look, but also because they do not conform to 'normal styles' of movement. Bodies are expected to 'flow' through places, for example by driving at standardised speeds (Bias et al. 2010). The metal, rubber and glass of the stationary car in Jude's garage may represent or symbolise 'convenience' or 'independence' but it is the visceral experience of being behind the wheel of the car that brings these to life.

6.6 Jude sings

For Jude, working within the social, spatial and temporal constraints posed by her everyday schedule as principal homemaker, playing music of her choice was integral to the short-trips. A visceral approach provides clues to how Jude deploys music to make and remake bodily, social and spatial boundaries through affect. The visceral mapping of an audio recording (see Appendix 5) illustrates how the lyrical melodic pulses become a part of the affective assemblage of bodies, movement and ideas.

(0.29) I need ya! Oh how I nee-eeed ya! (expressive, joyful)

ba-be! ba-be! ba-be! (playful, staccato)

(0.51) oh-ho oh-oh oh-ho...baby lo-o-o-o-ove (cooing)

The above excerpt from the visceral mapping illustrates how the sounds of Jude's voice mesh with the sounds generated by moving through space, and give rise to the affective and emotional intensities that are associated with what she names convenience and independence. I propose that the affective and emotional relations derived from the pleasure of singing along to her music, alone within the space of her car, offered opportunities for Jude to contemplate other possibilities for becoming, thereby unsettling everyday social and spatial boundaries that stabilise her domestic heterofemininity. For example, Jude narrated with pleasure her fantasy of driving off to Melbourne, leaving behind domestic and workplace responsibilities:

Sometimes I see that sign that says Melbourne 1036 kms and I think, I could do that, I could just keep on going. I've got money in the bank. There is nothing to stop me [laughing]

(ride-along 28/10/2010).

Jude's case suggests the pressures women feel in order to provide the emotional labour for their spouses, even when contributing to the financial resources of the household. While singing along to her choice of music alone in the car, Jude experiences a sense of liberation from prescriptive moral codes of what her body can and cannot do in the domestic realm and so alleviates some of the pressures of life. In a post-analysis discussion Jude comments:

The car is where I do all of my listening. I sing all the time, I sing even when I am unhappy... I sing, because I can...because no-one can hear me. God, my voice sounds awful, I guess I shouldn't enjoy it so much. I guess I am more outspoken in the car...though I never really thought about it before.

reflection on audio, 22/1/2011

Rose (1993) and Young (1990) both noted how confinement is a recurring theme in women's accounts of their domestic lives and how this is often negatively viewed in terms of personal freedom. Travelling within the car between the sites of paid and unpaid work Jude has a voice; a space in which she can hear herself talk. Playing music and singing-along on short car trips becomes an important time for constituting her 'own' sense of self through singing. Following Bull (2000), Jude's choice to play music in the car may operate as way to insulate, isolate and disconnect herself in a private sound bubble. Alternatively, as Figure 6.2 illustrates, she can sing, talk back to other drivers and those she hears on the radio as an equal. Alone in the car there is no one to silence her. Following bell hooks (1989), the satisfaction Jude received from 'talking back' is perhaps derived from the right to give voice, to have acknowledged authorship of ideas about self and the world. As hooks noted; 'Talking back is no mere gesture of empty words; this is the expression of our movement from object to subject – the liberated voice' (1989, p9). For Jude, singing along and talking back while regularly driving her car short distances, enables possibilities to constitute a sense of calm and a more meaningful self and life than that constituted within the spatial boundaries of domesticity.

Driving the car, Jude simultaneously reproduces and ruptures the cultural conventions of the domestic housewife. Her short driving routes, patterns and practices reproduce discursive ideas that help fashion the domestic realm. At the same time, the historical weight of heteropatriarchal rules and ablest expectations that configure her domestic realm are ruptured by playing and listening to her music, and singing in her style. Normally reserved and quietly spoken, we can hear how Jude's body is not only enlivened in the space of the car, caught up in the joyful affective and emotional intensities of her driving abilities, but also suggests a restorative state mobilised via immersion in singing while driving short distances. While short car trips are experienced as frustrating, for Jude they are also a vital component of a culture of

coping with the ongoing gendered assumptions around the practices of sustaining everyday home-life.

6.7 The role of the househusband

Steve is a 48 year-old stay-at-home dad or 'househusband' (see Beer 1983) who takes principal responsibility for shopping, cleaning and childcare. Steve's wife works full-time. In this heterosexual household, conventional Western gender roles are reversed; Steve's wife is the primary 'breadwinner' and drives a Holden sedan. Steve is the primary 'homemaker' and drives a Subaru station wagon. This two car household live a five-minute walk from public transport, yet, despite espousing pro-environmental views, Steve rarely uses the bus or train. Instead, Steve spoke of the convenience of driving a station wagon as a way to keep together the daily challenges of household rhythms that involve juggling multiple unpaid domestic tasks and destinations with his two children aged two and four. Steve's regular short drives with his young family, illustrate how the ongoing climate crises comes together with his own particular life lines of keeping the domestic sphere together as a househusband. His experience of the strains of keeping-everyday-life-together emerged from doing heteromascularity differently in the domestic sphere.

Steve's domestic work included regularly driving his children to playgroup, library, art classes, shops and the post office. As discussed by McGuckin and Nakamoto (2005), the car is a useful instrument not only in terms of timing, scheduling and co-ordination, but also in the gendering of domestic activities that helps keep together the domain of home. Steve provided detailed accounts of the importance of car maintenance often championed in popular discourse as a way of 'doing' masculinity in the domestic sphere.

Yeah it's really rare that I get a whole day to myself, where I don't have to do a whole lot of stuff. The wife was with the kids for the day, so, I decided to drive down to Bunnings [a hardware store]. You know do the manly stuff. A bit of gardening. Sometimes I'll do the car or fix something but the weather has been nice lately so I got some plants for the yard.

reflection on video 27/11/2010

Steve illustrates how domestic labour is gendered. Steve felt car maintenance, alongside do-it-yourself projects, as masculine pride. For Steve, these practices, rather than his parenting skills, enable him to be appreciated as a man within the normative notions of heterosexual home space. Steve's experiences illustrate how individual lives, mobility choices and everyday lines of movement are embedded within gendered social norms.

6.8 Being the only male there

Steve repeatedly speaks about his embodied geographical knowledge of the pleasures and challenges posed by the domestic realm as a 'house husband'. Steve speaks about his everyday driving routines and journeys in deeply emotional and spatialised terms. Driving between different places to sustain the domestic domain, he identifies particular spaces where the lines that comprised his everyday life drifted from customary lines. Steve speaks about the challenges of inverting conventional gender practices, and not quite belonging. For example, discussing the children's playgroup he says:

I think the fact is that I am isolated (pause) being the only male there [children's playgroup] I was isolated (pause) and I struggle with that at times.

ride-along 15/10/2010

The price of inverting gender norms is a heightened sense of isolation which arises from entanglements of social imaginaries and political discourses. Caring for children by driving them between various locations helps constitute the subjectivities, routines, places and bodies of principal carers as mothers, who are feminine and heterosexual (Gorman-Murray 2011, Robinson & Hockey 2011, Smith & Winchester 1998).

Steve suggested that househusbands experience emotional strains similar to women with full-time child parenting responsibilities (Cameron 2000). In Steve's words:

I feel tired and frustrated today. Ummm I am taking Phillip in the car because it's quick. Um. Because Lily my daughter is in bed she's sick. She was supposed to go today and Phillip was supposed to stay. And we were supposed to go for a walk up to a friend's [house]. So I'm feeling tired and frustrated that none of that's going to happen. And, I've got to rush down with Phillip by choice, and take him to Tinkerbelle [pre-school childcare] so I can look after my daughter a bit easier.

transcript from video recording 10/10/2010

Yeah this is when one of the kids was sick. I was too. It is too hard for me to cope on my own so I will take one of them to childcare so I can get a bit of a break. It really brings it home you know. How much they depend on you. (breathing inwardly). I feel it. The responsibility. So I have to find ways to feel better about myself. Getting some time to myself helps even in this situation.

reflection on video 27/11/2010

Steve often deploys short drives to momentarily escape the constant demands of childcare. He finds refuge in placing the children in their car-seats and making regular short trips to the garage and post office. As Steve comments, 'I've got to get out of the house. So I do get in the car... So I've got to get out' (ride-along 15/10/2010). The routes and destinations of these trips with his children are chosen to allow reversion to more conventional lines of masculinity. Yet, engaging with Steve's bodily judgements to the sounds of leaving home with his children on a short drive to the post office illustrates how the sensuous experience of driving may work to heighten his personal crises of not living up to gender-based norms under self-scrutiny.

6.9 Embodied rhythms

Interpreting Steve's routine trip to the post office within gendered regimes that locate normative heteromascularity in paid work of the public realm, we can discern how the bodily judgements to the affordances of sound allow doing heteromascularity differently (See appendix 6).

We can hear how Steve takes up the challenge of leaving the house, and coordinating the car journey to the post office by setting the tempo and pace of the group's movement; working from an internal bodily rhythm as he stamps about, rounding up the kids, slamming the door, calling out to them, emphasizing certain words:

(0.05) Friday, going into town...in the car [thud of door shutting] with the kids

(0.25) Hoh! Hoh!... good boy!... good boy!...

(0.45) Click click (fingers snapping) ok Philly!...come on Philly!

This excerpt from the visceral mapping illustrates how the brisk pace of the activities is interspersed with audible sighs from Steve as he tackled his parental duty with apparent resolve. Although not explicitly stated by Steve, the tempo and rhythm suggests a certain mood for the unfolding of the journey, one we may recognise perhaps in terms of impatience. Steve uses the rhythmic affordances of sound and movement; the brisk and regular tempo necessary to bring about the journey. Listening back, Steve explains: 'Usually, I just do what I have to do' (reflection on audio, 25/10/2010).

The visceral mapping suggests the way in which bodies become attuned to the affective affordances of sound. For example, daughter Lily becomes entrained in the anxious rhythm Steve imposes on the journey, responding in repetitive lilting musical tones of 'why, why' as they move about. Her nonsense word song continues on in this initial tempo, but she 'adds' to the rhythmic pulse, and the additional words/sub-rhythms add a more playful element to the pace. In turn, this playfulness is imitated in part by her younger sibling. Once in the car, the rhythmic quality of their interactions maintains this sense of playfulness. Lilly sings, Phillip echoes and Steve regularly responds with contemplative murmurings which suggest he is reflecting on unspoken thoughts.

6.10 Steve plays The Smashing Pumpkins loud

As Steve goes to collect the mail and his children wait, we hear the sounds of suburbia that underpin an embodied knowledge of domestic routines, practices and discursive regimes (see Appendix 7).

Birds chirp, a dog barks in the distance and lawn mowers drone to amalgamate into a languid familiarity that solidifies the placement of subjectivities in suburbia rather than work. After Steve returns and opens the water-bill, we hear Steve quietly exclaim, ‘Oh Jesus... Okay; let’s have some music’. We might expect Steve to play soothing music as a means to alleviate this strain. However, this is not the case. Steve alters the affective and emotional relations in the space of the car by playing a rock song by the group The Smashing Pumpkins.

The visceral response to the affordance of this music – the rhythmic metallic beat, the hard fast tempo and volume – gives rise to an affective intensity that alters the capacity of Steve’s body to act. For Steve, the music performed by The Smashing Pumpkins prompts a visceral connection that reinstates the pull towards a normative masculinity linked to memories of younger, single and more carefree times and places. At the same time, Steve’s choice of music allows a visceral disconnect with the challenges presented by doing heteromascularity differently. Reflecting back on the audio recording, Steve explains that: ‘It is like a kind of pressure valve; a release from responsibility’ (reflection on audio 25/10/2010). Steve illustrates how music may prompt strong affective and emotional responses in people, and that people may use music to modify particular social contexts by opening visceral connections with past times, places and ideas. Steve’s visceral response to The Smashing Pumpkins’ music in the car illustrates how sound may trigger bodily judgments that reconfigure affective and emotional connections with other bodies. For Steve, playing The Smashing Pumpkins loudly enabled him to momentarily rupture the social and spatial boundaries that positioned him as failing to meet conventional gendered responsibilities of homemaking and parenting.

6.11 Conclusion

In this chapter, I examined how a visceral approach to automobility might help better understand why people continue to drive privately-owned cars on short trips despite broader arguments from environmental scientists about the potential climate benefits of driving less. I focussed on tracing the bodily judgements of sound by drawing on a visceral soundscore analysis of audio-diaries alongside discourse analysis of ride-alongs interviews and informal conversations. The visceral approach necessitated attention to the bodily judgements of sound within the social practice of automobility. Through the

open lens of a visceral approach, I investigated the embodied geographical knowledge of sound of two homemakers who owned private cars and routinely drove short distances as a way of keeping-everyday-life together in the regional city of Wollongong.

The empirical discussion identified the importance of car technology as the ‘normal’ way of managing domestic time and space. Convenience was the key reason why respondents drove cars short distances as the sensible and self-evident response to the unending problem of keeping-home-life-together. Such ideas about the convenience of driving short distances were derived from specific reasons surrounding personal circumstances, but remind us of larger social forces operating to organise life efficiently and productively. Moreover, the visceral politics of automobility demonstrated that the culture of driving short distances and playing music exposed principal homemaker’s strained experiences of keeping-everyday-life-together; particularly juggling gendered expectations and responsibilities of home.

For Jude and Steve, the affordances of music became a part of the driving assemblage that helped to alter the affective and emotional relations between bodies. They illustrated the way that driving became a therapeutic or restorative practice for negotiating the stresses of keeping-everyday-life-together around normative discourses and gendered roles. While these ideas tap into the existing literature around the affective roles of music for connecting or disconnecting people, I argue that using music as a resource within the car is but one of the many ways that the assemblage of driving became a restorative or therapeutic practice. For some participants the materiality of driving, as in cars, seats, steering wheels and roads became integral components in the fashioning of a working arrangement that confirmed or disrupted discursive understandings of age, class and respectability. Here the material gave rise to affective intensities that were associated with particular understandings of comfort and pleasure and which helped to situate bodies within discursive space (this theme is explored in Chapter 7). For others, driving offered an opportunity to ‘zone out’ and ‘not think about anything in particular’ or conversely for it provided opportunities to ‘think things through’ outside of the constraints of places named as home or work (a theme that is explored in Chapter 8). In all, driving was a way of navigating the demands and stresses of everyday life and thus generally became a non-negotiable practice within hectic domestic schedules.

Through this visceral framework of mobility, we may better understand the role of bodily judgements in decision-making to drive privately-owned cars that are often non-conscious responses in the constitution of self and place. Positioning drivers as rational and logical decision makers around the choice to drive a private car overlooks how individual lives are embedded in the social practice of automobility that is considered 'normal', 'convenient', 'comfortable' and a source of 'independence'. Furthermore, as well as being a source of frustration, undermining policy initiatives to drive less is how cars also enable homemakers to cope with the strains of everyday life. Driving short distances became a part of restorative or therapeutic practices that helped people to make sense of, challenge, or re-confirm the way that everyday life was done.

CHAPTER 7. VISUALITY, MATERIALITY, PERFORMATIVITY



Figure 7.1 Driving at night, 28/9/2010, 7.14 pm.

The glow of the instrument panel within the car alerts us to how the signs, symbols and representations of driving come to be naturalised as common sense—there are around fourteen common symbols displayed which would be recognisable to most drivers.

Source: participant Jason

7.1 Introduction

Thus far, the results chapters have explored the dynamic inter-relationships that arise from rethinking car driving as assemblages through a focus on the affordances of sound, voice and music and how they alter the capacities of the body to affect and be affected. Touch was briefly examined in Chapter 5 as a way to constitute the space of the car as heterosexual. This chapter focuses on how the body is touched by the materiality of the car, it explores how the visual and material elements of car driving come to matter for the performance of particular gendered, aged and classed subjectivities in the assemblages of car driving. Adding to the visceral framework, I draw on ideas of vital materialism to suggest that we look more closely at the multi-sensorial engagement of human and non-human bodies and the agentive role of material objects within the

assemblages of car driving (Bennett 2010). I start with the assumption of car driving as part of a processual assemblage of bodies, things, technologies, roads, sights and sounds. This enables an examination of how participants fashion spaces of comfort through enlisting particular sights, sounds, textures and smells that confirm aspects of identity. As such, bodily relations with the visual and material are implicated in the emergence of situated subjectivities, where people make sense of themselves and their everyday lives.

I consider the examples of Krissy and Jason who were chosen because they illustrate how the embodied experiences of mobility, the pleasures, freedoms, stresses and strains associated with car driving produce, and are produced by underlying discursive ideas that surround the performance of gender, age and class. At the same time, the examples illustrate how the materiality of car driving assemblages works to alter the capacities of bodies to think, sense and act along particular trajectories and lines of flight. I argue that the kinaesthetic movement, the sights, sounds, textures and smells of car driving are integral components of assemblages that help people to locate themselves within material and discursive spaces. For 48 year old Krissy, the car allowed an embodied performance of respectability and heterofemininity that reinforced her aged, classed and gendered role. For 22 year old Jason, driving was an expression of an environmentally responsible citizen and an alternative lifestyle identity, the embodied performance of a youthful counter-culture of anti-conservatism and escapism.

The chapter has four sections. The first expands on the concepts of affective material relationality in the light of the 'materialist' turn in geography. Inspiration was drawn from Bennett's (2010) concept of vital materiality to help think about how material and immaterial forces alter the relations between bodies and car mobility within assemblages. I outline some of the literature that informs this way of thinking. The second and third sections present the two case studies as illustrations of the way that visibility and materiality are integral to the car assemblage as a working arrangement that produces, reproduces or disrupts discursive ideas of gender, age and class. The fourth section is a conclusion which draws together the main argument and reiterates how this conceptual perspective allows for further thinking around how situated subjectivities arise through the car as a working assemblage of mobility.

7.2 Affective material relationality

The concept of affective material relationality which underpins the visceral stance of Hayes-Conroy (2009) and Hayes-Conroy and Hayes-Conroy (2010) was introduced in Chapter 2. This concept allows us to consider how the specific materialities of particular assemblages work to alter the affective and emotional relations of everyday life. This feminist viewpoint attends to the affective and emotional dimensions of everyday material practices through an attention to the senses, how particular bodies react to sights, smells, textures and tastes alongside images and language. I want to build on this thinking by considering a more immanent conceptualisation of matter/material as always coming into being which Braidotti (1991) called ‘radical neo-materialism’. This monistic political ontology views bodies and matter as entwined in mutual becoming. Radical neo-materialism demands a re-thinking of the qualities of matter itself (Bennett 2010, DeLanda 2002). For example, Barad (2003, 2007) conceptualised matter as affective and self-organising. Her focus contested the boundaries around the material and the cultural by highlighting the interactive and largely inseparable processes between the two. Similarly, Bennett (2010, pviii) considers the materiality of bodies and objects in relation to their ability to ‘make a difference, produce effects, alter the course of events’. Bennett (2010, pviii) draws on the ‘distinctive capacities or efficacious powers of particular material configurations’. This type of thinking invites us to consider how the arrangement of human and non-human bodies with animate beings and inanimate objects might be viewed in ways other than from the point of view of life as an exclusively human endeavour. It suggests a performative and relational understanding of the visual and material world where Latourian style ‘actants’ intra-actively participate in the worlds’ becoming (Bennett 2010, pviii). Here, things are not disembodied from the worlds they represent but through their vitality and dynamism are active in bringing forth new worlds (Pink 2003, Rose 2003, Witcher et al. 2010).

7.3 Visuality/materiality

Taking up this line of thought Jackson (2010, p42) posited that ‘visuality and materiality are co-constituted in their productive relations of becoming’. Here the visual is not just a function of the eye, but visuality evokes multi-sensorial responses through calling up embodied memories that are attached to sights, sounds, tastes, smells and textures. I want to go beyond a surface geography that relies on a visual reading of

materiality as a sort of ‘descriptive collage’ to consider how the spatial ordering and visual perception of materiality is affectively, emotionally and politically interconnected with bodies, spaces and practices (Tolia-Kelly 2013, p154). I draw on the ideas of Jackson who argued that objects can be considered as agentially active in producing the conditions that allow subjective engagement, that is, how things allow certain relational engagements that count as meaningful material and discursive practices (2010, p54). Psychologists have long pointed out the ability of objects to evoke powerful emotions, memories and imaginings (Bollas 2009, Elliott 2013, Turkle 2007). Thus, how objects/materials work through the affective registers of the body to alter sensing and thinking can help uncover the ways that everyday life is structured around bodily practices that produce particular affective material relations. Highlighting the affective material relations within car mobility as assemblage can illustrate the way that objects/materials are incorporated into the everyday performance of subjectivity. I take up Tolia-Kelly’s (2013) suggestion that rather than a ‘looking onto’ we should consider a performative ‘being with’ in how we conceptualise our interactions with mundane everyday objects. As such, these studies are helpful for thinking about how bodies become through the reciprocal touch of car materialities.

As noted in previous chapters, Katz (2000, 2002), Sheller (2004) and Thrift (1999) illustrated how car technology changed the way people sense the world, drivers feel the road *with* and *through* the car. Sheller (2004) illustrated how motion and emotion are often entwined giving rise to moments of joy, pleasure, annoyance or rage. In this way of thinking the hybrid relationships between human and technological bodies work to blur discrete boundaries between mobile bodies and to change the way we engage with the world (see Harraway 1991, Whatmore 2002). Different forms of embodied movement may produce a range of emotions from excitement, joy and pleasure to fear and frustration (see MacNaughten & Urry 2000, Sheller 2004, Thrift 2003). Yet, these authors tend to position agency with the human subject. I want to consider how the relations between objects and bodies are mediated by the affective intensities of materiality itself. That means considering how the colours, shapes, textures, smells, sounds and surfaces of the material environment interactively work to produce particular ways of sensing, thinking and acting, thus exerting a form of agency. Colls (2012, p440) argued that a ‘focus on forces that operate on a range of scales and the force of particular processes, formations and entities are central to understanding the

spatial contingencies of when, where and how a sexually differentiated body emerges.’ Here bodies and things are engaged in a process of mutual becoming, affecting and being affected. As such, a focus on affective material relationality can help to uncover the forces of desire that work to produce differences of not only gender but age and class through the processes of the assemblage.

A more vital conceptualisation of matter invites us to engage with ‘the incorporeality of the material’: how the material can give rise to ideas, sensations and beliefs that are immaterial, but are nonetheless real (Latham & McCormack 2004, p718). Rather than the binary opposite to immateriality, and along the lines of Dewsbury et al. (2002) Kearns (2003) and Latham (2003), vital materialism allows us to explore how objects act on bodies in lively and expressive ways and vice versa. Thus, a focus on the relations that unfold between bodies and objects, emotions and ideas through a sensual engagement with (im)materiality offers a way to examine the transformative dialogic of everyday practices. Massumi (2002, p75) explains that: ‘Sensation is the mode in which potential is present in the perceiving body’. The sensate body then provides clues to the possibilities for uncovering why we think and act in particular ways.

The fact that most of our experiences of the world take place in the physiological, pre-conscious affective realm before registering as cognitive thinking means that bodily ways of knowing are not always easily identifiable (Harrison 2000, Massumi 2002). Many of our everyday practices are automatic and unreflective. Within geographies of affect this realm before conscious thought is a key field of study. Therefore, an attention to the way that bodies sensually engage with the car through touch, auditory, olfactory, proprioceptive and kinaesthesia modes can be re-thought through a visceral framework which posits that ways of bodily knowing are not distinct from ways of thinking. Bodily engagement with the multi-sensuality and materiality of car driving becomes a process and a product of the heterogeneous mix of bodies, flows, objects, relations, intensities and trajectories that come together in the assemblages of car driving.

7.4 Spaces of comfort and home

Moving through space, encountering space means that multi-sensory relations unfold between bodies and objects. Within the space of the car I want to consider how the range of encounters, for example hands on steering wheels, the rush of wind, speeds,

vibrations, textures, surfaces and aromas are implicated in creating a sense of comfort and homeliness. Here the Body without Organs through the forces of desire produces the material conditions for the desire of non-desire, a place where the body is at ease (Deleuze and Guattari 1988 [see Chapter 2 for a more detailed explanation]). An attention to non-verbal data, sensing the subtleties of gesture or tone through voice, touch, sounds, comportment, smells or moods provides pathways into understanding how bodily judgements about car driving arise through affective and emotional intensities and relational engagements with materiality. With this in mind, I now turn to the first of the two case studies. Mindful of the ideas of vital materiality, I illustrate how a visceral approach to car mobility as assemblage allows understanding how driving is at once an intensely personal, social and political action enacted within material and discursive spaces which are enmeshed in changing affective relations. A subject in this schizoanalytic framework is a ‘mode of intensity, not a personal subject’ (Marks J, 1998 p2).

7.5 Krissy loves her car

In order to begin to consider how Krissy’s subjectivity arises as a ‘mode of intensity’ within the assemblages of car driving, it is necessary to provide a context. Krissy is a white Anglo-Australian homeowner who lives with her husband in Oak Flats, a suburb 25 kilometres from Wollongong city. She expresses concern for climate change and engages in pro-environmental behaviours such as recycling, reusable bags, composting and reducing electricity use. Until becoming a participant, Krissy never considered reducing driving as a strategy to address greenhouse gas emissions. When asked to reflect on her driving practices she responded by saying:

I never realised how much I drove or how much I enjoyed it until now.

Interview, Krissy, 48, administration, 3/7/2011

In fact, the unreflective practices of driving were so essential to her sense of self that life without a car was unimaginable:

It is very much a part of me, I love my car... I’d probably die without my car.

Interview, Krissy, 48, administration, 30/4/2011

In this quote Krissy illustrates how her sense of being is constituted by the affective affordances of the car. Krissy illustrates Bennett's (2010) point that relations between human and material bodies are not divisible but are integrated, co-dependant and co-constituted. The affective relations with the car she names as the emotion of *love* for the way the car sustains her sense of self by allowing the normative gendered and classed performance of wife, mother and worker. Morrison et al. (2012) pointed out that because love (not just heterosexual romantic forms of love) acts as a relational force that produces affects, there is need to pay attention to the spatiality, relationality and politics of love. Within the spatialities of the assemblages of car driving, love acts as an affective force that brings Krissy's subjectivity into complicity within hetero-normative and patriarchal relations (Jackson 1995). Here, the affective force of love works to strengthen the visceral connections between bodies, objects and ideas as they co-constitute each other within the space of the car and as such, Krissy becomes attuned to a trajectory of continued driving. In viewing car mobility as assemblages, I argue that all types of objects, materials, colours, surfaces, sounds, smells and bodily gestures are incorporated into car mobility to confirm Krissy's experience and performativity of heterofemininity (see Box 7.1).

Box 7.1 Meeting the cats

Krissy arrives looking immaculate as usual. Hair coiffed nails painted, dressed in pastel pink and delicate gold jewellery. She floats into the coffee shop in a fragrant cloud of perfume and make up. She is attentive, obliging, polite and constantly smiling as we go through the interview questions. She laughs happily as she talks of her 'girly car' comparing her 'ballerina' (the car) to her husband's 'tank'. At the end of the interview we go to the car park and she insists excitedly we go for a drive. She gestures elegantly, the jewellery tinkling softly, introducing me to the 'cats' (small, white, plastic figurines mounted on dashboard), flicking specks off the black velour car seat covers fastidiously, and stroking the head of the teddy bear tenderly (small, brown, wearing a pink t-shirt in central console).

Field notes 30/4/2010

7.6 Styles of movement

Krissy's domestic household is structured around gendered norms. Her husband, Bob worked full-time as the main breadwinner, took care of home, garden and car maintenance and drove a Holden Jackaroo (four wheel drive). Krissy worked part-time in a cement factory as a secretary and was responsible for the domestic management of

shopping, cooking and cleaning. Gendered roles were strictly demarcated along normative hetero-sexual lines. For example Krissy relates:

I wanted to put one of those stickers, the multi-coloured rainbow stickers on the car but Bob wouldn't let me. He said he didn't want any gay symbols on the car, even though it's (the car) mine, I kind ofwell I don't have a problem with it... but I kind of go along with what he wants.

Informal conversation, 30/4/2011

Krissy works within this hetero-normative framework where non-normative sexualities are not tolerated, to code objects, materials, and styles of movement along gendered lines. The conceptual coding of bodies positions women's bodies as soft while men's bodies are often coded as hard (Grosz 1994). For example, Bob's car is referred to as a 'tank', suggesting the hard lines, shuddering noise and lumbering movements are coded as masculine. In contrast, Krissy's own car 'Geraldine' is anthropomorphised to embody ideas of soft feminine styles of movement that reinforced her own embodied performance:

She [the car] did a lovely little pirouette on the highway

(Interview 3/7/2011)

Reinforcing these ideas Krissy's bodily presentation was ruled by discursive understandings of respectability and heterofemininity, ways of dressing, grooming and moving expressed a concern with an appropriate gendered performance. This is evident in the way that Krissy's hands lightly and delicately touched the steering wheel while driving and how she gestured elegantly and often as she spoke (see Figure 7.2).



Figure 7.2 Video stills of Krissy's hand movements while driving.
Source: participant Krissy

As Barad (2007, p63) noted, 'discursive practices are the material conditions that define what counts as meaningful'. In other words, Krissy was able to express discursive ideas of normative hetero-femininity through the materiality of her practices. Grooming, comportment, dress and styles of movement conscripted shapes, colours, textures and flows to express an appropriate performance of gender, class and age. The materiality of the car in the form of seats, windows, steering wheels, ornaments and wheels became components of mobile assemblages which produced and was productive of an affective intensity that provided the conditions for the emergence of subjectivities. This was underpinned by discursive understandings that worked to reproduce a gendered, classed and aged performance of hetero-femininity.

7.7 Making spaces of comfort

Expressing these dualistic understandings of the appropriate performances of hetero-normative femininity and masculinity is the way that the interior and exterior of the car is personalised by Krissy (see Figure 7.3).

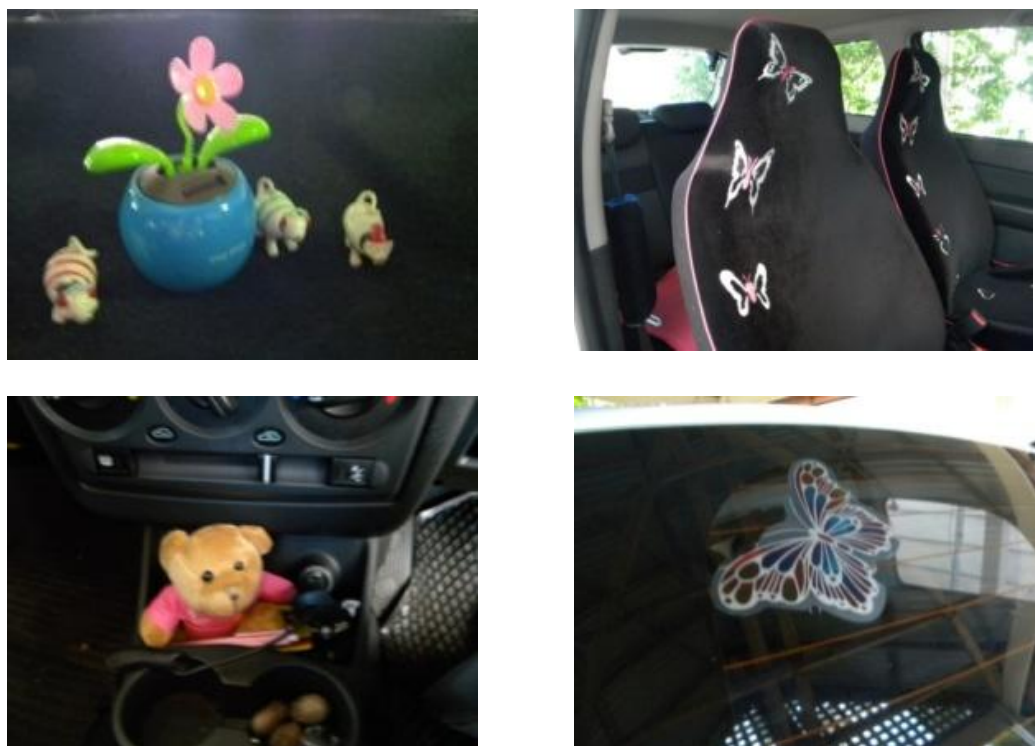


Figure 7.3 The interior of Krissy's car, 30/4/2011.

Photographs of decoration of Geraldine (pet name for car) from top left: (i) Solar flower and nodding cats, (ii) embroidered car-seat covers, (iii) interior console with toy, and (iv) sticker on back window of car.

Source: participant Krissy

Krissy's preference is for soft, delicate materials and tactile surfaces. Yglesias (2012) pointed out that the weight, smoothness or delicacy of materials can add to the expressive affordances of objects. Thus, the smooth, silky softness of the seats, the furriness of the toy bear afford particular actions such as sensing, stroking and touching which may give rise to affective sensations of comfort and pleasure and emotions like love, pride and joy. Krissy enters into relations with the materiality of the car through multi-sensual touch, she touches the objects and surfaces of the car with eyes and fingers, and they touch her to evoke affective intensities and emotional ties that make, and remake, the space as gendered and (hetero)sexed.

Within this normative hetero-sexual space colours, fabrics, and textures are coded along gendered lines. So too are symbolic objects; flowers, animals and insects. At the representational level, this choice suggests an affinity for other non-human forms of life and draws on a feminised version of nature. Johnston (2006) in her study of wedding tourism in New Zealand pointed out how ideas of nature and love work to reinforce discursive understandings of appropriate performances of normative femininity within a

patriarchal framework. Within the space of the car Krissy expresses her hetero-femininity through the choice of the objects which represent a sanitised and commoditised version of nature. As everyday life is increasingly ‘aestheticised’ the visual appearance of objects becomes more important (Featherstone 1992, Maycroft 2009, p714). For example, the materiality of the plastic objects (see Figure 7.3 above) invite and afford ways of thinking and meaning making to co-produce visibility (Tolia-Kelly 2012). The hardness, colour, lustre, translucence and rounded forms of the plastic objects that caricature animal, insect and plant invite visual perception as an activity of encounter, cognition and interpretation. The arrangement, naming and materiality of these objects is, as Hall (1990) argued how visual perception is an embodied process of situating and of positioning the self. It is not only the visibility of the objects that creates a space of comfort, but it is through the relations with the car/objects that Krissy’s embodied performance of hetero-femininity alters space. Commenting on the interior of the car she says:

It’s a girly car. Very much a girly car. I’ve got nice black velour seat covers, with butterflies that go all the way up the seat covers. I’ve got little pink tips on the tyres. I’ve got a dashboard cover, I’ve got cats that sit... there’s Tom and Snowy and Noddy. Little cats with little nodding heads. Smokey died (laughing). ..It’s got butterflies on it, on the windows, the nice ones that you put on your windows that look like stained glass.

Interview; Krissy, 48, administration, 30/7/2011

In thinking beyond the representational level, and along the lines of Bennett’s (2010) materialism, the visceral experiences of car mobility as an assemblage, the sights, colours, textures, sounds and smells of the material environment are integral to how Krissy maintains her sense of self. Bennett (2010, pviii) argued that materials can act as ‘quasi-agents with trajectories, propensities or tendencies of their own’. The affective intensities triggered by the tactility and visibility of these meaningful objects reconfirm attachments to car mobility expressed as love. Krissy comments:

I love my little car...I very much enjoy my car

Interview, Krissy, 48 administration, 3/7/2011

Dowling and Power (2011) proposed that creating an atmosphere of comfort and 'homeliness' depends on the affective intensities that are generated by interactions with objects. Rather than just residing in particular objects or in particular bodies they argue that the affective intensities expressed as emotions of love, joy, comfort, pleasure, playfulness are produced through embodied relationships. The affects of love for Krissy are not triggered by the visual appearance of the nodding cats or plastic flowers, instead the intensity of affect expressed as love is always relational, co-constituted between Krissy and her favourite things, in the context of the car. As Morrison et al. (2012) argued love is spatial, relational and deeply political in how it works to shape people and places. Where, and what, we love cannot be separated out from language, discourse or representation. Considering love as a circuit of desire open to possibilities (Sedgwick 1999) we can better understand how the affective relations between Krissy and the materiality of the car produce a working assemblage from which subjectivity can evanesce. Here, normative understandings of heterosexual love and space constitute each other as 'natural', 'normal', moral and proper (Hubbard 2000, Johnston 2006, Little 2003 2007, Morrison 2010a 2010b).

Jackson (2012) argued that the material and the visual are inseparable and that they co-constitute relations of meaning. Thus the colours, forms, textures and symbolic dimensions of materiality are caught up in meaningful and ethical relationships with how Krissy understands becoming a 'good' woman, wife, mother, aunt or sister. The materiality of car mobility as assemblage in this sense, is active in producing possible subjective positions. In this way of thinking, agency is de-centred and not strictly attributable to human bodies within the car body assemblage, rather affective relations of materiality work to augment the performance of a gendered, aged and classed subjectivity.

For example, we could interpret Krissy's taste for child-like toys as a type of age denial where ageist discourses that prescribe appropriate behaviours and restrained tastes are countered in an attempt to remain young (Coupeland 2000). Or alternatively we could consider how the reciprocal affective relationalities between human, non-human, inorganic bodies and space are active in shaping the productive possibilities for sensing, thinking and acting along particular lines of flight. Underpinned by ideas of middle-class respectability, where cleanliness, presentation and fastidious maintenance of self

and car became a part of keeping the social and moral order, the assemblage of driving provoked alternative lines of flight. For Krissy, the materiality of the objects and their placement and naming within the space of the car afforded ways of thinking and acting beyond the strict rationalities of everyday life. Krissy's capacity to form emotional connections with and through objects intensified within the space of the car:

I like cats; I saw them in the shop and thought how cool, nodding cats

are far better than a nodding dog on the back shelf. I love my cats, they have personalities; they will answer questions and bop out to the music. So much company in the car all at once and the kids (niece 5 years, nephew 8 years) love them!!!

Reflection on video, 29/1/2011

This quote draws our attention to the often overlooked capacity of mundane human-made commodities to surpass their status as objects and to reveal traces of independence or aliveness (Bennett 2010). By positioning plastic artefacts as interactive and responsive entities, affective relations between human and non-human bodies (child/toy/woman) played out as circuits of emotional love. The flows of affect and emotion afforded by the materiality of the assemblages of car driving transgressed boundaries, not just between organic and non-organic bodies, but between material and immaterial worlds. Ideas of a particular gendered, middle-class aesthetic and respectability were actualised through the daily interactions with the materiality of the assemblages of driving.

Jackson argued that the 'collective and individual understandings of agency are enfolded and emergent from the material space in which they operate' (2012, p42). As such, the affective forces of desire worked to produce the material and immaterial affordances of the assemblages of driving which allowed Krissy to perform a classed, aged and gendered subjectivity outside of the strict boundaries of rationality. Attending to the affordances of things beyond representation as in how certain, colours, textures, shapes and tactile surfaces of objects help to do the work of a 'good' mother, aunty, sister, wife and so on, allows us to explore how emotions are a part of the process of becoming through the assemblages of car driving. As Ahmed (2008) argued emotion

does not reside in objects; it is arises through proximity and a certain disposition towards objects. In Ahmed's word's 'emotions affect how bodies take shape in social space and how spaces cohere around bodies (2008, p12).'

7.8 Looking good, feeling good

We start to see how bodies and spaces work on each other in reciprocal ways. When asked why she chose to decorate her car Krissy illustrated how she understood the association between the visual/material and inner-worlds.

Some it... the desire to look good, is social... but mostly it's about the way I feel, I guess I've got to the point in life where I don't have to look or feel like a harassed mother anymore, I can afford to look after myself more now and that's reflected in my car and how I don't like public transport!!! (emphatic). I wouldn't say appearance is everything, but you feel more comfortable when things look good.

Ride along, 7/7/2012

Here, the visual appearance and presentation of the car worked to confirm a particular aspect of her subjectivity as a woman/mother in control; professional, independent and financially able. Desire 'to look good' worked to produce a form of mobility that incorporated the multi-sensorial affordances of materiality into a working arrangement, a Body without Organs, experienced as a place of comfort and belonging. Here, Krissy experienced the effects of pride through how she ordered, displayed and personalised her car. Her sense of self as becoming a 'good' wife/woman /mother was co-constituted by the materiality of the car. At the visceral level, these affective intensities evoked pleasurable states that reinforced her gendered role and upheld bodily judgements of driving as feeling good or right.

Yet, other less visual, but equally material, sensual elements enhanced these feelings of bodily comfort and belonging. Within the car, the perfumed air, muted sounds and subtle gestures also helped to constitute a classed and gendered subject (see Box 7.2).

Box 7.2 Order in the car

The ornaments in the car have been updated, cleaned and maintained. The new plastic beads hanging from the rear view mirror are cradled in her hand and she speaks fondly of her young niece (from whom she received the beads). There is a new bear of a different colour. The car exudes a smell of floral car deodoriser, some kind of car cleaner, Tania's perfume and even her make up. It is a heady mix in the enclosed space of the car that makes me long for an open window. But Tania likes the windows up and the air con on so her hair doesn't get messed up by the wind.

Ride along 7/7/2012

The overpowering mix of scents and smells in the context of the car illustrates the importance of the olfactory for expressing particular classed and gendered understandings. Here Krissy employs a range of smells to reinforce ideas around respectability, moral order, gender and a sense of self. Classen et al. (1994, p8) argued that the slightly antiseptic smells of cleaning products express appropriate ideas around cleanliness, hygiene and purity that reflect understandings of social and moral order associated with class dimensions. Synnott (1992, p449) argued that bodily smells have a gendered dimension; women are supposed to smell 'good, clean, pure and attractive' while men smell of 'whiskey, sweat and tobacco'. Yet, beyond these gendered binaries, As argued by Classen (1992) and Low (2006) scents and perfumes affect and organise everyday life in ways to include or exclude particular bodies. For example, ideas of natural bodily smells as unpleasant work along classed lines. As Longhurst, Ho and Johnston (2008) argued embodied experiences of smell are deeply visceral and can help to understand the relationships between people and places. For Krissy, ritually ordering the space of the car through smell helped to create and maintain boundaries that defined Krissy's heterofemininity and reinforced her gendered and classed role as respectable, middle-classed, working mother and wife. Respectability, as Young (1990) argued positions people as 'civilised'. It incorporates ideas of cleanliness, discipline, morality and self-control. Thus for Krissy respectability and ideas of a classed hetero-femininity were embodied through the affective registers of sight, touch, smell and gesture. She comments:

Driving is an outward expression of who I am and the way I live I guess.

Informal conversation, 3/5/2011

In this section, I illustrated how attention to the vital materialities of the interior of cars are important for understanding how driving comes to feel right through particular bodies and how this can reinforce understandings and performances of self. For Krissy, I have illustrated how colours, shapes, textures and smells became a part of a mobile assemblage of car driving alongside the codes and conventions that underpin ideas of respectability, class and normative hetero-femininity. I have argued that the affective intensity that unfolded between bodies and objects helped create the conditions for the emergence of subjectivity. The vitality of the materiality of bodies, human and non-human worked to produce an intensity that was a part of Krissy's becoming woman, wife and mother and so on. In the next section, I illustrate how another set of affective material relations unfolded in the car to allow the performance of identity through a different set of norms.

7.9 Jason-living the dream

Again in order to conceptualise subjectivity as arising through affective materialities I set the context. Jason is a slight, dreadlocked 22 year old student who lives with his girlfriend in bush land in Otford, thirty-eight kilometres north of Wollongong. For Jason, everyday driving usually involves making several trips to university, friends' houses, the shops, his parents' house and home. He is knowledgeable and concerned about climate change. He owns three cars; a 2003 Honda Civic hybrid-electric sedan for weekday driving, a 1960 model VW 'Kombi' camper van for weekends and a Volkswagen Beetle that he is in the process of restoring. The train is a five minute walk from his home yet most days he chose to drive to the university. When asked to reflect on his driving practices in relation to climate change he says:

I feel like I am doing something about climate change by driving the hybrid, even though it was a hand me down from Jasmin's (girlfriend) mum. It is better for the environment. But we do need the two cars...well because they have different purposes, I guess...and then they are not always both running mechanically...

Informal meeting 14/1/2011

Jason draws on the discourses of civic environmentalism to act as a responsible citizen. He is able to reduce local greenhouse gas emissions through driving a hybrid vehicle for most of his weekday trips (see Figure 7.4).



Figure 7.4 Jason in his hybrid sedan 23/9/2010
Source: participant

The discourses that surround hybrid vehicles position Jason as an individual who is concerned about the environment, and as an ethical, intelligent and responsible driver (Heffner et al. 2007). Jason expressed concern for the environment and was knowledgeable about hybrid vehicles and fuel cell technologies; the quiet hum of the electric engine, the smaller engine size and fuel economy were all a part of how Jason constituted himself as an environmentally informed and concerned citizen. Yet, he was reluctant to reduce the number of vehicles he owned or the amount of driving because both (working) cars had ‘different purposes’.

On the one hand, Jason was able to perform the working week as an environmentally responsible citizen by driving a hybrid vehicle. This aligned with his understanding of personal responsibility for climate change where ‘everybody should do something’. On the other hand, he constituted the weekend as ‘time out’, offering possibilities to overlook the greenhouse gas emissions of the second older vehicle by drawing on sets of ideas that framed the Kombi as an iconic symbols of hippies, surfers, an itinerant lifestyle and a statement of anti-conservatism (Hollis 2007). Jason’s relaxed appearance

and casual dress of long hair, beard, jeans and rubber thongs pointed to a reciprocal relationship between the appearance, comportment and demeanour of the driver and the symbolism of the Kombi (see Box 7.3)

Box 7.3 Relaxed disposition

Jason seems genuinely engaged with the project and though agreeable and willing to meet up for interviews or informal reflective exercises he has twice forgotten our appointments and I have waited for an hour. This time as I sit rather impatiently in the coffee shop courtyard where we have agreed to meet I spot Jason wearing sunglasses and sauntering casually across the campus with both hands deep in his pockets. He gives me a huge smile and waves enthusiastically so that I almost can't be annoyed by the fact that he is half an hour late. 'Better late than never' he says.

Fieldnotes, 12/8/2010

Jason explained how driving the old Kombi with a mattress in the back enabled him to have a 'laid back' lifestyle where he could just 'jump in' and 'just go'. Every second or third weekend Jason, his girlfriend and their dog would go camping to some unplanned destination with little forethought and virtually no preparation as a way to avert the stresses of everyday time pressures. For Jason, a life of freedom was actualised through habitual driving practices that allowed regular escapes from suburban Wollongong in his Kombi. Jason's relationship with his cars illustrate Braun and Whatmore's (2010) contention that matter and meaning co-constitute each other through an assemblage.

7.10 Being in control

Jason illustrates how driving the hybrid vehicle gives him pleasure through how he is able to choose when and where he drives during the week. The space of the car is constituted as private by the way he can control routes, timing, destinations and speeds. For example he writes:

After dinner at my folks I drove home. I took the coast road and really enjoyed the drive. I love driving at night when the roads are empty. Time to think and just enjoy myself. Good me time. Diary 27 /7/2010

In the privacy of the car he is able to relax and enjoy the sensations of driving alone at night. Jason expresses this affective intensity of driving as the emotion of love. For

Jason, car mobility is a working arrangement where his sense of self is constituted by relations with materiality that are expressed as a love of driving:

I must admit doing this it's made me think a lot about why I drive and what I'm doing. And I must say it's made me realise just how much I really enjoy driving. It's very liberating....well that might be too strong a word but it's nice to be in control and just to be able to cruise.

Ride along, 5/3/2011

Thrift's (2008, p175) argument that driving generates a sense of aliveness; of a changed bodily state very different from the everyday, and which Jason expresses as 'liberating' is useful for thinking about the affective intensities of driving as assemblages. But in order to conceive of subjectivity as arising from the affective materialities, we need to pay closer attention to the way that smells, materials, shapes, textures and flows are enlisted in the processes of assemblage to sustain his love of driving (see Box 7.4).

Box 7.4 Cruising through Wollongong

It's a hot sticky day and we drive from the university through the busy streets of central Wollongong with the windows down, breeze rushing in our faces. I am glad because the interior of the car has a strong smell of wet dog. The windscreen has a thick outer coating of opaque matter (maybe sea salt?) that makes it hazy. Dog hair is matted on the backseat and the front passenger seat has a combination of white and brown hairs and clumps of wet, silty sand. There is a collection of crumpled food wrappers and papers on the floor and empty plastic bottles. Not at all the pristine car in the photographs. Jason leans back into the seat, knees wide, elbow resting out of the window and keeps his hand on the gear stick and drives slowly and leisurely.

Ride along Hybrid 5 March 2011 3pm

7.11 Subjective spaces of comfort

Hitchings and Lee (2008) pointed to the way that cultural contexts shape discourses around the requirements for bodily comfort. While the affective intensities of bodily comfort or discomfort are experienced through the body, we must also consider how they are embedded in wider social understandings of what a body is and does. Braidotti has consistently argued that embodiment is where physical, symbolic and material,

social conditions converge (Braidotti 1991, 1994, 2002). Thus, knowledge of bodily comfort is necessarily situated and a part of processual ontology where affective intensities become stratified through the body (Braidotti 1989, Grosz 1987). When mobility is conceived of as contingent assemblages, we can understand how particular material elements of the car touch bodies in ways to produce affective relations, and as such, affect plays a central role in how interior car spaces may become felt as comfortable or pleasurable.

Comfort for Jason therefore was a bodily attunement to specific sets of materialities. The grittiness of sand between the toes, the smatterings of dog hair that drifted through the air, the rubbish, damp and dog smells were a part of how he understood the affective comforts of driving. Here, the disordered space of the car helped disrupt the coded ideas of order and cleanliness associated with middle-class respectability. As such, in contrast to Krissy's ritual ordering of the car space, this deliberate messiness or 'clutter assemblage' (Buchanan 2011) enhanced the affective pleasures of driving by tapping into different set of ideas that challenged normative ideas of order, predictability and middle-class respectability. The odours, dirt and rubbish were not considered matter 'out of place' (Douglas 1966), rather for Jason this was matter 'in place', a part of the working arrangement where the materiality of the driving assemblages augmented his performance of an alternative lifestyle subject position. The affective material relations between bodies, objects, surfaces, textures and smells worked alongside discursive ideas to produce what he recognised as embodied comfort. For example, reflecting on the interior of the Honda he commented:

Well we have beagles. They are so hairy, there's just hairs everywhere. And we go to the beach a lot. And then you know you get busy but... I don't mind the mess. It is usually just me and Jaz so it doesn't bother us. It (the car) has a very lived in feel, it makes it more 'our space'.

Informal conversation, 3/7/2011

Belonging in the space of the Honda was fashioned through the affective material relationships that provided a push for car mobility. Ideas of sustainability were actualised not only by the choice to drive a hybrid car, but also through odours of dog and dampness, the grime on the windscreen, the gritty encounters with sandy surfaces

and even the casual crunch of plastic and paper rubbish underfoot. The affective relations between these material and immaterial elements expressed as love, pleasure and comfort allowed connections between and across human and non-human bodies: cars, rubbish, animals, oceans, roads and ideas, sights and smells. The materiality of car mobility evoked affects at the pre-conscious level that helped constitute an embodied performance of Jason's environmental, aged, classed and gendered self.

In comparison to his hybrid sedan, the materiality of the Kombi provided a different set of affective relations. Jason illustrated how there is more to the pleasures of driving than offered by social constructionism. While, for Jason sets of ideas of control and freedom are important, he also talked about the pleasures of driving the Kombi as a skilled embodied practice. Jason connects to the car through the feel of gear stick, and paying attention to the engine. Furthermore, Jason underscored the pleasures derived from the stress of driving an old car:

I like that it's (the Kombi) got a really big steering wheel I really enjoy just driving that. It's also a manual and I love manuals. Often I just sit here with a hand on the gearstick because it feels more right... It feels like I am more in control or something. I'd just die to have to think a lot about driving. I just do it ...it's just happening. If you are driving the Kombi you have to be thinking about it the whole time. You can't get too distracted or it will stall or do something crazy. But I enjoy that, it is fun having to pay attention to what I am doing. I wouldn't call the Kombi relaxing. It can be stressful because it is old and has lots of different problems. It can definitely be a much more stressful car to drive at times. It is more of a thrill enjoyment than a relaxing enjoyment.

Ride along, 12/3/2011

In this narrative Jason illustrates the way that the flow of affect between objects and bodies can produce contradictory emotions. At times the car body assemblage is a source of pleasure and enjoyment which enables Jason to '*feel more right*' through his the perception of being in control. The affective relations felt through materiality of the steering wheel and gear box mean that Jason can interpret and express emotional 'love': '*I love manuals*'. At the same time car mobility is experienced as stressful because of the unknown potential of the materiality of the Kombi, it may '*do something crazy*',

which requires a level of concentration and attentiveness. The agential nature of the car becomes a source of stress, an affective relation of tension at once pleasurable and painful identified and expressed by Jason as 'thrill'. Thus for Jason, the bodily experiences of shifting affective material relations produced pleasures: enjoyment and relaxation, comfort and homeliness, belonging and love. Yet, love of driving, at other times was located in the stresses, strains and exertions of driving, like a surfer riding a wave, Jason felt the rush of endorphins that came with the excitement of driving an unpredictable older vehicle.

For Jason the dynamic pleasures of driving played out in relational ways between human and non-human bodies and across material and immaterial boundaries. The pre-conscious effects of the assemblage work towards maintaining bodily judgements of driving as feeling right, or good and thus Jason developed along a trajectory of continued car driving. The im/material and in/corporeal arrangements within driving as assemblage were thereby agentive in the performance of aspects of gender, age and class. I want to propose that for Jason, the visceral experiences of car mobility were intensified through other changes to the material environment. Firstly, consider Jason's sketch of driving:

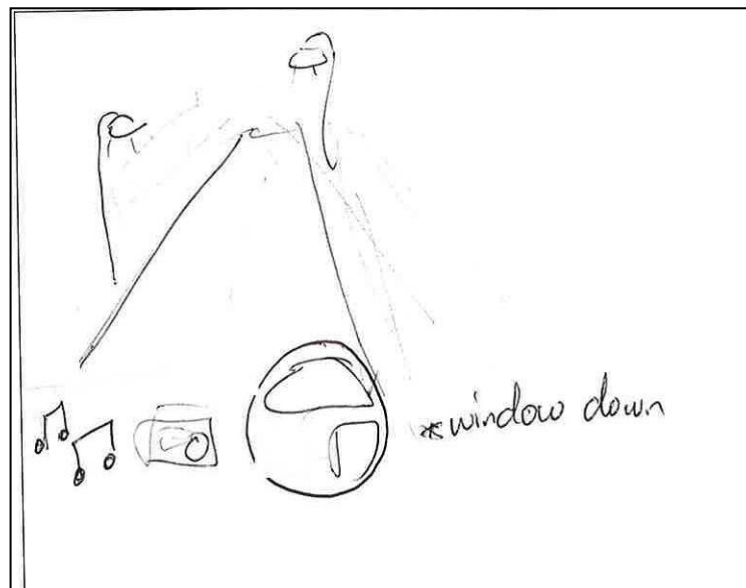


Figure 7.5 Jason's sketch of driving 1/6/2011
Source: participant diary

Jason's sketch is of driving at night. Jason listens to music and feels the rush of wind in his face as he drives with the windows down. The road stretches in front of him under the street lights opening up a path into the darkness. The car is absent from his representation with its focus on a forward trajectory. Commenting on this sketch Jason says:

I always have the windows down. I can hear when I am getting close to home by the sound of the wind in the trees.

Informal meeting, 30/03/ 2011

Thus, the sights and sounds of driving help Jason to locate himself within material and discursive space. I argue that changes to the sights and sounds of driving altered the affective relations between material and immaterial bodies. For example, consider how Jason speaks about his photographs of driving (Figure 7.5):

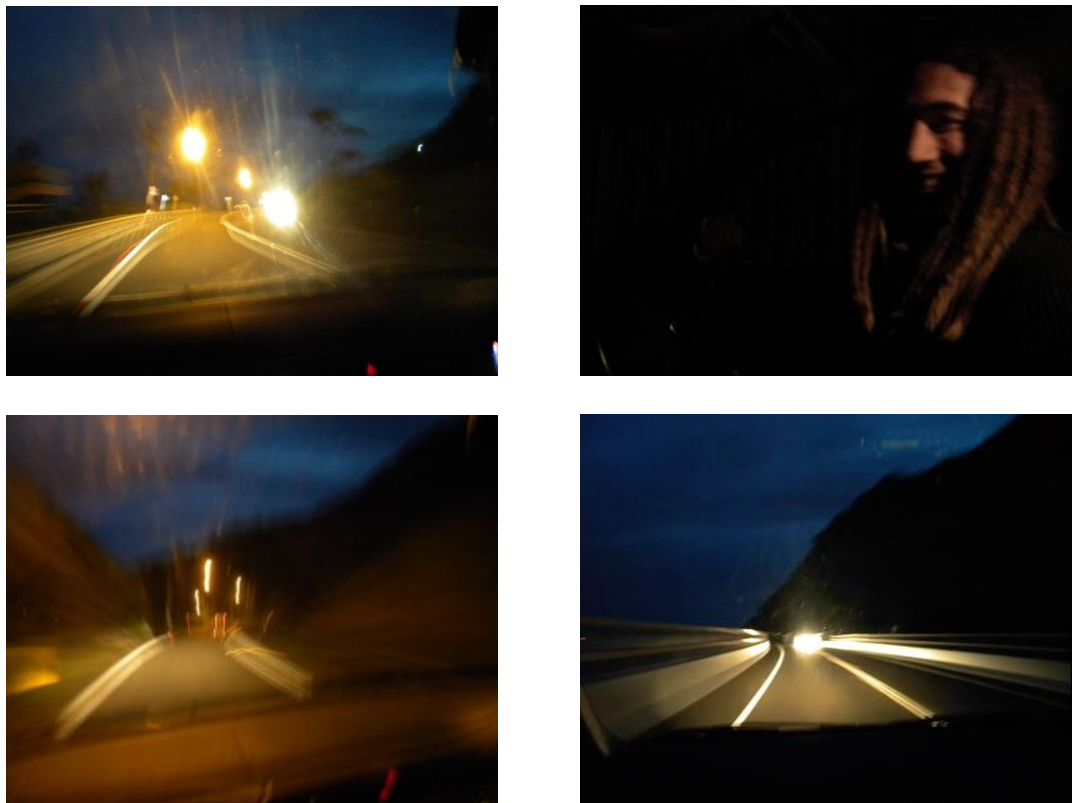


Figure 7.6 Photographs of Jason driving at night, 28/9/2010, 7.25 pm. From top left (i) street lights, (ii) Jason in driver's seat (iii) reflections from dashboard (iv) the coast road.

Reflecting back on the photographs, Jason illustrated how temporal and spatial changes meant variances in how he encountered light, sound and space and therefore the visceral experiences of driving. The soft neon glow of the instruments, the harsh glare of headlights, the more noticeable absence of noise worked together to produce new affective relations within the assemblage of car mobility. This again was felt and expressed as love:

This is me driving at night, with the windows down. I love driving at night. The lights, the quiet. I get time to think, it is my time. But mostly I just love the way the road looks at night. Kind of glary headlights and smooth road...like star trek or something...like you are driving into the future or something...laughs...I guess that sounds a bit weird.

Reflecting back with Jason 1/6/2011

Relationality, Massumi (2000, p15) argued is ‘the openness of an interaction to being affected by something new in a way that qualitatively changes its dynamic nature’. When the assemblage of car mobility is viewed as a working arrangement, we can consider how the relational interactions between light, time, road surface, sound, air and bodies alter the affective capacities of Jason’s body to think, sense and act. Road surfaces, reflected light, the glow of neon, and the absence of sound agentially alter the affective relations of car mobility as assemblage. In this way of thinking, embodied relations are not constrained to the rationalities of binary dualisms such as real/imagined, material/immaterial, physical/mental, body/mind. Rather, the body is touched by the way that the qualities of light, air and sound produce new flows of affect and circuits of emotion. Massumi argued that it is necessary to accept that there is ‘an incorporeal dimension *of the body*. Of it, but not it. Real, material, but incorporeal’ (2002, p5). Thus, the materiality of the body can be impacted by subtle changes that are real, yet, still incorporeal. Jason’s body is touched by how he viscerally perceived the driving environment and how it afforded other ways of thinking and new felt relationships with materiality. Imaginaries of ‘driving into the future’ provided opportunities for Jason to think beyond the rational boundaries of the body in the present moment. Jason’s bodily capacities were altered by the affective intensities that arose within the assemblage of car mobility where objects, sounds, sights, smells and moods were implicated in the capacities to think and act (Barad 2007, Bennett 2010,

Whatmore 2002). Spatialising the flow of affect/emotion means taking into account the quasi-agentive nature of the visual and the material world and how this can act as signifier of the virtual, a way of considering possibilities of becoming (Masumi 2000). It was the affective intensities of driving that helped constitute Jason's sense of self and places he understood as home and away. The case study of Jason presented here contributes to understanding the potential of this approach for exploring bodily judgements of driving as 'right' which work against driving less for a changing climate.

7.12 Conclusion

In this chapter I introduced the concept of affective materialities to highlight the agency of the non-human in shaping subjectivities and the choice to drive. I demonstrated how the assemblages of car driving come together in particular ways that are experienced through a range of senses: visual, aural, olfactory and tactile. I argued that the visceral engagement of bodies with materialities affords particular modes of thinking, sensing and acting. I used empirical examples to illustrate how the assemblages of car driving evoke intensities which alter the capacity of bodies to affect and be affected in singular ways. Thinking through the affective materialities that help sustain the choice to drive everyday and a sense of self illustrated how the boundaries between bodies and objects, the actual and the virtual, the mind and the body are reconfigured and/or permeated. Thus, by examining how bodies are enmeshed in relations with the visual and material, and how this is produced by and produces ways of thinking, sensing and acting helps to understand bodily judgements of driving as 'right'.

Affective materialities provide a conceptual starting point for considering how bodies might be encouraged to forge connections with particular modes of public transport. For example, the visual and material elements of public transport might be considered in the light of the way that bodies respond to colours, forms, textures and lighting. These findings suggest that 'respectable' modes of transport, which are at the heart of transport planning and climate change policies are ripe for reappraisal. I suggest that attending to the visibility and materiality of mobile assemblages alerts us to the possibilities for generating new spaces where bodies may encounter the conditions that produce affective intensities associated with ideas of comfort, belonging and homeliness. While the examples of Krissy and Jason illustrate different ends of the spectrum around what constitutes an atmosphere of 'comfort' they serve as a case in point that comfort is

subjectively experienced. As such, transport planners need to re-think how the visual and the material are integral to how bodies encounter mobile spaces, and creatively evaluate the possibilities for forming affective and emotional connections between bodies, objects and spaces. The next chapter reiterates the importance of the material body by an attention to embodied rhythms and routines.

CHAPTER 8. TURNING POINTS AND POSSIBILITIES FOR BECOMING



Figure 8.1 Trevor, on the freeway, Wollongong 3/6/2011, 7.32 am.
The sun shining directly in Trevor's eyes as he takes the freeway in the morning reminds us of the changing angles, intensities and hues which make up the light conditions as part of everyday driving.

Source: participant Trevor

8.1 Introduction

In previous chapters I illustrated the ways that bodily judgements contributed to the decision to continue to drive despite awareness and expressed concern for the environment impact of vehicle emissions. For the majority of participants in this project, the visceral experiences of driving worked towards bodily judgements of driving as 'right'. I argue that integral to understanding the capacity of bodies to think, sense and act are the connections and disconnections made possible through the assemblages of cars, bodies, objects, emotions and affects. In this chapter, I further explore how bodies became attuned to particular ways of being in the world that came about through the affordances of driving as assemblages. In this chapter I focus on Edensor's (2010) concept of bodily attunement and Horschelmann's (2011) ideas of

transitional events that occur in individual life trajectories. By centring bodies in thinking about transitional life events I explore the challenges and obstacles to changing transport modes. The transformative possibilities for changing behaviours at such moments include negotiating a range of affects and emotions, including pains and pleasures which makes the uptake of some behaviours easier than others, and as such deserving of further attention. Thus, a visceral approach allows us to consider how disruptions to life trajectories can offer both moments of crisis and opportunity that are negotiated around the becoming of a subject (Aitken 1999, Chouinard 1999).

There are four main sections to the chapter. In the first section I outline Braidotti's (2013) posthumanist thinking which is important for considering how driving is a part of the becoming of the subject through a processual ontology. Next, I turn to discuss Edensor's (2010) interpretation of Lefebvre to consider how rhythms, affordances and attunements of mobility work at an embodied level. In the second section, I draw on empirical material from Trevor, a sixty-eight year old professional to illustrate the way that bodies and cars become attuned through habitual embodied practices. The sounds of driving and an attention to the rhythmic qualities of the sounds of movement, provided insights into how driving was important to Trevor's becoming a professional man. The results highlighted the pre-cognitive and corporeal domain as a vital part of pragmatic, largely unreflective everyday decision making which closed down connections for rethinking mobility choices. In the third section, I illustrate how significant changes in life circumstances opened up previously unimagined opportunities for taking up new more sustainable transport practices. I explore how thirty-three year old Elouise negotiated new sets of understandings around transport mode choices and what this meant in terms of her emerging subjectivity from married to single woman. The examples were chosen because they illustrate the importance of exploring bodily attunement to different types of transport, and how this might shed light on embodied resistances to changing transport modes. The forth section is a conclusion which reiterates the main points of the chapter as well as pointing towards the possibilities for applying posthuman thinking.

8.2 Posthumanist thinking

Braidotti (2006, 2013) stridently called for an affirmative politics of posthuman ethics. Braidotti suggested that social sciences and the humanities have an imperative to

develop new ways of conceptualising the current human condition in order to stimulate imaginative ways of creating possible futures that take account of the interconnectedness of human and non-humans. In the light of multiple and complex problems that relate to social justice, inequity, environmental degradation, biological extinction and the like, she urged an examination of the current conditions of everyday material life in order to understand how we might encourage a collective understanding of an affirmative sustainable future.

In this way of thinking a Spinozist-Deleuzian monism is invoked. Here human/non-human, mind/body, man/woman dualities are dissolved in grounded, situated and specific encounters that incorporate animals, materials, technologies and bodies with the productive capacities of desire (Braidotti 2013). Desire for Braidotti is not framed in terms of lack or law but rather as ‘the ontological drive to become’ that ‘seduces us into going on living’ (Braidotti 2013, p134). Thus, an examination of the specific circumstances of everyday life and the affective intensities that structure them allow an understanding of how desire works through bodies to produce a system of self-organisation or autopoiesis. Autopoiesis is the machinic complex of self-organising assemblages as based on Deleuzian ideas of the Body without Organs. Here, subjects are embedded in discursive and material structures where human and non-human bodies are continually enlisted in processes that work towards desired, but unachievable states of being. According to Braidotti, autopoiesis works to produce, and reproduce the affirmative passions of pleasure and joy which underlie the embodied experiences of everyday praxis: a process oriented political ontology (2013, p35).

Braidotti’s (2013) posthuman ethics called for going beyond the singularity of subjective experiences to draw insights into how we might instigate a more collective form of trans-individual, trans-generational eco-philosophy. This means it is firstly vital to investigate how the circuits and relations of desire work to produce everyday behaviours. In terms of sustainable transport decisions, knowing where we are and how we got here by implication opens up possibilities for imagining where we might be going. Thus, in order to address ‘where we are’ in this chapter I investigate the way that intensities of affect work to create, sustain and disrupt ways of thinking, sensing and acting, through attention to the visceralities of attunement, affordances and rhythms.

8.3 Attunement, affordances and rhythms

In considering the visceralities of driving as assemblages I want to incorporate Edensor's (2010a) interpretation of Lefebvre's *Rhythmanalysis* to explore how bodies become attuned to the affective rhythms of routine movements. For example, considering the movements of cars, trucks, pedestrians, rickshaws and animals, Edensor (2000a) illustrated how places are always woven through with their own temporalities: chaotic Indian streets move to different rhythms than the more regular and constrained traffic on British roads. As well, the daily flows of traffic and commuters, the week day opening hours of shops and the weekend crowds at sporting events, churches, concerts and pubs produce regular cyclic rhythms that bestow a collective temporal ordering of place (Zeruvabel 1985). But beyond this Edensor (2010b) argued that entangling rhythms that circulate in and outside the body also draw attention to the corporeal capacities to sense rhythm: that is how cyclic, seasonal, diurnal or annual rhythms become a largely silent background to the experience of everyday life, yet are a part of how temporal rhythms are experienced through the body.

Along these lines, Spinney (2010) argued that the rhythms of cycling were produced by the affordances of the embodied relations with technologies, material landscapes and intersecting rhythms of other road users. For Spinney, bodily attunement was central to understandings of self, others and place through the entangling rhythms of breathing, timing, energy levels, heart rates, moods, roads and traffic. Likewise, DeLyser (2010) illustrated the importance of the embodied experiences of the (ar)rhythmic affordances of sound for women pilots. Bodily attunement to the rhythmic and arrhythmic sounds of engines proved vital for being able to endure and survive long, solo flights. As well, Edensor and Holloway (2008, p499) argued that 'different rhythms possess capacities to affect different apprehensions and experiences'. As such, mobility is composed of multiple rhythmic affordances that work from the scale of the body to the nation and which intersect to produce experiences that alter cognitive and non-cognitive engagements with space (Edensor 2010).

In the following sections I draw on interviews, informal conversations, audio files, soundscores and reflective listening exercises with participants to illustrate how the rhythmic affordances of sound can offer insights into the embodied dimensions of different forms of transport. First, I demonstrate how the affordances of routine driving

practices produced affective intensities that situated Trevor within discursive and material spaces through the use of a visceral soundscore. Through pinpointing affective moments of intensity within the soundscore, I illustrate how an attunement with driving rhythms worked against changing transport behaviours. For Trevor, there was little reason to change transport mode and every reason to continue driving as a way to become a professional and unprofessional man.

8.4 Enacting the professional subject

Trevor, an academic, is 68 years of age, and lives with his wife in Wollongong about four kilometres from the university. There is a bus stop approximately 250 metres from Trevor's home that services the university. Instead, Trevor prefers to drive his Subaru Impreza sedan to and from work daily. He is extremely knowledgeable about climate change and expressed concern for the increasing levels of environmental degradation. As indicated in Chapter 4, Trevor's scientific training and knowledge of environmental science meant that he viewed the problems of climate change through a rationalist lens. He argued that governments should attend to harmful agricultural and resource extraction practices as a first priority. While Trevor supports the notion that individuals should shoulder some of the responsibility for climate change by changing everyday household practices, he does not see the sense of reducing the amount of driving he does. He defends the decision to drive to and from work each day citing his experience of time.

Obviously I am concerned about the amount of carbon we are putting into the atmosphere...But not enough to stop me driving... It's a matter of ten minutes in the car or forty minutes on the bus. It is a waste of time. I would rather use that time in a different way...I sometimes wish there were six more hours in the day.

Interview, 30/05/2011

Here, Trevor illustrates the power of the notion of linear time as a quantifiable resource which can be managed, saved or squandered (Grosz 2005). Castree and Sparkes (2000) argued that universities have become 'corporatized', and, outputs have become 'commoditised' leading to a situation where academics are judged on output and productivity. Thus, being constantly time-poor, Trevor experiences the time spent on travelling between home and paid work as 'wasted'. As an academic, driving pleasures

were underpinned by his everyday work experience of being time-poor. Trevor remarked:

I never seem to have enough time. I wish I had more so I could do more work. I usually work all weekend. I am not very good at relaxing. I seem to have lost the art.

Interview, 10/7/2011

Consequently, Trevor, over the past thirty years, refined a driving route between university and his home that takes the least amount of time. Trentmann (2009) noted that an aversion to traffic disruption often works to produce individualised travel patterns. For the past eleven years Trevor travelled the same route outside of peak times in order to avoid time delays caused by traffic congestion, typically leaving home before 7 am and returning after 6 pm. Trevor says he has lost the ability to arrange ‘free’ time due to demands of work. Framed in this way, the car is understood as convenient because it makes possible not only control over the use of time, but also possibilities to ‘store’ time by minimising interruptions. In a similar way to that discussed by Shove (2003), Trevor demonstrates that the increasing importance of the car as an object of convenience is bound up with a contemporary experience of always being time-poor. Furthermore, as argued by Darier (1998), Trevor’s reasoning is framed within neo-classical economics, that a constant increase in productivity at work is positioned as a full and valued life. Trevor therefore did not talk about driving as ‘a problem’.

I always feel comfortable when I am driving. I don’t have any problems with driving at all... at all... I am quite happy with it.

Reflective listening, 6/5/2011

8.5 Shit of a bloody thing!

Lefebvre (2004) recognised that multiple rhythms are folded in and through the permeable body (Edensor 2010a, p4). As such, I want to think about how sounds work at the level of the body and can mediate the inter-relations between habitual embodied experiences of driving and situated understandings of self. In order to do this I use a visceral soundscore of Trevor’s routine journey from work to home to illustrate how the

affordances of sound evoked affective intensities. Southerton (2003) demonstrated that the co-ordination and scheduling of blocks of time with specific purposes is crucial to how people negotiate the demands of daily life. I argue that the routine drive is a part of how Trevor punctuates his day, squeezed in between the busyness of work and home, the car provides a space where Trevor can simultaneously reinforce his sense of self as a time-poor professional and yet disconnect from the pressures and harriedness of everyday life to become momentarily unprofessional.

I want to think about how different types of movement produce different bodily rhythms which in turn allow for particular affordances. Affordances in this sense, are the range of possible relations that can unfold as bodies engage with places, objects and ideas within an assemblage of mobility. Pols (2012, p113) defined affordances as real or perceived ‘opportunities for action’ as humans engage with the materiality of the world. Thus, particular ways of moving- driving, cycling or catching the bus- allow particular affordances which enable us to think, sense and act along particular lines of flight. The repetitive quality of these affordances through daily, weekly, monthly or yearly cycles is experienced through sensory rhythms which include routine sights, sounds, smells and touches and which produce particular embodied ways of moving through the world (Conlon 2010, Degen 2010, Potts 2010). Attunement therefore is when bodies have become familiar and habituated to learned and practiced ways of moving, where movement becomes automated and can produce a sense of ‘kinaesthetic union characterised by synchrony and synthesis’ (Evans & Franklin 2010, p174). As such an attention to the rhythmic affordances of mobility can give insights into the challenges and opportunities for changing the everyday rhythms of bodies attuned to different modes of transport.

Within the space of the car Trevor never plays music. Rather we hear in his audio recordings the sounds of the passing traffic and the noise of the revving car engine interspersed with comments about other drivers and bodily noises; burping, passing wind, mutterings and swearing. I argue that Trevor’s body is attuned to the affordances of driving and as such, he anticipates the visceral experiences- the speeds, sights, sounds and emotional freedoms- of car mobility as a part of his daily rhythm. The affordances of driving as assemblage reinforce how he understands himself as a professional. For example, the visceral soundscore of Trevor’s routine journey from

work to home illustrates how the affordances of sound can function to mark off the experience of time being ‘saved’ or ‘wasted’ (see Appendix 8).

The familiarity of the car, the route, the timing and flow of the journey meant that Trevor developed an embodied knowledge of the space of the car as one where he could disconnect from the constraints of a controlled and disciplined professional body. The car affords a relaxed space away from the eyes, ears and noses of others where he can express bodily sounds which are not acceptable within places fashioned as work or home; burping, passing wind, mutterings, swearing and being rude. In this sense, Trevor can experience the affective pleasures of driving through how he is able to disrupt the normative rules around his professional body. Adding to his pleasure is how he anticipates the visceral qualities of the drive, how long it should take, how it should feel through the co-ordinated movements of driving hands, legs, eyes, pedals, steering wheels, road and tyres- as well as how it should make him feel-productive, comfortable, and unrestrained. Edensor and Holloway (2008) argued that spatio-temporal consistency through the ritual ordering of numerous rhythms of everyday life work to produce normalised and institutionalised expectations of driving rhythms. Thus, the usual ten minute drive for Trevor was a part of the habitual daily rhythm of the working week. Trevor’s bodily judgement of driving as assemblage was one of pleasure.

8.6 Bodily rhythms

Lefebvre argued that a disembodied appreciation of rhythms is impossible and that one must listen to one’s own body to ‘appreciate external rhythms (2004, p19 cited in Edensor 2010a).’ Thus my starting point is Trevor’s body. For example, we hear Trevor’s body ‘positively’ respond to the sounds of driving associated with his usual rhythm. The visceral response to the even sound of regular forward motion and rhythmic speed of driving elicited a joyful affective response from Trevor. At times, we can hear how Trevor synchronised his own bodily rhythms with the steady hum of the engine. For example, he sighs contentedly:

(2:49) Hay ayy, aye aye (lilting, melodic)

The visceral soundscore also helped trace changes in affective intensities within the space of the car when Trevor experiences time as being wasted and his sense of self as a professional is no longer affirmed. For example, when the tempo of the engine becomes

arrhythmic, stopping and starting more irregularly, as Trevor encounters traffic, we can discern his frustration:

(5.24) *You **shit** of a... bloody thing (angrily, loudly)*

The assemblages of driving are caught up in changes to external relations where place, traffic and other bodies change the affective relationship between Trevor's body and the car through both movement and sound. No longer a place of relaxation, pleasure and freedom from pressure, it becomes a place of frustration and anger.

Trevor's tone and volume of voice convey his annoyance at the impediment to his movement and the disruption to his anticipated rhythm. We hear the sound of a nearby car horn followed by the roar of the sudden burst of acceleration as the Trevor's car moves off at high speed. For several minutes the car is driven with rapid gear changes and exaggerated rates of acceleration. Here, emotion is performative and embodied. The boundaries between the materiality of car and the materiality of Trevor's body blur as the assemblage speeds through space. Obrador (2012) asserts that there is not always a clear distinction between bodies as subject or object. Rather, in the words of Patterson (2004, p175); 'our bodies extend into things and they extend into us'. Reciprocal speeds, pauses, movements and flows between body and car work through the co-ordination of hands, ears, eyes, and legs in a textured rhythmic relation. We can detect an attunement between Trevor and the sounds of movement of air, road, tyre and engine- Trevor drives *with* the car not just *in* the car. Trevor's annoyance does not immediately dissipate and we can hear his terse tones as he continues to mutter to himself. Commenting on the audio he says:

Well obviously I get annoyed when someone does something stupid in front of me. I don't like slowing down for things.

Reflective listening, 6/5/2011

Thus, Trevor's bodily rhythms are entangled with the rhythmic movements of the car and situated within wider institutionalised rhythms of driving. Disruptions to the anticipated speeds, routes, rhythms and flows cause discomfort. Only once Trevor has made up for time wasted, and the engine, tyre and air sounds restored to their regular,

everyday tone, vibration and metronomic rhythms do we once more hear Trevor sighing contentedly:

(8:39) Aaaah Aaaaah (melodically)

Trevor's bodily judgements to the sounds of driving can tell us much about his visceral connections with the space of the car. The rhythmic pleasures of the ten minute drive between work and home help to maintain his sense of self, reinforcing ideas of professionalism. At the same time, the space of the car allows a freedom from the conventions of either work or home. How Trevor's subjectivity as a professional is affirmed through the sounds of driving helps to understand his reluctance to stop driving. In unravelling the driving experience, I have drawn attention to the bodily judgements of the sounds of movement where boundaries between the materiality of the car and Trevor's organic body are not pre-formed but exist in relation to each other (Obrador 2012).

The bodily judgements associated with the sounds of driving for Trevor remind us of the larger social forces operating within the everyday. The convenience of the car is a self-evident and sensible response to the unending problem of being asked to organise life efficiently and productively. The bodily judgements to the sounds of driving provide insights as to how Trevor orients himself with these neoliberal politics. For Trevor, the process of being and making himself comfortable behind the driving wheel is achieved through sounds that convey a sense of flow, speed and control as well as the rehearsed embodied actions of driving that constitute his sense of self in relation to others and place. The multi-sensorial relations between Trevor and the materiality of the car evoke an embodied attunement where driving becomes second nature-a confirmation of what feels normal in the everyday practices of enacting a professional self. These embodied affective intensities which are experienced as densities and textures through Trevor's body (Stewart 2007) I argue reduce his capacity to consider altering his driving practices. When asked what it would take for him to reduce the amount of driving he does Trevor says:

Well perhaps when I retire I might be able to give it some thought.

Informal conversation, 20/5/2011

Thus, for Trevor how his body is attuned to the rhythmic affordances of driving produced embodied geographical knowledge which prevented him from considering reducing the amount of car driving he does. Trevor's embodied attunement to car driving in Wollongong reflects his knowledge of the rhythmic textures of place- the routes, flows and timings- and the embodied experiences and affective intensities he equates with speed, convenience and comfort. The affordances of driving assemblages work at the embodied level to encompass the rhythmic sounds of driving as an integral part of Trevor's daily becoming as a professional and unprofessional man. The sounds and kinaesthetic experiences of driving become a part of a rhythmic landscape which works to connect people to places and help create a sense of identity (Duffy 1999). It is only through the possibility of disruption to his life course that his subjective position as a gendered, raced and classed breadwinner, husband, grandfather and professional employee can be re-negotiated around transport choices. It is this coupling of a change in life circumstances with possibilities to alter mobility patterns that I now turn to examine. As suggested by Chatterjee et al. (2013), how disruptions within a life course might allow possibilities to attune bodies to the affordances of non-car modes of transport deserve further attention.

8.7 Disruptions: crisis and opportunity

In the following sections I explore how 33 year old Elouise employed as a university lecturer, negotiated new sets of understandings around transport mode choices and what this meant in terms of cognitive, corporeal and affective, emotional experiences and subjectification. I posit that significant changes to life course, such as moving house and changes to personal relationships, offer possibilities to negotiate new perspectives around alternative low-carbon transport modes. Over the life course there are several key transitions that are normalised; changing jobs, buying a family home, having a baby and retirement. These key transitions are all part of the discursive understandings of how heterosexual nuclear family life should progress along a linear trajectory. Yet, as Horschelmann (2011) argues, these transitions are not always chronological or unidirectional and life course can vary in unexpected ways. Thus, how bodies develop along particular lines of flight can be influenced by changes to physical location, amenity availability, changing work and family relations as well as fluid understandings of comfort and convenience in relation to evolving and dynamic understandings of self. As such, in the example I provide, changes in transport mode choice came about as a

corollary of a significant life event rather than an ethical decision-making stance based on environmental concerns. In this case, a relationship breakdown provided a moment when the rhythmic affordances of car mobility became questioned.

Elouise did not question her car driving practices until her marriage ended and she found herself living in a different residence and thought of herself as a newly single woman. In the light of her changed responsibilities she was able to re-negotiate how she managed the unpaid and paid work of everyday life. The desire for making connections with other bodies and places unfolded through her decision to take active and public transport. For Elouise, public transport was a way of enhancing bodily capacities for managing and adapting to the changing circumstances of becoming a single woman.

To begin, we consider Elouise's driving practices as a married woman when she joined the project. She and her husband lived six kilometres north of Wollongong. Elouise drove her Lancer sedan 10 minutes to and from her workplace each day. Until enlisted in the project, she had not considered alternative transport modes as a way to address climate change. Elouise espoused knowledge and concern about climate change. Yet, perhaps as a result of her husband's job as a taxi driver, reducing car driving was framed in terms of personal income loss rather than a global environmental challenge. Asked why the car was important to her, she responded:

Because public transport is poor. In terms of coming to work anyway. And it's pointless. I mean not pointless...but there's no kind of... it's much easier, in terms of convenience much faster and cheaper to drive a car.

Ride-along, 27/5/2011

The convenience of the car was framed in terms of travel time and cost. Being faster, easier and cheaper than public transport made the car the rational choice. The inadequacies of public transport were cited as a further reason for her reluctance to reduce driving. For Elouise, responsibility for greenhouse gas emissions from car driving was not a compelling consideration. Nonetheless, Elouise enacted a range of pro-environmental behaviours that included recycling of plastic, glass and paper, conserving water and purchasing fair trade goods, she mentioned for example ethical brands of coffee beans. Akenji (2014) argued that classic 'green consumerism' does not

begin to address the need for behavioural changes that accompany the discourses of sustainable consumption. Green consumerism was how Elouise enacted her responsibility for climate change so that, rather than viewing driving as a source of greenhouse gases contributing to global climate change, driving for Elouise was an essential part of everyday life.

Beyond the discourses of freedom and independence Elouise illustrated how the affective intensities of driving her Lancer sedan produced pleasure and comfort. Not only could she come and go when she pleased, listen to the radio or sing along to the music of her choice, but the affordances of driving produced affects and emotions associated with the comforts of home and belonging.

I listen to my music a fair bit. Normally I don't listen to music I mean I don't have music on at home. So the car is basically where I listen to music. I don't know why that is. Sometimes I listen to music at home but not much. Sometimes I like to listen to the radio I like driving. I like being in my car I guess it's a feeling that I'm used to ... it's like ... you know comfortable, like being at home almost.

Ride-along, 27/5/2011

The space of the car elicited an affective response from Elouise's body- the routine car/body movements, the familiar encounters with material space through the sights, sounds, smells and textures of the car combined with immaterial ideas of driving- to produce a sense of belonging and entangling rhythms of 'home'. While bodies are necessarily situated in specific geographic places, Munt argued that home could also become a state of mind (1998, p13). Thus rather than bodies, ideas and spaces being discreet entities they become entangled and work to co-constitute each other through how affective intensities work on bodies and spaces to reinforce or disrupt particular discursive ideas. Here, the discursive ideas of the privacy, comfort and convenience of the car were felt through the visceral pleasures generated by the assemblage of bodies, things and ideas to produce feelings of comfort and 'being at home'. The particular affordances of cars, sounds and forms of practical driving engagement such as style, speed and tempo of driving, may be understood to discipline bodies in particular ways to feel *comfortable*, or unnerved, on the road. For Edensor, this sensual belonging, or

not, is born out of habitual everyday driving practices, how the sights, sounds, movement and rhythms of the road become incorporated into embodied geographical knowledges (2004).

Mobility exemplifies how the external world of everyday life is folded through the body in the processual and ongoing becoming of the body (Deleuze 1987). In this way of thinking, the embodied experiences of driving come to be felt through affective intensities of moving with, and being moved by the car, and become a part of non-conscious bodily knowledge (Sheller 2006).

Edensor (2010) argued that regular driving patterns can produce embodied rhythms that help reinforce understandings of place. However, I propose that an attention to the rhythms of movement can help to understand how the reciprocal relations between mobile bodies, places and subjectivities work to reinforce each other. While individual bodies are always situated in place, it is in how movement, bodies and spaces work in affective ways to produce rhythmic routines that can open up possibilities to consider how bodies might become attuned to particular low-carbon trajectories.

The rhythms of driving can be heard in Elouise's audio recordings as she regularly travelled to and from work. The routine ten minute drive each way helps give insights into how Elouise makes connections and disconnections with material and discursive spaces. The sounds, smells, textures, warmth and comfort of the interior space enable her to disconnect from the noise, weather and temperature of the world outside the windscreen. She derived pleasure from driving through playing her own music and singing along (I just love my Glee CD!) and from the material comforts (so cosy!) of the space of the car. Often remarking on the temperature or weather conditions it was clear that she valued the protection from things beyond the windscreen and this added to her embodied pleasures. Urry (2006) noted that the more inclement the weather outside the more we savour the comforts of the interior space of the car. At the visceral level, representations of the assemblage of driving as private and comfortable and discursive ideas of freedom and independence are entwined with affects and emotions that work to enhance or diminish the capacity of the body (Hayes-Conroy 2009). Elouise's enhanced ability to disconnect from the experiences of the world beyond the windscreen allowed her to legitimize certain types of sensual interactions that produced a working

arrangement, a Body without Organs, that helped to stabilise bodily judgements of driving as natural.

8.8 Therapeutic space

The car was enlisted into a therapeutic practice, where affective intensities could be modulated through the use of music. Diary entries reinforce point how driving may be understood as therapeutic practice:

Drove home in a deep funk. Was very glum so listened to my glee CD and sang along in an attempt to lift my spirits.

Diary entry, 22/08/2010

In the car, Elouise attempts to alter her emotional state through the affordances of music (Anderson 2009). We can understand this as a kind of self-reflective emotional and bodily management, an acknowledgment that affectivity is layered into practices of cognitive judgements (see Connolly 2002). Elouise endeavours to increase her bodily capacities by enacting the familiar embodied actions of singing out loud within the driving assemblage. Alongside representational and discursive ideas, the embodied memories of singing aloud within the driving assemblage became embodied as affirmative affective intensities.

Elouise pulled out of the project for several months citing the fact that she was busy moving house. Later, when she re-joined the project, she revealed that she had separated from her husband. Reflecting back on audio recordings of driving Elouise remarked:

When I listen back to those recordings I remember how I felt...I wasn't very happy around that time. Although I sound pretty happy don't I? I guess that is just me...I am very optimistic. I try to take a positive view of everything. That drive, you know listening to music was really important to me. It was a way to sort of work myself out, strengthen myself. You know, think things over, think about what I really wanted to do...what I could do...sometimes you just don't know. Being alone and driving was one of the places where I could really do that. Have a bit of a bawl (cry) if I needed to without anyone knowing.

Reflecting back with Elouise, 7/3/2011

The embodied pleasures of driving, listening to music in comfort and privacy allowed an emotional freedom where Elouise could explore her desire for becoming a single woman. Much like Trevor, the regular drives afforded a respite from the constraints, demands and stresses of managing work and home relationships by how it afforded a therapeutic space. The regular drives became a part of how Elouise managed to keep the strains of everyday life together - driving became a therapeutic practice for dealing with the stresses associated with the changing roles of being and becoming a woman within the assemblages of home and work.

In spite of the importance of the affective experiences of car driving, moving house provided opportunities to re-configure how Elouise negotiated everyday life transport mode choices. Hence as Bornat et al. (2012) and Cook (2012) point out, locational changes can have transformative effects on individual lives. This example of a personal crisis illustrates the inter-connectedness of transitions in individual lives and environmental and social transformations (Elder et al. 2004). A good starting place for unpacking the challenges and obstacles to changing transport modes following a personal locational shift are the importance of affordances, attunements and rhythms of everyday life.

8.9 Moving and being moved

Elouise moved to a shared rental apartment in central Wollongong within five minutes walk of a bus stop. Though she retained her car, she began to take the free 'Green bus' to and from work. Taking the bus became a way to re-negotiate relations with other bodies and places and reinforce her sense of self as a single woman. Grosz (1994) conceptualised the body as a tool through which social life is experienced and knowledge is created in a constant dialectic exchange between exteriority and interiority, mind and body, tangible and intangible. As a part of re-negotiating ideas around her newly single identity, Elouise considered how public transport might offer opportunities for social connections. Public transport at this juncture in her life was not about reducing carbon emissions but about increasing her bodily capacity to connect with the world in new ways to explore her subjectivity as a single working woman. Catching the bus which had once been unimaginable for Elouise now emerged as a low-cost, convenient and social way to travel. I argue that this was because the disruption to her usual everyday rhythms of travelling to and from work each day by car occurred

concurrent with a disruption to how she understood her sense of self and became a part of the transformation of subjectivity. Even though Elouise's travel time was increased from 10 minutes to around 30 minutes this was not viewed as a problem. For Elouise, travelling by bus came with certain freedoms and pleasures:

I don't need to plan the trip out. I just rock up because there is a bus at least every twenty minutes so there is never long to wait. I often meet people from work on the bus. It's very social.

Informal meeting, Elouise 15/4/2011

Sound offers insights into the embodied experiences of taking the bus. In the audio recordings of bus trips to and from work we often hear Elouise talking and laughing with friends and acquaintances. She enjoys the sociality of the bus, meeting friends and the possibility of encountering new people. For example, she has a 'favourite bus stop' where she anticipates 'interesting' passengers may join the bus. In the background to all of the audio recordings is the deep, slow rumbling of the bus engine as it moves off, accelerating, decelerating or idling as it waits for passengers. Commenting on the audio files Elouise says:

You can really feel it can't you? (the reverberation of the bus engine) it's so slow...you can sort of sink into it if you are not in a hurry. You know...when you are on your own you can stare out the window or tune in to the conversations on the bus... or tune out.

Reflective listening, 12/1/2011

Listening to the audio file together, the vibrations and reverberations permeated the space around and within our bodies, bringing to mind Bissell's (2010c) arguments that vibrations can make the invisible visible. Bissell (2010c) argued that vibrations have the capacity to cut across and through material boundaries and permeate bodies. Elouise reflects on how the steady speed and low hum of the rotation of the engine as it idled for several minutes allowed her to 'sink into it' and let her 'mind wander'. Ahmed (2004) has argued that bodies may 'sink' into spaces that have taken their shape. As such, comfort arises from how bodies and spaces reciprocally shape each other, while the reverberations of sound enfold the body and produce affective intensities (Bissell 2008).

The affective pleasures play out on Elouise's body as she relaxes, waiting for the journey to unfold - she is resigned to the slower pace of the bus as compared to driving. Yet, at this juncture in her life this is not understood as an inconvenience but as a way to explore shifting affective and emotional relations that reinforce the spatiality of subjectivity. How Elouise sees herself within the spaces of the car or bus provides an opportunity to consider her on-going becoming as a heterosexual woman. Jiron (2010) noted that spaces of public transport can offer a place of reflection and introspection amidst the harried pace of contemporary life. Indeed for Elouise, no longer strictly bound to a domestic timetable tied to the unpaid work of the home, she can arrange her time according to her own schedule. Taking the time to relax or socialise, embracing the unpredictable nature of journeys and the possibilities of chance encounters on the bus made low-carbon transport an attractive option. For example, the possibility for romantic love was mentioned as one of the advantages of non-car travel. The 'sultry South American looking man' that Elouise found attractive proved to be a great motivator to catching the morning bus.

The affordances of the slower rhythms of public transport offered a more open and fluid idea of comfort and convenience that was mediated by Elouise's affective and emotional relationships with people and places. I argue that taking the bus as an alternative to the car was relatively easily adopted by Elouise - the daily routine and embodied rhythms of travelling to and from work required little adjustment- and were softened by the new-found freedoms and affective pleasures of becoming a single woman. Though Elouise's separation and move constituted a personal crisis, at the same time it also presented opportunities for considering different ways of being in, and moving through the world.

8.10 Developing new capacities

As a part of exploring her emerging subjectivity of single woman Elouise decided to push the limits of her bodily capacities. She 'dusted the cobwebs off the bike' and attempted to cycle trips of less than five kilometres on the weekend. Cycling was framed as adventure, relaxation and health rather than in terms of physical exertion, inconvenience or reducing greenhouse gas emissions:

Yeah it was a bit tricky at first...ha ha...the first time nearly killed me! But yeah it's [cycling] good. I am really enjoying going out on my bike now. I don't really go far but it is so nice to be able to just ride along the beachfront and enjoy the scenery. It's relaxing. And it's good for me. I am definitely feeling much fitter.

Informal meeting, 5/1/2011

In this quote we appreciate how changing transport modes from the car and bus to bicycle required major adjustments to bodily competencies. Attuned to the comforts, rhythms and affordances of driving or taking the bus, Elouise had to reacquaint herself with the physical skills and energy levels needed to cycle. While at first riding a bicycle 'nearly killed' her, over time she acquired the stamina, endurance and skill needed to travel the two and a half kilometres between home and the shops or the beach. Elouise's body became attuned to the affective pleasures of cycling through how it altered her embodied relationships with bodies, things and place. Her capacities to think, sense and act along a particular line of flight not tied to driving, developed out of the affective relations that came about through different sets of kinaesthetic and proprioceptive speeds and rhythms (Jones 2012, Larsen 2014). Travelling at different speeds, the sensuous qualities of the movement of muscle, of air over the skin, through the lungs, the rhythmic pulse of blood and heart all attest to the importance of acknowledging the how the materiality of the body is altered by different forms of mobility.

Elouise illustrates the point that bodies become attuned to the rhythms and affordances of different modes of transport and that these corporeal experiences affect our engagements with time and space (Edensor 2010a). Rather than viewing Elouise's uptake of cycling as 'green exercise' (Barton & Pretty 2010) or emotional self management (Osborne & Rose 1999), I propose that for Elouise taking up cycling was a way of embracing the pain of transformation and an exploration of not only of bodily capacities, but possibilities for becoming. The affective forces of desire, the desire for becoming a single woman, worked within mobile assemblages to provoke different ways of thinking, sensing and acting that were entwined with the transformation of subjectivity.

Braidotti argued that change and pain often go hand-in-hand:

Change is a painful process, but that is no reason not to engage in it, as the conservatives recommend. The point in stressing the difficulties and pain involved in the quest for transformative politics is rather to underline the dignity of the project and to raise the awareness of the complexities it involves

(2011, p79)

As suggested by Braidotti, while change can be a painful process, it provides opportunities for thinking beyond aversion, to consider how the pain of change can be embraced as a productive part of transforming subjectivities. Rather than a focus on the comforts which underpin the lived experiences of driving, here Elouise embraced the physical pain of changing transport mode alongside her becoming as a single woman. Though cycling requiring the development of a new set of physical capabilities and skills it offered Elouise the opportunity to investigate how new bodily rhythms might alter her affective engagements and emotional relations with place.

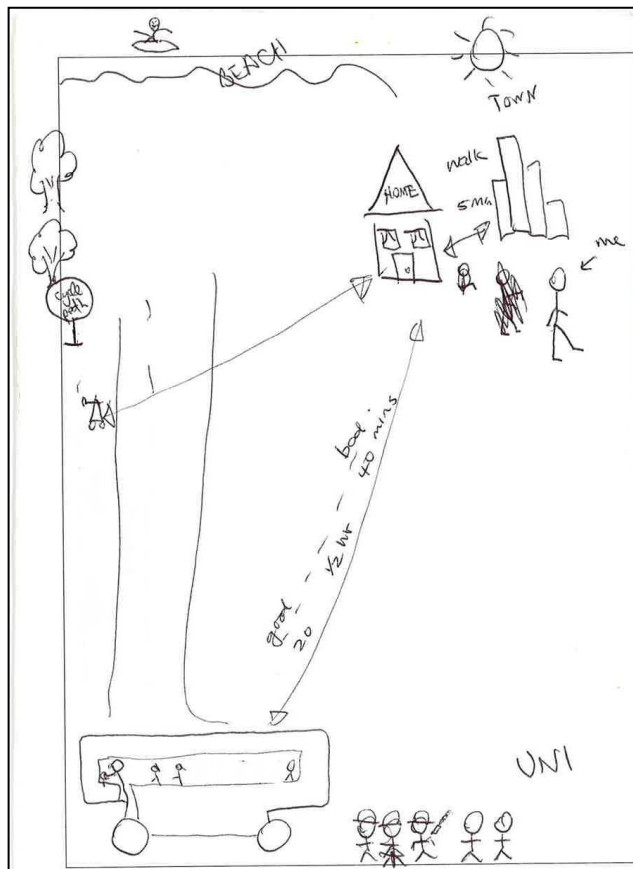


Figure 8.2 Sketch of transport 25/11/2010
Source: participant Elouise

In this sketch we better understand that Elouise now has multiple ways of moving through space. No longer cocooned in the private space of the car, she moves at different speeds and rhythms as she negotiates between places of work, home and leisure by bus, bicycle and on foot. The changed materiality of mobility provided different sets of connections than those of the car with bodies, buildings, trees, waves and sunshine. Even smells are captured in the sketch as Elouise narrated the cigarette fumes of students at the bus stop.

Braun and Whatmore (2010, pix) argued that ‘things constitute the common world we share and the dense fabric of relations in and through which we live.’ This causes us to reflect on how different sets of material practices are not only embedded in discursive ideas within uneven power geometries, but are also constituted by shifting sets of affective and emotional relations with other bodies, things and places. This visceral approach allows us to consider how inter-relations and inner-relations are inseparable; the boundaries of the body dissolve in the reciprocal interactions between ways of sensing, thinking and acting. Thus changing ways of sensing, to change ways of thinking, provides a starting point to consider the productive possibilities of pain for altering ways of acting in the world.

In order to foster more collective understandings of ethical practices we need to acknowledge that understandings of self are ‘emergent from the material space in which they operate’ (Jackson 2010, p42). While the material spaces of alternative transport can be developed with this in mind, it is important to be mindful of how discursive ideas can disrupt these attempts to encourage behavioural change. For example, Vreugdenhil & Williams (2013) reported how a community overturned a government decision to install cycleways because it evoked an affective response of fear and anger from drivers. They went on to critique transport policies which promoted discursive ideas of cycling as a taken-for-granted one-size-fits-all solution to climate change. Cupples and Ridley (2012) argued that the framing of cycling as the answer to sustainable transport overlooked more heterogeneous ways of conceptualising sustainable behaviours and instigated what they termed a cycling fundamentalism. These findings point to the importance of considering the materiality of bodies as well as technologies, where the affective and emotional registers of the body are powerful forces that act to alter bodily

capacities. As such, we need to find multiple ways of connecting sensual bodies with multiple low-carbon forms of mobility.

Along these lines, I want to argue that in order to entice bodies into and onto low-carbon forms of transport we must develop and enrich understandings of the centrality of the embodied rhythms that are produced and re-produced in conjunction with different forms of movement. This approach allows an appreciation of the non-representational or more-than-representational dimensions of mobility and hence moves away from more psycho-analytical approaches which posit causal relations between a lack of knowledge and sustainable behaviours. The examples in this chapter illustrate how the materiality of the body is impacted by the affective intensities that accompany mobility as assemblages of bodies, ideas and objects. Though the affective pleasures of particular modes of transport may become stratified through the body, the productive possibilities of affect within mobile assemblages can offer multiple trajectories for becoming. Central to thinking about the possibility of transformations is the importance of pain as productive, rather than constraining.

Probyn (2000) argued that in moments of affective intensity, when we feel bodily pleasure or pain, joy or sadness that opportunities for reflection on the fluidity of subjectivity exist (Probyn 2000). I considered how the embodied experiences of life transitions can offer moments of crisis and opportunity, how at the juncture of interrupted rhythms, changed life circumstances or significant life events that we can think about ways new bodily habits might be adopted. However, rather than configuring subjects along a predicted life course, we need to think about the work that people do and how they enrol, objects, ideas, emotions and affects to help sustain a sense of themselves. Thus, in the case of Elouise, though her shift to low-carbon forms of transport began with a personal crisis, I argue that this opportunity provided a way for her to explore bodily capacities through the affective and emotional registers that were a part of her becoming - the transformation of subjectivity- along an alternative trajectory for personal mobility that was not tied to the car.

The affective forces of desire, pleasure and pain, worked to allow a re-consideration of the embodied relations with technologies and the kinaesthetic dimensions of mobility in sustaining a sense of self. The affective and emotional intensities of different forms of mobility were experienced in relation to changing material circumstances and unfolding

personal and social relationships. Consideration of responsibility for the greenhouse gas emissions of fossil-fuelled vehicles played little or no part in the change to lower-carbon modes of transport for Elouise. Rather it was the affective and emotional dimensions of everyday connections and disconnections with other bodies, objects and places that allowed for the development of an alternative line of flight not tied to automobility.

8.11 Conclusion

This chapter began by considering how a post-humanist view might open up possibilities for imagining alternative low-carbon, socially-just futures. Drawing on ideas of rhythms, affordances and attunements I illustrated how we might conceptualise bodies as caught up in the affective intensities of different modes of transport. Using insights from a visceral soundscore, I illustrated the ways that habitual driving routines came to be experienced through the body and how this worked to maintain or disrupt understandings of self, others and place. Using the example of Trevor I suggested that embodied rhythms and the emotional and affective relations within driving as assemblage, played a part in maintaining everyday driving practices at the non-conscious level. The unreflective quality of these rhythmic driving experiences meant that there was little cause to alter transport behaviours in the light of knowledge of climate change; non-conscious bodily judgements of pleasure outweighed cognitive information of carbon emissions.

I argued that disruptions to habitual routines that came about through transitions in life courses offer productive opportunities for re-negotiating understandings of self, others and place. The examples highlighted the way that bodies became attuned to the rhythmic pulses of everyday mobility. Different forms of movement demanded sets of bodily competencies and skills which evoked particular affordances, and which allowed a range of affective relations and emotional ties. As such, the affective relations and emotional ties became a part of how bodies became attuned to different styles of movement. Changing modes of transport presented varying levels of pleasure, pain, stress or skill that provided opportunities for re-negotiating ideas around bodily comfort and understandings of self. With the example of Elouise, I illustrated how a significant life event offered an opportunity to re-negotiate transport mode choices. For Elouise, alternative low-carbon transport modes offered the chance to negotiate her emerging subjectivity from married to single working-woman. Forging new social connections

with other bodies and places meant that affective intensities and emotional ties unfolded in unanticipated ways that involved both pleasure and pain.

In the light of Braidotti's post- human ethics, thinking through the visceralities of the mobile assemblage offered alternative ways to consider how the transitions in everyday life practices necessary for sustainable low-carbon futures might come to be felt through the materiality of bodies. By considering transitions in individual life courses in terms of not only crisis, but opportunity and in terms of transformation of the self, we may find ways to disrupt the embodied rhythms of the assemblages of driving to promote more ecologically-just and sustainable ways of being in the world.

CHAPTER 9. CONCLUSION



Figure 9.1 ‘Beautiful Blue Betty’ Mazda MX5 by the beach, 24/2/2010, 10.04 am. This convertible, two-door sports car reminds us of symbolic dimensions of car driving where particular makes and modes can indicate sporty, sexy, adventurous, family, rugged or refined dispositions.
Source: participant Harriet

9.1 Introduction

In this final chapter I reflect on the contributions of the thesis in the light of the stated aims and objectives posed in Chapter 1. To remind the reader, there were three main aims: 1) to make a theoretical contribution to the mobilities literature by extending affective and emotional geographies by an application of feminist ideas, 2) to make a methodological contribution by developing an innovative approach to capturing the non-representational elements of mobile practices, and 3) to provide a grounded account of everyday driving practices in the light of understandings of the responsibility for climate change. I was particularly interested in investigating how the embodied practices and lived experiences of driving sustained everyday life in Wollongong. I also sought to understand how this knowledge could be used in pragmatic ways to facilitate a modal shift to lower-carbon forms of transport. In part, the impetus to answer these

questions was driven by the realisation that current rationalist conceptualisations of mobility within transport geography were hampered by paradigmatic limitations as discussed in Chapter 2. The mobilities literature including the work of Thrift, Urry and Cresswell offered a rich source of social and cultural analysis that pointed to the way that forms of movement go far beyond simple representations and rationalist categorisations. Yet, omitted from the mobilities paradigm were recent contributions made by post-structuralist feminist thinkers including Braidotti, Grosz and Probyn. As such, I applied feminist thinking through developing a visceral approach to mobility. It seemed imperative to extend the rich insights from the mobilities literature by engaging with the emerging fields of affective and emotional geographies in order to generate new understandings around how to facilitate shifts to low-carbon sustainable transport modes. Drawing on feminist thinking necessitated paying attention to my own lived experiences of different transport modes, alongside participants' narratives, practices and experiences to consider how research of this kind might further understandings of embodied geographical knowledges and sustainable forms of everyday movement.

There are three main sections to this chapter. The first section considers how the three specific research aims are addressed. A synopsis of the results is provided with a discussion outlining the implications of the emergent themes as interpreted in Chapters 4, 5, 6, 7 and 8. In the second section, the ethical and methodological dilemmas experienced are revisited and the significance of the personal emphasised. In the third section I outline the transport policy implications arising from the thesis for driving, carbon mitigation and adaptation. Here, I reflect on the potential of a post-structuralist feminist approach for understanding how bodies might be mobilised to more actively respond to the issues of climate change in relation to fossil-fuelled private vehicle use, through a visceral politics of mobility. Future research agendas for geography conclude the thesis.

9.2 The theoretical aim of the thesis: visceral automobility

The theoretical aim of the thesis was achieved by developing a conceptual approach to car-driving which I refer to as visceral automobility. Using the Deleuzian concept of assemblages to posit that bodies, objects, ideas and non-representational affective intensities come together in heterogeneous mixes which enter into composition with each other, I extend current theorisations of automobility. Visceral automobility

incorporates the embodied experiences of driving as they are felt through the affective and emotional registers of the body alongside discursive ideas and representations. Applying the feminist thinking of scholars such as Bennett, Ahmed, Rose and Tolia-Kelly, and Longhurst, this thesis builds on conceptualisations of mobility to take into account the inter- and inner-relations of bodies, and material and immaterial worlds. Attending to the relational nature of the affective and emotional dimensions of movement contributes to the emotional geographies literature.

Thus, visceral automobility developed out of the visceral framework as suggested by Hayes-Conroy (2009). By paying attention to the sensual interchanges between human and non-human bodies, and the materiality of everyday practices, assemblage thinking enabled driving to be conceptualised as part of an ongoing working arrangement that made sense, that kept everyday life together and at the same time lowered anxiety.

Each of the results chapter illustrates the conceptual benefits of assemblage thinking to rethink automobility through a visceral approach. As a starting point, Chapter 4 explored the sets of discourses that coalesced around Wollongong, mobility, sustainability and responsibility for climate change. This chapter illustrated the way that culturally and socially specific contexts worked to encourage particular driving behaviours and constrain others. For example, the politics of geographical scale worked against ideas that climate change responsibility around driving practices was a choice that required personal change and possible disruptions to the everyday rhythms of life. This chapter confirmed previous research that suggests ideas of convenience are central to the organisation of everyday life around the automobile and worked against possible enactment of sustainable behaviours by driving less.

Chapter 5 examined how affective and emotional flows worked within the assemblages of driving to produce particular spaces and subjectivities. Here, the application of Deleuzo-Guattarian concepts of assemblage, Body without Organs, lines of flight and becoming allowed conceptualising the practices and spacings of the family as connected to discursive and social norms. Using a visceral approach illustrated how the space of the car was constituted as private/intimate by the close proximity, positioning and alignment of bodies and how this worked to produce particular types of sociality. Through an attention to the affordances of sound, voice, bodily touch and comportment, the chapter illustrated how affective forces named as emotions such as love and care

alongside fear and disgust, altered the flows and fluxes within driving as assemblages and the capacities of bodies for ‘becoming’ a family.

Chapter 6 focused on the affordances of sound and in particular how music was used as a therapeutic resource within the space of the car. The focus on the affordances of sound within a particular spatial context furthers geographies of mobility by connecting situated subjectivities with theorisations of affect and emotion. Here, an attention to sound revealed the ways that discursive ideas around gender, class or ability came to be lived through the body in the everyday performance of driving. Thus, this chapter reinforced how audio and audio-visual recordings are useful methodological tools that can provide insights into how everyday home-makers contend with the emotional demands of keeping-everyday-life-together.

In Chapter 7 the focus shifted to the materiality of human and non-human bodies. Here, Bennett’s (2000) concept of vibrant matter was used to illustrate the way that space is shaped by the materiality of bodies, but also that bodies are shaped by the materiality of space. Within the assemblages of driving, sets of shifting material relations were implicated in how the affective intensities of driving were incorporated into the performance of subjectivity. The concept of ‘affective materialities’ was deployed to highlight how materiality impacted on the body in agentive ways in how smells, colours, textures, or forms were enlisted to reinforce understandings of particular subjectivities connected with discursive ideas of age, class or gender.

Chapter 8 demonstrated how the embodied practices of car driving became largely unreflective, habituated and non-cognitive by an attention to the rhythmic affordances of sound and movement. Theorising sound as enveloping bodies in the rhythmic styles, routes, timings and flows of car mobility revealed how expectations and anticipations were incorporated into subjective understandings of self, others and place. This chapter served to illustrate that change to transport mode came about as the result of a disruption to these embodied rhythms, rather than the result of a deliberate contemplative reflection on personal responsibility for climate change. Thus, this chapter suggested how theorisations of life courses or junctures in life-stage (retirement, having a baby, moving out, downsizing) might be used to provide opportunities for altering transport behaviours by an attention to the pleasures and pains of the everyday rhythms and routines of embodied movement.

By considering the results from each chapter in relation to each other a strong picture emerges of the complexity of the multiple experiences of car driving. Strathern's (2004) idea of 'partial connections' encompasses how analytical connections are always partial and can never form a complete totality. As such, rather than providing an overarching reason that people continue to drive private fossil-fuelled vehicles despite knowledge of the environmental impacts of driving, the results illustrate that bodies, materials, spaces, ideas, affects and emotions are intertwined in the lived practices of mobility. The attention to age, ability, class and gender in this thesis highlighted the way that mobility is a spatial practice that is embedded in cultural, symbolic, affective, emotional and discursive regimes. As such, the theoretical aim of the thesis was achieved by how the conceptual framework of visceral automobility illuminated the lived dimensions of mobile experiences and allowed thinking beyond paradigmatic boundaries.

9.3 The methodological aim

The methodological aim of the thesis was to bring together a range of conventional qualitative social science research methods with less-conventional mobile methods in a non-directive participant-led approach. This approach was grounded in feminist ideas of the ethical co-production of knowledge through the devolution of the authority of the researcher. The long-term ethnographic engagement where researcher and participant took part in the everyday practices of driving over an extended period of time required a significant commitment and investment in time from both the researcher and the participants. While this generated a wealth of non-verbal data it presented two ethical dilemmas. Firstly, the long term engagement (from several months to two years) with participants meant that the boundaries between an ethical research relationship and a growing friendship sometimes became difficult to navigate. For example, shared personal insights from participants into aspects of their lives often meant that participant confidentiality became an important consideration. Secondly, maintaining the boundaries around ethical touch meant an awareness of bodily comportment, dress, smell, gesture, glances, location and moods as a part of the research encounter. Thus, constant reflexivity on how the bodies of the researcher and the participant acted to alter the relations of power within the research event became an essential part of understanding the type of data that were produced.

This, in turn resulted in a focus on how the research process impacted on the body of the researcher. My reflections which were provided in boxes throughout the thesis reminded the reader that research can be a messy business (Law 2004). Emotions and affects such as anticipations frustrations, surprises and disappointments all acted on the researcher's body at different times in different spaces in relational engagements with other bodies, and served to reinforce research as an embodied process. Thus, the methodological approach of the thesis enriches literature that advocates for the embodied researcher in data collection and analysis.

The unique combination of methods represented an innovative approach into researching the reasons that cultures of driving are difficult to dislodge. Conventional methods like solicited diaries and semi-structured interviews provided starting points for conversations that offered more contextualised information around the meanings and practices of car driving. Yet, these methods did not apprehend the embodied dimensions of mobility. The three mobile methods- audio recording, audio-visual recordings and 'ride-alongs'- generated a wealth of verbal and non-verbal data that cannot be truly appreciated within the constraints of the thesis where a few examples were used to illustrate the emergent themes from a large volume of data. The mobile methods employed illustrated the potential of audio, audio-visual and 'ride-alongs' to generate embodied, non-verbal (and verbal) data that go beyond representational accounts of movement and provided opportunities for negotiating understandings outside traditional academic textual constraints. Developing techniques of embodied listening and viewing, visceral mapping of audio and audio-visual material contributes to the further development of mobile methods as techniques to investigate the lived experiences of mobility. As a result of the combination of data collection and analytical techniques, different types of knowledges were produced and this allowed a rich, integrated, multi-layered understanding of the experiences of car driving. Each chapter drew on a different methodological technique and perspective to produce particular forms of knowledge which contributed to this aim. The project design provides a fine-grained, ethnographic and mobile account of a group of regular car drivers within a specific geographical, political, cultural and social context. As such, the project design adds to the body of work which recognises the importance of mobile methods.

9.4 Grounded account of context specific practices

The theoretical and methodological aims were integral to achieving the third aim of the thesis which was to provide a grounded empirical account of the lived experiences of driving. The five results chapters each made a contribution to understanding how car driving has become the normal way of getting things done in regional Wollongong for a range of different household compositions, ages, occupations and abilities. This project emphasised tracing the mobility paths and patterns of participants while exploring understandings of the responsibility for climate change and as such, it was significant that no participants endeavoured to reduce their impact on the environment through reducing driving. In fact, in most cases, the convenience of driving was cited as integral to the implementation of other household sustainability practices such as setting up gardens, buying water tanks or accessing organic markets. Car driving became a way to manage the time constraints of busy everyday life schedules and thus made it more convenient to implement sustainable projects and practices. As such, participants spoke about driving as a way to 'get things done' rather than a problem for climate change.

All of the examples used in the results chapters illustrated the ways that bodily judgements contributed to the decision to continue to drive, despite awareness and expressed concern for the environmental impact of vehicle emissions. For the majority of participants in this project, the visceral experiences of driving worked towards bodily judgements of driving as 'right'. The connections and disconnections made possible through the assemblages of cars, bodies, things, emotions and affects altered the capacity of bodies to think, sense and act. In other words, bodies became attuned to particular ways of being-in-the-world that came about through the affordances of car driving; and this bodily knowledge worked to decrease the capacity to reduce driving. The rhythmic and routine visceral experiences meant that bodies conditioned by the accumulation of these past experiences tended to perform in predictable ways. Driving became unreflective and automatic, embodied and habituated. Yet, Elspeth Probyn (2000) and Elizabeth Grosz (1994) argued that bodily capacities for change are always emergent, and that even habitual performances are productive of difference. In the next section, I consider the personal significance of the project in the light of the emergent possibilities for change, and how this adds to the theoretical and methodological aims.

9.5 Personal significance

Not owning a car for three and a half years meant that I clocked up around 2000 hours of regular train travel between home in Southern Sydney and work/study in Wollongong. As a long time driver, the consequences of this were twofold. On the one hand, my opinions and experiences changed over time. At first excited and enthusiastic, I found ways to enjoy public transport by working, day dreaming, reading and relaxing. I re-organised my personal life around the timetables of public transport, planning and mapping the most efficient routes between home and work, and took delight in calculating the reduction in my carbon footprint. I found that it was unrealistic to attempt to access multiple destinations by public transport in a single day, and so decided to concentrate on single destinations rather than say, trying to pick up groceries on the way home from work. My motto became ‘one day one destination’. While this helped to overcome the physical and mental demands of travelling by public transport which included fatigue, heat, cold, anger, frustration and annoyance it did not alleviate the build-up of pressures of everyday domestic family life. For example, I found it necessary to have access to a car at least once a week. On those days, I spent most of the day in the car frantically driving between destinations. Although I tried to combine these trips into efficient routes and multiple stops to include grocery shopping, visiting distant friends, taking the dog to the vet, doctor and dentist visits, chauffeuring children to sports, visiting the library etc. it seemed that the list of tasks that could be achieved through driving was seemingly endless. I would often be just as exhausted from a day of driving as from a day of multiple bus and train journeys. There were days when the spectre of leaving the house became totally unappealing-my appetite for mobility waned.

My reflections throughout the thesis add to the theoretical aim of the project by contributing to feminist literature that advocates for using the researcher’s body as an instrument of research. The personal insights make explicit how sights, sounds, smells and touches were an integral part of the research event and thus illuminate how such elements can often be overlooked when using conventional social science methods. As well, the personal reflections addressed the methodological aims of the project by making explicit my growing relations of empathy with participant experiences. Ride-alongs in particular highlighted the relational nature of emotions, affects and bodies within assemblages of driving and how these could embrace the researcher body and

thus adds to feminist literature on how knowledge-making is always a reciprocal, interactive event rather than an objective rational interpretation.

My own experiences of driving or taking public transport enriched how I came to understand bodily capacities for change as always emergent. For example, another consequence of not owning a car was that like the families in the thesis, it affected the way familial relations of care could play out. My three children at times, suggested that I cared more about participants because of the amount of time I spent driving in cars around Wollongong. I was accused of not caring about them when I suggested they take public transport in the interests of the environment. Consequently, at times I felt compelled to drive them as a demonstration of care despite my environmental outlook. But most of all, I found that I missed the opportunities for intimate conversations and interactions that served to reinforce emotional ties and were a part of driving my children. There are now three cars parked in my driveway. With licences and cars my children now drive themselves and revel in the freedoms this allows.

While the inconveniences, constraints and strains of taking public transport can usually be overcome with practice, the relational nature of driving with others seems difficult to replace. The space of the car remains a place for intimate conversations and reinforcing social bonds through how it is constituted as private. This is not to say that forms of sociality that arise through walking, cycling or taking public transport with others do not occur. The literature clearly demonstrates the affective nature of these practices, but what remains problematic is how to draw out the way that these experiences can contribute to a decision not to drive. While not an impossible task, it is certainly a challenge for social policy to creatively and imaginatively find ways to facilitate the shift to low-carbon forms of transport needed to address the problems of climate change and sustainable transport.

While I remain car free for the present, I am convinced that the convenience of the car is embedded in the current social and political systems. My own feeling is that a focus on changing driving cultures from a system of ownership to a system of access has much potential. The availability of convenient, affordable, local, low-carbon vehicles that can utilise the emerging photo-voltaic materials, digital bio-surveillance and monitoring technologies may be one way that cultures of driving can be encouraged along a more sustainable trajectory.

9.6 Policy implications

In light of the need for behavioural adaptation to climate change it is important to consider how new sustainable transport routines might come to be integrated into everyday mobility choices. Current policy focus is on producing environmentally responsible citizens through education and information campaigns. Transport mode choices are posed as ethical decisions to be made by rational and logical agents. Yet Bickerstaff et al. (2008) argued that this framing of environmental responsibility at the individual level can work to decrease the sense of agency to make a difference and hence in many cases information and knowledge are not acted on. I propose that a closer attention to the visceral experiences of mobility can help us to understand firstly, how bodies become attuned to the affordances and rhythms of car driving and secondly, how disruptions to these rhythms by significant life events may offer possibilities for developing other embodied ways of moving and personal transformation.

The strong empirical base of this work opens up lines of further investigation that could be used to link transport geographies and mobility studies. The findings trouble conventional understandings of bodies as discrete rational entities moving through neutral spaces between geographical locations named most commonly as home and work. Rather, the findings have shown that the lived experiences of car driving create, and are created by, evolving affective and emotional relations with material bodies, technologies and discursive ideas within specific social, cultural and political contexts.

If the finding from this thesis were to be presented to the Department of Climate Change then the following four recommendations could be made:

1. Recognise that changing transport modes is a part of wider social transformation.

This means that rather than try to address climate change through information and education, more effort should be made to understand how different types of transport can be/are used to support subjective understandings of self. For example, how do regular bus/train/cyclist/walking commuters negotiate the demands of everyday life in different social and cultural contexts? How could discursive framings in the media of transport practices be altered by appealing to the emotional and affective dimensions of

transport modes, rather than a reliance on ethical and moral decision making around carbon calculations?

2. Broaden the scope of variables and the conceptual approaches that are incorporated into transport geography.

This could be a part of the move away from conventional quantitative approaches towards more qualitative understandings of the motivations for transport use. The mobilities literature has much to offer transport geography in the way of methods. As indicated in the results, changes to transport mode occurred at significant life junctures like changing job, separation or retirement. Re-thinking how these life stage junctures might offer productive possibilities for encouraging modal shifts could be a possible area of further investigation.

3. Recognise that materiality is significant.

The material configuration of different transport modes is ripe for moral reappraisal. Respectable forms of transport could be re-thought in terms of how colours, shapes, textures, lighting and form impact on the experiences of space. Rather than a standardisation of transport forms, perhaps more attention could be given to creating alternative public spaces. For example, train carriages for single people, young families, and people with pets or luggage could appeal to wide sections of the community. Differentiated carriages could offer opportunities for a range of experiences, for example conversational carriages or musical carriages that encourage talking, as opposed to quiet carriages. The desire for intimacy and privacy could be addressed by offering quasi-private spaces through the use of transparent or semi-opaque barriers, smaller carriages or sections with alternative seating configurations. The use of video, lighting and sound to alter experiences of place also offers opportunities for thinking beyond conventional transport imperatives. For example, some train stations in Northern Europe project video images and soundtracks of lush tropical jungles on concrete station walls to contrast with the external weather of snow and ice. These ideas are also relevant to urban form and planning considerations.

4. Reconsideration of how geographies of scale work to delimit or condone certain behaviours

This is possibly the most challenging recommendation as it calls for a shift in how responsibility for climate change mitigation and adaptation is re-distributed. While Governmentality provides the underlying structure for attending to social transformation it is important to recognise how historical trajectories are influenced by economic, political and corporate desires. Thus policy needs to be re-thought in terms of more holistic and integrated sets of initiatives that work across multiple levels. For example, a co-ordinated strategy that imposes taxes and restrictions on car ownership, parking and driving practices needs to be combined with changes to urban form. While the provision of better walkways, cycleways and public transport services can be enhanced by decreasing the dominance of cars in the physical landscape this does not guarantee success. More car-free areas, slower speed limits, traffic calming through speed bumps, street furniture, lighting, textured paths and fragrant vegetation can work to alter the ways that people engage with spaces and provide opportunities to alter their transport choices, yet it must be remembered that social norms around driving and family life are important. The results from the thesis indicate that there will always be uncertainty around how people react and respond to changing material, social and discursive practices and so a more variegated approach seems appropriate. While top-down approaches can facilitate infrastructural change, it is how these strategies and policies play out in everyday life that is central to their success or otherwise. Thus, successfully implementing adaptive transport policies will require significant political will and imagination, and policies which work through multiple levels.

9.7 Future directions for geographical research

This thesis has provided a starting point for further investigations into how meanings, corporeal experiences and representations of mobility are a part of how people negotiate the demands of everyday life in contemporary Wollongong in a time of climate change crisis. The results pointed to the importance of short drives for sustaining understandings of self, others and place for a group of Anglo-Australians. The embodied practices of car mobility were an essential part of how people understood convenience as comfort and control, privacy, independence and freedom. They illustrated the way that changing transport behaviours required disruption to bodily rhythms and routines and organising new structures around everyday life. This thesis makes a small contribution to the much larger project of understanding the importance

of visceral responses to making sense of human-non-human movements, interactions and relationships and the reciprocal making of space.

As such, future geographical work would be enriched by studies that focus on for example:

1. The importance of ethnic cultures of transport. The silence surrounding non-white cultures of transport suggests that a fruitful area of research is the relationship between ethnicity and transport choice. Research that targets specific set of ideas around mobility and migrant groups could provide insights into how different social and cultural contexts influence the decision to drive or use public transport. For example, investigating the mobility practices of particular migrant groups, or regions where car culture has recently arrived and how this might alter subjective understandings of self, others and place.
2. Acknowledging the importance of visceral approaches to the relationships people have with different technologies. For example, a focus on embodied relationships with technologies of the hybrid vehicle/ car-share vehicle/bus/train/skateboard/bicycle as a mode of sustainable transport. Investigating these embodied relationships can provide insights into how affect and emotion are a part of creating, sustaining or disrupting understandings of self, others and place in alternative ways not tied to the fossil-fuelled car.
3. Investigations into understandings of the responsibility for climate change and how they play out in heterogeneous ways. For example, how sustainable low-carbon communities like the 'Transitions Towns' movement negotiate everyday transport needs and how this relates to understandings of self, others and place.

The post-structuralist feminist approach taken in this thesis has illustrated how thinking through assemblages is a useful conceptual tool. More than this, the visceral approach demonstrated how the divides between affective and emotional geographies can be overcome in the name of productive feminist engagement. Thinking through the body provided a way to bring together the rich insights generated within the mobilities literature, and to advocate for a shift in thinking within transport geographies. I reiterate the importance of first creatively imagining what kind of future might be possible or

desirable in a world of increasing social, economic and environmental problems as suggested by Braidotti (2013). I encourage other geographers to further investigate how a visceral approach can enrich understandings of how lasting social transformation might be imagined, implemented and sedimented through the embodied relationships between human and non-human bodies within the trajectories of multiple assemblages.

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APPENDIX 1 - RECRUITMENT FLYER

LOOKING FOR RESEARCH VOLUNTEERS

Do you regularly drive a car? Do you live in the Wollongong area? Would you like to take part in some transport research with The University of Wollongong?

I can offer a small financial reward for your participation over 6 weeks. I am interested in your experiences as you drive and use other forms of transport.

If you would like more information or have any questions about this project please email or call me. I am happy to explain the project.

Thank you.

Theresa Harada (Ph.D student)

tmh952@uow.edu.au

0423 383 113

APPENDIX 2 - NEWSPAPER ARTICLE

PUBLIC TRANSPORT PROJECT SEEKS VOLUNTEERS

By MICHELE TYDD

July 4, 2010, 11:05 a.m.



PhD student Therese Harada (left) with volunteer Karilyn Rutland. Picture: KEN ROBERTSON

Theresa Harada is a bit of a greenie but even she has had to overcome the nasties many associate with public transport. "If the person next to me in the train is unpleasant or loud, I just find another seat or carriage," she said. "I also used to worry about the time I wasted on trains and buses but now I just use it for work that needs to be done. "Ms Harada, 49, a human geography post-graduate student at the University of Wollongong, is writing her thesis on strategies to help people ditch their cars in favour of more environmentally friendly means of transport.

EDITORIAL: Transport needs to be user friendly But first she needs to find out what stops them from doing so, which is why she wants volunteers. In an earlier project Ms Harada found that mainstream, educated Australians often talked the talk about the environment but didn't follow through. "I went to a small, affluent pocket near Cronulla where people thought of themselves as environmentally conscious - but they all had two cars, some had three and one had seven," she said. Human geography explores how and why we make decisions and how emotions affect that decision-making. "In some ways it's understandable why some mothers drive their kids to and from school in big four-wheel drives - they feel it's safer, but we have to ask ourselves at what cost to the environment. "Ms Harada hopes her thesis will provide ways to help people make public transport part of their lives. She needs at least 20 volunteers to help formulate strategies that can be taken up by government and private transport. Wollongong's Tania Dodds, one of two volunteers so far, admits to never using a train or bus any more. "All the time involved and stories you hear about assaults etcetera put me off," she said. Contact Ms Harada on tmh952@uow.edu.au.

APPENDIX 3 - ETHICS APPROVAL



INITIAL APPLICATION APPROVAL

In reply please quote: **HE10/121**

Further Enquiries Phone: 4221 4457

30 April 2010

Ms Theresa Harada
School of Earth and Environmental Sciences
University of Wollongong
NSW 2522

Dear Ms Harada,

Thank you for your response dated 20 April 2010 to the HREC review of the application detailed below. I am pleased to advise that the application has been approved.

Ethics Number: HE10/121
Project Title: Regional mobility pathways and sustainable transport options:
getting around in Wollongong.
Researchers: Ms Theresa Harada, A/Prof Gordon Waitt, Dr Nicholas Gill
Approval Date: 29 April 2010
Expiry Date: 28 April 2011

The University of Wollongong/SESIAHS Humanities, Social Science and Behavioural HREC is constituted and functions in accordance with the NHMRC *National Statement on Ethical Conduct in Human Research*. The HREC has reviewed the research proposal for compliance with the *National Statement* and approval of this project is conditional upon your continuing compliance with this document. As evidence of continuing compliance, the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete monitoring reports annually and at the end of your project. These reports are sent out approximately 6 weeks prior to the date your ethics approval expires. The reports must be completed, signed by the appropriate Head of School, and returned to the Research Services Office prior to the expiry date.

Yours sincerely

A/Professor Steven Roodenrys
Chair, Human Research Ethics Committee

Cc. A/Professor Gordon Waitt, School of Earth and Environmental Sciences



RENEWAL APPROVED

In reply please quote: JML:CJ HE10/121

Further Enquiries Phone: 4221 4457

25 March 2011

Ms Theresa Harada
School of Earth and Environmental Sciences
University of Wollongong
NSW 2522

Dear Ms Harada

I am pleased to advise that **renewal** of the following Human Research Ethics application has been **approved**.


Ethics Number: HE10/121
Project Title: Regional mobility pathways and sustainable transport options: getting around in Wollongong.
Researchers: Ms Theresa Harada, A/Prof Gordon Waitt, Dr Nicholas Gill
Approval Date: 24 March 2011
Expiry Date: 31 December 2011

This certificate relates to the research protocol submitted in your original application and all approved amendments to date. Please remember that in addition to completing an annual report the Human Research Ethics Committee requires that researchers immediately report:

- proposed changes to the protocol including changes to investigators involved
- serious or unexpected adverse effects on participants
- unforeseen events that might affect continued ethical acceptability of the project.

You are also required to complete a monitoring report at the end of your project. This report will be sent out approximately 6 weeks prior to the date your ethics approval expires. The report must be completed, signed by the appropriate Head of School, and returned to the Research Services Office.

Yours sincerely


A/Professor Garry Hoban
Chair, Human Research Ethics Committee

cc A/Professor Gordon Waitt, School of Earth and Environmental Sciences

APPENDIX 4 - INTERVIEWS 1 & 2 SCHEDULE OF QUESTIONS

Interview 1. Schedule of Questions

Regional Mobility Pathways and Sustainable Transport Options:

Getting around Wollongong

Schedule of Questions for Semi-Structured Interview

These questions are indicative of the themes to be covered in the first semi-structured interview. Participants will be advised that there are no right or wrong answers and that these questions are structured to produce something like a conversation. Not all questions will be asked if the themes are covered in the general flow of the conversation.

Present car ownership and travel Patterns

1. How many cars in your household? Can you tell me about your car? Make? Model?
2. You have indicated that you regularly drive your car, can you tell me about the times and places you drive your car? Patterns, routines.
3. Do you follow particular routes when you drive? How and why do you chose these?
4. Are there times when you don't use the car? Tell me about that.
5. Could you tell me about some of your experiences of driving? When is driving pleasurable? Or convenient? Unpleasant? Inconvenient?
6. Are there any symbolic meanings you associate with driving?

Past experiences

1. Tell me about the kinds of cars you have previously owned.
2. Looking back were there periods in your life when you did not drive or own a car? Can you tell me about them? For example, what are your memories of getting to and from school/work during those times?
3. Do you have any experience of public transport?
4. Have you been involved in any traffic accidents?

Climate Change

1. What are your understandings of climate change?
2. Where do you get most of your information about climate change?
3. Do you think climate change will have an impact on you personally?
4. Is there anything that you do in regard to climate change?
5. Do you think people should do more to reduce the impacts of climate change? Why? How?
6. Is the government doing enough to combat climate change? Is it the responsibility of government?

Interview 2. Schedule of Questions

Regional Mobility Pathways and Sustainable Transport Options:

Getting around Wollongong

Schedule of Questions for Semi-Structured Interview

These questions are indicative of the themes to be covered in the second semi-structured interview. Participants will be advised that there are no right or wrong answers and that these questions are structured to produce something like a conversation. Not all questions will be asked if the themes are covered in the general flow of the conversation.

Motivations

1. What are the main reasons you drive your car?
2. What are the reasons that would make you think about not driving your car?
3. Does your car say anything about you?
4. What kind of considerations are important when you are thinking about purchasing a car?
5. How did you decide on the car you have now?
6. How does the price of petrol affect your driving habits?
7. What is your opinion on electric vehicles?

Activities while driving

1. Are there certain things you like to do when driving? For example, some people listen to the radio
2. Do you regularly drive with other people? Do you talk with others while driving?
3. Do you have any routines or habits that are related to driving? Eating, drinking?
4. Are there times in the day/ night when you feel differently about driving? For example, is there a difference between driving in the morning to work and in the afternoon coming home?
5. Is the car a place where you might think? or just not think? On the regular journeys to work/school what would you typically be thinking (or not) about?

Pros and cons of driving

1. What are the best things about driving?
2. What would make driving more pleasant?
3. What are the worst things about driving?
4. What would make driving more unpleasant?
5. How would you rate your attachment to the car? i.e. don't really need it/need it

APPENDIX 5 - VISCERAL MAPPING OF JUDE’S DRIVE

Appendix 5. Visceral mapping of Jude driving to her camera class (mp 3 file 1/12/2010)

Time secs	Non vocal & non human sounds	Jude	Radio/CD player	Comment/Interpretation
0.00	disc being put into player key turning in the ignition	Now I'm leaving Warrawong to go to camera class		Jude's voice sounds excited leaving the house. The affective energies are intensified by hearing the engine and music.
0.09	engine starts up	It's three thirty-five... let's reverse...		
0.11	Sound of engine in reverse		<i>Supremes: Baby Love: Don't throw our love away Please don't leave me this way</i>	Reversing and sighing Jude displays her tacit geographic familiarity.
0.17	Quiet engine in background	It's a good place to park lady, right where I'm backing up	<i>Not happy like I used to be/ Loneliness has got the best of me/ My love, my baby love I need your love</i>	Driving was deeply affective there are frustrations when people impede the anticipated flow of her drive.
0.29		I need ya! Oh how I nee-eeed ya! (expressive, joyful)	<i>Why you do me like you do (2nd voice: don't throw our love away) After I've been true to you? (2nd voice: don't throw our love away) So deep in love with you Baby baby baby</i>	Singing while driving Jude's voice sounds euphoric. Jude is passionate about the Supremes. For Jude the affective and emotional energies of driving compel her to sing along.
0.40				
0.41		Cough ba-be! ba-be! ba-be! (playful, staccato)		
			<i>'til it's hurtin' me (2nd voice: baby love) 'til it's hurtin' me (2nd voice: baby love)</i>	Jude felt the affective and emotional highs of mimicking the Supremes.
0.51	Car slowing Vvvvrrrv Pedals squeak	oh-ho oh-ho oh-ho... baby lo-o-o-ove(cooing)	<i>(oh-ho oh-ho oh-ho... baby lo-o-o-ove don't throw my love away/ 2nd voice: don't throw our love away/</i>	
	indicators tick			
1.03	Car engine slowing, taking corner	Don't smile your bloody face'll crack		Jude felt the affective and emotional lows when drivers failed to perform to her expected driving practices.
1.08	car accelerates			
1.20	Noise of button pushing changing cds		<i>You could never know what it's like You could never know what it's like</i>	Jude's pleasure from singing along to her favourite songs and mimicking is enhanced by her practiced skills.
1.30	button pushing changing cds		<i>Guitar music</i>	
1.44	Indicators tick		<i>James Taylor Fire and Rain: ...Just yesterday morning they let me know you were gone/ Susan the plans they made put an end to you</i>	Singing along is not intuitive. Learning the lyrics took time and effort. Through a self-taught ability to sing along while driving, she re-organises her body around sound, heightening her ability to viscerally connect with an understanding of herself as not tied to domesticity or disability.
1.48	Car accelerates noisily	Susan the plans they made put an end to you		
1.50			<i>Walked out this morning and I wrote down this song</i>	
2.01		Just can't remember who to send it to	<i>Just can't remember who to send it to</i>	

APPENDIX 6 - VISCERAL MAPPING OF STEVE'S DRIVE PART A

Appendix 6. Visceral mapping of Steve's Drive (mp3 file 23/11/2010) part a.

Time in secs	Non human sounds	Steve	Lily	Phillip	Comment/interpretation
0.00			La la la la La la		
0.05	Thud Step step Jingle jangle Keychain caching	Friday, going into town, in the car, with the kids			Bolded words are spoken with emphasis. Steve sets up the pace with the determined tone of his words. We can hear how he sets up a regular rhythm through his interspersed speech (to the microphone and his children), stamping of footsteps, slamming of doors and calling out. The regular tempo of multiple sounds reflects the practiced pace of this routine.
0.20	Bang door lock clicks	Sorry, these recordings are all over the place on this thing			The assemblage is maintained through the interplay of speech, sound and movement.
	Step step step step step step step step			Errh errhh	Maintains the pace through moving about, the regular crunch of footsteps on gravel.
0.25		Hoh Hoh! Good boy! Good boy!	Why why Why why Why you have the changer Why why Why why Why do you want a phone in your hand?		Steve calls out to his son. Reinforcing the pace of the journey, Lily joins the rhythmic pulse, repeating the words 'why why' in a lilting tone.
0.40	Step step Rustle Door thud	Ah this isn't a phone... this is something else I am doing a little job for a lady	okay	oooh	The sounds of movement become a part of the way that Steve negotiates the journey. While explaining he calls out, opens, closes, directs, walks and clicks his fingers
0.45	Fingers snap click! click!	Ok Philly! Come on Philly!			
0.50		Into the car please Lily.			

APPENDIX 7 - VISCERAL MAPPING OF STEVE'S DRIVE PART B

Appendix 7. Visceral mapping of Steve's drive part b (mp3 file 23/11/2010)

Time secs	Non vocal & human sounds	Steve	Lily (4 y.o.)	Phillip (2 y.o.)	Comment/interpretation
3.40	Vvvvrrrrr the sound of the car engine		arhhhhh		Through out the audio file we hear Steve sighing deeply. Here Lily echoes his sighs. This illustrates the concept of communicative musicality where bodily rhythms and patterns can be communicated unconsciously.
3.43		So we'll go to the post office ok and have a quick look			
3.51	Sounds of traffic				
4.00	Chirp chirp	Wont be a minute			
4.05	Brake noise				
4.07	Vvvvrrrrrrrrr the sound of cars passing by. Car door slams shut	Sighing Uuuu uuh			
4.10					
4.17	The sound of nearby birds Cars passing chirp chirp Chirp		You go there and do that... and then		Without Steve in the car Lily speaks quietly describing the situation to herself and perhaps her brother. This illustrates how voice along with external sounds becomes a way to maintain the coherence of the assemblage. Lily's delivery retains the rhythm that was set up by Steve's anxious bodily movements
4.30	Chirp chirp chirp Chirp Chirp chirp chirp				
4.40	electric chain saw in the distance RRRRrrrrRRRRRRrrrrrr			RRrrrrrrrrrrrr	Phillip seems to be picking up on the sounds of the chainsaw in the distance incorporating them into the car assemblage
4.47	Car door opens and closes, seatbelt		Whata you got?		
4.50		One's a bill, I think. One is a bill from Sydney water			
4.55	Rustle of paper				
4.55	Car engine starts	Lets have a look	Yes?	eeeeeeeeee	
5.00	Vvvvrrrrvvv cars are passing Dave's stationary car.	Yep one is bill			
5.10		Oh Jesus... Ok lets have some music		Oo oo ooo oo oo	Steve's voice sounds despondent. There is a pause. This may be conceived as the tipping point for Steve, in the domestic assemblage. The tone of his voice changes. He then makes a decision to change the affective forces between bodies with the car assemblage as a way of escaping the pressures of the domestic assemblage.
5.15	Radio: " Austral's still dominating in a way that..." switched off.			oh	
5.20	Indicators tick tick				
5.25	Smashing Pumpkin's 'Shiva' loud				Steve plays rock music from his youth as a way to not to feel persecuted within the domestic assemblage. The sonic affordances of rock music provide a temporary relief from domestic responsibilities.

**APPENDIX 8 - VISCERAL MAPPING
TREVOR GETS STUCK IN TRAFFIC**

Appendix 8. Visceral soundscore of audio file, Trevor gets stuck in traffic, 27/4/2011

Time in secs	Non-human sounds	Human sounds	Comment/interpretation
2.38	Clutch pedal moving		Trevor's body expects business as usual.
2.43	Engine idling		
2.49	Steady idle of engine as car stands still	Hay ayy, aye aye (sighing melodically- step wise descending tones of minor scale)	Trevor makes soothing sounds to himself delivered with a regular beat and slow tempo.
3.26	Clutch pedal moving, moving forward		
3.33	Car still again		
3.41	Clutch pedal, loud low rumble as car moves forward		
3.51	Engine slows		
4.00	Slowing, moving forward		
4.10	Clutch pedal, engine chugging		After a period of starting and stopping the irregular engine sounds prompt a verbal response from Trevor. Trevor is almost astonished that his movement is impeded-his voice is incredulous.
4.20	acceleration		
4.25	Slowing, moving forward	Come on...don't wait for them all bloody day (sounding annoyed)	At this point we can discern the affects of Trevor's blocked mobility. The annoyed tone and angry words give voice to his emotion.
4.32	Revs the engine	what ^{are} you doing?... (rising inflection)	
4.33			
4.34	Other car's horn toots		The sound of a nearby car horn adds to the atmosphere of anticipation- a prompt for action.
4.37	Rapid acceleration		
4.42	Gear change, revving engine fast, very loud		The sudden roar of the engine rapidly moving through the gears at speed- we can sense Trevor's annoyance as he puts his foot down. Disrupted by affect, he expresses frustrations through the exaggerated sounds of car movement and rapid driving style..
4.50	Indicators ticking, engine slows to take corner		
4.57	Indicators ticking		
5.00	Engine accelerates		
5.02	Indicators ticking		
5.06	Engine slowing, clutch pedal		
5.10	Car takes corner, accelerating fast and continuing to accelerate		Trevor finally gets to move freely and then he encounters another obstacle -someone parking- so from annoyance to anger. His tone and volume express his annoyance at another impediment to the anticipated flow of his mobility-the 'shit of a thing'
5.22	Decelerating rapidly	I <i>can't</i> believe that they're angle parking.	
5.23	Indicators ticking		
5.28	Indicators ticking	You <i>shit</i> of a... bloody thing (angrily, loudly)	
5.29	Accelerating rapidly and noisily		
5.45	Indicators		
5.58	Loud rumbling of traffic		
6.13	Regular, constant, rumbling of traffic		The sound of continuous steady speed vibration and the familiar metronomic tick of the indicators alleviates his mood. Trevor has re-gained control over his journey by making up for lost time. The affects on Trevor's body decrease his level of frustration. There is an edge to Trevor's voice but the intensity of his annoyance has decreased. Trevor can accelerate unimpeded and there are no further interruptions anticipated. The sigh is a release of tension.
6.29	sounds, loud, indicators tick, traffic sound increases.		
7.00	Indicators ticking, car decelerating		
7.10	Indicators ticking, car decelerating		
7.15	rapidly		
7.22	Accelerating,		
7.33	Traffic rumble steady, cars overtaking		
7.44	Decelerating rapidly	Stupid <i>shit</i> (quietly under breath)	
7.53	Engine rumble slowing		