# Creative Mapping the Neurodiver(City): a personal account of how autism is entangled with encounters of urban geography.


*(Author's own, 2024)*

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## School of Environment, Education and Development - Geography

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The purpose of this form is to confirm that student and Dissertation Advisor have addressed ethical considerations raised by the research and discussed risk assessment for dissertation research, especially fieldwork. This form should be completed and signed by both student and Dissertation Advisor, and submitted as per the Dissertation guidelines (available on the Blackboard site), and **before** you undertake any element of fieldwork. Once this form is agreed and signed by you and your Dissertation Advisor, you and your Dissertation Advisor will keep a record of this signed form.

**You should discuss any future changes to your dissertation with your advisor and update the ethical and risk assessment documentation accordingly.**

| | |
|---|---|
| Surname | [redacted] |
| First Name(s) | [redacted] |
| Registration Number | Student ID: 10823628 |
| Programme | BSc Geography |
| Name of Advisor | Dr Joe Blakey |

## Section 1. Title and Description of Project

| | |
|---|---|
| Title | **Affecting encounters of neurodivergence in urban geographies** |

| | |
|---|---|
| Description of Research Interest | *In this section you should specify what your research is about, specifically; the topic/phenomenon/case study you are interested in; and the concepts, ideas and literature that you will be applying. 200 words MAX.*<br><br>Applying non-representational theory to make sense of how neurodivergence, emotion and urban spaces relate. I will explore sensations and encounters in the urban space of Manchester, with the goal to recommend inclusive urban design. I will explore what it feels like to live in my own autistic lifeworld. Under no circumstances will I collect data on the experience of others, the accounts provide are purely personal. I will draw upon some grey literature in the form of plans and documents. |

| | |
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| Description of Fieldwork and Methods | *In this section you should specify what your research involves, covering all of the following (where appropriate): the location(s) and duration of your fieldwork; how you will recruit participants; how you will acquire informed consent; how you will avoid environmental damage; the specific research methods you will use; the kind of data you will collect; and who you will work with. 500 words MAX.*<br><br>- Location: Manchester, mainly city center (multiple sites in Manchester)<br>- Duration: 1 day a week of fieldwork (6 hours) for the next 10-12 weeks<br>- Participants: Myself |

| | |
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| | Research methods:<br><br>**Auto-ethnographic walking methods**<br>I will plan a route on a map before entering the field and try to stick to this as much as possible. Along the route, I will take photographs, record audio, videos, and maintain a field diary of various sensations and observations. I will ensure to examine non-human life such as signs, litter, material, and other fragments of the built environment. I will make notes in a paper field diary and annotate pictures/videos with my iPad at home.<br><br>**Poetry**<br>Following my autoethnographic fieldwork, poetry will be used as an interpretative response. I will employ this research method by producing a series of free verse poems, reflecting key themes or reflections from the autoethnographic findings.<br><br>**Discourse analysis**<br>A brief discourse analysis of secondary data from urban planning policy in Manchester will be conducted, looking at its efforts in inclusivity and sensory design. This will take place throughout the project and may determine the location of the field sites. |
| Research Funding and Assistance | *In this section you should declare any funding or assistance you have or will receive that you will use to conduct your research. This includes any university grants or funding from external organisations, or assistance from any other group or individual. You should specify (where appropriate): the individual/organisation providing funding or assistance; the amount awarded or type of assistance provided; and any conditions attached to the funding or assistance. 150 words MAX. If this is not applicable to you, write 'Not applicable' in this box.*<br><br>*Not applicable.* |

## Section 2. Risk Assessment

Please tick (✓) one box:

| | |
|---|---|
| | The proposed research does **not** involve any fieldwork but complies with the School Generic Risk Assessment C: On Campus Working. |
| √ | The proposed research **does** include a period of fieldwork, but complies with the School Generic Risk Assessment A: Off Campus work in the UK. |
| | The proposed research **does** include a period of fieldwork, but complies with the School Generic Risk Assessment B: Off Campus work overseas. |
| | The proposed research **does** include a period of fieldwork but does not comply with School Generic Risk Assessments. I will therefore seek guidance from my Dissertation Advisor with regard to developing a full, individual risk assessment. |

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|---|---|
| Description of Risks | *In this section you should outline the risks associated with each of your research activities, how you plan to mitigate them, and any other issues you foresee. 300 words MAX.*<br><br>- Walking around the city as a young woman can be unsafe. I will only research in day light, have my location turned on and be very aware of my environment.<br>- Danger to emotional wellbeing. I will avoid very overwhelming spaces so I don't get too distressed. |

## Section 3. Ethical Considerations

| **Question 1**<br>Will the research for your dissertation involve you gathering or holding data from human participants in any form (i.e. interviews, surveys, observation)?<br>Yes or No please tick (✓) one box. | **YES**<br><br>√ | **NO** |
|---|---|---|

If you answered ***No*** to Question 1, then you can proceed to signing your form and obtaining your Dissertation Advisor's signature. Once you have obtained this signature you are free to undertake your dissertation research. **However**, if your dissertation research alters at any time before submission to involve the gathering of information or holding of data from human participants, then you must recomplete and resubmit this form.

If you answered ***Yes*** to Question 1, please continue onto Question 2 and 3.

| **Question 2**<br>Will you offer payment or monetary incentives above a value of £20 per participant to research participants (e.g. gifts/money/free service/expenses)?<br>Will you be offering any non-monetary incentives to participants?<br>Yes or No please tick (✓) one box. | **YES** | **NO**<br><br>√ |
|---|---|---|

| **Question 3**<br>Will you be researching any of the following groups?<br>Yes or No please tick (✓) one box: | **YES** | **NO**<br>√ |
|---|---|---|

- Children under the age of 18
- Adults with learning difficulties
- Adults in emergency situations e.g. refugees, asylum seekers, homeless, victims/survivors of personal crime, food bank services users
- Adults with mental illness
- Adults with dementia
- Care homes residents
- Prisoners
- Sex Workers
- Young offenders
- Those who could be considered to have a particularly dependent relationship with the investigator, e.g. employees.
- Any other groups who could be considered vulnerable

**Please note: this is not a comprehensive list and further discussion with your dissertation advisor is necessary about your proposed research and participants**

Having answered ***No*** to Questions 2 and 3 above then you are free to undertake your research providing you abide by the following conditions:

- Any line of questioning should not include questions which could reasonably be expected to be sensitive, embarrassing or upsetting; or which could lead to criminal or other disclosures requiring action could take place during the research.
- You must always use the School's participant consent form and participant information form to gain consent from any individuals involved.
    - **Participant Information Sheet Template (for non-medical studies):** http://documents.manchester.ac.uk/display.aspx?DocID=37214
    - **Consent Form Template (for non-medical studies):** http://documents.manchester.ac.uk/display.aspx?DocID=37217

- You must work to the information contained in the Geography Dissertation Handbook regarding the safe collection, storage and handling of data. This is in your Dissertation Handbook (Appendix 2).
- If your dissertation research alters at any time before submission to mean you would now tick 'YES' to questions 2 or 3 then this approval is revoked and you must speak immediately to your Dissertation Advisor.

To confirm you understand, please tick (✓) below:

| | |
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| √ | I have **answered questions 1-3 in Section 3** above to the best of my knowledge. I have also read and understand the *Geography Dissertation Handbook.* |

## Section 4. Declaration

To confirm you understand and will adhere to the ethics procedures, please tick (✓) all of the following:

| | |
|---|---|
| √ | I understand that, once signed, this form provides ethical approval for the project detailed here only. |

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| √ | If my project changes before conducting fieldwork I will notify my dissertation advisor immediately. |

| | |
|---|---|
| √ | I understand that if my research project changes in any way before submission, I am required to submit a new ethical approval form and acquire approval before conducting any research. |

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| √ | I understand that if I do not obtain ethical approval for my research I may be left open to legal action without the protection of an insurance policy and the potential of disciplinary action. |

## Section 5. Signatures

| | | | |
|---|---|---|---|
| **Signature (Advisor)** | **Joe Blakey (signed subject to additions in red)** | **Date** | **29.9.23** |
| **Signature (Student)** | [redacted] | **Date** | **27.9.23** |

# Abstract

This research investigates the embodied experiences of an autistic individual in the urban core of Manchester, using non-representational theory (NRT) to explore the flows and encounters between complex body-landscape relations. By enquiring how a neurodivergent individual experiences and feels, the study foregrounds the ways that Manchester's geographies can disable. This is an important research area since current disability geographies' literature lack insight into the lived experience of neurodivergent people in urban spaces (Hansen and Philo, 2007; Kenna, 2022; Tola et al., 2021). Creative and autoethnographic methods are employed in order to produce rich, messy, and expressive data. Five squares within Manchester's city centre are explored as sites of data generation and analysed through creative mapping and poetry. This study finds that the sensory architecture and aspects of the landscape have a significant impact on the experience of a neurodivergent person and highlights how non-human entities offer an important point of connection. As a result, it is recommended that urban design practices consider the lived, embodied experience to curate an environment with inclusive neuro-affective diversity.

**Keywords**: neurodivergence, non-representational theory, encounter, disability geographies, space and place, embodiment, body-landscape relations, creative mapping

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# 1 Introduction

Why is moving in urban space so full of emotion, sensation, and discomfort when you are neurodivergent? Neurodiversity brings the significance of sensory and embodied experiences in urban geographies into the foreground, due to the heightened perception to sensorial encounters (Davidson, 2007). If we understand that sensory phenomena flow through us, between us and beyond us, then we can begin to appreciate that we all feel and experience spaces differently. This is especially the case for neurodivergent individuals. Of importance is the idea that some people (such as those with neurodivergence) feel and experience urban spaces with an acute intensity to the extent of discomfort and distress. Through investigating the personal sensations as an autistic individual, paying attention to those tidal waves of emotion and feeling, I contribute to an under researched area in geographical disability studies.

In this research I frame neurodivergence as a disability, defined as; "neurologically different, which can include autism spectrum disorder (ASD) as well as dyslexia and dyspraxia, among others" (Singer, 1999, p.64 cited in Kenna, 2022 p.647). Thus, neurotypical refers to those who are not neurologically different. Autism is a wide spectrum of disorders which include:

> "Impairments in social and communicative development … the presence of repetitive and routinised behaviours, in preference to imaginative and flexible patterns of behaviour and interests" (Charman, 2002, p.249).

Typically, autistic traits are in relation to social, communicative, and behavioural impairments (Davidson, 2007). For instance, this may present itself as an individual spending more time with objects or showing little interest in a social group and preferring controllable, predictable environments (Kenna, 2022). These more-than-human, transpersonal or 'odd' connections have a resonance with the post-structuralist approach of non-representational theory (NRT), hatched by Nigel Thrift (2008). NRT is the theoretical framework guiding this research project, which

conceptualises the city as messy assemblages of inter-connected processes which involve the forces and processes bound up across human and non-human entities. Key to this theory is the notion that there are ways of being that challenge typical representation (Ash and Simpson, 2018), such as the autistic experience which may be seen as 'bizarre' or 'alien'. Thus, my research brings affect theories, namely NRT, to help me make sense of how autism, emotion and urban spaces relate.

Within the study of urban space, the affective register becomes a significant way to make sense of human geography (Thrift, 2008). However, recent urban social geography scholarship finds that the experiences of being neurodivergent in urban spaces is neglected in wider research literature (Kenna, 2022). In addition, literature on autism is typically focussed on young boys since boys are four times more likely to receive an ASD diagnosis than girls (Davidson, 2007). This suggests that autistic women and girls are overlooked in the literature and struggle to obtain recognition from their distinct and differing lived experiences. Although scholars have started to pay attention to the socio-spatial aspects of ASD, there is still a lack on how it *feels* to experience space and what this can *mean* for ASD individuals (Davidson, 2007). The lack of attention to the experience of autistic people in urban spaces is problematic, since without suitable accommodations and consideration within urban planning, their lifeworlds and social opportunities are restricted which can disvalue the wider disabled community in the process.

Through the post-structuralist approach of non-representational theory as well as implementing creative methodologies, this research provides a rich geographical interpretation of the neurodiverse urban experience. Hence, this research aims to investigate the personal multi-sensory assemblages and embodied experiences of an autistic woman in the urban landscape of Manchester, using NRT to explore the flows and encounters between body-landscape relations. In order to achieve this, the following two key research questions are employed:

1. How does a neurodivergent individual experience and feel a city centre?

2. In what ways are the geographies of Manchester disabling to a neurodivergent individual?

In order to address these questions, the following chapters will be explored. Firstly, Chapter 2 provides an insightful, critical review of the wider existing literature surrounding disability studies, geographies of disability, non-representational theory, and autism along with a consideration of space. Next, the methodology will be unpicked in Chapter 3, exploring the rationale for the author as the subject, the research location, the use of creative methods, as well as ethical considerations. In Chapter 4, the findings will be outlined, including my creative embodied collage mappings. Then in Chapter 5, the findings will be analysed and discussed, to unpack their meaning and significance, in relation to the wider literature. In addition, the limitations of this study will be discussed. Finally, in Chapter 6, the conclusions will be outlined as well as implications for policy and future research.

# 2 Literature Review

## 2.1 Disability Studies

> "The normality of (different bodies) doing things differently" (Hansen and Philo, 2007, p. 493).

In order to understand disability geographies, we must first define disability. In the early 1980s, the UN definition of disability followed the 'medical model', which presents the disabled body as damaged, evoking a sense of tragedy and something to repair. Leroi (2003, cited in Hansen and Philo, 2007) argues that through this lens, impaired bodies may be seen as sub-human or even monstrous. Rather, another approach, the 'social model', deems that wider society does not accommodate the individual. Hence, according to Gleeson (1999, p.52, cited in Hall and Wilton, 2017), the social model separated "both ontologically and politically, the oppressive social experience of disability from the unique functional limitations (and capacities) which impairment can pose for individuals". The social model generally received positive appraisal, however there is a paradoxical issue here where the physically disabled body actually becomes expelled from the conversation altogether, mainly argued by poststructuralist scholars (Hall and Wilton, 2017). Yet if we now explore the materiality of impaired bodies, we risk the return of the medical model (Hall, 2000, p.27). Scholars such as Wendell (1996) and Pinder (1995) take issue with this disembodied approach, arguing that the objective differences within disabled people are neglected and rejected by both society and within disability studies. Similarly, Hall (2000, p.24-26) posits that the body in its 'fleshy reality' needs to be included, where it behaves as a 3D site where society and biology merge, persuading their senses to behave according to non-disabled expectations.

Hence, Freund proposes we take a "social-materialist approach … which locates mind-bodies in space" (Freund, 2001, p.689). This approach recognises the importance of individual impairments but within relation to spaces created by a non-disabled society with an underlying ableism (Hansen and Philo, 2007). Hansen and

Philo (2007) agree with Freund's (2001, p.704) argument for the need to accept more “spatial-motional-material possibilities” in how we include bodily differences and explore avenues for accommodating to a variety of mind-bodies. This is where a relational approach is appropriate for looking at the intersection of disability and environmental design. Imrie (1996) posits that urban planning has a design apartheid where architects construct spaces for a non-disabled society that can disvalue the disabled community.

## 2.2 Geographies of Disability

The implementation of space into disability studies shapes the sub-field of geographies of disability. Disability geographies may focus on the physical accessibility in the built environment or rather the lived experience for disabled people in our environment which is embedded with ableism (Hansen and Philo, 2007). The latter field is where I believe there is a gap in the knowledge, particularly from disabled individuals themselves.

Hence disability studies are argued to have taken a spatial turn where space is no longer deemed a passive container of life but rather an active, dynamic part of social relations (Kitchin, 1998). Similarly, Imrie (1996) argues that the organisation of space perpetuates the dominant being of non-disabled people. Kitchin renders urban space as both implicitly and explicitly designed in a way to mark spaces as no-go areas, arguing that disability is both spatially and socially constructed (1998). Spaces are not passive nor dormant in their capacity, they are ascribed meaning and convey meaning. For instance, such spatial infrastructure holds cultural indicators which tell us if we are in or out of place (Cresswell, 1996). Bourdieu names this as doxa, which is the dominant ideology unconsciously accepted, even by the marginalised group. Kitchin argues that:

> “Space is instrumental in the reproduction, sustenance, and resistance of disablist practices” (1998, p.354).

As argued by Madriaga (2010, p.40), geography is a key analytical lens for engaging with the “taken-for-granted, axiomatic relationship between ableism and public space”, that uncovers the normal processes which restrict the everyday movements for disabled people (Imrie, 1996). Therefore, geographies of disabilities are important for understanding the disabling societal barriers in our spaces and how disabled people may have limited social opportunities and lifeworlds (Madriaga, 2010).

### 2.3 Non-Representational Theory (NRT)

According to Thrift (2008), cities are roiling whirlpools of affect, which relates to the theoretical framework guiding this research project - *non-representational theory* (NRT). In the literature, affect-, pyscho-, non-representational-, and emotional theories have similar lines of thought, appreciating the limitations of how we understand humans experiencing life in space (O’Grady, 2018). For example, ideas within NRT have complex lineages with other thinking such as post-structuralist work from Foucault, Deleuze and Haraway; actor-network theories of Latour; and writings on practice from De Certeau (Macpherson, 2010). This approach, according to Lorimer (2005), aligns with the wider post-representational shift in geography.

NRT in geography was coined by Nigel Thrift (2008), which “foregrounds processes that involve non-human entities and forces, and affects, which are not typically recognised” (Boyd and Duffy, 2020, n.p). Life is seen as always unfolding and moving, narrated by processes rather than substance, where the human is de-centred (Boyd, 2017a). Boyd (2017a) argues how this theoretical framework embraces and indulges into the messiness of life. Furthermore, Ash and Simpson (2018) note how NRT argues there are ways of being and knowing that defy the typical representation and may exist outside of our human relations and awareness. Moreover, affect is a key concept in NRT and can be understood as transpersonal and as an intensity that acts spatially and in excess of the human (Boyd and Duffy, 2020). We can consider this geographically, by exploring the ways affect flows socially and spatially whilst encountering other bodies in material space (O’Grady, 2018). Rose (1996) would describe this as an assemblage of persons, spaces, and

knowledges, where we never exist as a single entity. Through exploring bodily states and processes, Thrift (2008) interprets affect as a set of embodied practices which makes behaviour visible on the exterior and states there is a gap in the literature around affective register in urban studies. Similarly, O'Grady (2018) argues that affect harnesses the body as a means for understanding the world and foregrounding life's movements and encounters which in turn troubles the realm of language as the sole means of representation.

Hall and Wilton (2017) present a case for how NRT and disability geographies can be effectively intertwined. As demonstrated by scholars such as Macpherson (2009) and Stephens et al., (2015), disability is being approached from a relational lens and applying NRT. NRT posits that social life, as a relational practice, is shaped by non-rational elements and highlights emotion in the "the composition of harmonious or disharmonious relations amongst diverse collectivities of human and non-humans" (Anderson, 2006, p.735). Therefore, within NRT, the social is dependent on multiple orders as well as the repetition of practices for their composition (Hall and Wilton, 2017). Put simply, one can only be classed between the binary of being disabled or able. However, Thien (2005) raises an important point regarding the transpersonal/impersonal nature of social life, since it risks neglecting individuals' embodied experience that is similar to the social model within disability studies.

Nevertheless, NRT may help blur the dis/ability binary and highlight the multitude and plurality of inter-connected processes between objects, bodies and spaces to shape our own becoming (Hall and Wilton, 2017). Therefore, NRT can recognise how spaces are lived within the context of specific relational networks, which can ultimately help to determine their meaning such as being inclusive or exclusive (Goodfellow, 2012). Similarly, scholars such as Murdoch (2006) and Massey (2005) recognise such a relational sense of space, allowing for bodies, objects, and spaces to interact and produce enabling or disabling arrangements. Rather than seeing spaces as pre-determined to be exclusionary, it is important to note that it is the individuals in these spaces that perform their embodiments to reproduce the environment and themselves. Imrie and Edwards (2007, p.626) describe this as a

“recursive relationship between identity and space”. Therefore, NRT is a helpful tool for understanding the body and landscape as dynamic and dependent entities.

## 2.4 Autism and Geography

Literature on autism, geography, and urban space can broadly be grouped into two areas. Firstly, there is a body of literature which explores how the environment is felt and experienced for an autistic individual (e.g. Celani, 2002; Davidson, 2007; Davidson and Henderson, 2010; Davidson and Smith, 2009; Kenna, 2022). Secondly, there is another body of literature which explores the physical aspects of disabling geographies and their sensory/wider impacts (e.g. Black et al., 2022; MacLennan et al., 2022; Manning et al., 2023; Pavol Mazalán and Peter Mazalán, 2021; Mostafa, 2015).

### *2.4.1 Feeling the Environment*

Szatmari (2004) describes understanding autistic lifeworlds as a journey through uncharted terrain, where metaphors, exploration, and imaginative thinking can aid in understanding this alien world. Joyce Davidson (2007) is a scholar who bridges the gap between sensory experiences and neurodivergence by focussing on individuals with autism and their individual lifeworlds, which incorporates the concept of alienation. Such “geographies of exclusion” can be harnessed as a lens in order to make urban spaces more inclusive (p.673). Within the paper, Davidson draws on auto-biographical accounts since it can highlight unusual spatial and emotional experiences of women which are not usually recognised.

One autobiographical narrative in Davidson (2007) discusses their emotional relations to non-human others, where they felt happy surrounded by “the personalities of the rocks, trees, and the hills” (Prince-Hughes, 2004, p.50). Similarly, literature such as Davidson and Smith (2009) and Celani (2002) support the notion that this feeling of attachment and positive emotion to natural places and things is common amongst autistic people. These rich, meaningful relationships to the more-than-human world challenges the clinical notion that their lives are asocial,

and connections to ‘natural’ things or places are just as impactful (Davidson and Smith, 2009).

In addition, Davidson (2007) notes a prominent aspect of ASD lifeworlds is the difference in perception and sensory processing. For instance, ‘sensory distortion’ is described as one noticing everything in painful indiscriminate detail where sensations are heightened to an excruciating degree and can blur perceptions of other stimuli. This may present itself as a perceptual jumbling where one source of stimuli is misinterpreted as another or as everything at once. As a result, loud noises or bright lights can lead to intense feelings of distress and overwhelm. Likewise, Therese Kenna (2022) advocates for research agendas to explore neurodiversity in the city, using feminist theory. They argue that by understanding neurologically diverse encounters, we can include and accommodate this in the city to cater for a variety of lived urban experiences. However, Kenna (2022) rightly highlights that autism is not simply a sensory disorder and there are other behavioural and social aspects that need to be considered too.

Davidson and Henderson (2010) explore the use of metaphorical and imaginative imagery in order to construct and ‘translate’ autistic lifeworlds. Their research explores what the environment feels like, not just what it looks like, to emphasise the dynamic understanding of how different people engage with their socio-spatial environments. However, this study drew on forty-five autobiographical accounts by ASD authors available online, which inherently ignores unpublished accounts as well as undocumented lived autistic experiences.

### *2.4.2 Disabling Geographies for Autism*

Autism research typically focuses on the interior-built environment such as spaces in schools and homes (Black et al., 2022). As a result, more research is needed on exterior spaces of leisure and fun, such as stadiums or outdoor public spaces, so autistic people feel comfortable within their sensory needs to fulfill their social life (Manning et al., 2023). In their more recent literature, Davidson and Henderson

(2016) apply ASD sensory experiences to urban design and inclusivity, calling for design practices to embrace “neuro-affective diversity” (p.91). By analysing an urban environment’s sensory furniture, we can appreciate a variety of experiences and challenge the notion that there is only one mode of sensory processing. Urban design can be more ASD sympathetic by attending to sensory experiences such as:

> “Predictability and consistency, offers retreat spaces and areas of wide circulation, harnesses natural light or at least avoids flickering/buzzing lights, and prioritises low noise levels and the use of low-arousal colours” (Davidson and Henderson, 2016, p. 86).

Such a conceptualisation of ASD friendly design can be helpful in understanding the sensorial landscape of an area and how this may affect individuals. Although this paper is typically referring to interior landscapes and rooms, the ideas are still helpful.

There are a number of initiatives that aim to improve spaces and meet the sensory needs of autistic people. For instance, the ASPECTSS Design Index suggests seven principles for urban design to improve sensory needs (Mostafa, 2015) which considers: acoustics, spatial sequencing, escape space, compartmentalisation, transition zones, sensory zoning, and safety. However, as stated previously, this index is based from the internal environment within buildings rather than the external environment, as well as the experience of children. Similarly, as of 2022, the British Standards Institution (BSI, 2022) released guidance on creating sensory-inclusive environments specifically for neurodivergent people. This suggests that such initiatives demonstrate an increasing awareness for neurodivergent and autistic accessibility, yet the inclusion of more autistic voices, particularly women, is crucial going forward. Furthermore, an enabling environment for autistic people is not solely dependent on the sensory environment. Full inclusion of people with autism will always present complexities due to the vast spectrum of differing experiences.

Similarly, MacLennan et al., (2022) developed a helpful schematic for measuring how disabling a sensory environment can be for autistic people:

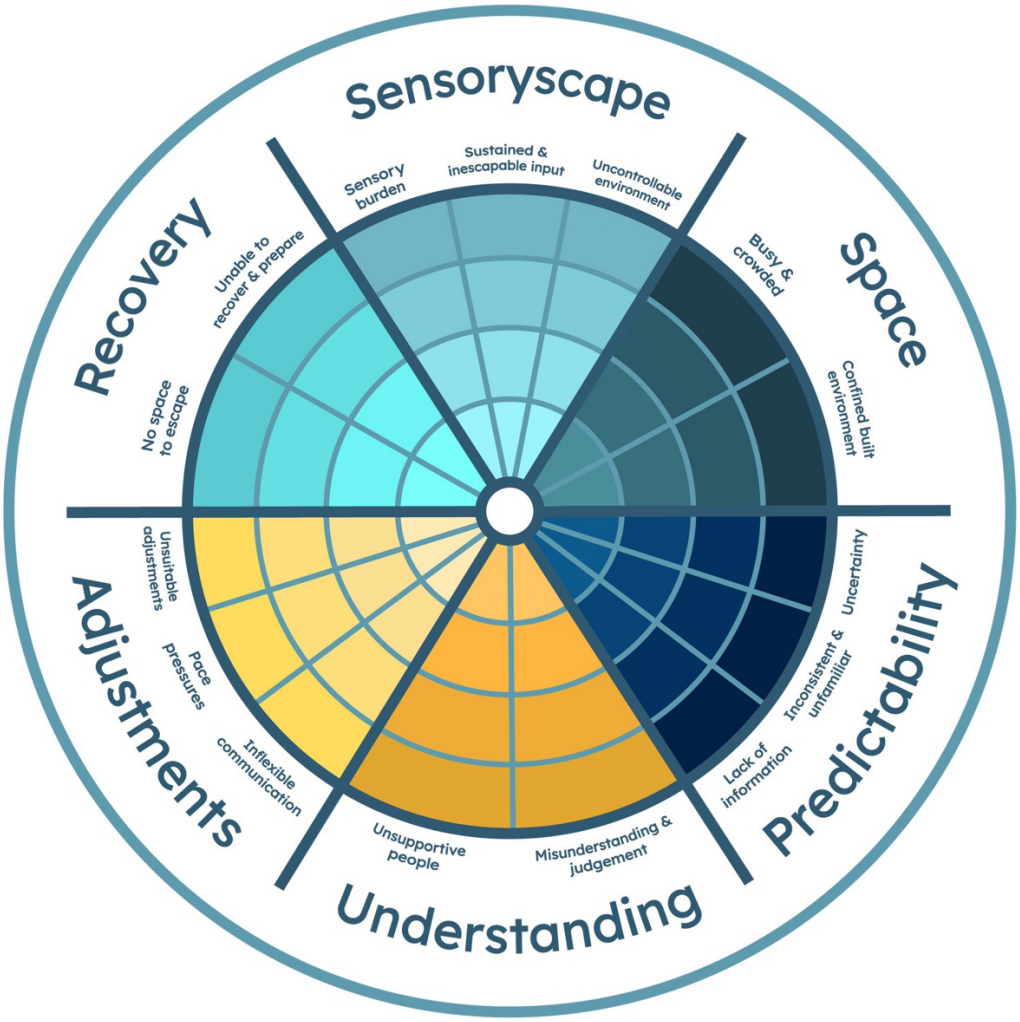



Figure 1: Themes which may determine how disabling sensory environments are for autistic people (MacLennan et al., 2022)

Figure 1 shows that areas with multi-sensory inputs such as high intensities or stimuli from a number of domains (both visual and auditory) are associated with a disabling environment in the public domain. However, this study was conducted online and via social media for recruitment for participants which limited the study to a younger demographic. Furthermore, diagrams like this allude to the idea that

there is a ‘one-size-fits-all’ approach which is certainly not the case. Nevertheless, this study develops our understanding of the sensory experience of autistic adults in public places, which will be considered in this dissertation.

One might argue that Pavol Mazalán and Peter Mazalán’s (2021) paper which explores the relation between urbanism and neurodiversity is problematic. They identified three aspects of the relationship between autistic people and physical space: "the confidence offered by the physical space, the hidden logic associated with space, and a direct and conscious way of experiencing the world." (p.26). These are useful prompts for approaching this research area. Yet they posit a design index, based on Sensory Design Theory, which can be used positively and effectively. However, these authors take the position that these design interventions can “positively alter the behaviour of autistic people” (p.27), echoing the narrative posed by the medical model of disability.

### 2.5 Summary of the Literature

This chapter has reviewed the literature on disability studies, disability geographies, NRT, and autism and space. I will now fuse these areas together to illustrate where my research sits in the existing field of literature. Building on the discussion from the literature, my enquiry aims to provide an exemplification of how urban spaces relate to the sensory embodiments of being a neurodivergent woman. Macpherson (2010) explored how body-landscape relations can be approached using NRT. This is because NRT in human geography emphasises the embodied and practised qualities of embodied experience, which can show how landscape may be conceptualised as a process (Rose, 2002) or provide a tension which can animate the embodied subject (Rose and Wylie, 2006). Within this line of thought, the body and landscape are in a constant process of becoming through and with the other. The use of NRT within disability geographies is not only to ‘give voice’ to underrepresented individuals, but also to understand the ways in which autistic individuals both produce and are produced by the landscape. Hence, our physical body and the sensations we feel are conceptualised to be on the move and interconnected with other bodies and contexts (Macpherson, 2010). I would like to

make it clear that my research has no intention of ‘fixing’ the behaviour of autistic people in the city, rather I am seeking how spaces influence how I feel and act as a neurodivergent woman.

# 3 Methodology

The methodological theory that underpins this enquiry is non-representational theory. Researching using non-representational theory can illuminate both emotions and sensory experiences related to decontextualisation and representation, according to Thrift (2008). Context is often overlooked through research tools such as questionnaires, where the setting and attached emotions are removed from the equation. Furthermore, emotions are non-representational, as they are examples of how our social relations cannot be congealed through speech or text (Katz, 2000). Therefore, creative and artistic research methods are essential to explore the complexity and intensely personally subjective nature of sensing specialities.

Since generating and recording multi-sensory data is difficult and complex, methodology and methods are key to rich and expressive data. The key methods I plan to use are: autoethnography, creative mapping, and poetry. To start, it is important to outline the rationale for the author as the research subject and the specific field sites.

## 3.1 Author as Subject and Object of Research

Due to the limitations posed by the ethics committee, neurodivergent individuals are classed as a vulnerable group. Hence by default, I, as the author, will be the research subject.

However, only researching myself is also intentional since I want to keep full autonomy and authority over this research project to fully engage with my own experiences as a neurodivergent individual. I was diagnosed with Autism Spectrum Condition in April 2023 at the age of 20 years old. This diagnosis has been a pivotal moment in my life, opening up new ways of recognising myself and how I feel and sense the world. I always knew I was different in how I experienced the world compared to my friends and family, yet the experience of an autistic woman is often overlooked and forgotten. Hence, through using myself as the subject of this

research, I hope to make sense of how my autism relates to urban spatial geographies. As argued by Smith (2005, p.90), autobiography as an approach allows marginalised individuals to “narrate their own metaphors in spheres of citizenship to which they are denied access”, which I plan to utilise. Furthermore, as argued by Davidson (2007), first-hand accounts can challenge the mainstream perception of the autistic spatial/emotional experience as being bizarre or disturbed. Listening to autistic individuals can contextualise and normalise such behaviours for outsiders and open up new lines of enquiry for geographies of disability.

## 3.2 Research Location

For this research, Manchester is the case study and particularly the city centre. This is an appropriate choice for the project due to its lively, urban core that is full of sensory experiences. However, I do not want to give too much agency to the material environment. NRT recognises the importance of the physical world, yet also stresses the agency of other human and non-human actors and their relational connections. Furthermore, I have grown up living in Manchester and so I have a deep experience and relationship with the city that lends useful insight. However, this may present itself as a burden, as I might find myself blinded or obtuse to certain observations or interpretations. Despite that, Manchester is the easiest and most practical urban environment to research since I live here. I wish to approach the subject of multi-sensory experiences from multiple angles, so I will use a range of sites in the city to gain a better understanding of the sensory architecture.

### *3.2.1 Field Sites*

The following five field sites will be used: Piccadilly Gardens, St. Peter’s Square, Exchange Square, Hardman Square, and St. Ann’s Square.

There are a number of reasons why these field sites were chosen. Firstly, squares or plazas were chosen due to their fairly clear boundaries of territory as opposed to a long street with various different pathways. In addition, the notion of squares or plazas are rather important for the community as a shared place of meeting and

being. I feel rather welcomed to sit and settle within a square, compared to the fast-moving pace of a street. Historically, squares or the 'agora' were used for multiple purposes such as selling goods, entertainment, and gatherings for political movements. This fostering of a multi-purpose space is helpful for conceptualising squares and how we feel within them. Secondly, the specific squares were chosen due to their varying economic, political, and social spaces. For instance, Hardman Square is a site of business and commercial offices whereas Piccadilly Gardens is a site of recreation, pubs, and shops. Hence, a number of different sites with varying characteristics may open up avenues for new analysis and their related implications.

## 3.3 Methods

### *3.3.1 Auto-Ethnography*

Autoethnography as a research method "transcends mere narration of self to engage in cultural analysis and interpretation" (Chang, 2008, p.43). Since I wish to focus on neurodivergence and my sensory experiences as an autistic person, autoethnographic work is the most appropriate to capture raw and embodied experiences and movements. Von Benzon et al., (2021) describe a method called psychogeography, which utilises walking as a method to critically engage with their surroundings as they move through it, which I will be adapting in this project. The data generated from this method is highly subjective and abstract, making it a rather controversial method. However, I like how it challenges a single essentialist truth through uncovering a range of diverse experiences, which can highlight locations that are not accessible or welcoming to all types of people. Other scholars such as Wunderlich (2008), Peters (2017) and Morag and Samuels (2020) also use the creative walking method and focus on the multi-sensory experience of urban space and our relationship to it.

In order to conduct this research, photographs, videos, and field notes capturing various sensations and observations will be taken at the different sites. Non-human aspects such as signs, litter, material, and other fragments of the built environment

will be examined, which is an important aspect of NRT. I hope to produce a creative, sensorial, and passionate portrait of the landscapes that I move in.

### *3.3.2 Creative mapping*

Using the videos and fieldnotes gathered in the field, a number of multi-media and creative mappings for each of the different field sites will be created. These dynamic maps allow microkinetic knowledge which may go unnoticed to be brought to light more than the traditional verbal account. For example, Laurier's use of video allows moments to be paused, slowed down and repeated, which allows him to explore how bodies adapt and respond to certain landscapes (Laurier and Brown, 2008). Similarly, as argued by O'Grady (2018), affect harnesses the body as a way to understand life's movements and encounters which inherently challenges the use of language as the only method of representation. To bring creative mappings to life I intend to position myself in five city public squares over multiple visits and record my experiences through multi-media such as video, audio, and field notes. With these fragments of data, my plan is to combine rich elements to capture some of the sensorial experiences as a springboard for analysis.

### *3.3.3 Thematic Analysis and Coding*

After generating the raw data consisting of videos, pictures, and fieldnotes, coding will be used to generate key themes from the data. Within this project I am open for my themes to develop, change and mutate from discoveries in my analysis and discussion. One approach to coding and data analysis is the use of narrative coding methods. This is useful in this project since it acknowledges the person as storytellers and aims to understand how individuals interpret events or phenomena (von Benzon et al., 2021), which will be grasped using poetry. Similarly, this approach is similar to an interpretative phenomenological analysis which focuses on lived experience and an individual's perspective (Griffin and May, 2018).

### *3.3.4 Poetry*

Following the autoethnographic fieldwork, poetry will be used as an interpretative response. von Benzon et al. (2021) note how poetic methods express diverse everyday worlds which are emotive and embodied. Similarly, Paiva (2020) describes poetry as a resonant approach, allowing for integrated understandings of sensory phenomena that illuminate how multi-sensory sensations transcend across bodies and spaces. The sensory research and data I will collect, calls for a medium such as poetry since it can "produce aesthetic and evocative thick descriptions of personal and interpersonal experiences" (Ellis et al., 2011, p.5). I will employ this research method by producing a series of free verse poems that generate key themes or reflections from the autoethnographic findings.

### 3.4 Ethical Considerations

Since this research has personal importance and involvement, I am cautious of my blindness to interpretation. Therefore, I have been guided by the literature to ensure a strong theoretical grounding. Furthermore, I recognise several risks and considerations. One risk is the danger of walking around a city as a young woman and to mitigate this I will be stringent in my awareness about the safety of the environment. Another consideration for my emotional wellbeing is to avoid very overwhelming spaces to the point of intense distress. This will be aided through visiting field sites on different days in smaller bursts to prevent becoming overstimulated. Furthermore, I would like to make it clear that my vulnerability and openness about my experiences with autism can only illustrate my personal life. Although some ideas and experiences may be shared with others, it is important that I do not generalise the whole autistic community and speak for them. However, one problematic ethical consideration is the label of 'vulnerable' from the ethics committee (BERA, 2018). The notion that being autistic makes us exempt to being interviewed or researched completely disregards our autonomy and intellectual ability. Furthermore, disregarding our voices is harmful and exclusionary, particularly when our voices are already underrepresented in academia.

# 4 Findings: Creative Mapping

To reiterate, this study aims to investigate the personal account and experience of an autistic individual in an urban landscape. This chapter will present the creative maps of embodied experiences and the corresponding video link.

## 4.1 Video Link

https://youtu.be/oqVV1RnSLRM

## 4.2 Creative Mapping

The following five creative maps were created from the data gathered from the walking autoethnography to visually depict my embodied experiences within the field sites. A static screenshot has been taken and used for **Figures 2-6**, yet the YouTube video can be found above which includes dynamic visuals and audio. The video format is the most appropriate in viewing these findings since movement and sound are integral to capturing the sensory and emotional experience.

### *4.2.1 St Peter's Square*

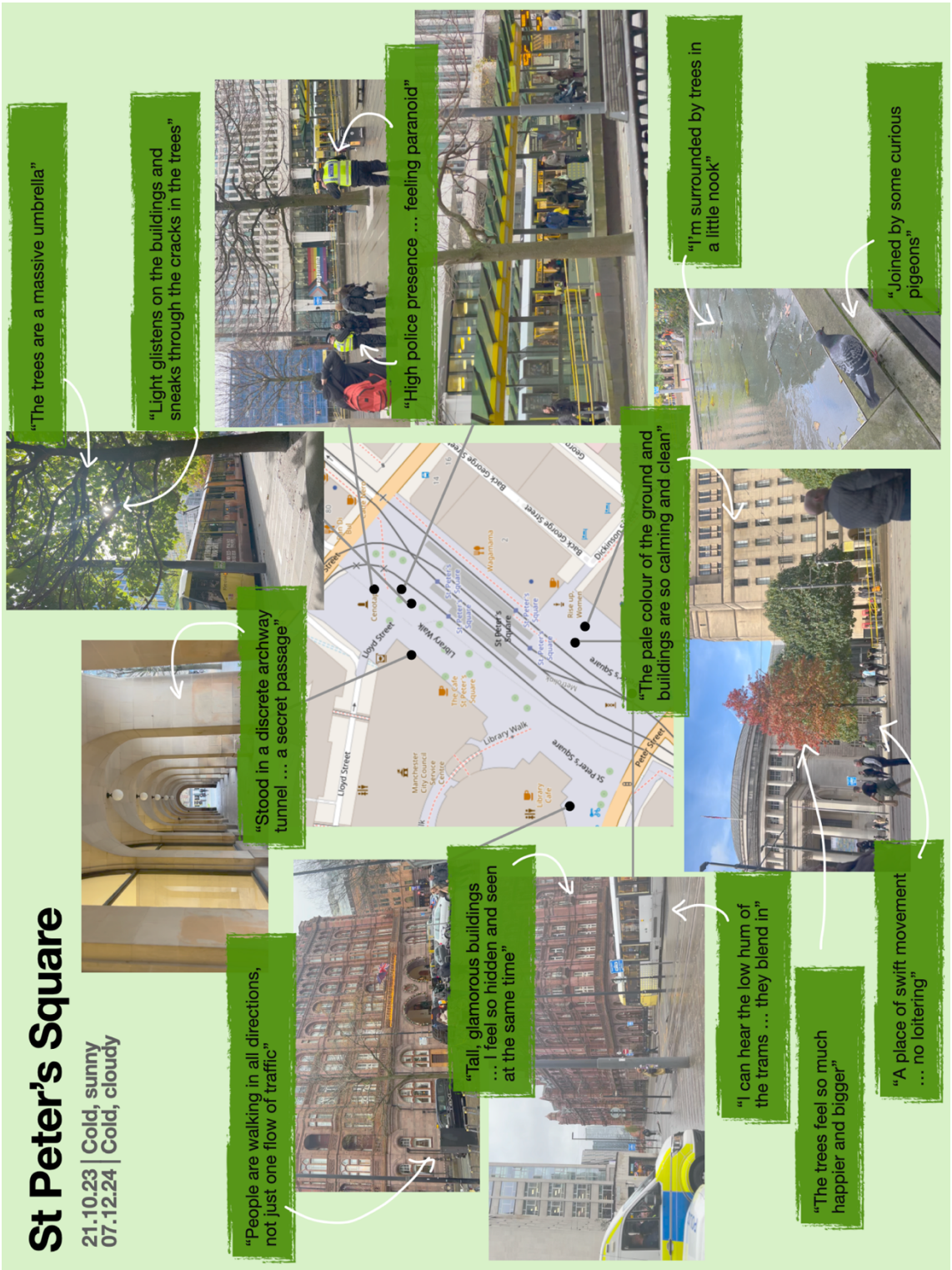



Figure 2: Creative mapping of my embodied encounters in St Peter's Square (static screenshot of video)

### *4.2.2 Hardman Square*


Figure 3: Creative mapping of my embodied encounters in Hardman Square (static screenshot of video)

### *4.2.3 St Ann's Square*

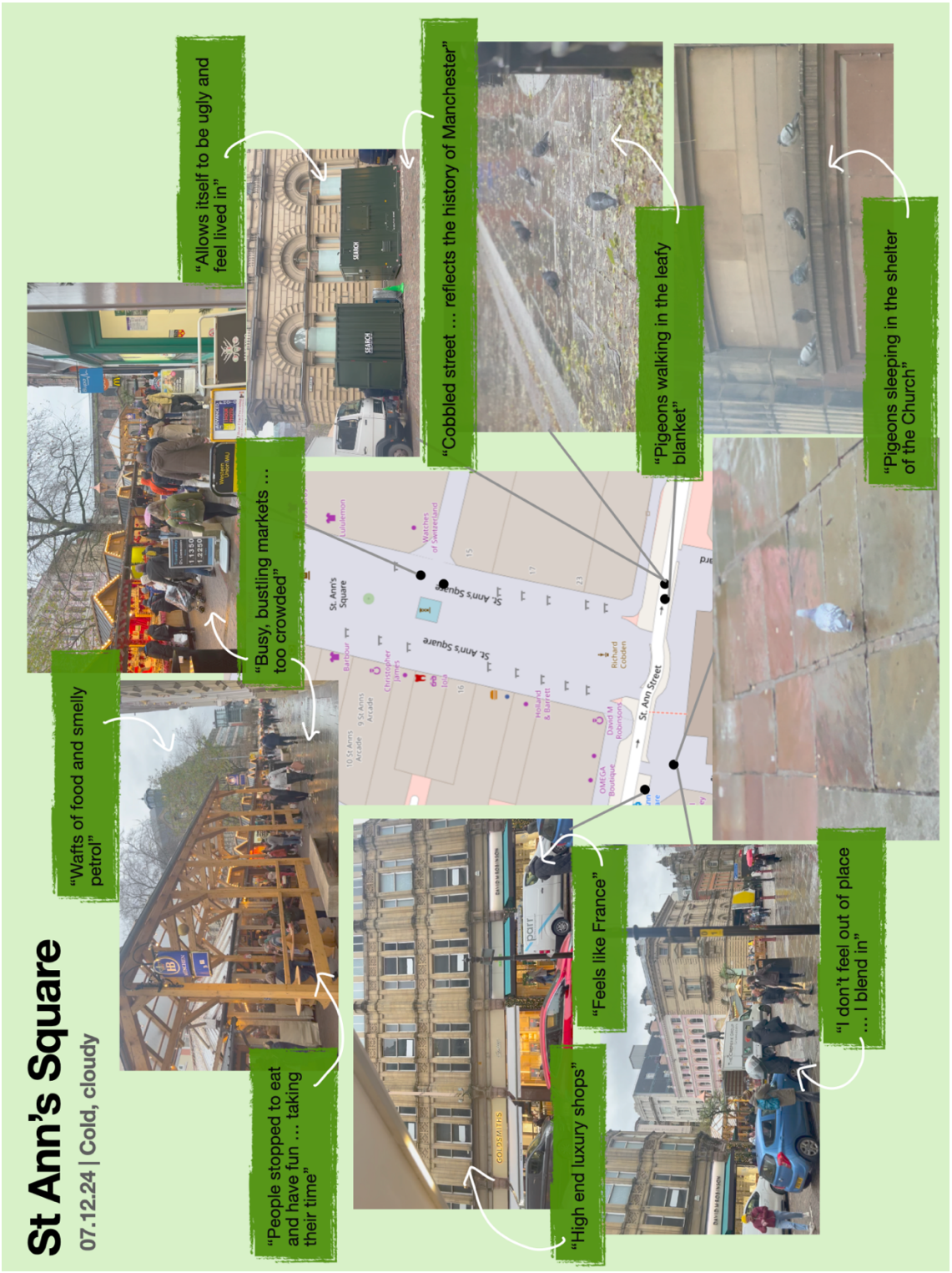



Figure 4: Creative mapping of my embodied encounters in St Ann's Square (static screenshot of video)

### *4.2.4 Exchange Square*

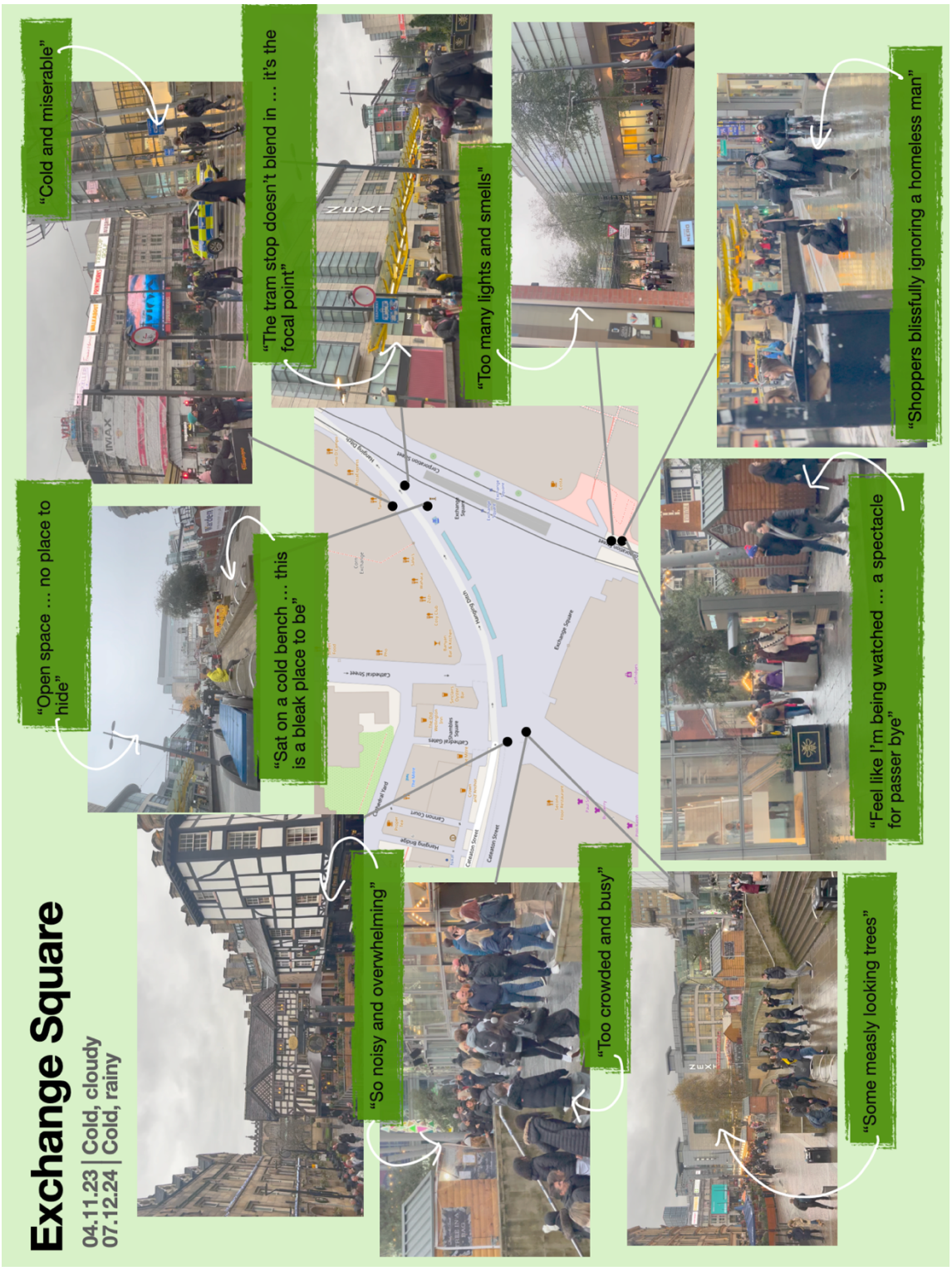



Figure 5: Creative mapping of my embodied encounters in Exchange Square (static screenshot of video)

### *4.2.5 Piccadilly Gardens*


Figure 6: Creative mapping of my embodied encounters in Piccadilly Gardens (static screenshot of video)

# 5 Analysis and Discussion

This chapter will critically analyse and discuss my data within the context of the broader academic literature, with three key sections. Firstly, I will explore four key themes identified across the findings, through a poetic response and an exploration into their significance. Despite my aim to have four discrete thematic sub-sections, it is expected to have multiple areas of overlap due to the messiness and complexity of embodied experience. Secondly, I will reflect on the theoretical framework and research questions. Finally, I will outline the limitations of the study and explain how this may have influenced the research findings.

## 5.1 Emergent themes

All five field sites had a unique set of encounters and relations, however through data analysis and coding methods, four key themes were identified in the findings. This includes encounters with: *refuge, nature, people, and movement*. This section aims to highlight context specific embodied interpretations of my experience within the built environment, through the medium of poetic responses.

### *5.1.1 Encounters with refuge*

*St Peter's Square*

*I seek to stand under a looming tree or archway. When the trees are full of leaves, they feel like canopies, or an umbrella to keep me hidden and safe. Tall, grand buildings tower over a vast space, I am both hidden and seen, a paradox of anonymity and recognition. In one corner of the square sits a discrete hallway, a secret passage that is only used by the brave wanderer.*

*Hardman Square*

*I find no areas or experiences of refuge within this capitalist realm. The buildings too were completely flat, with no areas of shelter or discreteness, everything was on display, especially the money. There are cold, unwelcoming benches, making a pathetic attempt to seem like a place you could stop and relax.*

*St Ann's Square*

*No feelings of refuge. Yet this square had multiple large trees, wooden shelters from the Christmas Markets and a smaller open space. Although there were possible sites of refuge, the bustling crowds, cacophonous clamour, and the myriad of odours put me off dwelling for too long. Only amidst the sleeping pigeons do I find kinship.*

*Exchange Square*

*A huge open commercial space with no places to hide. At all times I felt watched and in the way of others - a spectacle to passers by'.*

*Piccadilly Gardens*

*I feel watched and examined, like a gladiator in a coliseum. However, there are trees and areas with shelter where one could feel safe. But this square has a completely different energy and a dark grey cloud above all year round.*

Figure 7: Poetic/story response to 'encounters with refuge'

The most prominent finding of this research was encounters with refuge and the notion of being perceived. The position that we need to consider the body in its 'fleshy reality' carries importance due to the involvement within the affective register but also how we feel and notice our bodies interact with other bodies. This links to Hall's (2000) interpretation of the body as a 3D site where it persuades itself to behave according to an able-bodied society. As a result, some autistic people are hyper aware of how they are perceived and the ways they act. In a shared environment, autistic people are alert for demonstrating behaviours that are deemed

out of the norm. Therefore, the data implies that one way a neurodivergent individual experiences a city centre is through a heightened sense of self-awareness and personal perception, in order to appear 'normal'. This feeling of alienation and exclusion is discussed by Davidson (2007) and Szatmari (2004) who highlight the alien dynamic between the neurodivergent and neurotypical world.

In addition, where I stood to film my videos and take field notes is particularly telling to where I felt the most comfortable, which is shown schematically in figures 2-6. I often found myself seeking smaller, discrete areas within a larger space, as a way to remain vigilant but hidden; the question of how 'seen' I felt appeared multiple times in the data. This finding supports the sensory design literature regarding 'retreat spaces' (Davidson and Henderson, 2016) and 'escape spaces' (Mostafa, 2015) as enabling geographies. The built environment can directly have an influence on the wellbeing and experience of its inhabitants. As a result, the data suggests that the lack of availability of discrete smaller 'zones' which feel 'out of the way' can be disabling to a neurodivergent individual. Although, in contrast, as illustrated by St Ann's Square and Piccadilly Gardens, there may be these 'discrete spaces' however other factors such as the buildings, people, and use of the space make it feel rather disabling and uncomfortable. Therefore, it is important that these 'discrete zones' are employed simultaneously with other enabling geographies to improve accessibility for neurodivergent individuals.

### *5.1.2 Encounters with nature*

*St Peter's Square*

*Despite the lack of green spaces, there were continuous flocks of pigeons diving to and from the grand buildings and the large trees, as well as a few curious pigeons surveying the ground. I sit near a water feature surrounded by small and large shrubbery, containing random leaves and smaller walks of life. When the wind whispers, the trees swayed and there was a peculiar smell similar to a water park.*

*Hardman Square*

*An artificial centre of greenery, intertwined with over-priced cafes and restaurants. Ferns, small trees, and other low-maintenance plants suffer in their gloomy concrete surroundings, a mere decoration for the corporate elites. A handful of sacrificial leaves lay stranded on the floor, unable to decay within rich detritus.*

*St Ann's Square*

*Within the alcoves and delicate shelves of the church infrastructure sits a group of sleepy, gentle pigeons with their heads resting on their marshmallow bodies. They don't feel threatened by my presence, nor do I. We stand and dwell in harmony as the busy street carries on busying. A couple of pigeons are brave and enter the crowd of loud giants, dodging their expensive pristine trainers. Large leafy trees shed their vibrant coat, leaving a blanket of sludge beneath our feet.*

*Exchange Square*

*There are three measly looking trees shoved in the centre, calling out for help. Nature and animals alike have no home here in this grey, bleak artificial place.*

*Piccadilly Gardens*

*Piccadilly Gardens has a rather confusing name. There are no beautiful gardens with colourful flower beds or children playing on the grass. There are manufactured trees planted like an assembly line, with a small patch of cigarette-filled grass. A spectacle to the surrounding commercial buildings, looking down on the fenced off patch. Many pigeons sit on tree branches and on scaffolding. One injured pigeon covered in oil wanders by the overflowing bins.*

Figure 8: Poetic/story response to 'encounters with nature'

Nature in this context is interpreted as the non-human animals and plants, such as trees, grass, and pigeons. Within NRT, recognising non-human entities and their

significance is integral to truly capturing the wider flows of the environment. NRT highlights this interconnectedness and plurality of processes between objects, bodies, spaces which ultimately shape our own becoming (Hall and Wilton, 2017). As a result, these relational entities have the power to produce enabling or disabling environments.

One finding of this data is the comfort provided by pigeons and large trees, as well as a sense of connection to these more natural spaces. This affiliation to non-humans resonates with Davidson and Smith's (2009) and Celani's (2002) work on the emotional geographies bound up in relations with non-human others, which is a common feeling amongst autistic people. These feelings of attachment and connection can be argued as emulating a social dynamic, which ultimately challenges the notion that autistic people are asocial and prefer to be alone (Davidson and Smith, 2009). Rather, this way of being social and interacting with our environment and non-human others should be treated as a different way of being and seeing the world. I believe an important factor here is the nourishment and treatment of the trees and pigeons, but also their purpose. In areas where trees can thrive for their own growth and soul, dropping their leaves and housing birds, they are happier, rather than a place where they are manufactured and placed to be a spectacle and where they are stringently maintained. In sum, such emotional geographies towards the non-human in the city and the attachment or connection provided from such entities should be recognised and considered as an aspect of an accessible, accepting city.

### *5.1.3 Encounters with people*

*St Peter's Square*

*Well-dressed, rich crowds, such as corporate workers, tourists and the middle-class, walk-through here. A place of swift movement and hurry – no place for loitering or taking a breath. A couple on their wedding day laugh and smile for*

*their precious pictures, surrounded by their loved ones. I hear the conversations of numerous passers-by, yet they're not intrusive or overbearing.*

*Hardman Square*

*Only echoes of business transactions break the silence. A busy yet lonely place. No character or connection between anyone, it feels cold and hostile. Only money flowing through here.*

*St Ann's Square*

*Many walks of life pass through here, after all Cartier and McDonalds are a stone's throw away from each other. Amongst the hustle and bustle are normal people shopping, stopped to eat and drink with friends, taking their time to enjoy their space. I don't feel out of place here, I blend in.*

*Exchange Square*

*There is a hustle and bustle of normal people, shoppers, tourists and others. A number of homeless people sit at the steps to the Arndale watching shoppers walk out with their unnecessary purchases. The cold, concrete benches have conveniently placed dividers to prevent any sleeping or dwelling for that matter.*

*Piccadilly Gardens*

*My first step in Piccadilly Gardens I was harassed. Groups of people drinking, smoking, drug-using on the benches and throughout. One homeless man slept next to a pile of sick. Litter, food, cigarettes and urine stain the floor. I cannot stay any longer.*

Figure 9: Poetic/story response to 'encounters with people'

One finding in this research was my distain and intense curiosity to other humans in the spaces. This may suggest that the busy spaces and crowds in these areas can be disabling to an autistic person (MacLennan et al., 2022). However, it was not just

the presence of humans, it was their peculiar movements within the spaces and my lack of understanding. NRT posits that our physical body and sensations are always on the move and interconnected to other bodies and contexts (Macpherson, 2010). This phenomenon is certainly true at times where I feel deeply connected to myself and other surrounding flows. However, I also believe this is where my study strays from NRT slightly, since in this context my mind and body feel disconnected from my surroundings and felt like I was looking at myself from a bird's-eye viewpoint. Depending on that specific embodied experience, I contextually switch from first to third person, known as 'dissociating' which may be in response to the stressful, busy environment.

### *5.1.4 Encounters with movement*

*St Peter's Square*

*The busy, loud tram network blends into the wider urban symphony. I hear the drone of the trams as it connects to the metropolis, like a sci-fi film. People are walking everywhere in every direction. There are multiple routes and criss-crossing/overlapping voyages at risk of colliding and intersecting.*

*Hardman Square*

*The only movement here is the flow of money.*

*St Ann's Square*

*Delivery trucks unload food and stock for nearby smelly cafes and shops, pushing the button on the truck to move their squeaky platform. Gusts of winds dance within the vast open space of the square, swaying the trees and blowing a UK flag proudly.*

*Exchange Square*

*The tram stop does not blend into the environment, it is a focal point of the area, attracting loud crowds and demands for rushing. Even when not in use, it remains*

*a focal point. Large amounts of money flow and move to and from the Arndale, seeping into the flows from Selfridges and surrounding pubs, like a whirlwind and tornado of material desire.*

*Piccadilly Gardens*

*Trams diverge to various destinations. Busy, loud, and overwhelming. The trams create an excruciating squeal whilst on the tracks, alarming the surroundings of its presence.*

Figure 10: Poetic/story response to 'encounters with movement'

Another key theme/finding of this research was encounters with movement. This is rather a broad theme spanning from the sound of loud trams and delivery trucks, flows of money and the walking routes of pedestrians. The sound of the trams scraping on the tracks and a squeaky delivery truck resonates with Davidson's (2007) conceptualisation of 'sensory distortion' where sensations are amplified to an excruciating degree and leading to intense feelings of distress. St Ann's Square presented an area with multiple sensory inputs such as being noisy, smelly from food stalls, and busy with crowds. MacLennan et al., (2022) argues that areas with stimuli from a number of domains can be a disabling environment for autistic individuals, leading to distress or a complete evacuation/exclusion from that area. NRT and human geography are useful for understanding this dynamic since the practised qualities of embodied experience can show how the landscape is a tension which animates the embodied subject (Macpherson, 2010; Rose and Wylie, 2006). In this instance, the loud busy environment of St Ann's Square orchestrated my feelings of stress and ultimately my decision to leave the space.

A surprising observation found was the inference of the invisible, such as the flow of money within Hardman Square and Exchange Square. Similar to noticing the movement of trees or the ripples on water to see the invisible wind, the flow of money became apparent in expensive clothing and full stomachs. This ability to

interpret the landscape, like reading a book, is a rather unique experience. This finding links to how NRT posits that life is narrated by processes rather than substance and is always unfolding. Similarly, being able to see and feel these flows embody the notion of cities being roiling whirlpools of affect (Thrift, 2008), which is inherent to NRT. However, another encounter of movement was traced through my bewilderment at the intersecting walking routes of pedestrians. Pavol Mazalán and Peter Mazalán (2021) describe this as the hidden logic associated with space which autistic people may struggle to understand. It is as if everyone knows a shared secret about an area that I do not. These observations are rather contradictory since I appear to interpret a deeper meaning of an area in one space with ease, then struggle to do so in another. This incoherence reflects the unpredictable nature in how an autistic person can behave and interpret a space, which calls for the need for further research where we can readily accommodate for these differences.

## 5.2 Reflecting on the Research Questions and Study

### *5.2.1 Theoretical Framework*

One may argue that the definition of disability and use of NRT in this study are contradictory. On the one hand, this study adopts the socio-material approach to understanding disability as discussed by Freund (2001), due to the recognition of both the physical impairment and the wider disabling environment. This study achieves this by not only exploring the individual experience but by attaching some agency to the material environment too. On the other hand, according to Boyd (2017a), within NRT, the human is de-centered. This is where I believe this project may differ slightly from the theory. Although within the study non-human entities and flows are recognised, the human experience is still important and valued highly. Despite this paradoxical use of NRT and my understanding of disability, I believe it works effectively by seeing the human experience as an aspect of the wider dynamic messy flows of the city that are in constant relation to each other.

### *5.2.2 Research Question One: How does a neurodivergent individual experience and feel a city centre?*

Firstly, I would like to refute the premise of this question as it presumes that all neurodivergent people can be generalised to one shared experience. Hence, the first answer to this question is that we all experience spaces differently, both neurodivergent and neurotypical people alike, as there is no 'one-size-fits-all' approach. This study is solely exploring my personal experiences as an autistic woman within Manchester city centre. Despite this focussed lens, it can highlight important ideas for the wider community and spark a discussion for further research. Not only can we explore multi-sensory assemblages, but wider interpretations and the embodied experiences of the city which are bigger than the discrete senses. Hence, this study aligns with Hansen and Philo's (2007) position that there is a need to accommodate different mind-bodies and accept there are a variety of possibilities in how a place is experienced.

Secondly, feelings such as alienation and exclusion were a strong and repeated experience found in my creative mappings and are common to many who move through city centres. Feeling like an alien may stem from desiring 'discrete zones', where we can hide away from being perceived as odd or weird, where neurodivergent people can hide away. Furthermore, we may struggle to understand a hidden logic associated with space (Pavol Mazalán and Peter Mazalán, 2021) yet also be able to identify invisible flows, a contradictory phenomenon which can cause further frustration. Feeling connected to the non-human can also lead to alienation since in a busy square full of people, the only being I want to spend time with is a pigeon or a tree. This behaviour may appear as bizarre to neurotypicals yet make perfect sense to me.

Lastly, a neurodivergent person may experience the city centre to a heightened and extreme degree. This may have positive implications such as feeling intensely connected to grand trees or chirping birds, which can be a social event (Davidson and Smith, 2009). However, this heightened susceptibility to stimuli can also lead to overstimulation or distress due to loud noises, strong smells, and busy crowds. The

uncontrollable environment combined with inescapable input can make an area incredibly disabling for an autistic person (MacLennan et al., 2022). NRT discusses this composition of complimenting and competing relations amongst human and non-humans that creates particular emotions and forms our social life. In this instance, the overwhelming stimuli from the environment cause intense distress and possibly impact our social life.

### *5.2.3 Research Question Two: In what ways are the geographies of Manchester disabling to a neurodivergent individual?*

As mentioned in the literature review and as a broad way of responding to this question, disabling spaces have been created due to the lack of disabled and neurodivergent representation within urban planning. For instance, scholars such as Imrie (1996) and Hansen and Philo (2007) note that urban planners construct spaces for an able-bodied society which in the process disvalues the disabled community and upholds an environment perpetuating ableist tendencies. As a result, lack of attention to the sensory experience of neurodivergent people in Manchester inhibits an inclusive urban design which embraces “neuro-effective diversity” (Davidson and Henderson, 2016, p.91). Hence, Manchester’s geographies can be argued to be disabling due to the lack of recognition of plural and neurodiverse urban experiences and their associated accommodations.

Building off this first point, Manchester’s geographies can be described as disabling as they are not sensory inclusive. As argued by Kitchin (1998), space is instrumental in the reproduction of disablist practices, such as wheelchair inaccessibility or a loud, bright, busy space. This may result in the restriction of social opportunities and lifeworlds of disabled people. Examples of sensory inclusive urban design include areas with wider circulation and retreat spaces, predictable environments with natural light, low arousal colours and low noise (Davidson and Henderson, 2016, p.86). These accommodations can reduce the intensity of multi-sensory stimuli and prevent feelings of distress or anxiety for autistic people. One particularly beneficial geography is the provision of natural spaces as areas to rest

and recover. Not only are these spaces enabling but have other impacts such as environmental and ecological benefits.

A final disabling factor of Manchester's geographies is the lack of education and awareness for neurodiverse experiences. As MacLennan et al., (2022) argue, there are social factors which disable environments such as: unsupportive people, misunderstanding and judgement, pace pressures, and inflexible communication. This lack of support and understanding from the wider population can be incredibly disabling and aiding feelings such as embarrassment and shame. Manchester certainly has room for improvement in their tolerance for different ways of being that would benefit everyone in society.

### 5.3 Limitations

While the study provides valuable insights into a specific personal account, three major limitations should be acknowledged and addressed in future research. Firstly, the study has a sample size of one participant which makes it difficult to highlight wider trends and identify whether or not an experience is consistent with other neurodivergent individuals, rather than being idiosyncratic to the author. As a result, future research should include more participants to explore a wider range of lived experiences. Secondly, the research was conducted within a limited time frame, focussing solely on data generation during the months of October to December, which had cold and rainy weather. This temporal constraint may neglect seasonal variations and encounters available in the warmer and sunnier months. Hence, future research should be conducted over a longer period of time to capture this temporal variation. Finally, personal bias and my experience of autism may have influenced data interpretation and analysis. Despite efforts to mitigate such bias through an expansive use of the literature and methodological rigour, it is possible preconceptions may have inadvertently shaped the study's conclusions. Therefore, these three limitations underscore the need to be critical and cautious upon interpretation of this study and highlight opportunities for future research.

# 6 Conclusions and Implications

This chapter will summarise the key research findings in relation to the research questions and aim, outlining their significance and contribution to the field. After that, the implications of the study will be discussed as well as suggestions for further research.

## 6.1 Conclusion

This study has investigated the messy, embodied experience of a neurodivergent, autistic person in Manchester's city centre and explored the complex flows and encounters between human and non-human entities. Through the generation of multi-media creative mappings and poetic responses, the rich and expressive data came to life and could be analysed for interpretation.

As a result, a number of key findings were found which emerged from four key encounters of: refuge, nature, people, and movement. I found myself feeling comfortable in discrete zones which are known as retreat or escape spaces in the literature (Davidson and Henderson, 2016; Mostafa, 2015) which were typically found under large trees and archways. In addition, spaces with non-human and natural entities, such as trees or pigeons, provided a sense of comfort and social connection which challenge the 'asocial' descriptor of autistic people (Celani, 2002; Davidson and Smith, 2009). Contrastingly, I felt the most distress in busy, crowded open areas with various high intensity stimuli such as strong smells or loud noises. I found myself experiencing a sense of alienation, due to the social exclusion and the reception to sensorial input to an extreme degree. In addition, my ability to 'read' the landscape seemed to be intermittent and dependent on how I felt at the time which caused frustration. In response to research question one, I argue that neurodivergent people experience and feel a city centre in their own, distinct way but feelings such as alienation and overstimulation are common. Regarding research question two, Manchester's geographies are disabling to a neurodivergent person due to the lack of sensory inclusivity and representation at the urban

planning and everyday scale. However, it is important to note that this is one, singular autistic experience and should be treated as such. We need more awareness for different mind-body experiences in our landscapes and wider lifeworlds.

## 6.2 Implications

Implications from this study can be grouped into three areas. This includes implications which are methodological, theoretical, and geography specific.

There are a number of methodological implications. Firstly, this study builds on the work of Kenna (2022) and develops the case for geographical research methods for exploring the differing lived experiences of urban environments. Specifically, I employ creative, embodied research methods, such as walking autoethnography, which harness the power of the body in situ to understand the complex interactions between society and space. Creative methods also allow for the generation of rich and expressive data, which go beyond a textual account. Therefore, I believe this research effectively responds and supports Kenna's (2022) work through a small-scale case study and personal account that exemplifies how disability is embodied in urban spaces. Moreover, this study has illustrated the ability for a member of a 'vulnerable group', according to the guidelines that govern ethical committees (BERA, 2018), to take part in meaningful and important research. I believe the current guidelines regarding 'vulnerable groups' ought to be reflected upon and altered to recognise the autonomy and potential that these people have to offer.

In addition, this study exemplifies and supports the work by Davidson and Smith (2009) since I recognise the emotional geographies bound up in more-than-human interactions and the deep connections formed with non-human environments. These lines of thinking call for the theoretical framework of NRT since non-human entities are valued in the wider processes of becoming. As a result, I believe this research has supported the theoretical framework of NRT and highlighted how messy, interconnected natures of the embodied urban experience are a rich site for

human geography praxis that open promising avenues for future research in this field related to neurodivergence.

In addition, building on the limitations section, there are a number of avenues for future research. For example, more participants and their personal experiences should be explored to uncover further nuance within this area. All autistic people are unique in their experience and needs; however, this should not negate the need for our discrete community to be accommodated and considered. It is imperative to consider a more diverse demographic, particularly age and gender, since the older population and women are typically underrepresented. This may benefit from the work of feminist geographers and theory to explore the lifeworlds of ASD women closer, taking an intersectional approach similar to scholars such as Davidson (2007) and Kenna (2022). An intersectional approach may be of particular importance since different aspects of identity can begin to be considered within the embodied urban experience, providing further insight into neurodiverse encounters. Furthermore, intersectionality has the power to illuminate the heterogeneous nature of the autistic experience but also the human experience and the complex web of identity, power, and societal relations.

One key practical application of this study is the contribution to urban planning and geography. Through listening to my personal experience as an autistic person in space, urban planners and policymakers can begin to understand how to improve “neuro-affective diversity” (Davidson and Henderson, 2016, p.91). Through carefully listening and attending to autistic self-advocates like me, design practices from the beginning can be transformed to be more inclusive for the wider population. This personal account in this study can be used to develop design indexes such as those from ASPECTSS (Mostafa, 2015) or BSI (2022), through the inclusion of outdoor, public spaces in these discussions. As a result, we can make our cities and shared spaces more accessible and improve quality of life for both neurodivergent and neurotypical others.

This study has contributed to the under researched sub-field of disability geographies and advocated for the normalisation of “different bodies doing things differently” (Hansen and Philo, 2007, p.493). Through sharing my personal experience of coping with my neurodivergence in non-disabled spaces, I have exposed the hidden geographies (Dyck, 1995 cited in Hansen and Philo, 2007) of our urban landscapes and their disabling spatial configurations. This project has recognised the flows between objects, spaces and bodies and how they constitute the constant incomplete processes of our subjective becoming which emphasises the importance of a relational approach to disability using NRT (Hall and Wilton, 2017). Our different minds and bodies are beautifully weird and wonderful, and we all deserve to feel like we belong.

# 7 Bibliography


Anderson, B. (2006). Becoming and Being Hopeful: Towards a Theory of Affect. *Environment and Planning D: Society and Space*, 24(5), pp.733–752. doi:https://doi.org/10.1068/d393t.

Ash, J. and Simpson, P. (2016). Postphenomenology and Method: Styles for Thinking the (Non)Human. *GeoHumanities*, pp.1–18. doi:https://doi.org/10.1080/2373566x.2018.1543553.

Black, M.H., McGarry, S., Churchill, L., D'Arcy, E., Dalgleish, J., Nash, I., Jones, A., Tse, T.Y., Gibson, J., Bölte, S. and Girdler, S. (2022). Considerations of the built environment for autistic individuals: A review of the literature. *Autism*, 26(8). doi:https://doi.org/10.1177/13623613221102753.

Boyd, C. (2017a). Non-Representational Theory. *Non-Representational Geographies of Therapeutic Art Making*, pp.27–41. doi:https://doi.org/10.1007/978-3-319-46286-8_3.

Boyd, C. (2017b). Poetry and the non-representational. *ACME: An International Journal of Critical Geographies*, 16, pp.210–223.

Boyd, C. and Duffy, M. (2020). Sound, Geography, and Nonrepresentational Theory. *Unlikely: Journal for Creative Arts*.

British Education Research Association (BERA) (2018). *Ethical guidelines for educational research*. [online] Available at: https://www.bera.ac.uk/wp-content/uploads/2018/06/BERA-Ethical-Guidelines-for-Educational-Research_4thEdn_2018.pdf?noredirect=1.

Celani, G. (2002). Human Beings, Animals and Inanimate Objects: What do People with Autism Like. *Autism*, 6(1), pp.93–102.

Chang, H. (2008). *Autoethnography as method*. Abingdon, Oxon: Routledge.

Charman, T. (2002). The Prevalence of Autism Spectrum Disorders: Recent Evidence and Future Challenges. *European Child and Adolescent Psychiatry*, 11, pp.249–256.

Cresswell, T. (1996). *In place/out of place: geography, ideology, and transgression*. Minneapolis: University Of Minnesota Press.

Davidson, J. (2007). 'In a World of her Own…': Re-presenting alienation and emotion in the lives and writings of women with autism. *Gender, Place & Culture*, 14(6), pp.659–677. doi:https://doi.org/10.1080/09663690701659135.

Davidson, J. and Henderson, V.L. (2010). 'Travel in parallel with us for a while': sensory geographies of autism. *The Canadian Geographer*, 54(4), pp.462–475. doi:https://doi.org/10.1111/j.1541-0064.2010.00309.x.

Davidson, J. and Henderson, V.L. (2016). The Sensory City. *Care and Design*, pp.74–94. doi:https://doi.org/10.1002/9781119053484.ch5.

Davidson, J. and Smith, M. (2009). Autistic Autobiographies and More-Than-Human Emotional Geographies. *Environment and Planning D: Society and Space*, 27(5), pp.898–916. doi:https://doi.org/10.1068/d4308.

Ellis, C., Adams, T. and Bochner, A. (2011). Autoethnography: an overview. *Qualitative Social Research*, 12(1).

Freund, P. (2001). Bodies, Disability and Spaces: The social model and disabling spatial organisations. *Disability & Society*, 16(5), pp.689–706. doi:https://doi.org/10.1080/09687590120070079.

Gleeson, B. (1999). *Geographies of disability*. London: Routledge.

Goodfellow, A. (2012). Looking through the learning disability lens: inclusive education and the learning disability embodiment. *Children's Geographies*, 10(1), pp.67–81. doi:https://doi.org/10.1080/14733285.2011.638179.

Griffin, A. and May, V. (2018). Narrative analysis and interpretative phenomenological analysis. In: C. Seale, ed., *Researching Society and Culture*. London: Sage, pp.511–532.

Hall, E. (2000). 'Blood, brain and bones': taking the body seriously in the geography of health and impairment. *Area*, 32(1), pp.21–29. doi:https://doi.org/10.1111/j.1475-4762.2000.tb00111.x.

Hall, E. and Wilton, R. (2017). Towards a relational geography of disability. *Progress in Human Geography*, 41(6), pp.727–744. doi:https://doi.org/10.1177/0309132516659705.

Hansen, N. and Philo, C. (2007). The normality of doing things differently: Bodies, spaces and disability geography. *Journal of Economic & Social Geography*, 98(4), pp.493–506. doi:https://doi.org/10.1111/j.1467-9663.2007.00417.x.

Imrie, R. (1996). Ableist Geographies, Disablist Spaces: Towards a Reconstruction of Golledge's 'Geography and the Disabled'. *Transactions of the Institute of British Geographers*, 21(2), pp.397–403. doi:https://doi.org/10.2307/622489.

Imrie, R. and Edwards, C. (2007). The Geographies of Disability: Reflections on the Development of a Sub-Discipline. *Geography Compass*, 1(3), pp.623–640. doi:https://doi.org/10.1111/j.1749-8198.2007.00032.x.

Kara, H. (2015). *Creative research methods in the social sciences: a practical guide*. Bristol: Policy Press.

Katz, J. (2000). *How emotions work*. Chicago: University Of Chicago Press.

Kenna, T. (2022). Cities of neurodiversity: New directions for an urban geography of neurodiversity. *Area*, 54(4), pp.646–654. doi:https://doi.org/10.1111/area.12803.

Kitchin, R. (1998). 'Out of Place', 'Knowing One's Place': Space, power and the exclusion of disabled people. *Disability & Society*, 13(3), pp.343–356. doi:https://doi.org/10.1080/09687599826678.

Laurier, E. and Brown, B. (2008). Rotating maps and readers: praxiological aspects of alignment and orientation. *Transactions of the Institute of British Geographers*, 33(2), pp.201–221.

Leroi, A.M. (2003). *Mutants: On the Form, Varieties and Errors of the Human Body*. London: Harper Perennial.

Lorimer, H. (2005). Cultural geography: the busyness of being `more-than-representational'. *Progress in Human Geography*, 29(1), pp.83–94. doi:https://doi.org/10.1191/0309132505ph531pr.

MacLennan, K., Woolley, C., '21andsensory', E., Heasman, B., Starns, J., George, B. and Manning, C. (2022). 'It Is a Big Spider Web of Things': Sensory Experiences of Autistic Adults in Public Spaces. *Autism in Adulthood*. doi:https://doi.org/10.1089/aut.2022.0024.

Macpherson, H. (2009). The Intercorporeal Emergence of Landscape: Negotiating Sight, Blindness, and Ideas of Landscape in the British Countryside. *Environment and Planning A: Economy and Space*, 41(5), pp.1042–1054. doi:https://doi.org/10.1068/a40365.

Macpherson, H. (2010). Non-Representational Approaches to Body-Landscape Relations. *Geography Compass*, 4(1), pp.1–13. doi:https://doi.org/10.1111/j.1749-8198.2009.00276.x.

Madriaga, M. (2010). 'I avoid pubs and the student union like the plague': Students with Asperger Syndrome and their negotiation of university spaces. *Children's Geographies*, 8(1), pp.39–50. doi:https://doi.org/10.1080/14733280903500166.

Manning, C., Williams, G. and MacLennan, K. (2023). Sensory-inclusive spaces for autistic people: We need to build the evidence base. *Autism*, 27(6), pp.1511–1515. doi:https://doi.org/10.1177/13623613231183541.

Massey, D.B. (2005). *For space*. London: Sage.

Mazalán, P. and Mazalán, P. (2021). The City as a Place Prepared for Neurodiversity. *Architektúra & urbanizmus*, 55(1-2). doi:https://doi.org/10.31577/archandurb.2021.55.1-2.2.

Morag, R. and Samuels, J. (2020). Psychogeography and Walking Art. In: *Creative Methods for Human Geographers*. London: Sage.

Mostafa, M. (2015). An Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index. *Design Principles and Practices: An International Journal—Annual Review*, 8(1), pp.55–71. doi:https://doi.org/10.18848/1833-1874/cgp/v08/38300.

Murdoch, J. (2006). *Post-structuralist Geography: a Guide to Relational Space*. London: Sage.

O'Grady, N. (2018). Geographies of Affect. *Oxford Bibliographies Online Datasets*. doi:https://doi.org/10.1093/obo/9780199874002-0186.

Paiva, D. (2020). Poetry as a resonant method for multi-sensory research. *Emotion, Space and Society*, 34. doi:https://doi.org/10.1016/j.emospa.2020.100655.

Peters, K. (2017). *Your Human Geography Dissertation: Designing, Doing, Delivering*. London: Sage.

Pinder, R. (1995). Bringing back the body without the blame? The experience of ill and disabled people at work. *Sociology of Health and Illness*, 17(5), pp.605–631. doi:https://doi.org/10.1111/1467-9566.ep10932129.

Prince-Hughes, D. (2004). *Songs of the Gorilla Nation*. New York: Harmony Books.

Rose, M. (2002). Landscape and Labyrinths. *Geoforum*, 33(4), pp.455–467. doi:https://doi.org/10.1016/s0016-7185(02)00030-1.

Rose, M. and Wylie, J. (2006). Animating Landscape. *Environment and Planning D: Society and Space*, 24(4), pp.475–479. doi:https://doi.org/10.1068/d2404ed.

Rose, N. (1996). Identity, geneology, history. In: S. Hall and P. du Gay, eds., *Questions of Cultural Identity*. London: Routledge.

Singer, J. (1999). Why can't you be normal for once in your life? From a 'problem with no name' to the emergence of a new category of difference. In: *Disability discourse*. Buckingham: Open University Press, pp.59–67.

Smith, P. (2005). Off the map: a critical geography of intellectual disabilities. *Health & Place*, 11(2), pp.87–92. doi:https://doi.org/10.1016/j.healthplace.2004.10.006.

Stephens, L., Ruddick, S. and McKeever, P. (2014). Disability and Deleuze. *Body & Society*, 21(2), pp.194–220. doi:https://doi.org/10.1177/1357034x14541155.

Szatmari, P. (2004). *A Mind Apart: Understanding Children with Autism and Asperger Syndrome*. London: Guilford Press.

Thien, D. (2005). After or beyond feeling? A consideration of affect and emotion in geography. *Area*, [online] 37(4), pp.450–454. doi:https://doi.org/10.1111/j.1475-4762.2005.00643a.x.

Thrift, N. (2008). *Non-representational theory: Space, politics, affect*. London: Routledge.

Von Benzon, N., Wilkinson, C., Wilkinson, S. and Holton, M. (2021). *Creative methods for human geographers*. London: Sage.

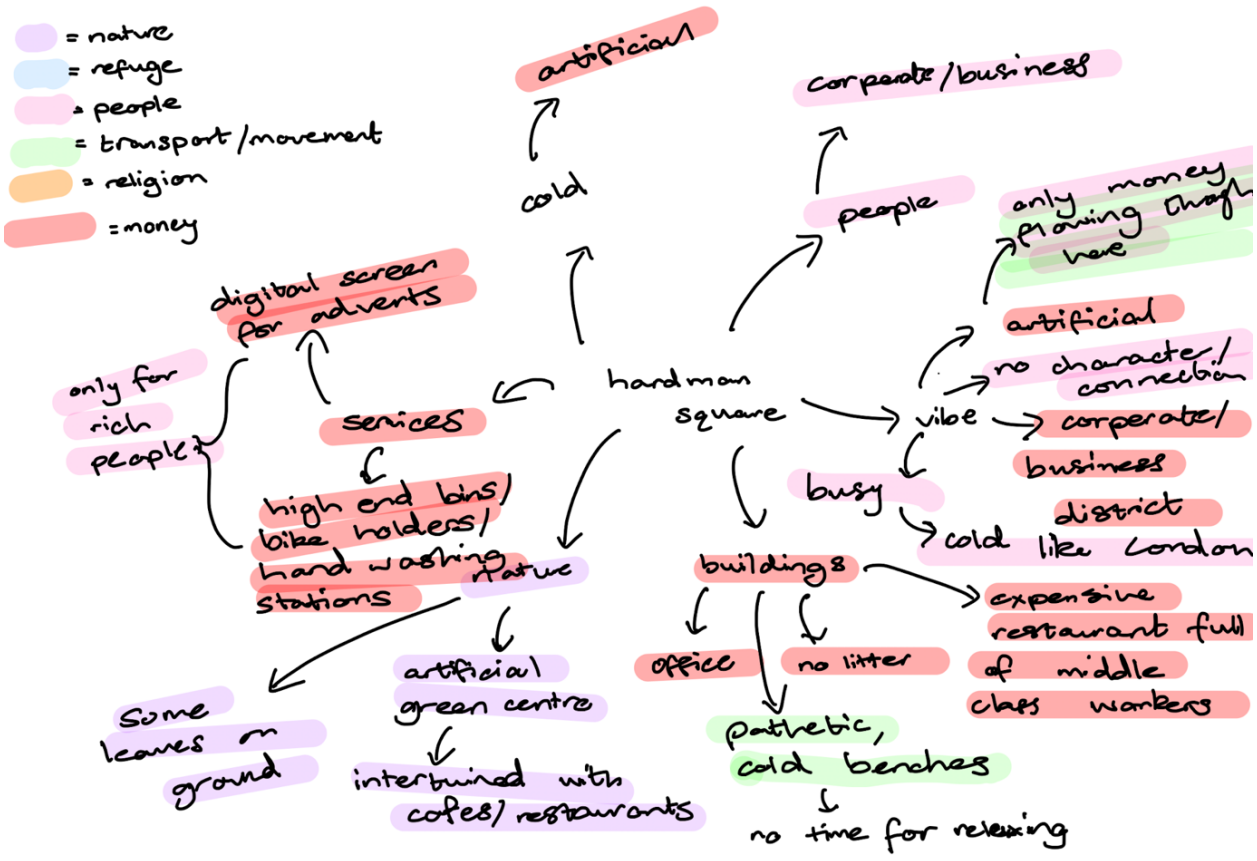
Wendell, S. (1996). *The Rejected body: Feminist Philosophical Reflections on Disability*. London: Routledge.

Wunderlich, F.M. (2008). Walking and Rhythmicity: Sensing Urban Space. *Journal of Urban Design*, 13(1), pp.125–139. doi:https://doi.org/10.1080/13574800701803472.

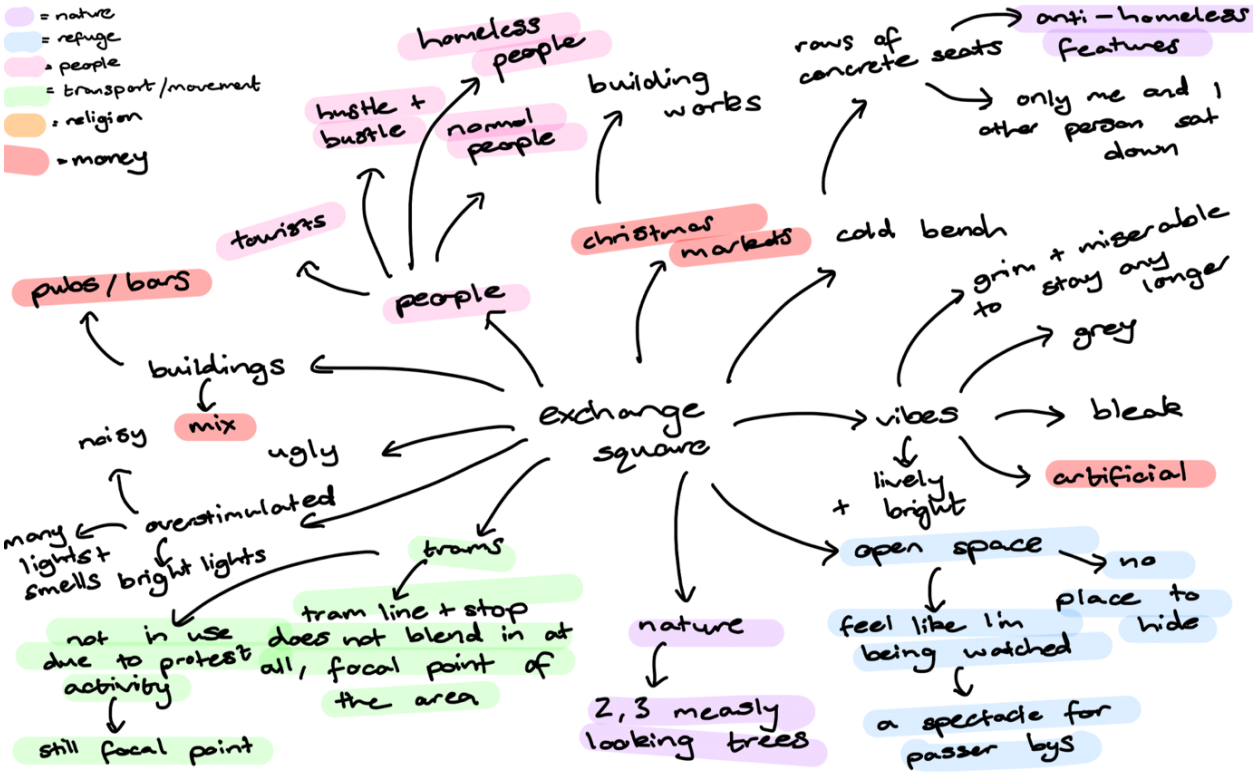
YouTube (2024). *Series of Creative Mapping*. [online] www.youtube.com. Available at: https://youtu.be/oqVV1RnSLRM [Accessed 8 Apr. 2024].

# 8 Appendix

**Appendix 1:** Mind maps of ideas and colour-coordinated coding from fieldnotes


= nature
= refuge
= people
= transport/movement
= religion
= money
artificial
cold
corporate/business
people
only money flowing through here
digital screen for adverts
only for rich people
services
high end bins/ bike holders/ hand washing stations
hardman square
vibe
artificial
no character/ connection
corperate/ business
busy
district
cold like London
buildings
expensive restaurant full of middle class workers
nature
office
no litter
some leaves on ground
artificial green centre
interbuined with cafes/ restaurants
pathetic, cold benches
no time for relaxing


history of manchester
happiness, fun, festivities
cobbled street
high end luxury shops
= nature
= refuge
= people
= transport/movement
= religion
= money
hustle + bustle
food smell
christmas markets in centre
fresh streets
buildings
wind on my ankles
services
France
vibes
luxury area
st anns square
nasty petrol
smelly
food
religion
nativity
pigeons sleeping in shelter of the church
nature
couple of pigeons on street
people
weird statue of homeless man on bench
mix of people
shoppers
many walks of life
normal people
don't feel out of place, I blend in
christmas markets
christmas feeling
contrasts to the high-end feel
people stopped, eating and having fun, taking their time


= nature
= refuge
= people
= transport/movement
= religion
= money
homeless people
hustle + bustle
normal people
tourists
building works
rows of concrete seats
anti-homeless features
only me and 1 other person sat down
christmas markets
cold bench
grim + miserable to stay any longer
grey
pubs / bars
people
buildings
exchange square
vibes
bleak
artificial
lively + bright
mix
noisy
ugly
overstimulated
many lights + smells bright lights
trams
tram line + stop does not blend in at all, focal point of the area
not in use due to protest activity
still focal point
nature
2, 3 measly looking trees
open space
no place to hide
feel like I'm being watched
a spectacle for passer bys


= nature
= refuge
= people
= transport/movement
= religion
= money
drinkers and drug takers
everywhere on benches + walking
men heckled at me
trees in manufactured lines
homeless man sat next to pile of sick
bible course outside of lidl
people
some random man playing a radio loud and singing
different languages + ethnicities
gorgeous yellow leaves on floor
nature
unsafe
trams going part
picadilly gardens
green space is spectacle
3 trees in sight and small
nature
green is small fenced off
many pigeons
refuge
feels like a coliseum
vibes
had to leave early vile
busy + loud
as an awful place to be
loud
shouting + singing
building works
loud speaker
dirty
litter, food, sick on floor
cigarettes everywhere
one covered in oil
smells of urine