

NATURAL DYEING IN CONTEMPORARY UK CRAFT CULTURES:
INTRA-ACTIONS BETWEEN HUMANS, NATURE AND MATERIALS

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ABSTRACT

When synthetic dyes were developed during the 1850s, they came to dominate the fashion and textile industry, resulting in the decline of natural dyeing. Since then, natural dyeing has seen brief periods of increased activity: during the Arts and Crafts movement (1880 – 1920) and the 1960s/70s counterculture. In recent years, in response to an increased interest in sustainability within the fashion and textile sector and as part of a wider resurgence of craft practice, there has been another revival in natural dyeing. This thesis explores the contemporary practice of natural dyeing in the United Kingdom, from a textile-crafts perspective. The study aims to uncover how and why natural dyeing is being practised within the United Kingdom, to illuminate the intra-actions that occur between humans, nature and materials and to reflect on the impacts of such engagement for craft, textiles and sustainability. A variety of qualitative methods were used including: ethnographic social media research of natural dyeing content; an online survey to understand dyers' practice, motivations and socio-demographics (with 82 respondents); 11 semi-structured online/telephone interviews with dyeing practitioners; and 3 participatory fieldwork visits to dyers in their gardens, allotments and/or homes. The researcher's own reflective natural dyeing practice informed the research. Data was analysed thematically.

The theoretical framework is based upon four key components: insights from craft research, which foreground experiential, embodied and tacit forms of knowledge; Ingold's notions of correspondence and dwelling; new materialist approaches that embrace the agentic capacities of plants and materials; and assemblage thinking.

The findings are divided across four themed chapters. *Contemporary Practice in Natural Dyeing* discusses features of the online landscape that contemporary practice is situated within and introduces context on how, why and by whom the craft of natural dyeing is currently being practised. *Gathering* foregrounds practitioners' experiences of growing and foraging dyestuffs and demonstrates how dyers form a dialogue with the more-than-human and engage in acts of reciprocity and care. *Colour* looks at the transformation from plant to colour. Dyers' perceptions of the colours achieved and the elements that influence the emergence of colours are discussed, alongside perspectives on mordanting, making and wearing naturally dyed clothing. *Connection, Resistance & Possibility* adopts a broader perspective of natural dyeing, highlighting the material and social networks it fosters, the influence of seasonality and weather, challenges around pace and scale and the micro-scale textile systems that dyers form. The four themed chapters feed into a wider discussion on crafting in partnership with the more-than-human and consider how natural dyeing (re)connects practitioners to nature's rhythms, supports socio-ecological change and contributes to sustainability within and beyond fashion and textiles. Natural dyeing is positioned as a countercultural practice, and this thesis highlights how working seasonally, locally and slowly offers alternative ways of organising work and fosters values that challenge growth-centric paradigms and align with degrowth and post-growth futures.

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1. INTRODUCTION

Natural dyeing has an extensive history; for thousands of years humans have been creating dyes from flora and fauna to impart colour to a variety of materials including textiles (Brunello 1973; Cardon 2007). I first encountered the craft of natural dyeing when I decided that I would like a tie-dyed cotton tote bag to carry my shopping. I had a clear vision in my mind of the design that I wanted: a mix of blue, green and yellow in the typical concentric circular tie-dye pattern. When I searched for what I wanted online I could not find anything that fulfilled my ideal and the closest I could get to it was an indigo blue design. During textiles classes at secondary school we had done some tie-dyeing and made cushion covers. I also remembered tie-dyeing t-shirts with my dad using buckets in our garden when I was much younger. Both times I would have used synthetic dyes, which largely replaced natural dyes in the nineteenth and twentieth centuries, but at that time I was unaware of the distinction between natural or synthetic: it was just 'dye'. The indigo bags I had found when searching online led me to find out about natural indigo which then prompted me to wonder about other colours from natural sources; this was how I fell down the rabbit hole of natural dyes and dyeing.

Early on in my research I discovered that within the contemporary practice of the craft, outside of instructional books and science and technology approaches to natural dyeing, studies are few and far between. Approaches that examine the socio-cultural and material elements of natural dyeing crafts in a European context are exceptionally limited. To address this gap, this research aims to develop an understanding of the contemporary practice of natural dyeing within the United Kingdom. The research is framed as qualitative, textile-craft research and it is concerned with the correspondences that occur between humans, materials and nature within natural dyeing craft practices. It also considers what the impacts, outcomes and opportunities of engaging in natural dyeing craft practice are in relation to sustainability, craft and textiles.

In Section 1.1 I situate myself within the research and outline how my background and natural dyeing practice informed the development of the project. Section 1.2 introduces the overall research aim and the research questions. In Section 1.3 I provide a non-technical overview of the natural dyeing process. Section 1.4 presents a brief overview of the historical context of natural dyeing, while in Section 1.5 I introduce a contextual framing of the fashion and textile industry, recounting how the industry has developed since the development of synthetic dyes. I outline recent developments relating to sustainability within the fashion and textile sector to situate my research into

contemporary natural dyeing within contemporary discourse around fashion, textiles and sustainability. Section 1.6 explores the disconnection between humans and nature that have driven behaviours leading to unsustainable, extractive and exploitative practices; Section 1.7 outlines the thesis structure.

1.1 BACKGROUND TO THE RESEARCH

In this section I will outline how my background and natural dyeing practice informed the development of the research project. Earlier in the chapter I explained how my introduction to natural dyeing originated through wanting to produce a blue, green and yellow tie-dyed cotton shopping bag that was unavailable on the market. Creating my own bag occurred to me straightaway; I had done some tie-dyeing before and I had always enjoyed crafting and making things for myself, for example through simple sewing projects. To create the bag, I first experimented with powdered natural dye extracts and made dye baths and a dye vat with natural indigo. The most challenging aspect was understanding how to mordant, but I followed guidance in Jenny Dean's (2010) expansive book *Wild Colour* and quickly got to grips with it. After much trial and error with different designs and amounts of dye, I produced the bag I had originally visualised from powdered indigo and weld extract (Figure 1).



Figure 1. An organic cotton tote bag dyed with weld extract and overdyeed with indigo. Own photo, May 2018.

From there, I continued to experiment with dye extracts, colour combinations and application techniques. After six months I established a micro-enterprise selling my tote bags to others online and over the course of two to three years I produced other products including scarves, hair ties and upcycled clothing. I sold the products at craft fairs and to bricks-and-mortar shops. Once I started reading more about the plants used in natural dyeing I became interested in learning more about what I could find locally and growing my own. I had always had an appreciation for nature and was

already a keen gardener. My interest in gardening originally came from my mum, who dedicated much time and effort to nurturing our garden and had a knack for rescuing plants that seemed beyond help. For me, growing my own dye plants or foraging for them locally seemed like a natural extension of activities I was already doing. I was lucky enough to have space at our allotment and grew my first dye plants (coreopsis, woad, weld and marigold) there in 2018. I have grown them regularly since and now rely solely on homegrown dye plants or locally foraged dyestuffs in my practice (Figure 2).

I found that growing my own dye plants combined my existing interests in craft and horticulture



Figure 2. Planting out young coreopsis plants in front of blooming second-year woad plants at my allotment in Leicester, June 2022.

perfectly. Over the course of a couple of years of dyeing practice, I began to notice a shift in my thinking towards the materials I was using and my approach to dyeing. I was gradually becoming more conscious of where I was sourcing materials from and paying more attention to the types of textiles and mordants that I was using. Increasingly, I was seeking out more local and ‘natural’ material inputs, partly in a bid to reduce the environmental impacts of my practice but also to connect to my local environment. In addition, I had first started out using extracts which, if a dye recipe was repeated, gave consistent colour results. When I swapped to using only homegrown plants, I noticed that I had much less control over the final outcomes. The colour results were often unpredictable but somehow felt more ‘alive’ compared to the extract-based colours I had previously used. I found myself embracing the unknown and unpredictable aspects of natural dyeing more and more. It was this notion of accepting, working with and around the serendipitous aspects of homegrown dye plants that initially led to the development of this research project. After noticing the shift in my own

thinking towards sourcing materials for my practice and the difference between using homegrown dyestuffs compared to purchased extracts, I became curious about other people's natural dyeing practices. Over the time I had been practising I had observed an increase in the amount of social media content about natural dyeing which suggested to me that the craft was growing in popularity. To find out more, I looked for books about natural dyeing that went beyond dye recipes and included information about the socio-cultural elements of the craft and its wider implications. However, I found it challenging to find that type of natural dyeing literature, especially in post-industrial contexts like the United Kingdom. The majority of academic attention appeared to focus on natural dyeing from a scientific or technical perspective, rather than the socio-cultural elements of natural dyeing that were beginning to interest me. Likewise, academic literature exploring the sustainability of natural dyeing tended to adopt a scientific rather than holistic perspective. During my search for relevant literature, I came across the book *Fibershed* by Rebecca Burgess and Courtney White (2019) which presented an introduction to regional, hyper-local textile systems called Fibersheds (see Section 1.6), of which natural dyes formed a key part. The book outlined how regional textile systems can contribute to social and ecological sustainability by transforming how and where textiles are produced and used. The growing Fibershed movement also led me to consider whether smaller scale natural dyeing practices, like my own, could be part of a wider countercultural movement towards localism, sustainability and regenerative practices.

At that point, I recognised an opportunity to carry out my own research into natural dyeing in the United Kingdom to answer the questions that had grown from my own experiences and practice. I already had a longstanding interest in sustainability and human-nature entanglements: my educational background is broadly concerned with issues relating to human-nature relationships, in particular climate change and sustainability. I completed an MSci degree in Environmental Geography and Climate Change at the University of East Anglia (2010 – 2014). My studies there gave me a grounding in both physical and social science approaches to understanding climate change and sustainability. Exploring the drivers of the climate crisis and sustainability issues sparked my interest in the socio-cultural and socio-material aspects of human relationships with nature, leading me to pursue my interests through completing an MSc in Human Ecology: Culture, Power & Sustainability at Lund University (2016 - 2017). My academic interests contributed to my curiosity about sustainability and human-nature relationships within practices like natural dyeing and helped to further inform the development of this research project.

In this thesis, as part of my methodological approach (presented in Chapter 4) I have sought to use my personal insights into natural dyeing and my continuing practice as a source of reflection. My own

experiential and embodied knowledge of craft dyeing is presented throughout Chapters 6, 7 and 8 alongside the analysis of the data generated through the project.

1.2 RESEARCH AIM & RESEARCH QUESTIONS

The aim of the thesis is primarily to uncover information about the contemporary practice of natural dyeing within the United Kingdom and the complex entanglement of human-nature correspondences that it is formed of. The thesis also identifies micro-scale textile dyeing systems and considers their potential for impacting the sustainability of the wider fashion and textile industry.

A variety of specialist terminology and vocabulary are used within this thesis. I have compiled a list of key dyeing terminology, which is located in Appendix 1. I use the term ‘intra-action’ to convey the entanglement of agencies at play within natural dyeing. The term ‘intra-action’ was first developed by Karen Barad in *Meeting the Universe Halfway* (2007) and forms a key element of her agential realism concept. Agential realism is a conceptual framework which suggests that reality isn’t constituted of individual or separate entities that interact with each other. Instead, reality is formed of phenomena which are the result of dynamic and relational entanglements, through which agency emerges via intra-action (ibid). I provide further context on the term and outline the theoretical approach for the thesis in Chapter 3.3.

The term ‘more-than-human’ is used throughout the thesis and can be understood as referring to all non-human things both living and not. For example, it can refer to both plants and animals but also incorporates other elements of the natural world such as weather, seasons and landscape. It is a term that is used ‘positively to highlight the absolute dependence of humans on a vast and complex array of non-human entities, only some of which are subject to human control’ (Rogers, Castree & Kitchin 2013: 327). There are similar terms that are used interchangeably in research, which are dependent on the field using them e.g. nonhuman is sometimes used instead. For the purposes of this thesis, I have decided to use the term more-than-human throughout. Further context regarding research questions, research design and methodology are presented in Chapter 4 and Chapters 5 to 8 present the research findings.

There are three research questions that I will address in this thesis:

RQ1: What is the context of contemporary natural dyeing craft practice in the United Kingdom? Why is natural dyeing becoming more widely practised?

RQ2: How do intra-actions occur between natural dyers and the more-than-human?

RQ3: What are the implications of these human-nature intra-actions for craft, textiles and sustainability? What impacts and opportunities are created?

The following sections of this chapter introduce the process of natural dyeing, from a non-technical perspective, and provide background contextualisation relating to the history of natural dyeing, the fashion and textile industry, sustainability, degrowth and human-nature disconnection.

1.3 THE NATURAL DYEING PROCESS

Natural dyeing encompasses a broad variety of techniques and approaches to applying colour created from flora and fauna. In this thesis, my focus is on discussing natural dyeing techniques that utilise plant-derived material to create dye, though I use the term 'natural dyes' to refer to plant dyes throughout. Historically, plant-derived dye sources have also been referred to as 'vegetable' dyes despite not all dye sources being categorised as 'vegetables', i.e. they do not necessarily have the dual purpose to humans (as both food and dye source) that the name suggests and also encompass flowers, barks, herbs, fruit and leaves. There are manifold techniques for extracting colour from plant material. In the context of this thesis, I am focusing on a few key techniques that my research participants and I use within our natural dyeing practice. I will introduce a broad (and non-technical) overview of these methods to provide a foundation of knowledge to facilitate understanding of the facets of the practice presented and discussed in Chapters 2, 5, 6, 7 and 8.

SCOURING

This is first stage in the natural dyeing process. By scouring the textiles, i.e. cleaning them with detergent or soda ash to remove excess grease and residues, the ability for the textile to absorb mordants and dyes is improved. Without scouring, natural dyeing results can be patchy and the dye will adhere to the textile less effectively. To scour, textiles are submerged in water with soda ash or detergent and heated for a couple of hours, then rinsed. Afterwards they are ready for mordanting and/or dyeing.

MORDANTING

A key component of the natural dyeing process is mordanting, which directly influences the colour achieved for most dyes. The vast majority of natural dyes are adjective dyes, meaning that they require a mordant treatment to enable the dye molecules to adhere to the fibre. Mordanting cellulose or protein fibres before dyeing improves the light and wash fastness of dyed textiles, giving them greater longevity. It also improves the saturation and brilliance of the colours achieved.

Substantive dyes are exceptions to this rule, because they do not require a mordant to adhere to cellulose or protein fibres. Indigo and Walnut are both substantive dyes. Without a mordant, textiles will absorb some colour from an adjective dye bath but it will not fix to the textile effectively.

Mordanting usually takes place before the introduction of the dye, whereby a mordant is added to water alongside the textile and heated, then the textile is removed from the solution and is ready to be dyed. Occasionally the dye stuff, textile, water and mordant are combined together.

Mordants can be sourced from a variety of places including the plant world, but the majority of mordants are forms of metal salts, including elements such as aluminium, chrome and tin. Iron is also used within natural dyeing, sometimes as a mordant but most often to 'sadden' or darken colours after dyeing.

DYEING

The most common method of releasing (extracting) a dye from plants involves steeping the plant material (only used for water-soluble dyestuffs) in a dye pot filled with water and applying heat (Figure 3).

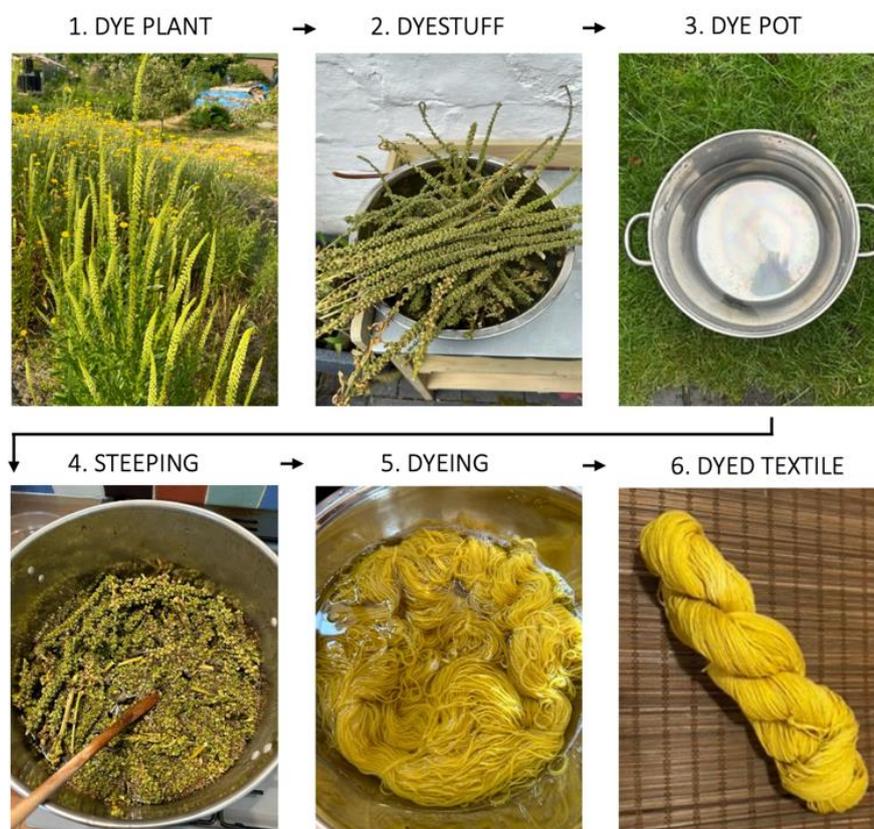


Figure 3. A simplified overview of the dyeing process. A dye plant [weld] (1) is harvested, the dyestuff (2) is added to a dye pot of water (3) to steep (4) and extract the dye. A textile is added (5) which takes on the colour the dyestuff has released, to create a naturally dyed textile (6). July 2022, own photos/diagram.

The duration of heating and steeping times can vary greatly, many dyers do so for around one to two hours and leave the heated solution to cool. Others will leave the dyestuff in the dye pot for a couple of days. Some dyes release more quickly than others. It is down to personal preference of the dyer and the material that they are working with. Once the colour has seeped out of the plant and into the water the dyer will usually strain out or remove the dyestuff from the pot. Then they can introduce the mordanted textiles to the dye bath, in which the textile will absorb the colour of the dye. The duration of this part of the process again varies; some dyes absorb quickly, whilst others take longer to develop. The dye bath method is commonly used for adjective dyes, which require a mordant for the dye molecules to fix to the textile. Another natural dyeing method is vat dyeing. In this method, a water-insoluble dyestuff (for example indigo) is made soluble through a process of reduction so that a textile can absorb the dye. This method does not require mordanted fabrics because indigo is a substantive dye.

Botanical printing, also referred to as eco-printing, is another natural dyeing technique. It differs from vat dyeing and creating a dye bath because the textile is not submerged in the dye liquor. Instead, a dyer places leaves and other plant material directly onto the surface of the textile, which is rolled up and heated, after heating the leaves are removed: leaving behind impressions of the plant material on the fabric (Figure 4).

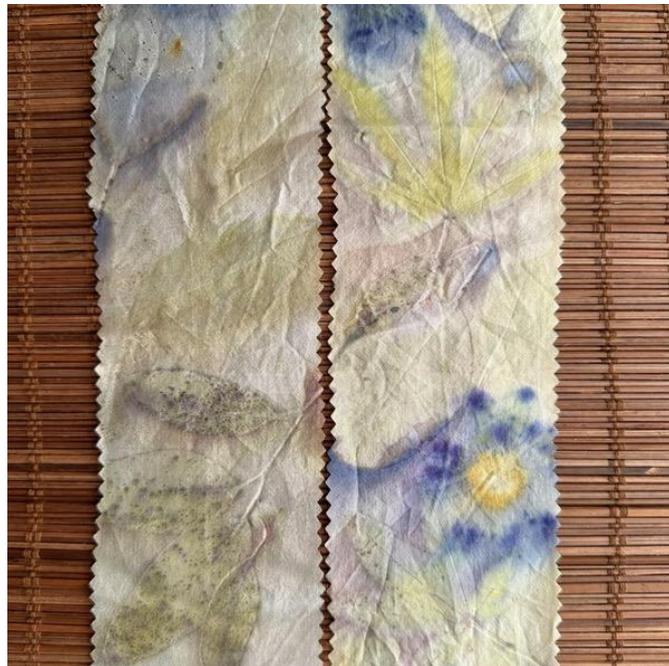


Figure 4. Silk ribbon featuring a botanically printed pattern. Own photo, August 2024.

There are myriad other methods of applying natural dyes, including for a variety of printing purposes by creating an ink or a paint. However, in this thesis I have chosen to focus on the most common method of creating a dye bath and the botanical printing method. Data relating to the types of technique most often used by dyers is presented in Chapter 5.

1.4 NATURAL DYEING TO THE 1850S

To set the scene for the discussion of natural dyeing in a contemporary context, it is necessary to first look back and to consider the history of natural dye use. This section presents a broad overview of natural dyeing up until the rise of synthetic dyes. A more comprehensive account charting the historical development of natural dyeing is beyond the scope and aims of this thesis. A discussion of the trajectory of natural dyeing since the 1850s to the present contemporary revival is covered extensively in Chapter 2, then in Chapters 5, 6, 7 and 8 I present my findings on the contemporary practice of natural dyeing.

The origins of naturally derived colour can be dated back to prehistoric times, with evidence from the neolithic age showing that humans found materials from the natural world such as leaves, flowers, barks and earth pigments to impart colour onto other materials, including textiles (Brunello 1973; Cardon 2007). Although the majority of textiles from early history have perished over time, by sampling ancient textiles discovered in various locations across the world, archaeologists, historians and scientists have been able to uncover some of the dyestuffs that were used (see for example Martoglio et al. 1990; Jørgensen and Walton 1986).

One of the most important colours of ancient times in the Mediterranean was Tyrian purple, which was extracted from molluscs. Creating purple dyes was an extremely expensive, lengthy and complicated process (creating an ounce of dye required approximately 250,000 molluscs), which meant that Tyrian purple textiles were symbols of wealth and power, worn by kings, emperors and the upper classes of society (St. Clair 2016). Dyeworks tended to be on the outskirts of towns and cities due to the smell and waste that they produced (Sandberg 1997). Eventually, the high demand for the molluscs resulted in overharvesting, with the Phoenicians (1500 – 300BC) driving two types of the purple-giving molluscs to extinction through their overuse (Sandberg 1997: 38). Later, in 1453, when the Turks took over Constantinople the knowledge of dye production was lost (Melo 2009; St. Clair 2016). Other sources of purple dye, such as orchil purple derived from a lichen, have followed a similar path of overexploitation leading to the depletion of resources and eventually exhaustion of them (St. Clair 2016).

Another of the most significant dyes historically is indigo, which remains highly prized for its colour and lightfastness and has been used for over four thousand years (Bohmer 2002). Indigo has cultural significance and is woven into the burial customs of many cultures globally (Biertümpfel and Wurl 2009; St. Clair 2016). There are multiple sources of indigo-giving plants but from prehistoric times through to the medieval the only source for European civilisations would have been from woad plants (Cardon 2009). For thousands of years India was the greatest indigo producer because Indian indigo

was prized for its strong pigment (Bohmer 2002). India became the main source of indigo globally, eventually leading to the collapse of the British woad industry (St. Clair 2016). Balfour-Paul (2011: 42) observes that the global indigo trade, driven by colonial powers, was complex and exploitative:

For four centuries the many-stranded story of indigo, as of other commodities in much demand, is woven into an immensely complex pattern of trans-continental trade, colonial agricultural enterprise based on slavery, revolutions in industry, rivalry between the great European shipping companies and political relations between trading nations. A genuine passion in the West, and elsewhere, for beautiful textiles and exotic dyes and spices was fuelled by greed, slavery and protectionism.

The trade in indigo peaked in 1897 when India exported more than 10,000 tons, but exports collapsed after the introduction of synthetic indigo that year, though production continues today on a smaller scale (Bohmer 2002: 217).

Natural dye sources for red include plant-derived madder and insect-derived kermes, lac and cochineal. Madder was the most popular source of red, the most used dye after indigo in ancient times (Sandberg 1997; Cardon 2009) and was special to the Roman, Ancient Egyptian and Chinese cultures (St Clair 2016). Madder-producing plants create various shades of reds, oranges, pinks and browns and grow wild across the globe but madder also has a history of being cultivated in Europe, Asia and America (Sandberg 1997). Kermes and lac were used in Europe and the Mediterranean widely until the late medieval era, when their use was overtaken by cochineal (which produced a more brilliant red and required fewer insects) from the Americas, forming an important trade source for the Spanish Empire.

Yellow is a significant colour in natural dyeing due to its abundance and diversity of sources, meaning that many yellow dyes could be gathered by people locally (Melo 2009). Though from the medieval era to the 19th Century, yellow producing dye plants such as weld were also cultivated on a large scale in Europe to meet the demands of the textile industry (Cardon 2009).

From the medieval period, natural dyeing production was also associated with guilds, which were 'associations of craftsmen and merchants formed to promote the economic interests of their members as well as to provide protection and mutual aid' (Bosshardt and Lopus 2013: 61). Guilds provided opportunities for education and work (Sennett 2008) and were important conduits for the development and sharing of dyeing knowledge.

In Section 1.3 I outlined that mordanting is a key step in the natural dyeing process and mentioned the use of metal salts such as alum as a mordanting substance. Information on historical mordant use is relatively limited compared to knowledge of the dyestuffs used (Ahmed 2009). Alum is the most significant mordant historically though and there is evidence of its use in Egypt in ancient times. Other metals such as Iron, Copper and Tin were also used historically (Dean 2014; Cardon 2007). In the medieval period alum production was mainly concentrated in Turkey, until the Catholic church and Vatican took control of European production in the mid 1400s (Osborne 1999). Alum was later mined in the UK in North Yorkshire for more than 300 years until technological progress in production methods meant that the industry there disappeared (ibid).

The points in the history of natural dyeing that I have presented in this section demonstrate that natural dyeing was once a complex and vast industry that was closely entwined with place, power and culture. The scale of the industry led to extractive tendencies and exploitative practices, as evidenced in the indigo trade and the exhaustion of specific dye sources such as the purple dyes.

1.5 DEVELOPMENT AND PROLIFERATION OF SYNTHETIC DYES

In the mid 1800s the aniline dyes developed from coal tar derivatives were synthesised and started to be applied industrially. Mauveine purple, the first aniline dye, was created by William Perkin in 1856 whilst he was attempting to synthesise quinine as a treatment for malaria. His creation heralded a moment of huge scientific progress in dyeing (Melo 2009). As Cardon (2009: 28) notes though, purple being the first synthesised dye colour is also symbolic of a new era 'largely because of the capital of prestige accumulated by the colour purple since remote antiquity'. The widespread availability of a colour previously associated with wealth and power through its resource and labour-intensive production heralded the beginning of a democracy of colour (St Clair 2016). After just a few short decades almost any colour could be created with relative ease and efficiency, leading to greater colour accessibility.

A common misnomer about the development of synthetic dyes is that prior to 1856, only true 'natural' dyes (i.e. entirely plant, lichen or animal-based dyes) alongside basic mordants were used. In the 18th and 19th centuries, developments in dyeing technology and chemistry saw the use of combinations of natural dyes, mordants and chemical assists meaning that nearly any colour a dyer desired could be produced (Dronsfield & Edmonds 2001). These are sometimes referred to as proto-chemical dyes:

proto-chemical dyes contain both natural and chemical ingredients and they were in wide use in industry well before 1857. Natural and synthetic dyes, and proto-chemical

dyes, collectively expanded the range of colours available to nineteenth century manufacturers and to fashionable consumers. (Casselma 2008: 22)

However, the synthesis of the first aniline dyes heralded the start of an era of huge advancements in chemistry leading to the development of a rapidly expanding colour palette of synthetic dyes, which were easier to mix than the often complex and lengthy natural dyeing recipes. During their early use, the new aniline dyes were not always superior in quality compared to the finish that could be achieved with natural dyes (Davis 1995; Casselman 2008). Over time the quality and quantity of synthetic dyes on offer increased and they were used more widely in industry, resulting in a slow decline in natural dyeing in Western contexts. During the Second World War, because Germany was the leader for synthetic dye production, there was a brief resurgence of some natural dyes such as indigo, but after the war synthetic dye production only intensified further (Balfour-Paul 2011). The dyes used in textile manufacturing today are largely derived from hydrocarbons sourced from natural gas and oil, rather than the coal tar derivatives used for the early synthetic dyes (Dronsfield & Edmonds 2001).

1.6 FASHION, TEXTILES & SUSTAINABILITY

In this section I will provide context on the fashion and textile industry, the environmental issues it contributes to and introduce a variety of strategies for sustainability within the sector, alongside wider movements for sustainable change such as degrowth and post-growth. This contextual information will provide a basis of knowledge that I will draw on later in the thesis when I explore the contemporary practice of natural dyeing.

IMPACTS OF THE FASHION AND TEXTILE INDUSTRY

As I recounted in Section 1.5, in the contemporary mainstream fashion and textile system the vast majority of dyes are now from synthetic sources, many of which are derived from non-renewable fossil-fuels. Over the course of the last century, the environmental impacts of synthetic dyes have become a growing issue, compounded by the rapid expansion of the fashion and textile industry. By-products of textile dyeing, such as wastewater, are one of the major contributors to environmental pollution globally, leading to issues such as soil degradation and contamination; water and air pollution; loss of animal and plant life; and potential risks to human health (Khattab, Abdelrahman and Rehan 2020; Islam et al. 2022).

The development of synthetic dyes paved the way for scientific advancements in other areas, including textile production. Over the course of the 20th Century, new man-made fibres were developed including rayon, viscose, polyamide, polyester and acrylic, amongst others. Many of these

man-made fibres, such as polyamide, polyester and acrylic are known as synthetic fibres. Like their synthetic dye counterparts, synthetic fibres could be produced efficiently, quickly and more cheaply when compared to their natural counterparts. It is estimated that synthetic fibres now account for 69% of textiles produced and a study by the Changing Markets Foundation (2024) found that 67% of clothing items now contained synthetic material. Just as synthetic dyes have come to dominate the industry, so have synthetic fibres:

The versatility and affordability of synthetic fibres – particularly polyester, which costs half as much per kilogram as cotton – have enabled fashion brands to saturate the market with cheap clothing, fuelling the cycle of consumption and disposal known as fast fashion.

(Changing Markets Foundation 2024: 5)

Between 2000 and 2015, global clothing production doubled from 50 billion units per year to 100 billion, which can be attributed to the rise in fast fashion and the ‘quicker turnaround of new styles, increased number of collections offered per year and [...] lower prices’ (Ellen McArthur Foundation 2017: 18). The geographies of the fashion and textile industry have also changed. Production has shifted to lower labour cost countries, resulting in the decline of production in many developed countries but an increase in consumption levels (Niinimäki et al. 2020). The key concern with expansive growth in the fashion and textile industry, alongside the large proportion of synthetic fibres and dyes, are the environmental impacts. Like synthetic dyes, many synthetic fibres are derived from non-renewable fossil-fuel sources such as oil and are essentially forms of plastic. Recent estimates suggest that polyester production ‘consumes nearly 350 million barrels of oil every year and accounts for 282 billion kilograms of carbon dioxide emissions’ (Burgess and Courtney 2019: 19). The clothing industry also contributed 8.3 million tonnes of plastic pollution in 2019 (Changing Markets Foundation 2024), whilst microplastic pollution from washing synthetic garments is an additional environmental and health concern. It is not just synthetic fibres and dyes that contribute to the environmental impacts of the industry; production of natural fibres such as cotton are resource, land and labour intensive (Fletcher 2014) with resultant environmental impacts such as water pollution and greenhouse gas emissions (Zhang et al. 2023). In addition, ‘current fashion-consumption practices result in large amounts of textile waste, most of which is incinerated, landfilled or exported to developing countries’ (Niinimäki et al. 2020: 190). The consequences of overproduction and consumption are not limited solely to the environment; there is great human cost too. The drive for high production levels and efficiency comes at the expense of fair wages and working conditions, resulting in exploitative, dangerous and sometimes deadly working conditions (Thomas 2019).

The scale of fashion and textile production and consumption renders the industry a key driver of climate change; it is estimated that the industry accounts for between 2% and 8% of worldwide greenhouse gas emissions (UNEP 2018). Projections suggest that the industry will account for 26% of the global carbon budget by 2050 (Ellen Mac Arthur Foundation 2017). Such rates of production and consumption are unsustainable in the long term:

Ultimately, the long-term stability of the fashion industry relies on the total abandonment of the fast-fashion model, linked to a decline in overproduction and overconsumption, and a corresponding decrease in material throughput. Such transformations require international coordination and involve new mindsets being adopted at both the business and the consumer levels. (Niinimäki et al. 2020: 198)

SUSTAINABILITY

There are myriad approaches that work towards more sustainable production and consumption practices in fashion and textiles. I will highlight a few key approaches and perspectives that I refer back to throughout this thesis, namely ideas relating to circularity, regenerative fashion, rewilding and Fletcher and Tham's (2019) Earth Logic perspective.

The roots of many of the negative impacts associated with the fashion and textile industry relate to its linear model of production and consumption characterised by 'low rates of use, reuse, repair and fibre-to-fibre recycling of textiles, and that often does not put quality, durability and recyclability as priorities' (European Commission 2022: 1). One alternative is a move towards a circular fashion and textile economy, in which 'waste and pollution are designed out, and products and materials are kept in use' (Ellen MacArthur Foundation 2017a: 5). Design approaches include increasing the durability of clothing, material innovation and developing new textile recycling techniques (Ellen MacArthur Foundation 2017a; Niinimäki and Hassi 2011). Consumer approaches such as encouraging reuse and repair are key, alongside new business models that aim to keep garments in use for longer (Niinimäki et al. 2020). Many of these approaches rely on the development and proliferation of new technological solutions.

TAMING AND REWILDING

Payne (2017) conceptualises fashion sustainability through the lenses of 'taming' and 'rewilding'. 'Taming' actions 'curb and control the excesses of fashion, namely pollution, excess consumption, and labour issues' (ibid:14) but do not also question the scale and growth of the industry, assuming continued capitalist expansion. Payne (ibid: 14) warns that technological solutions cannot solely be relied upon, instead arguing that a 'paradigm shift' is required to 'transform conventional fashion

production and consumption to new cultures of using, making and remaking’ and terms these approaches ‘rewilding’. Rewilding approaches place ‘the focus on sustainability via behaviour change and the social relationships between wearers and makers’ (ibid:12) and seek alternatives that do not assume continued capitalist expansion. Craft practices such as natural dyeing can be conceptualised as a ‘rewilding’ tactic. Payne suggests that both ‘taming’ and ‘rewilding’ approaches have a role to play in transitioning to a more sustainable fashion and textile future.

REGENERATIVE MODELS

Regenerative fashion and textile models recognise the interdependence of humans and nature and seek to actively improve and regenerate the environment:

Regenerative fashion is about embracing a new era of equality, connection and collaboration – one that recognizes the urgency with which we must work together to restore the ecosystems that are our home – and truly taking responsibility. From the robin in the hedgerow, to the diversity of life in our remaining coral reefs, nature is calling us to activism (Minney 2022: 216).

One of the key movements within the regenerative fashion sphere is Fibershed¹, which was founded by Rebecca Burgess in 2011 (Burgess and Courtney 2019). Fibershed is a global movement of regional fashion and textile systems which are based around a circular ‘soil to soil’ model (Figure 5) whereby



Figure 5. A diagram depicting Fibershed’s circular and regenerative ‘Soil to Soil’ textile system (Source: Fibershed 2017).

¹ In the US the movement is referred to as ‘Fibershed’ whereas in the United Kingdom it is referred to as ‘Fibreshed’. In this thesis I use ‘Fibershed’ when discussing the movement from a general perspective and ‘Fibreshed’ when referring to specific named Fibresheds in the United Kingdom.

the material inputs in the system are grown (or in the case of animals grazed) and eventually returned to the earth. Both natural fibres and natural dyes are integral to the Fibershed model (Burgess and Courtney 2019).

Burgess developed Fibershed after she had the idea of wearing clothing made 'only from materials grown, woven, and sewn in her local area of North Central California' (Fibershed 2024). Her journey to achieving that aim led her to form new collaborations with local farmers and artisans. Through doing so Burgess 'discovered an abundance of raw materials right in her community, laying the foundation for a new regional textile economy' (Fibershed 2024). Since Burgess first founded Fibershed, the movement has grown rapidly and internationally. There are now over 71 affiliated Fibersheds globally, the vast majority of which are located in developed countries. In the United Kingdom, there are currently six Fibersheds. Each Fibershed operates in its own region, e.g. in the UK there are North West and South West Fibresheds, which can incorporate numerous counties. They bring together 'farmers, ranchers, designers, sewers, weavers, knitters, felters, spinners, mill owners, and natural dyers, all deeply connected to and knowledgeable about their local landscapes' (ibid).

The natural dye and fibre farming and grazing practices that Fibershed uses help to remove carbon from the atmosphere, which can contribute to climate change mitigation and aims to rebuild soil and improve soil biodiversity (Burgess and Courtney 2019). Fibershed offers an alternative vision for how clothing can be produced by focusing on local practices connected to local landscapes and people, creating a more decentralised and diverse fashion system.

EARTH LOGIC

Fletcher and Tham's (2019) *Earth Logic: Fashion Action Research Plan* calls for widespread systemic change and demands a rethinking of the fashion and textile industry's relationship with the planet by positioning the environmental, social and economic dimensions of sustainability as inseparable. In particular, Fletcher and Tham (2019: 14) identify that the growth-driven paradigm that has fuelled the industry's expansion and led to devastating socio-environmental consequences must end and suggest that:

Rethinking fashion outside the economic growth logic shifts power from multinational companies to organisations, communities and citizens. It invites fashion creativity to flourish far beyond the confines of a garment, into visions of new relationships between people, other species, artefacts and technologies.

To work towards achieving the paradigmatic shift needed, Fletcher and Tham (ibid: 32 - 33) introduce six holistic 'Earth Logic Landscapes' for fashion action research:

1. Less: grow out of growth
2. Local: scaling, re-centering
3. Plural: new centres for fashion
4. Learning: new knowledge, skills, mindsets for fashion
5. Language: new communication for fashion
6. Governance: new ways of organising fashion

They suggest that the landscapes offer a way to move the sector away from focusing on accumulating material goods and instead to pivot towards acts of 'care and maintenance' (ibid). Care is one of the core tenets of Fletcher and Tham's (2019: 27) work:

The notion of care can radically transform our engagement with fashion. Care is an earth logic paradigmatic shift away from the binary construct of production versus consumption staged by market thinking. Care is intrinsically relational, implying unfolding practices that nurture, grow, maintain, heal as opposed to the abrupt constructs of 'selling, buying, binning'. Care is also contextual and situated, that is rooted in the local environment and community. Care strengthens, expands and invigorates relations between humans, materialities, natural world.

It is important to note that a lot of care work is performed by women every day, often in domestic spaces, which can lead to the perception of their contributions as being 'petty and unimportant, unproductive, however vital they are for liveable relations' (Puig de la Bellacasa 2017: 55). As Fletcher and Tham (2019) note, what constitutes care can be as diverse as caring for family and plants to actions mentioned here like repair and maintenance, amongst myriad others (Gibson-Graham 2008; Puig de la Bellacasa 2017). Gibson-Graham (2008) similarly find that care work has great transformative potential in paradigms that look beyond capitalism.

In *Earth Logic Gardening*, Fletcher and Tham (2023: 44 – 45) use the garden as metaphor to suggest how to move from the ideas expressed in Earth Logic to real-world action and explain the power of care:

Care is never-ending because relationships – between people, other species, inanimate objects – are never finished. Care decentralises the responsibility for gardening or working for environmental change and social justice because it is something everyone can, and does, do. This is different from the professional expertise that is often associated with sustainability. The reward of care is not 'job done', but the reciprocity and health of relationships.

Movements such as Fibershed place care for the environment at the centre of their activities and in Chapters 6, 7 and 8 I will explore some of the ways in which natural dyers perform care work.

DEGROWTH

Many of the approaches that are working towards transforming fashion and textiles into a more sustainable, equitable and diverse industry that I have introduced in this section align with the values and ideas being expressed in the burgeoning degrowth movement. The concept of degrowth can be broadly defined as the ‘planned reduction of energy and resource use designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being’ (Hickel 2021: 1105). Degrowth is a strand of the broader post-growth movement which aims ‘to replace the goal of increasing GDP with the goal of improving human wellbeing within planetary boundaries’ (Kallis et al. 2025: 62). Degrowth and post-growth ideas are responses to ‘increasing concerns that continued economic growth in high-income countries might not be environmentally sustainable, socially beneficial, or economically achievable’ (Kallis et al. 2025: 62). Degrowth questions the capitalist growth paradigm and emphasises the need to work within environmental limits and is applicable primarily to high-income nations (ibid). Degrowth and post-growth are areas of growing interest and academic enquiry, but Alexander (2013:1) argues that the movements must do more than critique growth logic, stressing the importance of exploring the question of ‘how one ought to live in opposition to those structures’. Fashion and textiles sustainability initiatives and craft practices such as natural dyeing may provide answers to that question. Particularly, craft practice is viewed as having great potential to contribute to degrowth and post-growth discourses (Rennstram and Paulsson 2024) because it provides empirical examples relating to ‘engaging in useful doing’ (Vincent and Brandellero 2023: 1). For example, Rennstram and Paulsson (2024: 1) suggest that craft can be a way of embodying and solidifying degrowth ideas because it is similarly concerned with localised methods of production and consumption, questioning the role of technology, efficiency and labour-intensity. The ideas presented in degrowth and post-growth discourse share some similarities with ideas and values brought forward through earlier periods of countercultural activity, such as the Arts and Crafts movement and the late 1960s/early 1970s period. These two periods are explored in Chapter 2, where I discuss the countercultural practice of natural dyeing since the development of synthetic dyes.

1.7 HUMAN-NATURE RELATIONSHIPS

Approaches to sustainability in fashion and textiles, alongside movements advocating for paradigmatic change, such as Earth Logic, degrowth and post-growth, are contributing towards a more holistic interpretation of sustainability that recognises the interdependence of humans and

nature and acknowledges that there are limits to growth. Through doing so, the unbalanced and exploitative human-nature relationships that have characterised the industry and Western society may be refigured and repaired. These behaviours are rooted in extractivist tendencies (i.e. taking resources without care, consent or giving back). Such tendencies are rooted in:

socio-ecologically destructive processes of subjugation, depletion, and non-reciprocal relations, occurring at all levels of practices. It follows that extractivism is diametrically opposed to the concept and practices of sustainability (including ecological, social, and economic) if that concept is defined through criteria of stewardship, reciprocity, regeneration, and ensuring life for future generations. (Chagnon et al. 2022: 762)

Such destructive behaviours have historical roots in dualism, in which humans and nature are positioned as hierarchical and separate entities for us to exploit and exert power over:

We inherit these ideas from a long line of thinkers, from Plato to Descartes, who primed us to believe that humans can rightfully exploit nature and subject it to our control. We didn't always believe these things. In fact, those who sought to pave the way for capitalism in the sixteenth century first had to destroy other, more holistic ways of seeing the world, and either convince or force people to become dualists. Dualist philosophy was leveraged to cheapen life for the sake of growth; and it is responsible at a deep level for our ecological crisis. (Hickel 2020: 20)

As Hickel explains, prior to the rise of capitalism in Western societies, more expansive world views were held but 'the Scientific Revolution, the Enlightenment and the elevation of scientific and rational thinking combined to diminish society's ability to see mystery and enchantment in the natural world' (St Pierre 2019: 94). It is important to note that such binaries and mechanistic views did not develop or proliferate across all cultures. Animist and indigenous ontologies hold very different perspectives because they:

[Recognise] a deep interdependence with rivers, forests, animals and plants, even with the planet itself, which they saw as sentient beings, just like people, and animated by the very same spirit. In some cases they even regarded them as kin. (Hickel 2020: 21)

To develop improved human-nature connections our relationship must move from a hierarchical arrangement i.e. a binary of humans/nature to a relational approach that acknowledges our interconnectivity and interdependence with the more-than-human world:

This is the thing about ecology: everything is interconnected. It's difficult for us to grasp how this works, because we're used to thinking of the world in terms of individual parts rather than complex wholes. In fact, that's even how we've been taught to think of ourselves – as individuals. We've forgotten how to pay attention to the relationships between things. Insects necessary for pollination; birds that control crop pests, grubs and worms essential to soil fertility; mangroves that purify water; the corals on which fish populations depend: these living systems are not 'out there', disconnected from humanity. On the contrary: our fates are intertwined. (Hickel 2020: 12-13)

In Section 1.6 I outlined a variety of different approaches to address sustainability within fashion and textiles. Some approaches, such as Fletcher and Tham's (2019) *Earth Logic* and Payne's (2017) concept of 'rewilding', incorporate ideas and methods to embrace interdependence between humans and the more-than-human world. Fletcher, Tham and Payne also advocate for human-nature relationships based on care and empathy for the more-than-human. In this thesis I suggest that natural dyeing provides another form of achieving more relational approaches to materials, ways of working and being with the more-than-human. In Chapter 3 I will outline how the theoretical framework that I have adopted will contribute to countering the human-nature dualisms that I have introduced in this section.

1.8 THESIS STRUCTURE

This thesis is centred on exploring contemporary natural dyeing practices in the United Kingdom from a textile-crafts perspective, with a focus on human-nature intra-actions. The structure of this thesis does not include a standalone literature review chapter. As discussed earlier in this chapter, when initially developing this research project, I found that there was a lack of literature relating to natural dyeing from a socio-cultural and post-industrial perspective. Technical studies on natural dyeing, for example focusing on chemical or material science framings of natural dyeing (see for example Shahid, Islam and Mohammad 2013), were abundant but are not directly relevant to this research context. Relevant literature is integrated throughout the chapters instead, in order to engage more directly with the themes and contexts as they emerge through the research. The first four chapters of the thesis serve to establish the wider contextual background, theoretical and methodological approaches for the thesis, whilst the final four chapters present the research findings.

Chapter 2, *Background*, introduces historical contextual information about natural dyeing and craft. It outlines the revival of natural dyeing during two prior countercultural eras: the Arts and Crafts movement (1880 – 1920) and the 1960s/70s. Literature relating to how natural dyeing was practised,

alongside some of the wider socio-political, environmental and economic factors that influenced each era, is discussed. The *Background* chapter serves to establish a context for the contemporary countercultural natural dyeing practices that I focus on in Chapters 5 to 8.

Chapter 3, *Theoretical Approach*, introduces the theoretical framework that scaffolds the thesis. Firstly, the study is situated within the wider field of craft research and the focus on agency is established. Further discussion on agency is presented through new materialist literature and Barad's (2007) perspectives on entanglement. Ingold's notions of correspondence and dwelling are introduced to further situate the focus on craft, intra-actions between humans, nature and materials, and agency. To address some of the wider socio-political and economic aspects of engaging in natural dyeing, the concept of assemblages is introduced as a way of conceptualising natural dyeing as a dynamic, relational entanglement of human and more-than-human elements.

Chapter 4, *Methodology*, outlines the research design, methods used, data generated and approach to analysis adopted. The research paradigm and iterative approach are introduced, alongside two key areas that informed the research design: the field of craft research and what I term 'research with people and plants'. The four phases of the research project and my approach to reflective practice are outlined. Information on how data was generated, the research participants, the type and quantity of data created is presented. The ethical considerations and analytical approach, which centred on thematic analysis, are also discussed.

Chapter 5, *Contemporary Practice in Natural Dyeing*, first establishes the context of the online craft landscape and how craft information is communicated. The findings from the online survey (Phase 1) are presented, which outline the socio-demographic characteristics of natural dyers, the activities they undertake and the materials that they use. Additional insight is provided from the social media research (Phase 1). Motivations for practising natural dyeing are revealed and discussed in this chapter, supported with data from all four research phases. Key motivations are identified, including for nature connection, sustainability and heritage, amongst others. The important role of Guilds of Weavers, Spinners and Dyers in communicating natural dyeing information is also discussed.

Chapters 6, 7 and 8 present findings from Phases 2, 3 and 4 alongside insights from my own reflective practice.

Chapter 6, *Gathering*, explores the process of gathering dyestuffs to use in natural dyeing by focusing on dyers' cultivation or foraging of dye plants and the intra-actions between humans, nature and materials that occur. Dyers' approaches to growing dye plants are presented, alongside their methods of managing and caring for the more-than-humans they encounter in their cultivation spaces. The

experiences of dyers who forage for dyestuffs are highlighted, including insights into how foraging knowledge is gained. The gathering of dyestuffs leads to discussion about practising reciprocity and feeling kinship with the more-than-human world.

Chapter 7, *Colour*, focuses on the transformation of gathered dyestuffs into a colour. Dyers' perceptions towards the colours that can be derived from nature are presented, together with discussion around how dyers encourage nature to lead the dyeing process. Approaches to mordanting textiles are discussed, alongside reflection on the time dyers spend tending the dye pot. Insight into wearing and caring for naturally dyed clothing is also featured.

Chapter 8, *Connection, Resistance & Possibility*, adopts a broader view of natural dyeing practices by examining the wider landscape that it is entangled within through framing natural dyeing as an assemblage. The opportunities for connection with other people and place are uncovered through exploring dyers approaches to materials sourcing and knowledge exchange. Dyers' working methods in response to elements such as seasons and weather are considered, and the pace and scale of dyers' activities are discussed. Chapter 8 demonstrates some of the ways in which natural dyeing practices act to counter mainstream, growth-centric paradigms.

Chapter 9, *Conclusion*, summarises the findings of the research. An overview of the development of natural dyeing since the advent of synthetic dyes is presented. Then, the findings are framed in relation to Fletcher and Tham's (2019) *Earth Logic* by highlighting how natural dyeing contributes to each of their six holistic landscapes. This is followed by a short discussion of how the theoretical framework adopted in the study led to new perspectives on how natural dyers craft-with the environment. An overall summary of the findings is provided, with four key contributions to knowledge identified. The limitations of the research are acknowledged, with suggestions for further research presented.

2. COUNTERCULTURAL NATURAL DYEING

2.1 INTRODUCTION

In Chapter 1, I introduced an overview of the history of natural dyeing prior to the development of synthetic dyes. Background context relating to sustainability within fashion and textiles was also established in order to provide a foundation for my enquiry into the contemporary practice of natural dyeing in the United Kingdom. This chapter will explore elements of the historical, material, socio-cultural, economic and political context of natural dyeing practices. I have chosen to frame this contextual information across three distinct periods of increased craft activity, ranging from the 1880s to the present day.

These periods of increased interest and activity in craft are acknowledged in craft literature as ‘waves’ (Luckman and Andrew 2020; Hofverberg, Kronlid and Östman 2017) and were part of countercultural movements that were a response to the socio-political, economic and cultural contexts of each time. The first wave is the Arts and Crafts movement (c. 1880 – 1920), the second wave is the countercultural era of the 1960s/1970s and the third wave is the current contemporary craft revival (c. early 2000s – present). A more detailed chronological account of the trajectory and intricacies of natural dyeing practices since Perkin’s discovery of mauveine purple aniline dye in 1856 is beyond the scope of this thesis. Instead, I focus on the role of natural dyeing within a broader rise of interest in craft during two countercultural movements and I introduce context around the current, third wave of renewed interest. The aim of this chapter is to situate natural dyeing practices (since the development of synthetic dyes) as elements of wider countercultural movements and identify how and why natural dyeing was practised, to inform context around contemporary practice.

Firstly, Section 2.2 outlines the role William Morris and his contemporaries had in reviving and celebrating the use of natural dyes, by explaining the role of the craft within the wider Arts and Crafts movement. I highlight the underrecognized but significant contribution that women dyers made during this era and the values, ethos and concerns that contributed to the popularity of the movement.

Secondly, Section 2.3 introduce the environmental and socio-political elements that led to the emergence of the 1960s/70s countercultural movement and the second wave of craft. I outline the influence of Rachel Carson’s 1962 book *Silent Spring* and the growing environmental movement. Then I describe how civil unrest and disillusionment with the political establishment led to radical action and a rejection of the mainstream that fostered alternative lifestyles, which included craft practices.

The main focus of Section 2.3 is examining a variety of key texts, including books, journal articles and magazines, from that era to uncover how natural dyeing was practised and to identify the narratives about natural dyeing that emerged.

Finally, Section 2.4 introduces context about the contemporary third wave of craft revival, within which the natural dyeing practices that this thesis is concerned with are situated. I explain some of the socio-political, material and technological factors that contribute to shaping the current contemporary revival and highlight some of the similarities and differences with the prior countercultural waves. The third wave of craft introduced in Section 2.4 is used to inform the basis of the contemporary context explored in Chapters 5 to 8.

2.2 THE FIRST WAVE: THE ARTS AND CRAFTS MOVEMENT

The Arts and Crafts movement emerged in the United Kingdom during the 1870s and its ideals were also adopted in other geographic areas such as North America and several European countries, including the Nordic region. The movement reached its height at the turn of the century and early 1900s, with the period lasting until around the 1930s when it was displaced by modernism. The key figures and thinkers within this movement were William Morris (1834 – 1896), who founded the movement, and his teacher John Ruskin (1819 – 1900), who was a major influence on Morris. Morris looked to and romanticised the model of the guilds from medieval times as a counter to modern industrialism and valued the workshop as the place of craft:

The ideal place of unity was the workshop, where social solidarity and the production of objects necessary for life combined. In the workshop, craftsmen could learn from each other and produce objects in their entirety—from idea to material reality. By removing the division between designers and workmen, Morris wanted workers to experience joy in their work, rather than alienation. Alienation, here, refers to Karl Marx's concept, where the worker confronts the product of his labour as 'something alien as a power independent of the producer. (Krugh 2014: 283)

Hofverberg, Kronlid and Östman (2017) summarise the purpose of craft within this first wave as being multi-faceted, including: acquiring and exercising expertise and skills; making beautiful, crafted items; experiencing joy in making; and doing something well for its own sake. The concern with the loss of skills through processes of industrialisation was a motivation for engaging in crafts during this period (Luckman and Andrew 2020).

WILLIAM MORRIS AND NATURAL DYEING

Natural dyeing had an important role within the Arts and Crafts movement, especially as the start of the period coincided with the beginning of the development and proliferation of new synthetic dyes in textile processes, which led to the increasing availability of synthesised versions of many colours. William Morris was a revered natural dyer who had honed his craft through working closely with Thomas Wardle, a highly skilled professional natural dyer from a prominent textile family located in Leek in Staffordshire. In Wardle, Morris would have seen a kindred spirit; at a time when the textile sector was moving away from traditional textile techniques such as natural dyeing, Wardle instead 'returned to ancient expertise in the face of industrial expansion' (King 2019: 20). Wardle purchased a dye works and through doing so:

brought the few surviving craftsmen with traditional experience back into the business [...] revitalised almost forgotten practices and [had] a particular approach to manufacturing that enhanced the value of goods made in Leek. This was not just for financial gain; it was about the survival of tradition. (ibid: 20)

Morris later established his own dye works at Merton Abbey in 1881 and began to undertake all his dyeing by himself, keeping detailed records and recipes of the dyes and mordants that he was using (Watkinson 1997).

Originally Morris was a vocal critic of the new aniline dyes, exclaiming: 'the fact is, that every one of these colours is hideous in itself, whereas all the old dyes are in themselves beautiful colours; only extreme perversity could make an ugly colour out of them' (Morris 1882: 257). It is important to note that despite being such a vocal critic of aniline dyes, he did not exclusively use natural dyes within his company; he also used proto-chemical dyes (Casselman 2008). Over time, as the qualities of synthesised dyes improved and an expanded colour palette became available, Morris found these dyes acceptable to use within his work because they held the qualities that he sought. As Davis (1995: 15) explains 'William Morris was not an antiquarian bent on using the older great natural dyes; he revived them in the context of the chemistry of dyeing current in his time', suggesting that Morris's desire to use natural dyes was originally governed by his desire for colour that possessed specific qualities such as vibrance, which he felt were at that time unachievable with synthesised means. Once these qualities were achievable through synthetic means, Morris did not continue only using natural dyes, instead he used synthetics too. The ease of use and lower costs associated with the aniline dyes would have been appealing for his modes of production and need to upscale his work (Davis 1995; Casselman 2008).

WILLIAM MORRIS AND NATURE

Morris's appreciation for natural dyes originated from the beauty that, at that point in time, he perceived could only be found in natural dye sources. His work with natural dyes would have brought him into close contact with dyestuffs, i.e. plant material, and would have involved gaining rich knowledge of the qualities of specific dye plants; this knowledge is evidenced through his skill in achieving a wide variety of colours and the numerous techniques that he employed in his designs and products. Morris would not have relied solely on locally available dye plants and would instead have relied on dyestuffs sourced from overseas; for example, he was thought to have regularly used Indian indigo in his work (Davis 1995).

Morris held a deep connection and love for the English landscape, and in particular the Upper Thames area (Faulkner 1992). However, his connection with the natural world was not facilitated from a material-led perspective, i.e. through his natural dyeing practice whereby the dyes were sourced from this landscape. Instead, he expressed his love of the English landscape through the intricate botanical designs that he created:

Morris valued the Thamesian landscape of Kelmscott not just because he found it visually appealing, but also because it held ideological value for him. By evoking that landscape in his designs, he necessarily also evoked the ideologies that were tied up in both the place and the work: the veneration of craft, tradition, nature, and beauty (as defined by Morris) and the rejection of modern industry, urbanism, capitalism, and all the ills they brought with them. (Leonard 2022: 28)

Originally, natural dyeing enabled William Morris to represent the beauty and vibrance of the natural world that inspired him, through its use in his printed designs. His mastery of dyeing techniques allowed him to produce reliable results and exert great control over the dyeing process.

WOMEN NATURAL DYERS IN THE ARTS AND CRAFTS PERIOD

Morris was not the only proponent of natural dyeing during the Arts and Crafts era. At the same time, several female dyers were equally as accomplished but lesser known. The most well-known female dyer of the later Arts and Crafts period was undoubtedly the weaver Ethel Mairet (1872 – 1952), whose 1916 volume *A Book on Vegetable Dyes* has been republished numerous times and remains a key resource for many natural dyers. Mairet was a member of the Guild of Weavers, Spinners and Dyers. Though not a contemporary of Morris, Mairet was most known for her weaving and was a complex character, as Robertson (2005: 293) summarises:

at once appropriator and colonizer, Indian nationalist and Sri Lankan scholar, twice married, twice divorced, feminist, submissive wife, communist sympathizer, businesswoman and feminized weaver, Ethel Mairet complicated virtually every trope of “feminine,” “craft,” and “colonial”—both within her life, and in attempts to write her into history.

Although there are suggestions that Mairet’s ethos more closely aligned with Bauhaus rather than the Arts and Crafts ideals (Robertson 2005), in her writing on vegetable dyes Mairet is scathing in her critique of chemical dyes and the conditions of industrial production. She quotes Morris in the introduction to her book:

William Morris says that "all degradation of art veils itself in the semblance of an intellectual advance" and nothing is truer than this with regard to the art of dyeing. As a tradition it is practically dead in Britain, and is threatened with gradual extinction all over the world. It will not recover itself as an art till individual artists set themselves to make beautiful colours again, and ignore the colour made for them by commerce and the chemists. Handicraft workers should make their own colours. (Mairet 1916: 5)

For Mairet it appears that her perception of the magic of dyeing is not solely connected to the materials, i.e. to nature or plants, but in the skilfulness of making ‘beautiful’ colours (though she was known to use local plants). She denigrated chemical colours as ‘dull’ and ‘muddy’, considered dyeing as an art, that was being lost amid technological advancements in chemistry and growing commerce, an ideology very much in line with Morris and his contemporaries:

The hope for the future is that dyeing may be reinstated as a craft, co-operating with the other crafts and practiced by craftsmen. The way to beauty is not by the broad and easy road; it is along difficult and adventurous paths. Every piece of craft work should be an adventure. (Mairet 1916: 6)

It should also be acknowledged that the role of women dyers during this period is often overlooked. As Robertson observed: ‘like all weavers, [Ethel Mairet] is generally erased from traditional art historical narratives that privilege the arts over the crafts’ (Robertson 2005: 297), however her work and achievements were much celebrated in the Ditchling and wider UK craft community. In relation to dyeing, this is a more general problem that relates to the role of women and the location of their dyeing activities, which was largely in the domestic sphere. For example, from a historical perspective,

the medieval guilds that Morris admired were male-dominated spaces and women were excluded from their membership (Sennett 2008). Casselman (2008) explains that though women in the Arts and Crafts period may have had similar or greater skillsets they received less attention and perceptions of professionalism within the craft did not extend to their practice. Casselman highlights the contributions of three women, Alice Hart, Elizabeth Pepper and Millicent Sutherland, who were ‘deeply engaged in the production and promotion of natural dyes [...] yet their professional careers in natural dye production and marketing represent a stark contrast to the legacy of Morris’ (Casselman 2008: 17). Hart was known to use plants local to her in Donegal, Ireland. Casselman surmises that the ‘the misogynous cultural climate of the Arts and Crafts period favoured the aesthetic expression of male luminaries over the domestically grounded work of female artisans’ (17) in part because this work took place outside of Morris’ favoured workplace, the workshop.

SUMMARY

Throughout the Arts and Crafts period, natural dyeing was a way of upholding traditional textile skills and creating authentic and beautiful colours, which the chemically synthesised aniline dyes could not achieve. At this time, the practice of natural dyeing was not heavily associated with a love of nature or proximity to plants, though Morris and other dyers experimented with many natural materials and had direct contact with them; the experience of direct material engagement with plants and dyestuffs was not conveyed as a motivation to practice. Morris prized the workshop and craft guilds, but a focus on those workspaces overlooks the role of women dyers who often worked in domestic spaces.

2.3 THE SECOND WAVE: 1960S AND 1970S COUNTERCULTURE

In this section I will explore the second wave of craft revival during the late 1960s and early 1970s. I draw on contextual information regarding environmentalism and the socio-political climate of that era. The information presented in this section is first approached from a United States context because the countercultural movement began in the US, with ideas and influences subsequently spreading to the United Kingdom. To contextualise the drivers and ideals of the countercultural movements to natural dyers practices, I discuss the framing of natural dyeing through exploring key texts from that era. Firstly, I draw on American publications such as the *Whole Earth Catalog* and American natural dyeing publications. Secondly, I focus on British publications featuring natural dyeing, such as *Crafts* magazine and the *Quarterly Journal of Weavers, Spinners & Dyers*, which would have been influenced by the countercultural happenings in the United States.

SILENT SPRING AND OUR SYNTHETIC ENVIRONMENT

During the early 1960s there was a growing awareness and unease about the dangers of human interventions in nature and the rise of synthetic materials. In particular, the publication of Rachel Carson's pioneering book *Silent Spring* in 1962 exposed the devastating consequences of chemical pesticide use to both people and nature. Her focus on pesticides also intersects with the textile industry – at that time, cotton remained a key crop in the southern US states – although does not extend to dyeing. *Silent Spring* evidenced a variety of negative consequences of chemical intervention with cotton crops, including: the link between leukaemia and other blood disorders with those who worked in cotton fields; the illnesses of workers handling bags of insecticide-treated cotton seeds; the contamination of water catchments downstream of sprayed cotton fields leading to dead aquatic life; and the accumulation of insecticides in food crops grown in rotation with cotton (Carson 1962).

The same year that *Silent Spring* was published, Murray Bookchin (under the pseudonym Lewis Herber) published *Our Synthetic Environment*, his own critique and exposé of the impact of chemicals on human health and nature. Though his book was met with less acclaim and public attention, through his wider body of work he is considered one of the pioneers of the environmental movement. For him, the 'very notion of the domination of nature by man stems from the very real domination of human by human' (Bookchin 1962:10).

In 1962 both Carson and Bookchin were able to identify and clearly articulate the danger and devastating human and environmental consequences of man's new-found power over nature. This power had been developed through recent technological advances that allowed the ability to control nature through chemical means. They questioned man's attitude and dominion over nature:

We still talk in terms of conquest. We still haven't become mature enough to think of ourselves as only a tiny part of a vast and incredible universe. Man's attitude toward nature is today critically important simply because we have now acquired a fateful power to alter and destroy nature. But man is a part of nature, and his war against nature is inevitably a war against himself. (Carson 1963: np)

Our environment difficulties would be understandable if we knew nothing about the requirements for a balanced relationship between man and nature. We could then answer every reproach with a confession of ignorance. Today, however, we know too much about ecology to have any excuse whatsoever for many of the abuses that are perpetrated in agriculture, food production, and urban life. (Bookchin 1962: 84)

Both authors called for and kickstarted change and alternative approaches to humanity's (at least Western society's) relationship with the natural world. Carson's groundbreaking work catalysed the

modern environmental movement and the public awareness that she brought to the topic led to changes in legislation, the creation of environmental protection measures and the banning of DDT in several countries. However, there was no comparable discussion or impact on the use of synthetic dyes. Despite the attention brought to the cotton industry, no wide scale changes occurred in the fashion and textile industry, likely because the fashion and textile system existed on a much smaller scale in the 1960's when compared to today. Unlike today, the deleterious environmental impacts of the fashion and textile industry were not as evident or as pressing.

COUNTERCULTURE AND CRAFT

The increased awareness of environmental issues and the consequences of chemical use came at a time of wider social, political and economic upheaval that originated in the United States, but was also felt the United Kingdom. In the US during the 1960s, events such as the assassinations of Martin Luther King Jr and Robert F. Kennedy, the ongoing civil rights struggles and the Vietnam war created a sense of widespread disillusionment with socio-political institutions (Braunstein and Doyle 2013).

Writing on the years of 1969 and 1970, Bingham (2016: xxvi) explains that:

.... a youth rebellion shook the nation [US] in ways we may never see again. It was the crescendo of the sixties, when years of civil disobedience and mass resistance erupted into anarchic violence. Hundreds of thousands of young Americans took to the streets in 1969 and 1970. They were fuelled by marijuana, LSD, and rock and roll...

Amid widespread protests and civil unrest, particularly by American youth, a movement towards rejecting the political establishment and mainstream values that were tied to it (for example consumerism, industrialism and capitalism) emerged (Braunstein and Doyle 2013). The works of Carson and Bookchin served to seed further disquiet and mistrust of mainstream narratives of industrial and technological progress, by highlighting their negative consequences for the natural world. This widespread disquiet led to a desire to create change by means other than protest:

People wanted to find outlets for their politics and for their countercultural aspirations that involved not protest – whether violent or non-violent – but activities that aimed to create, sustain, and elevate their need for community and new ways of living that were in accord with the often inchoate values they had been developing as activists, radicals, and rebels. (Farber 2013: 3)

While some members of the counterculture sought to move into established job roles in society and create change by bringing their views and beliefs into the workplace and establishment, others opted to create something new from the ground up. These members of the counterculture sought to

operate, where possible, outside the constraints of the capitalist system and create the sustainable and alternative lifestyles that aligned with their values (Farber 2016). For some, an alternative lifestyle took the form of living on communes or farms as part of a wider 'back-to-the-land' trend. i.e. 'the intended adoption of a primarily agrarian lifestyle by individuals from non-agrarian backgrounds' (Wilbur 2013: 149). The movement sought to embrace rural living, self-sufficiency and reconnecting with nature (Farber 2016).

During this countercultural milieu, craft practices became an area of increasing interest and attention. For some, the act of crafting something by hand became a form of political expression because it opposed the capitalist, industrial and consumerist society that members were fighting against, echoing some of the early values of William Morris and the Arts and Crafts movement. For others, craft was a leisure activity or constituted work (i.e. as a craftsperson such as a jeweller) and a form of labour (and leisure). In communal settings, craft skills were particularly valued as part of the wider back-to-the-land movement because they represented another form of self-sufficiency (Hofverberg, Kronlid and Östman 2017). Further, the second wave feminist movement, which also emerged out of the 1960s milieu, led many to question women's societal roles. In relation to craft practice, this led to the 'subversive reclamation of "feminine pastimes"' which included many textile crafts such as sewing, embroidery, knitting and weaving' (Robertson 2011: 184). Natural dyeing was part of the revival of interest in craft during this the countercultural movement, as the rest of this section will explore.

WHOLE EARTH CATALOG AND DYE CRAFTS

Perhaps one of the most useful resources to the counterculture was the *Whole Earth Catalog* (WEC). The publication was founded by Stewart Brand in 1969 and in total 35 have been published, the most recent in 1998. The publication functioned as both magazine and product catalogue, offering advice, how-to's and practical information related to living self-sufficiently, plus an inventory of where to find products and information. It contained crowd-sourced information, whereby readers of the catalogue would recommend products and ideas to others. During the height of the counterculture (1969 - 1972) the catalogue was published several times a year, with shorter supplements published in between. The publication can be interpreted as a guide to sustainable living, and how to enact and 'live' the alternative lifestyles that counterculture members desired. The wider purpose of the WEC is neatly described in the introduction to the first edition in 1968:

We are as gods and might as well get good at it. So far remotely done power and glory - - as via government, big business, formal education, church - - has succeeded to the point where gross defects obscure actual gains. In response to this dilemma and to these gains a realm of

intimate, personal power is developing - - power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested. Tools that aid this process are sought and promoted by the WHOLE EARTH CATALOG. (Brand 1968)

The WEC regularly featured a 'Craft and Industry' section covering a wide variety of crafts, including dyeing, weaving and sewing. Particular attention was paid to the trendy textile crafts of the period: tie-dye and batik. The narrative and purpose of natural dyeing craft activities also took on a different perspective in this era when compared to its framing during the Arts and Crafts movement, to reflect the shift in ideals and the aspirations of counterculture members. By reviewing the content of the *Whole Earth Catalog* to see how natural dyeing was framed in its pages, an insight is gained into how the craft was practised during that time period.

In the early years of the WEC, dye crafts – though not only natural dyeing – are often mentioned. The suggestions are often informal and chatty, giving the catalogue a convivial, communal feel. For example, on recommending *The Book of Country Crafts; on Working with Wood, Clay, Metals, Stone, and Color* by Randolph Johnson, which includes a chapter dedicated to the use of 'old vegetable dyes', the suggester helpfully adds: 'this book is by a man who grooves on doing his own stuff at his own place, and he make you feel the same and shortens the route into doing it' (Whole Earth Catalog 1969: 50). Alongside book recommendations, readers could find directories of suppliers and traders where they could purchase dye plants or seeds to establish their own dye plant gardens or use on communes and farms.

Synthetic dyes are also mentioned, but initially with less frequency than natural dyes. For example, in the Fall 1970 WEC a trader enthuses, 'Discovered in England in 1956, [Procion Fiber Reactive Dyes] are quite different from other dyes in several respects: brilliance of color, simplicity of application, and fastness to light & washing' (Whole Earth Catalog 1970: 48). The inclusion of synthetic dyes demonstrates that despite the environmental consciousness of the publication's readers, the allure of bright and easy results from the new-to-market synthetic dyes drew many in (especially for use in tie-dye). Another reader expresses her disappointment at Rit synthetic dyes in a 1971 edition: 'a while back I dyed a T-shirt in Rit dyes. The colours were O.K. till I washed it and wow did it ever fade' (Whole Earth Catalog 1971a: 175). This comment demonstrates that synthetic dyes did not always live up to their promises. Additionally, in the January 1971 Whole Earth Catalog Supplement, a concerned reader asked:

In your July Supplement on p.12 you have a list of “39 Ways to save the Earth”. The 1st one is to avoid use of colored facial tissues etc. because the dye forms a residue in water. On pages 8 and 9 there are several letters printed with advice on dying cloth. I would like to know about the effects of left-over Tintex-Rit or Procion dyes which are dumped down the drain when dying is finished on the water supply. Surely they form residues too. Or don't they? What can the home-dyer do about it? (Whole Earth Catalog 1971b: 13)

Her concern highlights an awareness at the time of the dangers of chemicals in water courses, presumably grown from the earlier work of Carson. It also reveals a disconnect between the messaging of the WEC and what traders and readers were recommending. The WEC content also demonstrates overlaps between the countercultural practice of natural dyeing and the guild-based practice of the craft, connecting the two communities of practice.

In later years though (particularly from 1986 onwards), the WEC took a turn away from handmade craft practices and did not feature textile crafts or dyes. Instead, the publication embraced technologies such as space travel and nuclear power, which at times put Brand at odds with those who had first embraced the catalogue for its critical ‘reevaluation of the relationship between nature and post-industrial culture’ and which had originally drawn so many readers to its pages (Kirk 2007: x). The turn from handmade to technology was part of a wider shift in perspective from some active in the counterculture.

During the period in which natural dyeing was regularly discussed in the *WEC*, contributors frequently recommended *Living on the Earth* by Alicia Bay Laurel and two natural dyeing handbooks produced by the Brooklyn Botanic Gardens: *Dye Plants and Dyeing – a handbook* which was published in 1963 and *Natural Plant Dyeing – A Handbook* published in 1973. In this section I will present an overview of their content and consider the narrative about natural dyeing that the texts communicate.

LIVING ON THE EARTH

As mentioned earlier, for some involved in the counterculture who wanted to create new ways of living that more accurately reflected their ideals and values and did not want to partake in the capitalist, increasingly consumerist society, one solution was to create their own self-sufficient, like-minded communities away from the cities (Farber 2016). In Alicia Bay Laurel's hand-written, whimsical and extensive work *Living on the Earth* which contains a catalogue of information on how to live off the land and without most technologies. It was first published in 1970 and subsequently republished numerous times in a variety of languages.

Laurel wrote and illustrated the book during her stay at Wheeler's Ranch Open Land Commune in California, USA. She developed the book after asking her fellow communards, 'what do you know that everyone else living here should know?' and wanted others to feel the joy and freedom that she felt through living outdoors and being close to nature. As she writes, 'when we depend less on industrially produced consumer goods, we can live in quiet places. Our bodies become vigorous; we discover the serenity of living with the rhythms of the earth. We cease oppressing one another' (Laurel 1970: np). Amongst advice on gardening, building shelters and tools there is mention of textile crafts including weaving, quilting and sewing a variety of clothing styles. Laurel writes about natural dyeing and talks about the 'hues of the forest', describing them as 'ever-changing'. She encourages readers to 'collect bark, leaves, twigs, berries, tea leaves, coffee grounds; dye cloth & weaving yarns to their shades' (ibid: 178). Laurel also offers simple and clear instructions to the reader on how to mordant with alum and use natural dyes for tie-dye. Laurel's natural dyeing and mordanting instructions extend over just a few pages of her book, offering the reader a broad overview of the process and suggesting that her text would be aimed at complete beginners. In this context, natural dyeing is not practised as a form of upholding ancient tradition or focussing on the beauty of a colour; it is a method of being closer to the land, living harmoniously with nature and making use of readily available resources (including food waste).

BROOKLYN BOTANIC GARDENS NATURAL DYEING HANDBOOKS

In 1964 the Brooklyn Botanic Garden published a short book on natural dyeing titled *Dye Plants and Dyeing – a handbook* (Figure 6).

The publication featured over 30 contributors, many of whom were international experts in different aspects of natural dyeing. Released early in the countercultural era, this book became an influential and highly popular dyeing resource for those seeking to learn the craft, partly through its frequent inclusion in the *Whole Earth Catalog* between 1969 and 1980. Perhaps because the book was produced by a botanic garden, hence approached from a plant-led perspective rather than a craft-led perspective exemplified by Mairet (Section 2.1) it emphasised the value and importance of crafting with plants and nature. The introduction described the craft as being an 'art that belongs in an important way to the plantsman - the gardener and the horticulturalist, who wants a personal experience in transferring the pigments of the landscape to the fabrics of the home and wardrobe' (Avery 1964: 2). However, the book does refer to the loss of skills and individual craftsmanship to mass production, echoing the concerns of those within the Arts and Crafts movement.

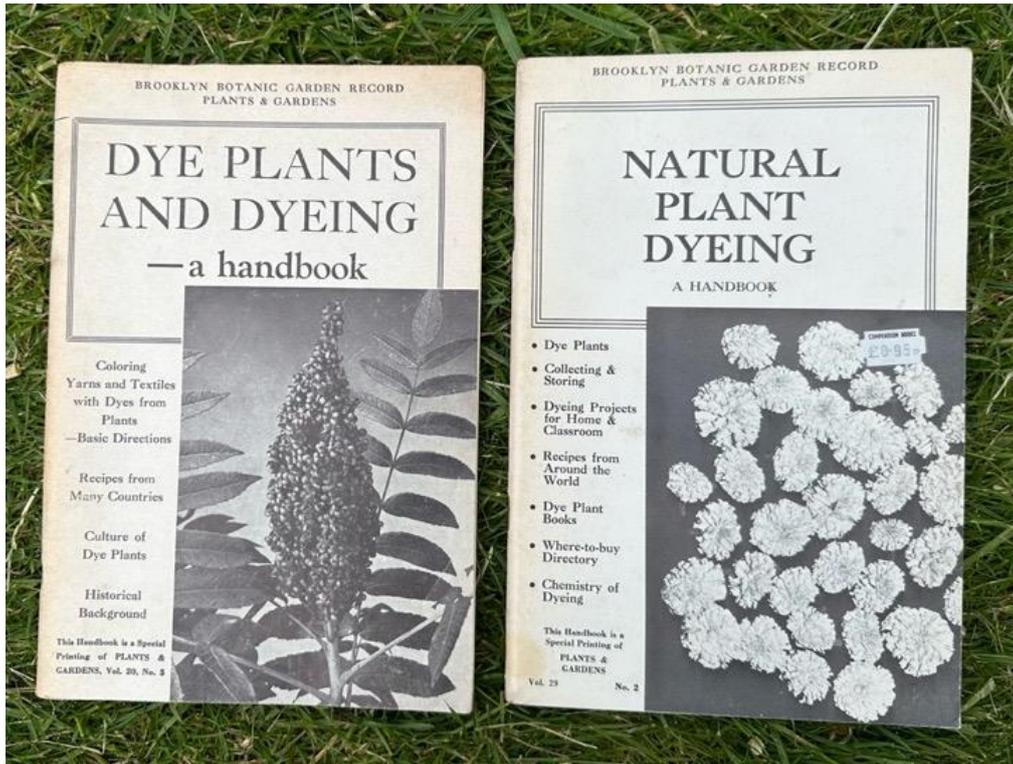


Figure 6. Brooklyn Botanic Garden’s Dyeing Handbooks published in 1964 (left) and 1973 (right). Own photo, July 2023.

A follow-up, building on the popularity of the 1964 edition (which was reprinted numerous times), was published in 1973. The second volume acknowledged the rise in home-crafts in the previous ten years and highlighted the sharp growth in interest in natural dyeing, noting that it ‘cuts across age lines as well as national boundaries’. Of interest is the framing of natural dyeing; horticulture is explicitly referred to:

Horticulture is affected too, because creative individuals, often from outside the field are looking at plants and plant parts as design elements or raw materials. The freshness that accompanies such an approach can only enrich horticulture, since it leads us to look at plants through different eyes. (McGoutry 1973: 3)

Both volumes featured a wide variety of articles about dyeing written by a range of contributors. Whilst practical and offering advice on how to do natural dyeing at home, the publications offered a comprehensive insight into natural dyeing in different geographic locations across the world and did not have a US-focused outlook. For example, in one article a Scottish dyer carefully detailed his experiences of growing dye plants in his home garden, whilst another listed common dye plant species that could be foraged in Norway. Cultural and historical elements of natural dyeing are also explored, which furnish the reader with a sense of the meaning and symbolism of natural dyeing in other cultures. This global international outlook introduces the reader to dye recipes from different

contexts to their own, giving them insight into other cultural practices and species of plants. A wide variety of plants and dyestuffs are mentioned, due to the wide array of dyeing contexts covered. The main mordanting method referenced is alum, but both editions also refer to the use of chrome and tin as mordants and/or additives (to improve brilliance) for wool.

JOURNAL OF WEAVERS, SPINNERS & DYERS

As mentioned in Chapter 1, guilds have a historical association with natural dyeing. Their medieval form inspired William Morris, whilst Ethel Mairet was an active member of the Guild of Weavers, Spinners and Dyers. The Guild of Weavers and Dyers was first formed in 1931, later becoming the Guild of Weavers, Spinners and Dyers in 1934 (Miller and Castle 2022). In 1952, *The Quarterly Journal of the Guilds of Weavers, Spinners and Dyers* was launched. The Journal is still published quarterly through the umbrella organisation of The Association of Guilds of Weavers, Spinners and Dyers (AGWSD). The AGWSD was founded in 1955 and works for the 'preservation and improvement of craftsmanship in hand weaving, spinning and dyeing, for the benefit of the public' (AGWSD 2024: np).

In the first issue of *The Quarterly Journal of the Guilds of Weavers, Spinners and Dyers*, the journal's aims are explained:

- To encourage and maintain integrity and excellence of craftsmanship.
- To foster a sense of beauty of material, texture, colour and design.
- To provide opportunities for the exchange of information, for enlarging knowledge at holiday schools, for demonstrations, lectures and library facilities.
- To co-operate with other Guilds having like aims.

(Quarterly Journal The Guilds of Weavers, Spinners & Dyers 1952: 1)

From the first issue, natural dyeing appeared regularly in the Journal's content. Articles featuring guild updates, regional and international dyeing news, dyeing techniques, summer school reports and opinion pieces appear throughout the Journal's publications that I accessed (1952, 1960 – 1973 and 2020 to present). Adverts for supplies of dyestuffs, mordants and other dyeing supplies feature alongside adverts for summer schools, work opportunities and courses to gain craft skills including natural dyeing. Reviews of events, exhibitions and summer schools provide an insight into the landscape of craft practice at particular points in time. During the 1960s the editorial committee included Hilda Breed who had worked with Ethel Mairet at her home Gospels in Ditchling, West Sussex.

In the 50th Issue (June 1964) a guild member, Richard Dickinson, reviews *The Dyer's Guide; being an introduction to the Art of Dyeing by Thomas Packer*. He writes a lively description of a war between chemical dyers and vegetable dyers:

The opposing armies, teeth bared and brisling with weapons, have been in entrenched deadlock for many years, in fact since Perkin discovered the first synthetic dye, mauveine, in 1856. The case on either side is well known. The [chemistry] forces accuse their enemy of witless hedge gathering, potion brewing, toadstool stewing devotion to the reactionary cause of extracting, by immense effort, glimmers of colour from quaint natural sources and their application by further gargantuan processes, not unaided by spell-mumbling, to undoubtedly hand-spun yarns. The [vegetable] troops recoil with horror from the dialectics of the clinical, stainless steel, white tile and bunsen-burning, thermometer-brandishing quasi-scientists peering through steel-rimmed spectacles as they run an acid-stained finger down their endless charts of statistics. (Dickinson 1964: 635)

When Dickinson refers to the 'gargantuan' natural dyeing processes he is referring to an example recipe that he introduced after his war analogy, which included upwards of 20 natural materials and assistant chemicals (including white arsenic). He contrasts it with a simple 3-step and 3 ingredient synthetic instruction. In reality, natural dyeing can also be a relatively simple process involving basic ingredients, but the point he is trying to make is that in his view, dyeing should not be complicated because (for him) it is a means to achieve a colour for use in his weaving work. The dyeing is not the focus of his activities:

Dyeing has been called a craft or even an art; no doubt in primitive societies it was called magic. In reality it is none of these things. It is a service to the crafts of weaving and textile printing enabling us all to achieve the results we want. By all means let those who are interested in archaeology pound their galls and mushrooms, let those who belong to the Outward Bound school of dyeing, devoted to living off the land, cull their ingredients from the moors and the mountains. But I shall continue to live out of tins and bottles, in the knowledge that I can control what I am doing, and can achieve whatever colour my design requires from an infinite range of possibilities. (Dickinson 1964: 636)

Dickinson's review, although adopting a tongue-in-cheek tone, reveals some key insights into the perceptions of natural dyeing at that time. Three key strands can be identified. Firstly, that natural dyeing is used by those with an interest in history and traditional ways of life (his reference to 'archaeology'). Secondly, that in the UK there was an existing perception that natural dyeing is related

to living off the land. In this context it seems more related to being outdoorsy, rather than the countercultural, which would have come a few years later. Thirdly, that in 1964 there was a well-known existing tension between the 'natural' and the 'chemical' in natural dyeing, including in the material inputs but also the processes used to achieve them. He presents chemical dyeing as a science and natural dyeing as some kind of magic, witchcraft or alchemy with his talk of potions and brewing. Dickinson labours the point of chemical dyeing being superior due to greater efficiency, control and ease in the process, overlooking the enjoyment that can be found through activities such as 'potion brewing' and 'spell mumbling'. I suspect that many of his contemporaries would have disagreed with his stance, but it offers an insight into the positioning and tensions within natural dyeing during the 1960s.

A look through the quarterly journals published during the 1960s to early 1970s demonstrates some trends in natural dyeing, including several tie & dye courses for guild members, such as one three-day Summer School in 1965. Summer school reviews give insight into who guild members were and the reach of the organisation. A review by Pearson (1973: 1735) of the guild's Winchester summer school in 1973 highlights the wide geographic reach of the guilds:

We had come, a hundred and twelve of us, from every corner of the British Isles where there are guilds, from Ireland and Denmark, Norway and Finland, Greece, Switzerland, from the U.S.A, Canada, Botswana, New Zealand and Australia; and a welcome that scarcely needed to be stated was immediately felt by all.

Later Pearson recounts an evening dinner for summer school attendees with a guest speaker - the serving Minister for the Arts, Lord Eccles:

[Lord Eccles] noted some of the signs suggesting that the crafts in this country might be in for a renaissance – such a renaissance as William Morris and his followers had dreamed of and worked for, but had not achieved, as at that time only a minority could support it. Lord Eccles suggested that since the war more serious attention had been given to the teaching of art in schools, resulting in more people wanting to possess works of individual beauty. This, together with the fact that a wider public than ever before had money to spend, provided the broad-based support that could make a real renaissance possible now. (Pearson 1973: 1728)

Eccles draws parallels with the Arts and Crafts movement, suggesting that like the aims of the journal, the increase in craft during the 1960s/1970s can be attributed to an increased appreciation for beauty and improved arts education. That suggestion counters the influence of the countercultural milieu of the era and the environmental narrative that I have introduced earlier in this section. It

suggests a divide between countercultural practice of crafts such as natural dyeing and other drivers of craft at that time; pointing perhaps to a lack of overlap between the countercultural community and guild community in the UK. However, Pearson pointedly highlights the large increase in ‘young people’ who had attended the 1973 summer school, commenting:

One could not say that they ‘took over’, but they were an important element. Some of them saw a future for themselves in weaving and designing and were prepared to take the risks of it. The craft would not bring them wealth or even security – their feet seemed firmly on the ground – but here was a way of life they could respect if they had the courage to set out on it. (Pearson 1973: 1729)

The rise in interest from younger people and the association of craft as a way of life suggests that countercultural motivations for craft could have extended into the realm of guilds. It may also indicate a need for younger people to source craft knowledge from outside of the home, potentially in response to decreased inter-generational transfer of craft knowledge.

CRAFTS MAGAZINE

Crafts Magazine was first published in March 1973 and has a UK focus. As suggested by the name, *Crafts* adopts a wide view of crafts, regularly featuring practices such as textiles, ceramics, woodwork, sculpture, glass, jewellery, metalwork and printing amongst others. The magazine frames the crafts as part of an alternative way of life and a form of counterculture (Harrod 1994: 300) and evidences the connection between craft and counterculture from a UK-centric perspective. The British craft revival of the 1970s ‘can be linked to the influence of public events and state institutions’ (Peach 2013: 161) such as the Crafts Advisory Committee (CAC). *Crafts* was first published by the CAC which later became the Crafts Council in 1979. The CAC was established to promote the needs and work of British craftspeople in a range of ways, including through financial means, exhibitions, advising government, establishing regional links and promoting school-based craft education (Crafts Council 2024). Both the Crafts Council and *Crafts* magazine still exist today. Each issue has a variety of articles showcasing different craftspeople and their skills, many focusing on communities of makers across the country. Similar to the content of the *Quarterly Journal of Weavers, Spinners and Dyers*, *Crafts* features adverts with opportunities for craftspeople i.e. grants, loans and jobs. Craftspeople also had the opportunity to advertise their services to others and find suppliers of materials, tools and other craft related equipment. Reviews of craft books, exhibitions and events also feature.

The 1973 Brooklyn Botanic Garden natural dyeing publication *Natural Plant Dyeing – A Handbook* was reviewed by Barbara Mullins in the 11th issue of *Crafts* (November/December 1974). Mullins’ review

of the handbook is positive and she notes that it 'is intended mainly for American readers, but the plants are sufficiently widely spread for it to be interesting and useful to us all' (Mullins 1974: 78) and suggests that it would be good for both beginner and experienced dyers. Mullins herself was a skilled and well-respected natural dyer in the UK at that time. In the 17th issue of *Crafts* (November/December 1975) Barbara and her mother Gwen Mullins' weaving works were featured in a 'working in Sussex' series which showcased the works of different craftspeople, organisations and communities in Sussex. They ran Graffham Weaving Works in collaboration, where they taught classes, produced and exhibited their work. They both used natural dyes in their weaving. Barbara Mullins also travelled to learn about natural dyeing in other cultures. Mullins' research trip to Peruvian dyers is featured in a March 1974 (issue 6) article, again demonstrating international connections and knowledge sharing in the natural dyeing community. The Mullins were active in the Guild of Weavers, Spinners and Dyers, having founded the Graffham guild after previously being members of the East Sussex guild.

Natural dyeing and mordanting suppliers were regularly mentioned in the list of suppliers included in *Crafts* during that era. Later, in Issue 22 (September/October 1976) Veronica Hudd reviewed *Dyes from Natural Sources* by Anne Dyer and enthusiastically recommends Dyer's book. Hudd explains that she interrupted her reading of the book 'to rescue beanstalks from the compost heap, to do some experimenting, hoping for a crimson or burgundy on wool' (Hudd 1976:51). A connection between natural dyeing and concern for the environment is also suggested. Hudd notes that she is impressed by Dyer's concern for overharvesting: 'the author is obviously a true countrywoman, very concerned about conservation of natural resources; she gives several warnings about overpicking of materials' (ibid: 51). The inclusion of natural dyeing content within *Crafts* magazine, in particular the review of the Brooklyn Botanic Gardens publication, evidences the flow of dyeing information between the US and UK and the influence of the US counterculture and craft revival on the UK crafting landscape.

SUMMARY

The 1960s and early 1970s were a time of great social, political and cultural change. Though the countercultural movement began in the USA it spread to other areas including the UK. A growing environmental movement was born from pioneering work by people such as Rachel Carson. This work brought into focus humanity's relationship and dominion over nature. In response to newfound knowledge of the consequences of man's interventions in nature and the broader social, political and cultural upheaval of the time, members of the countercultural movement sought to enact the change they wished to see. These enactments took many forms, including new organisations and new ways of living, such as the establishment of communes and alternative ways of living that embraced self-

sufficiency. Included in these actions was the revival of craft practice, and within that, natural dyeing. Hofverberg, Kronlid and Östman (2017) define the key purposes of craft in this era as mainly to work towards self-sufficiency and, from a political perspective, as a way to go 'back to nature', i.e. to counter the increasingly technology-driven and urbanised ways of life. By reviewing a selection of texts related to natural dyeing during the second wave from both a US and UK context, it reveals that natural dyeing was at that time associated with sustaining alternative lifestyles and living in greater harmony with nature, ideals that are still carried forward today. At the same time, tensions between chemical versus natural dye use are revealed.

2.4 THE THIRD WAVE: CONTEMPORARY CRAFT

Craft is currently in the midst of a 'third wave' (Luckman and Andrew 2020) of increased interest, which started to gain traction from the early 2000s. In this section I will offer a brief overview of some of the features of this new wave of craft activity and draw comparisons with the Arts and Crafts movement and the 1960s/70s era that I have introduced earlier in this chapter.

The start of the third wave can be traced back to the early 2000s when textile craft activities such as knitting began to see a surge in interest, whilst in the later 2000s a larger revival of sewing and dressmaking began (Twigger Holroyd 2017). Members of the Arts and Crafts movement viewed technology and industrial mass production with scepticism and similar themes were picked up in the countercultural wave. Peach (2013:175) identifies clear parallels between the earlier countercultural revival of craft during the late 1960s and early 1970s and the current revival:

Specific economic, social and environmental concerns such as the impact of mass production and economic recession, dissatisfaction with consumerism, the desire to revert to a simpler life, nostalgia and growing environmental awareness are factors which each period share. Each has led to a desire to return to craft, albeit with different outcomes, taking into consideration developments in new media and technology.

In this wave, the proliferation of digital media and technology have contributed greatly to a new and changed landscape of craft practice when compared to earlier waves. Peach (ibid: 173) argues that unlike in the second wave, practitioners in the third wave are finding ways to 'integrate technology with tradition' and digital tools are used alongside traditional hand tools. However, some practitioners are drawn to craft as an escape from technology and our increasingly digital lives. The online landscape has also radically transformed the way that craft knowledge can be communicated. In Chapter 5 I examine the role of the online landscape in more detail and present the findings of my social media research and online survey. Hofverberg, Kronlid and Östman (2017) identify 'craftivism'

(craft activism) as a key component of the third wave, finding that it is concerned with taking responsibility for the community and environment and as a way to reclaim craft and making practices. Through their practice, craftivists 'develop values and practices like mentorship, community-building, connection with other DIY projects, and gender empowerment' (Bratich and Brush 2011: 247). Craftivism in this wave is reminiscent of the drivers of increased interest in craft expressed during the 1960/70s, where members of the counterculture sought to build their own communities outside of mainstream society and embrace self-sufficiency through means that included craft.

The increased interest in craft can also be attributed to an increased awareness of environmental and sustainability issues and an increasingly urgent need to enact change. Luckman and Andrew (2020: 176) identify parallels with the second wave here, noting that the 'sense of craft as a practice with the potential to live and make in greater harmony with the environment persists'. The third wave of craft sits within the context of a need to produce and consume goods in a more sustainable manner:

In an age of fast fashion, craft and well-designed objects are part of a rejection of disposability, of changing everything every six months. So, too, rare or heritage trades are experiencing renewed popularity and profile. They offer a sense of a larger story of making and connection to history, community and family. Similarly, repair collectives and practices are on the rise, alongside increasing emphasis on the second-hand market as a more sustainable form of consumption. (ibid: 4)

In a contemporary context, natural dyeing offers an alternative to the environmentally damaging, resource intensive, global nature of the fashion system and constitutes a localised, plant-based and less chemically-intensive method of dyeing. This echoes the values and ideals expressed in earlier waves of craft but is accompanied by an much more urgent and pressing need for change in the face of the climate and ecological crisis.

2.5 CONCLUSION

By exploring the framing and practice of natural dyeing in the context of two waves of craft, the Arts and Crafts period and the 1960s/70s countercultural milieu, I have outlined how motivations for natural dyeing have changed to reflect the values and ideals of each era, whilst outlining aspects of the wider context that natural dyeing practice is situated within. During the Arts and Crafts period, the disquiet with a rapidly industrialising and developing world moved some practitioners to embrace the beauty of natural colours and find joy in traditional crafts skills. In the second wave, in the context of social and political upheaval and a new awareness of humanity's impact on nature through chemical means, natural dyes represented a way to return to nature. During the countercultural era

of the late 1960s and early 1970s, the growing awareness of the impact of man's chemical and technological interventions in nature saw some position natural dyeing as a way of going 'back-to-the-land'. At the same time, natural dyeing continued to be practised in a guild setting, as evidenced by the content from the *Journal of Weavers, Spinners and Dyers*. The *Journal* provided insight into the framing of natural dyeing and revealed conflicts between using chemical (synthetic) versus natural dyes. The international sharing of dyeing information was also evident during the counterculture, with books and magazines regularly featuring international perspectives on dyeing. The contemporary practice of natural dyeing comes at a time of a third wave of increased interest in craft practices. In Chapters 5,6,7 and 8 I will present the findings of my research into the contemporary practice of natural dyeing in the United Kingdom in the third wave.

3. THEORETICAL APPROACH

3.1 INTRODUCTION

In Chapter 2 I introduced elements of natural dyeing practice by framing them across two earlier periods of craft revival, the Arts and Crafts movement and the 1960s and 1970s countercultural era, to explore the wider socio-cultural, economic and material context of natural dyeing practice from a historical perspective. Additionally, I presented context around the current, third wave of craft revival – in which the contemporary natural dyeing practice that this research explores is situated.

This chapter introduces and describes the theoretical approach that I have adopted and the theoretical tools that I will use to facilitate a deeper and more nuanced understanding of the complex intra-actions between humans, the more-than-human and features of contemporary natural dyeing craft practice.

In Section 3.2 I introduce the main field of research that informs the theoretical approach of this thesis: craft research, which seeks to understand and untangle the complex relationships between maker, material and the crafting process. In Section 3.3 I extend my discussion on the concept of agency, outlining how I interpret agency in this thesis through focusing on Barad's concepts of intra-action and agential realism. Section 3.4 introduces Ingold's notion of correspondence and dwelling as a way to uncover, understand and reflect on the entangled and relational intra-actions between dyers and the more-than-human that occur in natural dyeing practices. In Section 3.5. I introduce the concept of assemblages to outline how new materialist insights can be used to uncover features of and intra-actions with the wider landscape that natural dyeing craft practices sit within.

In each section of this chapter, I provide an overview of the theoretical concepts or approaches that I am taking forward, give examples of their use in related research and contextualise them in relation to my research questions.

3.2 CRAFT

This research is framed as textile craft research. Although the practice of crafts has a long history, with crafts such as natural dyeing being traced back for thousands of years, the field of craft research is a nascent and growing field (Niedderer and Townsend 2014) with an expanding multi-disciplinary reach (Westerlund, Groth and Almevik 2022). It is 'bound to the sensibilities of material understanding, of making and haptic perception as well as the production of emotional values found in human relationships and personal identity' (Niedderer and Townsend 2014: 625). Craft research

places emphasis and attention on experiential, embodied and tacit knowledge, i.e. the often intangible knowledge that is situated in and developed through crafting practices in which both matter and maker are transformed. What 'crafts' encompasses is broad but usually concerned with making an object skilfully:

Writing about craft usually concerns itself with "the crafts" — specific processes carried out in specific materials. Chiefly these are ceramics, glass making, metalsmithing, woodworking, and the various combinations of process and material that fall under the heading of the textile arts. (Adamson 2007: 1)

The scope for how craft practice can be defined is quickly expanding though; Groth et al. (2022: 212) suggest that craft is 'ubiquitous' and that 'forms of crafting, craftsmanship and skilful material considerations exist in multiple contexts and situations'. What is considered craft practice is therefore extending into new domains, such as 'plant propagation, crystal growing, neuroscientific activity tracking, multimodal presentations of craft research and hybrid forms of digital and handmade craft processes' (ibid). When considering natural dyeing, the extension of crafts into new domains is especially relevant due to the varied nature of the processes and actions that a practitioner performs when they transform a plant into a colour and apply it to textiles i.e. gathering, preparing, dyeing and finishing (see Chapter 1 for an overview of the natural dyeing process). In the expanded interpretation of craft, acts of cultivation (Westerlund 2022) and foraging (Hidalgo Uribe 2024) are to be viewed as craft processes as much as the direct material engagement between the practitioner and the textile. Natural dyeing practitioners therefore draw on a broad range of embodied and tacit knowledge within their practice, for example from knowing when a chamomile flower is ripe for picking to recognising by touch a fibre that has been mordanted compared to one that has not. The intra-action between maker and material is expanded, to include encounters with the natural world, animate plants as well as inanimate dyestuffs. The act of transforming matter and the material engagements that occur in the process of transformation take on a greater complexity because they are interwoven closely with and are often dependent on the living environment.

In line with this expanded and holistic view, there is increasing interest in approaches to understanding craft that place emphasis on relational, entwined ways of knowing that can encompass the breadth and diversity of material engagements. In *Expanding Environmental Awareness in Education Through the Arts: Crafting-with the Environment*, Thompson (2022: viii) explains how the authors sought to adopt and explore a more expansive perspective on matter. They greet materials 'not only as "stuff" to be shaped and subdued by human imposition'; instead they interpret materials in an animate way, with agentic capacities, and as such, making becomes a form of dialogue with each

participant contributing. Many who embrace these approaches within craft research do so in the hope that they ‘may begin to act more responsibly toward the materials at hand and the environment at large’ (ibid: viii). Perspectives that adopt more expansive views of craft practice and agency work towards an approach to craft research (and ways of being in the world) that embrace ‘crafting-with’ the environment (Fredriksen and Groth 2022). Such approaches suggest that we can move beyond our extractive relationship with nature, and instead embrace an entangled and more equitable relationship, by de-prioritising the human and foregrounding the role of plants and materials. This can support ‘the restoration of a more balanced worldview and a more-levelled power distribution’ (ibid: 7) which is an appealing prospect. As discussed in Chapter 1.6, particularly within a fashion and textiles context, unequal power distributions and extractive practices have led to our current climate, ecological and sustainability crises.

3.3 AGENCY & NEW MATERIALISM

Interpreting craft practice as an evolving dialogue with the environment and between maker and materials necessitates recognition of the agentic capacity of matter. A ‘dialogue’ infers the capacity to act and be a part of a correspondence, which in a craft context would include both human and more-than-human agents or participants.

Originally when deciding how I might consider the role of plants within natural dyeing in a way that recognises agentic capacities, I drew inspiration from the field of human-plant geographies. Human-plant geographers seek to highlight and position plants as active agents, for example through ‘exploring not just what plants mean to people but how they contribute to gardens’ (Pitt 2015: 1). The term ‘plantiness’ is used within the field to connote ‘the role or performance of plants in a particular place, community and culture’ (De 2024: 73). It was coined by Head et al. (2014: 18) to ‘advance thinking about how plants act in their worlds, and how we can better understand our shared worlds’.

I was conscious that from a natural dyeing perspective, encounters with living plants are only one part of the crafting process (i.e. the gathering stage); the main interaction with plants occurs in their harvested dyestuff or ‘material’ form. In order to support a more expansive view of agency I turned to the field of new materialism to adopt a broader view of agency and matter. New materialist perspectives are well suited to dealing with the complexities and entanglements of intra-actions with the more-than-human that occur across the natural dyeing process.

New materialism is a broad area of scholarship that is gaining ground across social sciences and the arts and humanities. New materialism is typically presented as an ‘onto-epistemology’ which positions ontology (being) and epistemology (knowing) as being entangled and inseparable, suggesting that

meaning and matter emerge together. New materialism cuts across the 'conventional separation of concerns with the nature of reality and issues of observation and knowledge' (Fox and Alldred 2019:7). It is an onto-epistemology of becoming, which feels especially fitting when considered in the transformative context of craft practice:

New materialism's relational ontology stresses becoming; people, discourses, practices, and things are continually in relation and becoming different from what they were before. New materialist conceptions of knowledge/knowing and language/languageing are also relational, processual, and entangled. (Toohey 2019: 937)

Sometimes, rather confusingly, new materialist concepts appear across a range of labels, often dependent on the area of social sciences that employs them: for example, the terms post-humanism, agential realism and vital materialism are all new materialist concepts that consider agency but are derived from different theoretical perspectives. However, at the core of new materialist thought and connecting the wide range of concepts that come under the umbrella of new materialist thought, is the idea of decentring the human and a focus on matter:

The materiality addressed in these new materialisms is relational, plural, open, complex, uneven and contingent; cuts across dualistic boundaries between natural and social worlds; and for some new materialist scholars is invested with a vitality or liveliness. Despite divergences within this materialist portfolio, all may be characterised as post-humanist and post-anthropocentric, shifting humans from the central focus of attention in social inquiry. (Fox and Alldred 2022: np)

In the context of this study, the focus on dynamic and entangled relations between matter and the desire to overcome binaries such as nature/culture, human/more-than-human means that new materialist theory can provide useful insights into natural dyeing. By foregrounding the relational nature of the craft and the diversity of agents that are part of the process, how dyers affect and are affected by the more-than-human through their practice can be revealed. As explained in Section 3.1 these perspectives are increasingly being adopted by researchers in craft contexts and new materialism is also gaining ground in the field of craft research (Thompson 2022).

There are numerous ways I could have approached the matter of agency from a new materialist perspective, but for the purposes of this thesis I have chosen to utilise Karen Barad's term 'intra-action'. Barad first introduced the term 'intra-action' in *Meeting the Universe Halfway* (2007) and it forms a key component of her *agential realism* concept. Barad is a feminist new materialist scholar

and is influenced by Donna Haraway's works. Barad explains the significance of 'intra-action' over interaction and what that means for agency:

The neologism 'intra-action' signifies the mutual constitution of entangled agencies. That is, in contrast to the usual 'interaction', which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. It is important to note that the 'distinct' agencies are only distinct in a relational, not an absolute, sense, that is, agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements. (ibid: 33)

In Barad's interpretation of agency, a plant's agency is not distinct only when it is in a living, animate form but can be agentic in other forms when involved in a mutual entanglement, i.e. the dyeing process which is an entanglement of humans and the more-than-human. As such, agencies across other elements of the more-than-human can also be distinct throughout the practice of natural dyeing, for example textiles or weather. When materials are understood as agentic in this way, we uncover how they offer 'their own affordances, resistances, and invitations' (Thompson 2022: viii). Barad goes on to clarify that:

According to my agential realist ontology, or rather ethico-onto-epistemology (an entanglement of what is usually taken to be the separate considerations of ethics, ontology, and epistemology), "individuals" do not preexist as such but rather materialize in intra-action. That is, intra-action goes to the question of the making of differences, of "individuals," rather than assuming their independent or prior existence. "Individuals" do not not exist, but are not individually determinate. Rather, "individuals" only exist within phenomena (particular materialized/materializing relations) in their ongoing iteratively intra-active reconfiguring. (Barad in Kleinman 2012: 77)

This again suggests that agency or agentic capacities happen *through* action i.e. during the making process or transformation, not that these capacities are present always or before/after. In natural dyeing for example when a dyestuff is immersed in water and heated the intra-action between the water in the pot and the dyestuff reveals the capacity for the plant to create a specific colour/dye.

3.4 CORRESPONDENCE & DWELLING

Now that I have established my stance towards agency and the inclusion of new materialist ideology within this thesis, in this section I will introduce two key concepts from anthropologist Tim Ingold,

‘correspondence’ and ‘dwelling’, which I will use to further my enquiry into the intra-actions between natural dyers and the more-than-human.

CORRESPONDENCE

As discussed earlier in this chapter, the framing of craft as a dialogue with more-than-human participants is not a necessarily a new perspective in craft research. Those seeking to embrace that perspective often draw on Ingold’s anthropological insights into making and particularly his notion of correspondence. Ingold (2019: 5) states that he takes issue ‘with the notion of embodied knowledge by focusing on habit—the habit of craftsmen, artisans, musicians and scholars’ because ‘habits that enable practitioners to move on in the accomplishment of their tasks are neither tacit nor sedimented in the body’. Ingold argues instead that they are ‘generated and enacted in an attentive and kinaesthetic correspondence with tools, materials and environment’ emphasising that ‘this correspondence [...]is open and alive to the world’ (ibid).

In his book *Correspondences* (2020) Ingold introduces three distinguishing features:

First, every correspondence is a process: it carries on. Secondly, correspondence is open-ended: it aims for no fixed destination or final conclusion, for everything that might be said or done invites a follow-on. Thirdly, correspondences are dialogical. They are not solitary but go on between and among participants. It is from these dialogical engagements that knowledge continually arises. (ibid: 11)

The focus on dynamic action and becoming echoes new materialist perspectives. Ingold’s focus on relationality demonstrates an expanded view of agency that complements Barad’s agential realism; as he states, ‘agency is inside action rather than in front of it’ (Ingold 2021: 288). Ingold also decentres the human, describing correspondences between the more-than-human:

Human beings have their stories, of course, but so do animals, trees, mountains, mud and water, in so far as in their growth, movements and displacements they continually and mutually respond to each other’s presence – or in a word, they correspond. (ibid: 37)

Like Barad, Ingold encourages the use of ‘intra-action’ over interaction, suggesting that in interaction, the actors are ‘closed to one another, as if they could only be connected through some kind of bridging operation’ which serves to ‘cut across the paths of movement and becoming rather than joining along with them’ (Gatt and Ingold 2020: 143).

In Chapter 1.7 I outlined some of the drivers of human exploitation of nature, explaining the idea of dualism and the view of man’s superiority over nature. In that section, I acknowledged that such

perspectives of humans/nature were not representative of all cultures. I highlighted that animist worldviews and indigenous ways of knowing are not dualistic. When considering new materialist perspectives, Barad's view of agency and Ingold's notion of correspondence, it is essential to acknowledge the overlaps with Indigenous ways of being and knowing that already hold similar perspectives to agency and the more-than-human; these are not 'new' ideas. Todd (2016:16) warns that by citing European academic perspectives on the more-than-human and overlooking 'Indigenous contemporaries who are writing on the exact same topics, we perpetuate the white supremacy of the academy' (ibid: 18). Todd encourages academics to engage directly with Indigenous thinkers and their work. Ingold's anthropological background began with the exploration of Northern European pastoralist cultures, such as the Indigenous Sami people in Finland and his work is informed by animist beliefs (Ingold 2000).

An example of craft research that incorporates concepts of correspondence alongside enquiries into material agency is Aktaş's (2020) doctoral thesis focused on human-material engagements with wool and felt, which sought to explore how these interactions occur and how a material such as wool can be an active participant in material engagements. Aktaş draws on Ingold's perspective of correspondence and Malafouris' Material Engagement Theory (MET) (which has crossovers with new materialist thinking). Through that approach, Aktaş was able to move away from prioritising 'human perception, experiences and needs' to uncover how 'materials actively participate in everyday interactions and experiences through their embedded agencies' (ibid: np). Aktaş (ibid: 91) uncovered how the meaning of wool can change based on how and where the maker interacts with it, which can lead to new ways of being with wool and her research 'demonstrates that the material not only shapes the artefact but the entire material interaction.'

Julia Lohmann's work connects new materialist thought on material agency to Ingold's notion of correspondence through her exploration of seaweed. She coined the term 'seaweedness' to describe seaweed's vibrancy, agency and inherent character to explore how seaweedness can guide the making process (Lohmann 2024). This play on language is reminiscent of the term 'plantiness' described earlier in this chapter. She frames her encounter with seaweed as form of dialogue (Ingold 2013) and explores how kelp possess a 'dynamic material agency, long after they have been harvested and dried' (Lohmann 2024: 274) which affect the making process. Lohmann created seaweed sculptures at a residency in the Victoria and Albert Museum in 2013 and members of the public were invited into the process as the sculptures were made. Lohmann suggests that actively embracing the agentic capacities of seaweed and positioning it as a 'a co-designer' meant that the potential of seaweed could be communicated to a diverse audience and sparked discussion about the

qualities and potential of seaweed as a material in the future (ibid). Lohmann suggests that material engagement with seaweedness can help to 'shift our mindset from extraction to regeneration' (Ibid: 268).

Both Aktaş and Lohmann demonstrate how their chosen materials' agentic capacities influence their correspondences with them and how the materials can shape the making process. By greeting both wool and seaweed as active participants and exploring their possibilities they uncovered the potential to prompt thinking of new ways of being and making with wool and seaweed. In Chapter 2 I discussed the need for reimagined relationships with nature and fashion/textiles and thinking through making with plants from an agentic perspective could be a route towards achieving this. Their studies sparked conversation and reflection on human-material relationships and I investigate the similar relationships present in natural dyeing practices.

DWELLING

As described earlier in this chapter, natural dyeing involves close intra-action with plants and textiles but also intra-actions with the more-than-human in other forms, for example as weather, climate, time and the landscape. The reliance on plants as material sources for dyes also means that dyers are brought into close contact with plants in the living environment, often in domestic spaces like gardens or local landscapes. The entanglement of more-than-human elements within the environment can of course be considered as a form of correspondence, however Ingold offers another perspective on landscape through his notion of dwelling. He explains that dwelling

treats the immersion of the organism-person in an environment or lifeworld as an inescapable condition of existence. From this perspective, the world continually comes into being around the inhabitant, and its manifold constituents take on significance through their incorporation into a regular pattern of life activity. (Ingold 2011: 153)

Ingold goes on to explain that:

A place owes its character to the experience it affords to those who spend time there—to the sights, sounds and indeed smells that constitute its specific ambience. And these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people's engagement with the world, in the business of dwelling, that each place draws its unique significance. (ibid: 192)

From this perspective the environment and place are not just natural elements that a person (or dyer) is part of passively; instead, they are entangled within the landscape through their activities, so they

are a part of an evolving combination of both the socio-cultural and the natural. This notion that humans both shape and are shaped by the landscape in an ongoing process is similar to the thinking around material engagement presented earlier in the chapter, where practitioners both affect and are affected by the more-than-human. The idea of something being continually evolving relates back to the new materialist ontology of becoming introduced earlier in this chapter, i.e. the idea that reality is not fixed but ongoing, relational and entangled: always in the process of becoming instead of just being. The dwelling concept overlaps with new materialist perspectives through a focus on overcoming dualisms and binaries; in this interpretation the landscape is not separate from humans, nature and culture are combined in ongoing dynamic relation, inseparable from one another. Adopting this perspective allows me to identify some of the implications and outcomes of engaging in natural dyeing craft practices and add further depth to the kinds of intra-actions that are occurring. For example, when interviewing dyers about their dyeing experiences, elements such as weather are discussed. By focussing closely on material correspondence the ways that weather is also an active agent in the entanglement of more-than-human elements within natural dyeing might be lost. By taking a wider, dwelling perspective the agency of other more-than-human elements besides plants can be revealed. Illuminating the wider intra-actions between humans, the more-than-human and the interplay between can reveal how dyers inhabit the landscapes that they become entangled with through their material engagements to in turn think about how one affects the other.

In relation to craft practice, Prince (2018) studied the way that different craft practitioners dwell in the landscape through everyday practices and embodied movements. Prince approached her study through the lens of tourism but the dynamics that were revealed are useful for considering the wider context of dye crafts:

With the dwelling perspective, the emphasis is put on the observation and sensation of activities and practices, which can reveal how individuals shape their environment by resisting creatively, coping with, taking advantage of, and following the dynamics of tourism through everyday practices (ibid: 79).

Ingold's related concept of 'taskscape' is also relevant to the context of this study. He introduced the concept in his essay *The Temporality of the Landscape* (1993) as a way of understanding the interrelation between landscape, temporality and human activities. The taskscape can be understood as the 'array of practices that human and non-human beings carry out in the temporal process of inhabiting their environment' (Gruppuso and Whitehouse 2020: 588). Ingold explains that:

the forms of the taskscape, like those of music, come into being through movement. Music exists only when it is being performed; it does not pre-exist, as is sometimes thought, in the score, any more than a cake pre-exists in the recipe for making it. Similarly, the taskscape exists only so long as people are actually engaged in the activities of dwelling. (Ingold 2000: 245)

The idea that the taskscape comes to being through movement is reminiscent of the ideas expressed by Barad (2007: 33) that “‘individuals’ do not preexist as such but rather materialize in intra-action”. Bhatti et al. (2008: 62), in their study how domestic gardens are experienced as an intimate place in everyday life, framed the garden as a taskscape rather than a landscape because it was a site of ‘everyday ‘tasks’ in the form of work requiring physical technical/human labour’ and ‘(re)shaping an existing materiality’. Likewise, the gardens and allotments that dyers tend in order to produce dyestuffs for use in their practice could be described as taskscapes.

By embracing Ingold’s notions of correspondence and dwelling I can uncover, think through and reflect on the intra-actions with the more-than-human that occur in natural dyeing practice, in the context of both close material engagement and from a wider perspective of being entangled in the living environment/landscape and the taskscape. These insights are applied in Chapters 6 onwards.

3.5 ASSEMBLAGES

As I have outlined in the earlier sections of this chapter, the theoretical approach that I have adopted is informed by new materialist perspectives on thinking about agency, alongside Ingold’s notions of correspondence and dwelling. Additionally, this thesis is also concerned with the socio-political and economic contexts of natural dyeing in regard to articulating the implications, impacts and outcomes of engaging in natural dyeing practice (RQ3). I have demonstrated the connections between natural dyeing and socio-political/economic contexts in Chapters 1 and 2 through my discussion of the historical and material facets of natural dyeing practice, including contributors to and motivations for two earlier revivals of natural dyeing. In order to consider the contemporary socio-political, economic and material landscape that natural dyeing is situated within I will be drawing on the concept of assemblages.

Assemblages are increasingly being used within a variety of disciplines and for a range of purposes (Fox and Alldred 2015; 2022):

Informed by diverse theoretical foundations drawn from Deleuze and Guattari, Foucault and Latour, assemblage theory is broadly concerned with seeking to understand the contingent

relationships between a complex socio-spatial whole and its constituent parts – be it a place, an event, a policy regime, or even a politico-economic system. It does this by examining how diverse human and non-human elements relate and interact. (Jones, Heley and Woods 2019: 141)

Different elements in an assemblage ‘have different capacities to act, affect and be affected whilst participating’ (Mannion 2019: 31); from this perspective, ‘craft making gains form through assemblages of relations with the capacity to affect’ (Bell and Vachhani 2020: 16). As such, an assemblage is ever changing and could be described as ‘a becoming that brings elements together’ (Wise 2011: 91). As I have discussed earlier, these ‘relations’ in the context of craft consist of intra-actions between humans and the more-than-human. The elements in a natural dyeing assemblage could be understood as diverse as soil, a dye plant, a garden, weather and climate, amongst myriad others. Technological, socio-political and economic elements may also form part of an assemblage, for example policies and governance.

An example of how an assemblage perspective can be applied in research related to craft practice is Mannion’s (2019) research into environmental and sustainability education. The project was a place-responsive, arts-based, outdoor environmental education programme that connected participants from different generations from schools, youth groups and their communities with local places through journeys on the widespread network of ‘drove roads’ (p. 9) across Scotland. It involved a variety of creative and embodied practices, such as foraging, cooking, storytelling, horse-riding and felting.

Mannion adopts Deleuze and Guattari’s (1987) assemblage concept in his research. In a similar way that craft research is connecting Ingold’s anthropological insights to concepts of matter and agency, Mannion (2019: 13) notes parallels and overlaps between Ingold and Deleuze and Guattari: ‘Ingold’s eco-social take on learning is profoundly Deleuzian: the social and the natural are together coming into being in an on-going way’. Mannion’s approach to assemblage thinking in his work prompts reflection on how new ways of living and being can create change. He argues that ‘to address the wicked problems of sustainability we desperately need new assemblages to interrupt the contemporary status quo’ (ibid: 32). His research concludes that in the context of an education assemblage (the project) educating for more sustainable futures can be achieved through:

- (1) Interrupting existing education assemblages and experimenting with new approaches,
- (2) Practicing, relating, and entangling ‘from the middle’, involving the human and more-than-

human to actualize the capacities and relations needed, and (3) Evoking and performing new practices and expressions designed to create more sustainable ways of life (ibid: 1).

This way of conceptualising sustainability is transferable to other contexts. For example, in the context of this thesis it can be understood as the change we need to enact in the fashion and textile industry and in our relationships with the more-than-human in order to address the climate crisis and cultivate more sustainable material practices (RQ3).

Jones, Heley and Woods (2019) applied an assemblage approach to their study of the global wool trade. They sought to demonstrate how the assemblage concept can be used to generate insight into the impacts of global economic restructuring in a local, Welsh context. Adopting an assemblage approach meant that they could reveal ‘how rural societies, places and communities are negotiating change in the context of globalisation’ (ibid: 137).

To further their insights, they employed a concept called (re)territorialisation, which is inspired by Deleuze and Delanda and describes the restructuring i.e. territorialising of an assemblage:

Territorialisation can involve the reinforcement of the spatial boundaries or footprint of an assemblage, but also non-spatial (exclusionary) processes that work towards increasing its internal homogeneity. Deterritorialising processes, conversely, destabilise spatial boundaries or increase the internal heterogeneity of the assemblage. For example, the closure of a textile manufacturing facility in one part of the world can lead to the reterritorialization of the assemblage elsewhere as production shifts to sites identified as more competitive within a global marketplace. (ibid: 143)

I intend to draw on these concepts and ideas in a similar way. I will use the concept of assemblages and (re)territorialisation as a way of discussing the impacts of working seasonally, slowly, connecting with other humans and the more-than-human. I do so in relation to aspects of fashion and textile sustainability and growth logic that I introduced in Chapter 1. The discussion related to assemblages is featured in Chapter 8.

3.6 CONCLUSION

The theoretical approaches that I have introduced in this chapter provide a toolkit for conceptualising and understanding complex encounters between people, materials and the environment i.e. intra-active entanglements between humans and the-more-than human. By drawing from new materialist scholarship which adopts a broad onto-epistemological perspective and focuses on relational encounters and processes of becoming, there is opportunity to foreground the role of the more-than-

human in natural dyeing practice. Exploring the agentic capacities of plants and other more-than-human elements that dyers encounter through their practice has the potential to reveal new possibilities for working with materials that embraces the idea of 'crafting-with' the environment. Ingold's notion of dwelling and the associated term 'taskscape' are a tool for identifying and reflecting on how dyers shape and are shaped by the environment and the taskscapes that their practice brings them into correspondence with. Finally, conceptualising natural dyeing as an assemblage presents an opportunity to consider the outcomes and impacts of engaging in dyeing from a wider perspective than when focusing more directly on material engagement.

4. METHODOLOGY

4.1 INTRODUCTION

In this chapter, I outline the methodological approach that I developed and the methods used. Firstly, I present the iterative approach to research that I have adopted (Section 4.3), which leads into a wider discussion of my research approach (Section 4.4). This approach is informed by two key areas of enquiry: craft research and what I term ‘research with people and plants’. I explain how the investigation has been designed and structured across four phases (Section 4.5). I provide a detailed account of each research phase through explaining the aims, methods used and data generated in Section 4.6. Later in the chapter I provide an overview of the ethical considerations (Section 4.7) and the analytical approach I adopted (Section 4.8) throughout the research phases.

4.2 RESEARCH QUESTIONS

As documented in Chapter 1, there are three research questions:

RQ1: *What is the context of contemporary natural dyeing craft practice in the United Kingdom? Why is natural dyeing becoming more widely practised?*

RQ2: *How do intra-actions occur between natural dyers and the more-than-human?*

RQ3: *What are the implications of these human-nature intra-actions for craft, textiles and sustainability? What impacts and opportunities are created?*

The first research question was designed to establish an understanding of how natural dyeing is practised in contemporary craft cultures by considering aspects of the historical context of the craft and how it has changed and developed over time. An understanding of the historical context of natural dyeing has provided a foundation of knowledge to consider why the craft is experiencing a contemporary resurgence. The first research question also encompasses features of current dye practice including who is practising dyeing, how and why, which are expanded on in the other two research questions.

The second research question shifts the focus onto the assemblage of people, plants, materials and place that constitute ‘natural dyeing’ by uncovering the intra-actions (Chapter 3.3) between humans and more-than-human elements that occur in nature.

The third research question considers the implications of these intra-actions and the wider impacts and opportunities that are created through practising natural dyeing, from a craft, textiles and sustainability perspective.

4.3 RESEARCH PARADIGM

In this section I will present the research paradigm that underpins the project. As I have outlined in Chapter 3, the theoretical approach that I have drawn on in this thesis is informed by new materialism which adopts an 'onto-epistemology'. This encourages 'approaching the research process differently, questioning the linearity and structured nature of much qualitative research' (Thorpe, Brice and Clark 2020: 31). In order to embrace an onto-epistemological approach I adopted an iterative research process.

This research is qualitative, which can broadly be defined as an 'iterative process in which improved understanding [...] is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied' (Aspers and Corte 2019: 139). Qualitative research places emphasis on human perceptions and experiences of reality and phenomena (Taylor, Bogdan and DeVault 2015: 4; Jackson, Drummond and Camara 2007). In all, this research adopts a new materialist paradigm and an iterative approach.

4.4 RESEARCH APPROACH

Overall, I define this research as qualitative textiles-craft research that sits within a new materialist research paradigm. My research approach has an interdisciplinary outlook, demonstrated using a combination of methods from two key areas: craft research and what I term 'research with people and plants'.

In this section I will now outline the variety of approaches used from these fields, and highlight the common ground amongst them to explain how they informed the research design.

CRAFT RESEARCH

Having emerged from the wider body of design research, craft research is a nascent field and can be defined as 'research into, for and through craft practice' (Niedderer & Townsend 2014). In recent years, the methodological landscape of craft research has expanded greatly as the field has developed (Riis and Groth 2020). Defining the key methodological approaches used in craft research can be challenging, due to the emerging nature of research practices within the field, the breadth of research settings and the varied epistemological perspectives that the field encompasses. However, the most

common approaches include practice-led, practice-based and practitioner-researcher methods. As the names suggest, practice-based and practice-led research are embedded in creative practice; ‘in order to explore their *research question*, the researcher needs to *make* things as part of the process’ (Gauntlett 2021: np). Though these terms are sometimes used interchangeably, there is a distinction in the practitioner’s role:

In practice-based research, the practitioner’s role may be more dominant than the researcher’s role. The emphasis seems to be on practice, since a practitioner-researcher carries out her research solely based on her own practice. In practice-led research, the two roles appear to be equally important, because research becomes an intertwined part of practice. (Nimkulrat 2007: 2)

Although often part of practice-based or practice-led research, the making of an artefact is not always central to the research process. For example, practice-led research ‘primarily leads to new understandings about practice’ (Candy and Edmonds 2018: 65) without the focus on producing a tangible output. Researching and reflecting from inside the creative process can provide valuable insights into a practice, which may otherwise be intangible or inaccessible to an outsider or non-practitioner:

Research through [our] own creative practice enables a deep and thorough examination of the research problem and makes knowledge of craft design practice no longer personal but available and shared among other practitioners, educators and researchers. (Nimkulrat 2009: 10)

A practitioner-researcher might also use their experiential insights into the tacit and embodied knowledge contexts specific to a particular craft to inform research in other ways, for example through studying the actions of other craft practitioners. These approaches often embrace methods from the fields of anthropology and ethnography, in which craft practitioners and artisans are positioned as the subjects of ethnographic research (Vannini & Vannini 2020) and, as a result, use traditional ethnographic research methods such as interviews and participant observation. The concept of insider/outsider knowledge is not unique to craft research and is common in the wider humanities and social sciences. Breen (2007) proposes that knowledge is more representative of a continuum instead of a clear distinction between what constitutes ‘inside’ or ‘outside’; indeed, a researcher may not always sit in one position. I would agree with this stance; although my ‘insider knowledge’, i.e. my familiarity and competence with natural dyeing (Chapter 1.1), informed the

development of the project, there are aspects of the craft that I am less knowledgeable about, such as producing garments from dyed textiles (see Section 4.6 for more discussion of the insider/outsider perspective when recruiting participants).

In summary, my research is best defined as practice-led: my own natural dyeing practice, established in 2018 (see Chapter 1.1) has informed the design and direction of the research project due to my knowledge and experience of the craft. I have used this knowledge and experience in my role as a researcher to explore others' practices of natural dyeing. I have also used my own insights and practice to inform my understanding of the contemporary practice of the craft and address my research questions. In addition, I have continued to practice throughout the project; the people, plants and materials that I have encountered through the research have in turn influenced my practice. I refer to my ongoing natural dyeing practice and reflection as 'reflective practice' (outlined in Section 4.6). The insights and reflections that I have made throughout my practice are presented in the chapters of this thesis in a variety of formats including observations and images (See Chapters 6 onwards).

RESEARCH WITH PEOPLE AND PLANTS

The first stage of natural dyeing practice for many is the gathering stage, which often includes activities such as the cultivation of dye plants or foraging for plant material to use for dyeing. These activities involve being in the environment/nature and intra-acting with the more-than-human world, i.e. plants, the landscape, weather etc. Fields such as cultural and social ecology, ethnobotany, anthropology and human geography have long studied interactions between humans and nature. I have grouped these under the umbrella term *research with people and plants* for brevity (Figure 7).

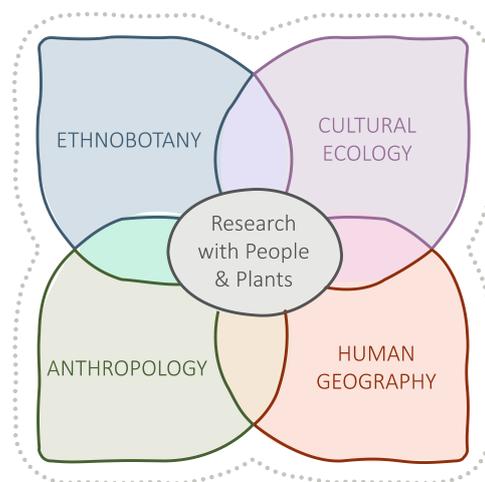


Figure 7. The key disciplines that are concerned with interactions between humans and nature. Author's diagram.

Cultural ecologists and researchers within the emerging field of human-plant geographies are increasingly seeking to explore how everyday nature practices (including cultivation and foraging) are entwined with socio-cultural identities and perceptions of nature (Head and Atchison 2009). For example, Poe et al. (2014:1) explored the complexities of human-plant intra-actions in the context of urban foraging in the US in order to reveal how foraging practices are ‘underpinned by interconnected and multiple notions of identity, place, mobility, and agency for both humans and more-than-human interlocutors’. More recently, these fields have embraced posthuman and new materialist methodologies (see Bastian et al. 2017) that decentralise the human in these encounters and explore relational correspondence between people and the more-than-human world.

When considering the methods I would use, I was particularly inspired by work examining foraging and cultivation because of the clear overlap with many dyers’ practices and the current underrepresentation of gardening and foraging practices within craft research.

From a methodological perspective, the most cited methods in this area of inquiry involved ethnography and commonly included interviews, participant observation, walking and mapping methods (McLain et al. 2012). Projects that examined cultivation and gardening used similar approaches but included visiting gardens and capturing information through photography or video to highlight the agency of plants (Pitt 2015). An interest in methods which highlight agency emphasises the posthuman and new materialist perspectives of these approaches, demonstrating a focus on foregrounding the relational nature of more-than-human encounters in gardens and other cultivation and foraging spaces. The use of methods such as interviews and participant observation also demonstrate overlaps with craft research approaches.

CRAFT RESEARCH WITH PEOPLE, PLANTS & MATERIALS

Activities such as foraging and gardening, although creative, material and embodied processes, have not been represented within the realm of craft research until recently, when more attention and interest has been focussed on entanglements between people, nature and materials (Niedderer and Townsend 2022; Townsend, Potter and Pagett 2024) (see also Chapter 3.2). In this newly emerging area, researchers are drawing on a combination of the methods outlined above.

In their work framing craft as a dialogue with the environment Mäkelä and Aktaş (2022:9) adopted walking methods. Mäkelä walked through the landscape collecting natural materials to ‘follow the material’s flow, letting it actively shape the creative events’, facilitating “‘entanglement” between the craftsperson’s knowledge and newly discovered materials’ in order to generate an ‘emotional and

dialogical relationship with the environment'. Lohmann (2024) researched seaweed through her practice with it, gathering and manipulating the material into different structures. Lohmann also invited the public to engage and be with seaweed, which prompted further reflection and insight into human-material interactions. Perret (2023), meanwhile, explored the complex dialogue between 'craftswomen and material' uncovering how craftswomen work to the rhythms of nature, by using a combination of methods including participant observation and ethnographic interviews. Mäkelä, Aktaş, Lohmann and Perret's approaches highlight the versatility of traditional ethnographic methods when combined with more-than-human perspectives. The garden is also a site of increasing activity within craft research. Cele (2023: 1) conducted interviews with and observed gardeners whilst they worked to explore 'garden craft' which she described as 'the means through which gardeners connect in an embodied way to "the nature" of the garden'. Westerlund (2022) used 'research-through-practice' in order to explore methods to document and communicate the transfer of craft knowledge, from a horticultural and gardening perspective.

Research encompassing interactions between plants and people is rather limited in scope when considered from a dyeing context; what happens after a plant is cultivated, gathered and transformed from a living entity to a material through craft is not the focus. As such, I view research with people and plants as having a focus on human-plant correspondence/intra-action whilst craft research is more distinctly focussed on human-material correspondence/intra-action.

4.5 RESEARCH DESIGN

When seeking to develop my methodology, I was inspired by the approaches discussed above and realised that there were overlaps when it came to the practical elements of data collection for both craft research and research with people and plants. My research sits across both research domains because it is concerned with the transformation of plant into dyestuff. I felt that neither craft research methods nor research with people and plants alone could encompass the breadth and depth of knowledge that I wanted to uncover about the craft of natural dyeing. To adequately address my research questions, I realised that I would need to create a bespoke methodology that embraced research elements from both areas but was tailored specifically to the craft of natural dyeing.

Consequently, I designed a four-phase scheme of data generation to address my research questions (Figure 8):

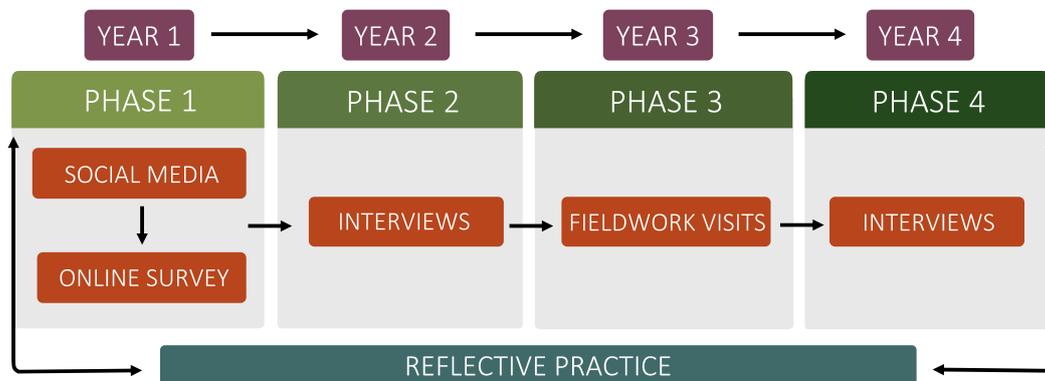


Figure 8. A four-year and four-phase research project.

My research questions were not designed to analyse the process of natural dyeing in a linear fashion, e.g. from the sourcing of dye stuffs to creation of an artefact. Instead, they were designed to leave room for focussing on specific aspects of craft and explore the wider socio-cultural context of the natural dyeing practice. The methodology was thus designed to uncover both the ‘big picture’ of natural dyeing practice in the UK and allow for more detailed, in-depth enquiry of a particular dyer’s practice. Nicolini (2009) describes this approach as ‘zooming in’ and ‘zooming out’. At first a researcher must ‘zoom in’ by ‘selectively introducing a variety of conceptual tools and perspectives which can help us appreciate different aspects’ of a practice, so that in turn, the researcher is then able to ‘zoom out’ to ‘see the connection between the here-and-now of the situated practising and the elsewhere-and-then of other practices’ (ibid: 1392).

The four phases of research came about through adopting an iterative approach to the research design. Reflexive iteration allows an open and flexible approach to research design which means that the research approach, methods and analysis adapt to fit the changing research questions and research process (Kerssens-van Drongelen 2001). As such, my research questions were revised over the course of the project and my research phases emerged gradually as the project developed. Therefore, although presented in the diagram above as four distinct phases leading neatly from one to another, the process of developing each phase occurred through examining and reflecting on the findings of the previous stage. Iterative research design can be interpreted as a ‘deeply reflexive process’ which is ‘at the heart of visiting and revisiting the data and connecting them with emerging insights, progressively leading to refined focus and understandings’ (Srivastava & Hopwood 2009: 77).

I will briefly present the four research phases here and then explore each of them in greater depth in Section 4.6:

Phase 1: the first research phase sought to explore the current landscape of natural dyeing (RQ1) by conducting a scoping exercise to examine social media posts about natural dyeing from three social media platforms. Following this, an online survey (see Appendices) was designed to uncover the socio-demographics of natural dyers and the techniques, plants, mordants and materials that dyers use, alongside the motivations and purposes of their dyeing activities.

Phase 2: in order to investigate the intra-actions between people and the more-than-human that occur in natural dyeing practice and to consider the wider context of these interactions (RQs 2 & 3), I carried out seven online and telephone interviews with natural dyers. The interviews expanded on themes that emerged from Phase 1, and particularly from the online survey.

Phase 3: this research phase involved three fieldwork visits to spend time both participating with and observing dyers whilst they undertook their everyday natural dyeing practices in their usual working environments. The dyers I visited were interviewed in Phase 2 and the fieldwork visits expanded on themes discussed during the interview.

Phase 4: The final research phase was less structured than the previous three and was developed through reflecting on findings from the previous three phases and identifying key areas where further enquiry would be beneficial to address the research questions and add depth to areas of interest. This involved conducting three more online interviews with dyers.

Reflective Practice: throughout all four research phases my own natural dyeing practice continued. During Phase 1, I used my experiences of dyeing, along with the findings from the social media research, to design the survey. In Phase 2, my experiential practice, along with the survey, informed the development of the interview questions. In Phase 3 (fieldwork visits) I observed and collaborated in natural dyeing with the practitioners I was visiting, which then led to further development of and reflection on my ongoing practice. My dyeing practice and reflections were recorded across a variety of formats including photos, video, text, textile samples and a dye journal (see Section 4.6).

4.6 DATA GENERATION

In this section I will outline how data was generated across the four research phases.

PHASE 1: SOCIAL MEDIA

With an estimated 57.1 million active social media users in the United Kingdom (Statista 2023), social media platforms contain vast and rich sources of user-generated content on almost any topic. The format and features of each platform vary, but most social media platforms enable users to create their own profile from which they can share text, video and imagery with others. Some, such as Facebook, allow for the creation of discussion groups or pages on specific topics, e.g. crafts or events. This provides an opportunity to learn about a chosen topic, for example natural dyeing, by collating and analysing the content generated on the platforms. In recent years, an increasing number of academic fields have sought to use methodological approaches incorporating data derived from social media towards gaining further understanding of issues related to their fields, often from a qualitative perspective (Williams, Terras and Warwick 2013). Netnography is one approach to conducting ethnography on the internet and was pioneered by Kozinets in the late 1990's, he defined it as a 'written account resulting from fieldwork studying the cultures and communities that emerge from on-line, computer mediated, or Internet-based communications, where both the field work and the textual account are methodologically informed by the traditions and techniques of cultural anthropology' (Kozinets 1998: 366). More recently, as the field (and technology) has developed, Kozinets summarises netnography as 'a qualitative, interpretive research methodology that adapts traditional ethnographic techniques to the study of social media' (Kozinets 2015: 1).

I decided to gather data about natural dyeing from three social media platforms, Twitter (now X), Instagram and Facebook, as the first phase of data generation in this project. Through exploring the content about natural dyeing being generated by social media users, I hoped to gain insights into the contemporary natural dyeing craft landscape (RQ1). To collect data from the three chosen social media platforms I needed to develop a strategy tailored to the search functionalities and user designs that are distinct to each one. Consequently, the sampling methods varied slightly for each platform. On Instagram I retrieved relevant content from public accounts by using hashtags or key words related to natural dyeing. Table 1 displays the frequency of posts that appeared in a search for various relevant hashtags on Instagram.

Hashtag	Posts
NaturalDye	683,000
NaturalDyes	333,000
IndigoDye	162,700
PlantDye	139,000
EcoPrinting	119,300
BotanicalDye	87,380
NaturallyDyed	72,000
PlantDyed	60,800
PlantDyes	49,500
NaturalDyersOfInstagram	45,500
IndigoDyed	45,300
BotanicalDyes	26,800
PlantDyeing	23,600
BotanicalColors	19,177
BotanicalPrinting	13,800

Table 1. Quantity of posts for each Instagram hashtag, recorded on 20/03/2021.

I used a combination of these hashtags and key words to identify relevant content. Then, I manually filtered the content further by excluding any posts that referenced locations other than the UK.

Twitter allows more detailed and targeted searching than Instagram and Facebook. An example of a search string used to retrieve data from Twitter is shown below:

```
(#naturaldye OR #naturaldyes OR #naturaldyeing OR #dyeplants OR #ecoprinting OR #plantdye OR #indigodye OR #dyegarden OR #botanicaldye OR "natural dye" OR "dye plants" OR "indigo dye" OR "ecoprint" OR "plant dyed" OR "naturally dyed") lang:en until:2021-03-30 since:2021-03-01
```

The search string above is a combination of natural dyeing hashtags and keywords, alongside the dates I wanted the posts to have been created within. Entering that into the search bar would produce Twitter posts that contained one or more of those hashtags/keywords. The data I collected from Facebook was sourced from a 'closed' Facebook group. To join the group a user must answer a question and/or be approved by an administrator/ owner before they are admitted as a member. This

group was created to discuss and share information about natural dyeing. Craft and special interest groups are commonplace on Facebook and natural dyeing groups are numerous, with the largest natural dyeing groups featuring approximately 20,000 members. The group that I retrieved content from was the 'Natural Textile Dyeing' Facebook group which was founded by Justine Aldersley-Williams in 2014. I selected this group because it was a general interest natural dyeing group (i.e. not specific to a particular technique or style), with a large membership (13,000 members in 2024), that featured new content daily and had a UK-based group owner.

Natural dyeing has a strong seasonal element, and I sought to factor this into the study by retrieving content across four months that each contain a seasonal equinox: June (Summer), September (Autumn), December (Winter) and March (Spring). I collected data both actively and retrospectively. For example, I collected the data for the Summer actively over the month of June by spending a few minutes each day monitoring my social media data sources. For Spring, Winter and Autumn, I collected social media posts through either scrolling back in the timeline (Facebook and Instagram) or using search terms limited to specific dates (Twitter). This allowed me to gather my data in a shorter timeframe so that I could progress to the later phases.

When deciding which social media posts to include in my data set, I was guided by Kozinets' (2019: 226 - 227) suggestions for filtering content for selection in investigative netnography. He proposes five selection criteria:

Relevance: data that is meaningfully connected with the research aims.

Activity: data that is recent and represents contemporary cultural worlds.

Interactivity: data that includes interactions, replies or conversations between users.

Diversity: data that is not dominated by a single voice or view.

Richness: data containing detail, descriptions, emotion and interconnection.

With these five selection criteria in mind, I spent time acquainting myself with the data and saving posts that incorporated a variety of different types of imagery of natural dyeing approaches, contrasting perspectives (e.g. individuals, businesses), popularity level (some with many 'likes' and others with few). I screenshotted approximately 250 posts and in total, 150 posts were selected for analysis by following Kozinets' guidance. I selected 40 from the Natural Textile Dyeing Facebook group, 55 from Twitter and 55 from Instagram. Collection was spread across the four seasonal months, as described above, with up to 15 posts per social media site selected for analysis for each month. To 'save' a post I screenshotted the content, omitted the name/poster's personal details to anonymise them and saved as a JPEG file. Although the sampling methods and search terms varied

across each platform, I endeavoured to create a collection of posts that were representative of each platform. The data analysis approach for each phase is explored later in this chapter (Section 4.8) and the data gathered from social media is presented and discussed in Chapter 5, in combination with the online survey findings.

PHASE 1: ONLINE SURVEY

The purpose of Phase 1 was to provide context about current natural dyeing craft practice in the United Kingdom and address RQ1, which investigates the context of contemporary natural dyeing craft practice in the UK and motivations for practice.

The social media data formed part of this context but had not addressed all of the context related information I had sought to uncover. Specifically, I was seeking information about who was practising natural dyeing (because the social media posts were anonymised) and their motivations for and purpose of their dyeing activities. That information would enable me to develop an understanding of why it is becoming more practised. To address these knowledge gaps, I designed an online survey (see full survey questions in Appendices) that would take no longer than 15 minutes to complete, with a combination of qualitative open-ended text questions and a selection of multiple choice and multi-answer questions. The survey was divided into three sections (Figure 9).

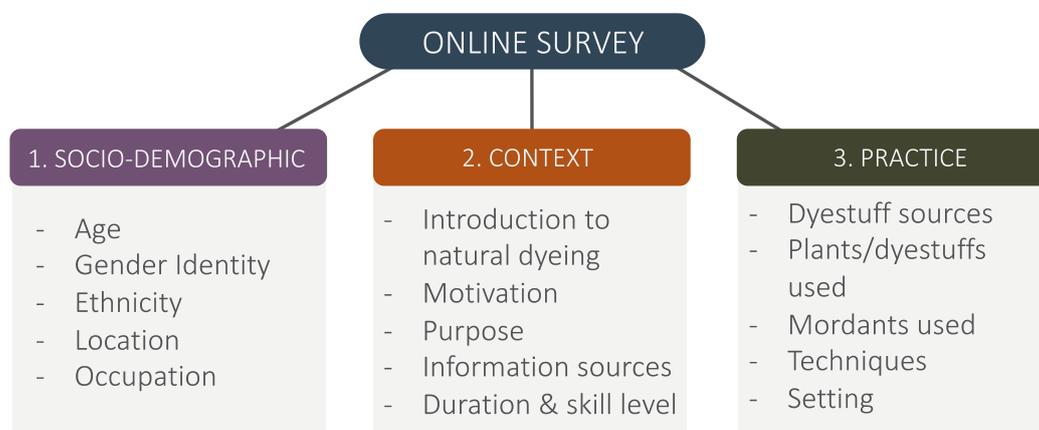


Figure 9. The online survey was structured into three sections: socio-demographic, contextual and practice-specific.

A wholly qualitative survey i.e. a fully open-ended text-based survey without tick boxes and pre-designed categories, could potentially have allowed for richer and more nuanced responses (Braun et al. 2021). However, an approach which included some pre-defined tick-box answers and multiple-choice answers was deemed appropriate for the purpose of this survey. Tick-box and multiple-choice answers would allow me to compare the responses to some questions, for example socio-demographic features of dyers and dyeing techniques used, more readily due to the predetermined

categories. The socio-demographic questions were designed following categories used by the UK Office for National Statistics in the UK census (ONS 2020). Additionally, the multiple-choice tick box questions that sought to uncover how the craft was being practised were designed using my knowledge of the craft and the insights from the social media research. I also included an 'other' option for respondents to add their own text-based contributions outside of the set parameters. Some questions relating to discovering the craft, motivations for taking part and the plants/materials were devised to invite richer, more nuanced written replies from the respondents.

All questions asked in the survey were optional. At the end of the survey, respondents were invited to leave their contact details if they were interested in taking part in Phase 2, i.e. an online or telephone one-to-one interview.

An invitation to take part in the survey, alongside a link to fill it in, was shared in June 2021 on my own profiles on Twitter (Figure 10), Facebook and Instagram (Figure 11).



Figure 11. Online survey invitation and link shared on my Twitter profile in June 2021.



Figure 10. Online survey invitation and link shared on my Instagram profile in June 2021.

I also shared the survey on three natural dyeing Facebook groups. It was subsequently retweeted; shared by other dyers through word of mouth and email; and distributed by some regional Guilds of Weavers, Spinners and Dyers to their members. This could be described as a form of snowball

sampling, defined as ‘when the researcher accesses informants through contact information that is provided by other informants’ (Noy 2008: 330). Although not directly accessing informants through others, respondents were sharing my survey with fellow dyers who were then distributing it themselves, with many of them leaving their contact details. Over a period of four months the survey garnered 82 responses. Due to the survey being shared in the same avenues as the social media data collection (and through using the most popular natural dyeing hashtags in my social media promotion) it is possible that there is some overlap between survey respondents and authors of the social media posts collected earlier in Phase 1. As the social media data was anonymised and some participants also filled in the survey anonymously, cross-referencing the survey and social media data is not possible.

In all, this approach was methodologically successful: I generated a range of data that supported my exploration of contemporary natural dyeing craft practice in the United Kingdom. In Section 4.8 I discuss my analytical approach and in Chapter 5 I discuss the findings of the survey.

PHASE 2: INTERVIEWS

The second research phase sought to add detail to RQ1 which was concerned with how natural dyeing is being practised within contemporary craft cultures and why. It would also begin to develop knowledge for RQ2, which focuses on how intra-actions between dyers and the more-than-human occur and consider some of the impacts and opportunities that are created (RQ3).

Phase 1 had been successful in establishing a foundation of knowledge about the context of contemporary dyeing practice but lacked a personal approach due to the nature of the methods used. For example, the lack of face-to-face interaction or conversation about the craft meant that the depth or richness of information needed to adequately address the subsequent research questions had not yet been accrued. To achieve this richness and to begin to uncover the intra-actions between dyers and the more-than-human that occur in natural dyeing, I conducted a series of online/phone semi-structured interviews with dyers. Interviewing is one of the most prolific methods used within qualitative research, particularly within ethnographic research. In qualitative interviewing being flexible and ‘responding to the direction in which the interviewees take the interview’ (Bryman 2012: 470) is encouraged because it gives insight into what each interviewee feels is salient and relevant, elements that are unique to their individual experience. Through loosely guiding the conversation I aimed to leave the dyer space to share their experiences in a more open and reflective manner than the survey had accommodated.

Between August 2021 and August 2022, I conducted eight semi-structured qualitative interviews with natural dyers, either online or by phone, each lasting from 60 to 90 minutes. The Microsoft Teams online format (which included video as well as audio) allowed for some dyers to show me artefacts, plants, materials, equipment and their working spaces through the screen, which offered an unexpected window into their everyday dyeing experiences and working environments.

When deciding who to approach to take part in the interviews, I aimed to assemble participants to represent a variety of perspectives. This method is commonly termed ‘theoretical sampling’ and used within grounded theory with the purpose of reaching ‘theoretical saturation’ (Glaser & Strauss 1968). When applied more generally, theoretical sampling in qualitative interviewing purports that the researcher will ‘consciously vary the type of people interviewed until [they] have uncovered a broad range of perspectives held by the people in whom you are interested’ (Taylor, Bogdan and DeVault 2015: 109). I was interested in interviewing a group of dyers that represented a range of skill levels, working environments, methods, techniques, backgrounds and motivations. I felt that variation in these areas would provide the broadest insights into the diversity of human, material and plant encounters and intra-actions that occur, and to generate a range of examples of implications or opportunities that dye practices foster.

Recruiting participants for this research phase proved to be the most challenging aspect of data collection; Figure 12 displays the participant sources for each phase.

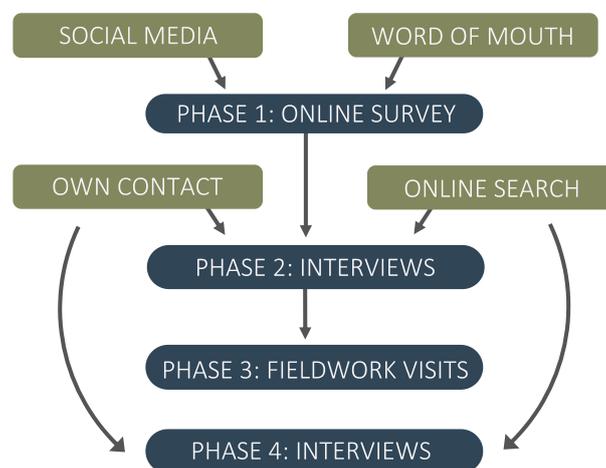


Figure 12. The source of participants for each research phase.

Originally, I had intended to solely interview respondents who had left their contact details in their survey responses, to create continuity between phases. The questions I had posed in the survey gave information about the selection criteria for interviewees listed above, so that I could compare responses and identify a diverse mix of interview participants to select. However, this method swiftly proved to be unviable. The respondents to the survey skewed towards an older demographic (see

Chapter 5.2) due to the way the survey was distributed and spread through social media and word of mouth. Additionally, when following up with survey respondents who had left their contact details, I was only successful in recruiting one for interview.

When I contacted survey respondents to invite them to participate in the interviewing stage many did not respond or declined to take part. The reasons for their reluctance were not made clear but could relate to personal circumstances or difficulty making time for the interview in a busy working day. Earlier in this chapter I described the idea of 'insider' or 'outsider' research (Breen 2007), suggesting that my experience of the craft positioned me as an insider. However, the idea of being an 'insider' or an 'outsider' is not only applied to the experiential and tacit aspects of knowing about a craft. It might also be considered from a broader perspective as membership of a particular community or culture. On reflection, I wondered whether I may have been perceived as too much of an outsider from the respondents' communities of practice: although I identified myself as a natural dye practitioner as well as a researcher, my practice is private. I was not active on social media and therefore was not known in the natural dyeing community. Consequently, there may have been some concern from dyers about sharing their hard-won knowledge with an unknown researcher.

Subsequently, I changed my recruitment method and took a more active approach to finding and contacting dyers. From my tacit knowledge and practice of the craft there were some dyers who I was aware of and whose practice I was interested in learning more about. I also spent some time using keywords in a search engine (Google), through which I identified three participants. From my earlier phase of collecting social media data I had also become aware of some dyers and identified three participants from that stage. A brief description of each interviewee (from both Phases 2 and 4) is displayed in Table 2.

Dyer	Age	Ethnicity	Gender	Location	Description
Lydia	55 - 60	White British	Female	South East	New to dyeing and practising for leisure. Interested in making her own clothes for her family. Turned to natural dyeing due to concern about sustainability in fashion and grows her own dye plants. Works mainly with cellulose textiles.
Ria Burns	38	Undisclosed	Female	South West	An experienced dyer (since 2017), has a knitwear studio business and specialises in working with rare and native bred British wool. Grows their own dye plants at their garden and allotment. Began natural dyeing due to wanting to move away from synthetic dyes in her practice. Fieldwork Participant.
Ellie	35 - 40	White British	Female	South East	Intermediate, dyes for leisure and has a micro-business, also works as a gardener and uses her role and interest in foraging to gather dye plants. She enjoys working with silk and is interested in sustainability .
Rowena Dugdale	51	White British	Female	Scotland	An experienced textile practitioner who has a small business selling naturally dyed accessories. She lives rurally and forages locally for all of her dyestuffs. Works with linen textiles. A connection the landscape is what motivates and inspires her natural dyeing practice.
Ilona Brinton	30	White Other	Female	East of England	Has been dyeing for 5 years and runs a micro-business producing hemp and organic cotton clothing that she dyes using plants grown on her allotment or foraged locally. Her practise brings her a deep connection to the natural world. Fieldwork participant
Lucy Macdonald	32	White British	Female	Scotland	Intermediate dyer and professional textile artist/weaver who creates finely woven wool artwork representing the local landscape, now using locally grown and sourced natural dyes for the first time in her work.
Tara Macdonald	53	White British	Female	South East	An experienced dyer, originally practised for leisure but now establishing a dyeing business after studying for a textile degree. Has a keen interest in working with plant having worked in gardens previously, now grows and forages for dye plants. Works with both protein and cellulose textiles.
Georgia	33	White British	Female	East of England	A beginner, dyeing for leisure and works in conservation and interested in expanding knowledge of plants/uses and thinking about how to connect to the plants in the area. Has a long-standing interested in textiles. Fieldwork Participant
Susan Dye	61	White British	Female	East of England	Expert dyer, works in partnership with Ashley and runs a natural dyeing resource/business, design dye gardens, advise others on cultivation of dye plants and natural dyeing. Also forages locally and works with both cellulose and protein textiles.
Ashley walker	65	White British	Male	East of England	Expert, has a background in plant biology and chemistry. Very knowledgeable and interested in the scientific qualities and processes in natural dyeing. Focuses his time on the cultivation of dye plants and advising others.
Sophie Holt	34	White British	Female	South West	Has been dyeing since 2017, began growing dye plants in 2020. Now runs a therapeutic horticulture business in which she grows natural dyes at a farm/agri-business collective. Enjoys the opportunity to teach natural dyeing to others and provide a way of connecting to nature and improving wellbeing.

Table 2. Information about participants for Phases 2,3 and 4. Including information on age, ethnicity, gender, geographic location and a brief description of their practice.

The interview structure loosely followed the outline shown in Table 3 to reflect the diversity of dyeing experiences of the interviewees and to prompt reflection on their practices. Some of the participants had not completed the survey or had done so anonymously. Therefore, at the beginning of each interview, I asked general background questions about their lives, their introduction to and motivation for natural dyeing. Some questions were omitted and others improvised depending on the progression of each conversation.

INTERVIEW STRUCTURE
Background
Themselves, their background, profession; anything they felt relevant that I needed to know
Motivation & Purpose
Their introduction to the craft, why they decided to practice, how they gained their dyeing knowledge/experience. Purpose of their dyeing, context of their practice, work, leisure etc.
Materials
The textiles that they work with and why, where are they sourced, how are they used, what considerations are made
Dyestuffs
How they source dye stuffs, do they forage, where, how and why. Do they cultivate, where, how and why. Do they buy in or use extracts. How it feels to gather.
Nature
What are their favourite dyes to work with, thoughts on foraging and growing, being in the landscape, working outside, noticing and attending to nature. Their relationships with nature and plants, past experience with growing, being outside, what they enjoy about it, how it makes them feel, what do they gain from it, any other thoughts.
Seasons
Seasonal working, what does it look like for them, how does it feel, what do they notice about seasons, is it normal or different for them, others perceptions, other thoughts.
Future Plans
What's next for them, how do they see their practice evolving, what do they care about or want to see, what are their thoughts on textiles, fashion etc.

Table 3. An overview of the interview structure and content discussed.

I believe that my position as a practitioner-researcher allowed me to ask more guiding and reflective questions to the dyers I was interviewing. Through being informed about natural dyeing terminology and processes involved, I was in a good position to encourage each interviewee to delve further into the details of their practice. By discussing common or shared experiences and avoiding the need to explain basic facets of the practice, we were quickly able to establish a rapport. Without this perspective, I feel that the questions I asked would not have been able to produce such detailed and insightful responses.

INTERVIEW LIMITATIONS

Interviews offer the researcher flexibility in that they are less time-consuming and laborious than in-field research methods such as participant observation. The reduced strain on the researcher therefore makes them a popular method in ethnographic research (Bryman 2012: 469). A key limitation of using remote interviews to explore an embodied and material practice, such as natural dyeing, is that the dyer cannot physically 'show' the interviewer what they are doing because our interaction is being mediated by technology, i.e. a phone or computer, and we are not in the same place together whilst practising. Natural dyeing is an active, physical craft which takes place across numerous spaces and has distinct stages and actions involving a variety of plants, processes and materials. By talking about such a physical process, there is a risk that the conversation is lacking

nuance and depth, whilst potentially overlooking key insights. Atkinson (2015: 92) critiques the qualitative researcher's dependence on interviewing, asserting that interviews 'furnish no opportunity to study the techniques and skills that social actors deploy in the course of their daily lives, or in accomplishing specialised tasks'. To study a craft like natural dyeing, an interview-only approach would risk undermining the quality and rigour of the research.

In the context of craft knowledge, Atkinson (2022: 14) notes that 'interview materials are poor in comparison with direct observation and participation'. Atkinson finds it more fruitful to 'talk with craft makers while they are working, so that they can show me what they are talking about and can tell me what they are doing' (ibid). Talking about plants and encounters with nature also has limitations. Scholars in cultural ecology and human-plant geographies are calling for a move away from talking about attending to plants and instead encouraging a move towards engagement and embodied interaction with them (Head and Muir 2006; Head and Atchison 2009; Pitt 2015), echoing Atkinson's argument for less talking and more showing and doing. This approach aligns with Deleuze and Guattari's call for 'following', i.e. 'rather than watching a river flow by from a fixed point on the bank, taking to a boat and becoming part of the flow' (Deleuze and Guattari 1988: 372, in Fox & Alldred 2018: 1999). Further, the separation of the researcher from the action of craft and from the more-than-human community which is of interest could rightly be interpreted as re-centring and foregrounding the human experience (St. Pierre, 2016).

PHASE 3: FIELDWORK VISITS

With the limitations of interviewing participants about their practice in mind, and in order to be able to 'zoom in' further on facets of the practice that I had uncovered during the interview phase, I decided to invite three of the interviewees (Ria, Ilona & Georgia) to take part in the Phase 3 fieldwork visits. This phase of the research primarily addresses RQ2 and RQ3. The purpose of the fieldwork visits was not solely to observe a dyer's practice, but instead to embrace a more participatory approach that would supplement the remote research methods. Through visiting dyers in their usual working spaces and spending time with them as they carried out some of their everyday dyeing activities, I hoped to gain a much more detailed and experiential insight into their craft practice and intra-actions between the dyers and the more-than-human.

As Atkinson (2022: 17) notes, 'studies of knowledge in action, and of the acquisition of skilled competence, are significant in number and for their quality' and often involve an ethnographer

joining in with the activity and then reflecting on their experience. Joining in and reflecting can also present opportunities to foreground the more-than-human. Pitt (2015) notes that 'plantiness' (Chapter 3.3) can be revealed through actions such as walking, talking, doing and picturing. Through those actions human and the more-than-human are encouraged to share their expertise which can fine-tune the researcher's perceptiveness to attend more closely to the more-than-human. Likewise Lohmann's (2024) concept of 'seaweedness' emerged through making with the material, and Aktaş' (2020) insights into material intra-action with wool emerged through making and being with (present with) their respective materials.

My fieldwork visits embraced a combination of human and more-than-human participatory methods which varied, depending on the specific dyeing setting, e.g. if we were in a studio, a garden, allotment or local area, and the activity the dyer was doing, e.g. preparing, attending a dye pot or harvesting.

Much like the interviews, I was keen to engage with dyers who took different approaches to natural dyeing, with varying levels of experience and interests (Table 2) There are numerous ways I could have approached the fieldwork visits; for example, I might have selected a group of dyers with similar skills and experience levels or who all worked with the same materials. Instead, I chose to visit two dyers who were working with different textile materials, e.g. one with wool and the other with cellulose fabric, but both producing clothing on a small scale and working in different environments. I was interested in visiting producers of clothing to explore the connection of the craft practice to the wider context of the fashion and textile industry and sustainability. I felt that by choosing two participants who had a wider context to their practice and who were employing differing techniques, I could expand upon and explore the connection of natural dyeing to a wider micropolitical/socio-cultural landscape. In contrast with the approaches of these two dyers, my third fieldwork visit was with someone new to the craft who was interested in experimenting and sampling with diverse plants and materials. I chose someone who did not produce textiles as part of their practice or sell naturally dyed items to contrast with the other two visits and gain the perspective of a dyer with limited experience of both the process and potential products that could be created.

The visits to the dyers took place in September and October 2022, either at their homes or their usual dyeing space. Visits lasted between 3 and 6 hours. Each fieldwork visit was unstructured and unfolded in an unplanned and organic way; I did not make any specific requests from the dyer when I was planning the visit. Instead, I explained that I was interested in capturing their everyday dyeing process, experience and reflections on the craft and that I did not mind (or want to dictate) what they

planned to do during the visit. I explained that I would like to help them do something or make something with them if they were comfortable with that. Because I had already interviewed the participants, I was familiar with their respective interests and practices; I had a general idea of what I could expect in terms of which textile they usually dyed with, what they made with their dyes, their background and their introduction to the craft.

I am grateful that the dyers welcomed me into these otherwise unseen spaces. Dyeing is typically a solitary craft which is most often practised in the home (see Chapter 5); I recognise that these visits presented a special opportunity. I did not want to be an obtrusive presence in their usually private and small working spaces, so I thought carefully about how to record the visits to analyse later. I decided to use a 360-degree camera² (Figure 13) to record many parts of the visits because of the opportunity it offered to set the camera down, leaving it recording whilst I engaged with the dyer, or discreetly hold it if we were moving in the environment.



Figure 13. A GoPro Max 360-degree camera. Own photo, September 2022.

Capturing a wider view reduced the need to rearrange or reposition the camera frequently. In addition to recording the visits on 360-degree video, I also took photographs and kept field notes, written immediately after the visit, as a means of documenting contextual information (Phillippi & Lauderdale 2018). I also collected plant material to use in my own dyeing practice during one fieldwork visit. Table 4 presents a summary of how each visit unfolded.

² A GoPro Max camera has the ability record 360-degrees of vision, creating a 'sphere' of video i.e. capturing an entire view around the camera wherever it is placed. When reviewing 360 footage, the viewer can manually move the camera frame and angle with a cursor, giving them control over what they see and they can reframe to standard MP4 or 'flat' footage by using video editing software such as GoPro Player or Adobe Premiere Pro.

I outline the ethical considerations in Section 4.7 and my analytical approach for this phase in Section 4.8. The findings from this phase of research are presented and discussed in detail across Chapters 6, 7 and 8.

Dyer	Location	Setting	Duration	Activities
Ria	Bristol	Home dyeing studio and garden.	4 hours	Tour of working space, introduction to plants in the garden, gathering flowers and stems from the garden together, dyeing wool, looking at and discussing other dyestuffs, general discussion about dyeing.
Ilona	Norwich	Allotment with self-built dyeing workshop.	4 hours	Tour of working space, introduction to plants, discussion about gardening, looking through dyestuffs and discussing qualities, setting up dye pots, general talk, dyeing cellulose textiles.
Georgia	Norwich	Local parkland, nature trail and then domestic kitchen and garden.	6 hours	Walk through park and nature trail, gathering plant material, talking about the experience, returning to home, looking at dye plants in garden, sorting and identifying gathered plants from earlier, botanical printing, creating nettle dyebath for mordanted silk.

Table 4. An overview of the location, setting, duration and activities undertaken during each fieldwork visit.

PHASE 4: INTERVIEWS

Three additional interviews were carried out in Phase 4 (with Susan, Ashley and Sophie) following analysis of and reflection on the interviews completed in Phase 2 and the Phase 3 fieldwork. As the project developed, I realised that speaking to a few additional dyers would be beneficial to the project and allow me to expand on areas that I had started to explore in my analysis, in particular those themes that are discussed in Chapter 8. Over the course of the four-year project the landscape of dyeing had progressed. I identified new initiatives and activity that was not happening during my first phase of interviews, and I was keen to include these perspectives in the research.

REFLECTIVE PRACTICE

As mentioned in Chapter 1 throughout the research process I continued my own natural dyeing practice as a way of thinking through aspects of the investigation. At my allotment and home garden I grew a variety of dye plants including weld, woad, coreopsis, Japanese indigo [4 x varieties], murasaki, marigold, goldenrod, tansy, hollyhock, scabious, yarrow, madder, safflower, dyer's greenweed and dyer's chamomile. I also foraged locally and when I visited dyers, took the opportunity to gather dye plants that I encountered on my trip, for example walnuts, nettles and dandelions.

The interviews, from Phases 2 and 4, also informed my own reflections on my craft practice. I was thinking about the questions I had asked; the answers interviewees had given and how the conversations had unfolded over the hour. Hearing about their perspectives and experiences made me think about aspects of my practice that I had not considered before. I noted things to incorporate into my own practice during each visit so I felt like I was developing my natural dyeing practice over the course of weeks and season of the fieldwork visits. Sometimes these were tangible things; e.g. walnuts to use in my own practice from one dyer or other times it was knowledge e.g. good locations to find specific plants.

When recording my own practice, sometimes I used a chest mounted GoPro camera or a tripod mounted camera (Figure 14) to create short one-to-five-minute videos that focused on the material interactions I was carrying out, not on capturing the ambience or wider environment I was working within.



Figure 14. The chest-mounted GoPro Max camera (left) and the camera set up to record dyeing activities (right). Own photos, June 2021.

When I practice, I do not usually record what I do and did not want this to feel any different to my everyday dyeing activities. I did not record all of my practice but instead captured short (less than 10 minute) videos of different parts of the dyeing practice, e.g. sowing seeds, gathering blooms for dyeing, preparing a dye pot, submerging textiles into the dye pot and removing them at the end. Most of the recording of my practice was through kept detailed notes (Figure 15) similar to field notes but more self-reflective. They contained a blend of dye recipes and process notes, with thoughts about dyeing and my encounters with other dyers that occurred whilst I was practising. Photographs and stills from the video are featured in Chapters 6,7 and 8 to illustrate the discussion about dyers and the more-than-human.

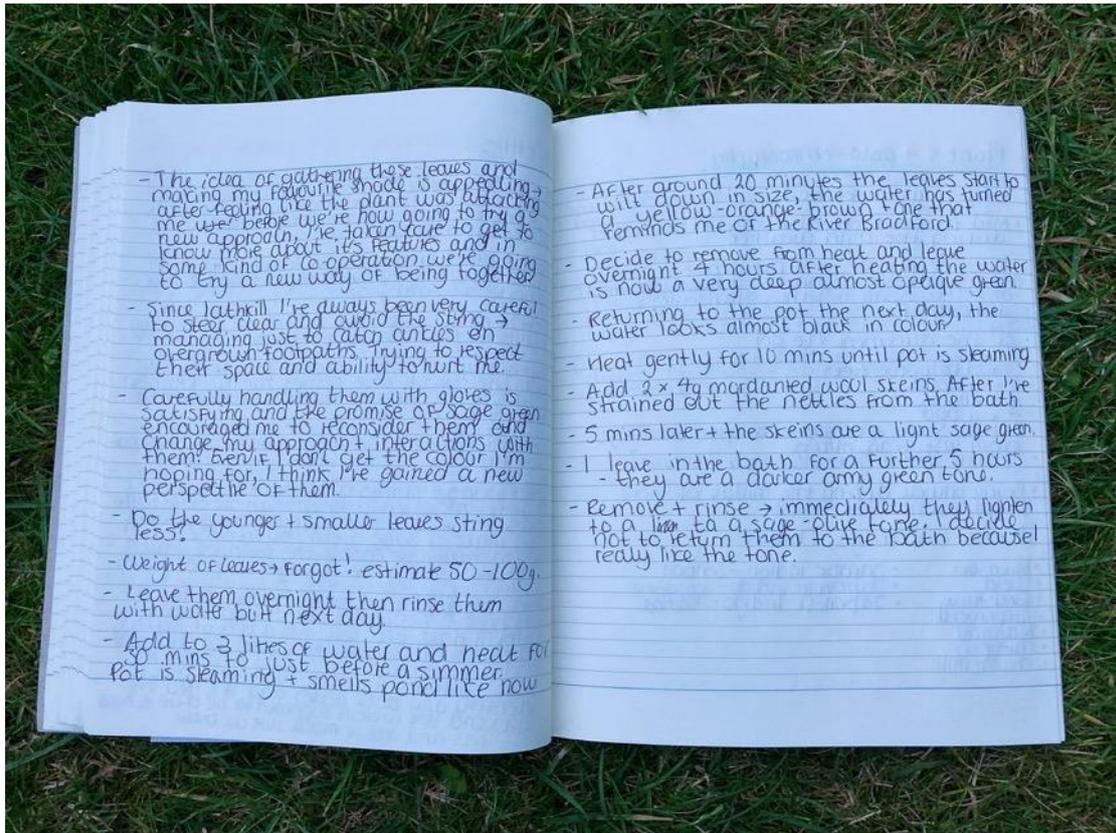


Figure 15. An excerpt from my dyeing notes which were a cross between field notes and a dye recipe book, September 2024.

I also kept a dye journal (Figures 16 and 17) inside which I displayed some dyed samples, dried flowers, images I had taken during the dyeing process (some were stills from videos).



Figure 16. A page of my dye journal related to the weld plant, October 2022.

The dye journal contained fewer reflections on the process and served to briefly document my encounter with each plant and the dyed samples I produced when working with that plant



Figure 17. A page of my dye journal displaying samples of weld-dyed textiles, October 2022.

During the course of the project I also created an extensive range of samples across the project that I have labelled and stored (Figures 18 and 19).



Figure 18. Samples of wool that I dyed with plants that I grew or foraged during the project, November 2024.



Figure 19. Samples of silk or cotton that I naturally dyed using homegrown or foraged plants over the course of the research project, November 2024.

Images of the naturally dyed textile samples that I created and plants that I grew or encountered are included throughout Chapters 6,7 and 8 to illustrate to the reader some of the plants and colours that are being discussed.

4.7 ETHICAL CONSIDERATIONS

PHASE 1: SOCIAL MEDIA

Although social media data is publicly and easily accessible, once something has been posted online an author has no control over who can access that data, when or for what purpose (Mathews et al. 2013). This means that there is a risk that the data they provide could be used for purposes that they do not support or are altogether unaware of and that users are not granting 'their automatic unspoken consent for academics and other types of researchers to use this data in any way they please' (Kozinets 2019: 173). In reaching the decision to obtain my data in this way, I consulted guidelines from the Association of Internet Researchers (AOIR 2019) and the University of Aberdeen (2016) and I have also considered ethical guidance specifically for investigative netnography published

by Kozinets (2019). I did not obtain informed consent from each social media post author and there was no direct contact with post authors (aside from contact with group moderators). Instead, to protect their identities, I focussed on concealing names and other highly identifiable information (usernames/direct quotes) from the dataset when processing the data for analysis (AOIR, 2019), to ensure that nothing could be traced back or used to identify individuals. Original raw data containing any usernames was protected and deleted on completion.

PHASE 1: ONLINE SURVEY

The survey was accessible to respondents through an online link. The first page of the survey served as an information sheet and consent form (see Appendices) where participants were informed of the purpose of the research and how their data would be handled. They were also given the right to withdraw from the study.

PHASE 2 & 4: INTERVIEWS

All interviewees were first contacted by email or through social media messaging apps to explain the purpose of the research, why I was interested in their experiences with the craft and that I was also a practitioner myself. If they expressed an interest in taking part or hearing more about the study, I then emailed them an information sheet and consent form (see Appendices). They were given the option to be anonymous, use their own names or a pseudonym. They were also informed of their right to withdraw from the research project and advised on how their data would be handled.

PHASE 3: FIELDWORK

All participants in the fieldwork visits had first taken part in an interview with me or were already known to me. They were asked by email if they would be interested in taking part in a fieldwork visit and if they expressed that they were, I then emailed them another information sheet and consent form (see Appendices) designed for the fieldwork element. Because this element of the research involved the collection of video and photo, participants were given the option of being identifiable or anonymous in the footage. I also explained that the footage from the 360-degree camera could be angled to exclude bodies/faces if they wished. They were reminded of the option to be named or use a pseudonym, informed of their right to withdraw from the research project and advised on how their data would be handled.

4.8 ANALYTICAL APPROACH

This section provides an overview of the research data that I generated and the approach to data analysis that I adopted. Earlier in the chapter I outlined that my research design was iterative, which is carried through to my data analysis decisions.

The data I collected varied in format and quantity across the four phases of research and my own reflective practice. I will present how I approached analysing data generated from each research phase. Table 5 provides a broad overview of the data source, alongside the format they were recorded in and quantity, the analysis method and software used to carry out analysis across all research phases.

PHASE	SOURCE	FORMAT	QUANTITY	ANALYSIS	SOFTWARE
PHASE 1	Social Media	Screenshots of social media posts featuring only text or a combination of text and images	150 screenshots	Thematic	Atlas.ti
	Survey	Survey responses consisting of open text-based, pre-defined text and numerical data	82 responses	Thematic & quantitative	Atlas.ti & Microsoft Excel
PHASE 2	Interviews	Transcripts of audio recordings	10 hours of audio	Thematic	Atlas.ti
PHASE 3	Fieldwork	Transcripts of video recordings, fieldnotes, photos	12 hours of video, 15 pages of fieldnotes, 50 photos	Thematic	Atlas.ti
PHASE 4	Interviews	Transcripts of audio recordings	3 hours of audio	Thematic	Atlas.ti

Table 5. An overview of data generated during the research project including source, format and quantity and the analysis approach and software used.

DATA

The data generated during Phases 1 to 4 of the project covered a variety of formats including text, numerical, audio, images and video. During my reflective practice which continued throughout the project I also generated images, video, textile samples, text, dyeing journal entries, cultivated plants and foraged for plant material.

The data from Phases 1 to 4 are presented in Chapters 5,6,7 and 8 in the form of charts, tables, quotes, images, video stills. Data from my reflective practice are presented in the form of images, quotes from journal entries and my own anecdotes. The data is presented in these forms to facilitate communication of the research findings.

Due to the iterative nature of the research design process i.e. the phases were not all predetermined and the results of one phase often informed the development of the next, the data analysis for each phase was carried out at different times during the research project.

PHASE 1

For some of the data generated from Phase 1 I adopted a slightly different approach to analysis than for the subsequent phases because Phase 1 included data derived from social media and a mix of quantitative numerical data and qualitative text data from the online survey. The social media research relating to natural dyeing content/posts retrieved from Facebook, Twitter and Instagram was a combination of either text or text and images/photos. The screenshots of social media posts were imported directly into Atlas.ti.

For the online survey, a total of 82 responses were downloaded from the online survey portal in a Microsoft Excel spreadsheet format. Microsoft Excel was used to analyse the quantitative socio-demographic data in the first section of the survey and for any multiple choice/multi-selection answer/pre-defined text-based answers. I used Microsoft Excel to carry out a descriptive statistical analysis (Cooksey 2020) to tally the frequencies of each numerical or multiple-choice text-based answer to enable me to create graphs and tables in order to communicate the data findings. The text-based data from the online survey was separated from the quantitative data and imported into Atlas.ti.

I will discuss the process of coding and analysing the social media posts and qualitative survey data in more detail later in the 'data analysis' subsection.

PHASES 2, 3 & 4

The interview data generated during Phases 2 and 4 amounted to approximately 13 hours of audio in total. I transcribed this data manually using Express Scribe software, which allowed me to slow or speed up the playback, insert timestamps easily and manage the audio files. I exported the transcripts as Microsoft Word files and then imported the transcripts and original audio files into Atlas.ti.

For the video data generated in Phase 3, which amounted to approximately 12 hours of video recording, I adopted a different approach. As described earlier in this chapter, the video captured in Phase 3 was of a spherical/360-degree field of view. In order to transcribe and analyse the 360-degree video, I first re-framed it so that it was a 'flat' two-dimensional video. I achieved this by using GoPro software in which I used my cursor to 'drag' the field of view to what I wanted to focus on in (for example the dyers' actions or the dyer talking) and then 'set' the frame which the software automatically changed into a standard 'flat' video. This process of 'moving' the frame of view in the video creates a feeling of immersion in the video (Pagett 2023), that I had not anticipated when I decided to use the camera. Gómez Cruz (2017) describes this as a way 'inhabiting' rather than just viewing the data. Moving and reframing the focus of the video also facilitated my familiarisation

(Braun and Clarke 2022) with the data, especially because I would re-watch the same moment in time from a different perspective when choosing which frame I was going to export. Reframing meant that the '.360' file format then became a standard '.MP4' file format. I decided to transcribe the audio of conversations that occurred during Phase 3 so that I would be able to quote the data alongside my interview data. To do this, I played the reframed video back on one screen and had Express Scribe open in another. I created full transcripts of the conversational audio for each of the three fieldwork visits. Additionally, for nine 10 – 15-minute sections of the fieldwork visits I translated the video into text by writing rich descriptions of the activities that were happening. I chose the sections to transcribe by selecting periods where dyeing actions such as harvesting, preparing a dye pot, putting textile into and out of the dye bath were happening. I did this so that I could combine the action with the conversations that happened. The transcripts and descriptions created for short video segments were imported into Atlas.ti for analysis alongside the other Phase 3 transcripts.

DATA ANALYSIS

The analytical approach centred on thematic analysis which can be broadly described as a way of identifying and interpreting patterns of meaning in qualitative datasets (Clarke and Braun 2017). Themes emerge through 'pattern recognition within the data' which become 'the categories for analysis' (Fereday and Muir-Cochrane 2006: 82) leading to discovery about the phenomena that are being researched (Patton 2015).

As discussed earlier in this chapter, I adopted an iterative approach to my research design and this also influenced how I approached my analysis. The data generated across the four research phases was analysed at different times, often as I was developing and refining my plans for the proceeding phases. Therefore analysing all data generated together would have been unfeasible. However, sometimes my approach to coding the data was directly informed by the analysis of a preceding phase, which I elaborate on later in this section.

Firstly, I sought to familiarise myself with the data (Braun and Clarke 2022). For the Phase 1 social media data this process involved reading through each post that I had imported at least once after all the posts had been collated together in Atlas.ti. For the online survey data I took a similar approach of spending time reading through the entirety of each response (which also included the quantitative elements). I had decided to manually transcribe all of my data and to transcribe the video data whilst the video played alongside it (instead of extracting only the audio) as a way of familiarising myself with the data, i.e. to become 'intimately familiar' with the data 'through a process of immersion' (Braun and Clarke 2022: 35). Once I had created all of the transcripts, I read through them all again

once I had imported them into Atlas.ti. I also imported the audio files, so that I could easily re-listen to excerpts of transcripts as I was analysing/revisiting the transcribed data if I wanted to.

The next stage of the thematic analysis related to 'coding' the data. Braun and Clarke (2022: 52) explain that 'codes capture specific and particular meanings within the dataset' and have short labels that communicate their content and interpret the data in some way. The level of depth and type of coding carried out varies depending on the context that is being researched:

Codes often also provide a pithy take on what is of analytic interest in the data - they offer some interpretation. This means codes can range from the more summative or descriptive to the more interpretative or conceptual. Coding can capture a range of meaning abstraction, from the semantic or manifest content of the data, to the latent or underlying meaning. (ibid)

When coding the social media data, because I was using Phase 1 as a form of scoping exercise, I adopted a more descriptive approach to the coding whereby I used them to briefly summarise the overall sentiment or purpose of each post. Doing so allowed me to categorise the types of content being shared on social media and provide context about contemporary natural practice in order to inform the subsequent research phase. For example, codes that I generated during Phase 1 included 'advert', 'sample' and 'process'. During the later phases of research (2 – 4) I was seeking a richer interpretation of the data so I was coding more towards the underlying meaning of the data alongside broader content. For example; some codes from the interview data included 'reflecting on interdependence', 'viewing weeds differently' and 'getting to know a garden'.

Additionally, I used a combination of inductive (bottom-up) and deductive (top-down) coding. During Phase 1 which included the social media data, survey responses and interviews I took an inductive approach i.e. I was exploring the data, creating codes and expanding them into themes by 'following where the data leads' (Patton 2015: 523). In the later Phases 2, 3 and 4 I took a more deductive approach whereby I had a sense of the patterns that I was looking for and used existing or 'deductively determined codes' in order 'to home in on the data, and then inductive coding to explore this in more detail' (Seale 2017: 435). Patton (2015: 523) explains that earlier stages of qualitative research are generally more conducive to being 'generative and emergent' when compared to later stages which 'can bring closure by moving towards confirmatory data [...] deepening insight into and confirming patterns that seems to have appeared'. This aligns with my intention for the earlier stages of the research.

Next, the codes that were generated were carefully reviewed and explored in order to create a theme. Themes aim to encapsulate the 'shared meaning' and are 'united by an organising concept' (Braun and Clarke 2022: 78). The meaning or organising concept that themes connote, like codes, can vary. They might be formed on a 'semantic or concrete level' but they may also be 'conceptual or latent' (ibid.). I developed the themes by revisiting and reorganising the codes numerous times to identify the key organising concepts that they conveyed. In a similar fashion to the coding approach I adopted, the theme generation for Phases 1 had a broader, more semantic approach when compared to the later phases which were more conceptual. For example, a theme from Phase 1 was 'questions' whilst some of the themes generated during Phase 2 were 'co-creation', 'kinship' and 'provenance'. The themes that I generated, guided by the overarching research questions, provided insight into participants' experiences and perspectives of their natural dyeing practices and their relationships and intra-actions with the more-than-human, alongside wider context relating to sustainability and their everyday lives. This facilitated my interpretation of the data in order to address my research questions.

4.9 CONCLUSION

In this chapter I have introduced the methodological approach that I adopted and provided context to explain how the approach was developed in order to address the project's research questions. Overall, this qualitative research project is iterative in design and informed by craft research with insight from related (and increasingly overlapping) fields, such as cultural ecology and human geography. The project was structured over four phases and carried out over four years. Phase 1 entailed the collection of 150 social media posts to provide context about the current practice of natural dyeing within the United Kingdom (RQ1). Further contextual information was uncovered, such as the socio-demographic characteristics of natural dyers and the details of their practice through an online survey, which garnered 82 responses. Phases 2 and 4 involved semi-structured online/telephone interviews with 11 dyers in order to gain further depth of insight into practice and their intra-actions with the more-than-human. In Phase 3, fieldwork visits to three dyers were conducted whilst they undertook their everyday natural dyeing practices in their usual working environments. My own practice has also informed the research project throughout and I used a variety of methods to record my experiences. A thematic analysis approach was adopted in order to identify and interpret emerging patterns of meaning throughout the data.

5. CONTEMPORARY PRACTICE IN NATURAL DYEING

5.1 INTRODUCTION

This chapter aims to establish a foundation of knowledge about contemporary natural dyeing craft practice and primarily addresses RQ1: *What is the context of contemporary natural dyeing craft practice in the United Kingdom? Why is natural dyeing becoming more widely practised?*

The data presented in this chapter is, for the most part, from Phase 1 of the research with the inclusion of insight from interviews from Phases 2 and 4 discussed in Section 5.5. Quotes from survey respondents are displayed with the prefix 'SR' throughout. Quotes from interviewees are displayed with their names. Firstly, I will establish the online crafting context that contemporary natural dyeing practice sits within (Section 5.2). I will outline the socio-demographic characteristics of the online survey participants to reveal *who* is practising natural dyeing (Section 5.3). In Section 5.4 I will present the features of their dye practice, including the techniques, dyestuffs and mordants used, and include insights from analysis of the social media data on the information that is being created and shared online about natural dyeing. Finally, in Section 5.5, I will explore introductions to and motivations for practising natural dyeing. In this section the interviewees' responses from Phases 2 and 4 are presented alongside survey responses, to build a more expansive and detailed view of how dyers find out about the craft and why they decide to practice.

5.2 CRAFTING ONLINE

The current resurgence of craft or the third 'wave' of craft has been largely driven and mediated by the proliferation of digital technology (Chapter 2.4) The abundance of online platforms including social media, shopping websites, discussion forums, blogs and other websites has facilitated access to the creation and dissemination of craft knowledge (Luckman and Andrew 2020). Kouhia (2020: 262) notes:

digitalization has not only revolutionized hobbyist craft making with new tools and technologies but has also paved new ways for practising creative skills, which has had a significant impact on makers' engagements with craft materials, objects and communities of practices.

Those interested in learning new knowledge and skills, such as about a craft practice or finding out about plants, can easily access this information in numerous formats, for example text, image or video. The information found online can originate from a variety of perspectives, e.g. subjective, objective, instructional, creative, empirical, and those seeking how to learn a craft will often find both technical information and creative inspiration (Torrey et al. 2009). Furthermore, knowledge, including learning how to practise natural dyeing, can be acquired online in a variety of ways. For example interactively, by taking part in an online course in natural dyeing on a learning platform or one offered by an individual practitioner, or collaboratively through engaging with an online group. A more passive role can be adopted through reading or watching resources shared by others on personal websites, blogs or on social media. However, communicating and learning tacit and embodied knowledge online can be challenging (Torrey et al. 2009; Goodman and Rosner 2011; Cooke 2024). The online craft environment 'has also changed the form of social interaction between makers, and makers and customers, through the emergence of new online communities [...] transforming hobbyists into makers and producers' (Efilti and Çelebi 2020: 203). Some makers have noted that online groups are more 'conducive to the sharing of explicit or "hard" knowledge, with physical groups being more suited to the sharing of tacit or "soft" knowledge' (Gibson and Spronken-Smith 2023: 220). Explicit knowledge can be verbalised which means that it can be recorded and shared (Rogers, Castree and Kitchin 2013: 64), for example in natural dyeing this might take the form of specific dye recipes or step-by-step instructions on how to mordant. Tacit knowledge can be challenging to record and communicate because 'it is personal, implicit and/or context dependent' (ibid: 503), for example much gardening knowledge is considered tacit knowledge. However, online communities and social media websites have been identified as effective tools for facilitating tacit knowledge sharing. Social media platforms are particularly conducive to tacit knowledge sharing because they offer 'opportunities for observation and imitation of best practices, expert locating, informal networking, and a friendly space to talk about ideas and ideals' (Panahi, Watson and Partridge 2012: 1100). These online exchanges can be described as communities of practice which are defined as 'groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly' (Wenger-Trayner and Wenger-Trayner 2015). Notably, online communities of practice are important for many crafts. Crafters are motivated to engage in online communities for a variety of reasons, including: socialising and connecting to other people, developing and improving their skills, building businesses and as a form of creative personal expression (Holmes, Greenhill and McLean 2014; Gibson and Spronken-Smith 2023).

Social media platforms including Facebook, Twitter and Instagram (amongst others³) can also act as virtual 'meeting places' for communities due to the functionalities that they offer i.e. the ability to have conversations, ask questions and share text, video and photos with other likeminded people. Fellow community members can be identified in a variety of ways depending on the platform, for example through identifying and following the profiles of like-minded people on all social media websites, using hashtags containing specific keywords (Instagram and Twitter/X) to identify relevant posts/content or through membership of dedicated group spaces hosted on platforms like Facebook (located by searching for keywords or by invitation).

The characteristics and demographics of each online platform's user base varies. For example, in general for social media, women and younger people have a greater user base, with women also more likely to use social media for learning purposes (Gambo and Özad 2020). Some platforms are more popular than others; Facebook has a higher userbase than Instagram or Twitter.

The socio-demographic variance in user bases across platforms will have influenced the results of the survey and social media data, with only active users represented in the social media data. When considering demographic reach and the characteristics of survey respondents that I present in this chapter, the findings should not be taken as representative for the general UK population and instead be understood as a representation of dyers who are active on the social media platforms Facebook, Twitter and/or Instagram (with the exception of some online survey respondents who were referred to the survey by other respondents who first found it on social media).

5.3 WHO IS PRACTISING NATURAL DYEING IN THE UK?

In this section I will present the findings from the socio-demographic section of the online survey. In total there were 82 responses from the online survey; the data is expressed in percentages throughout. Most (93%) of survey respondents identified as female (Figure 20). Although a wide range of ages are represented in the data (Figure 21), the majority of participants were over 65, with 65 – 74-year-olds constituting the largest respondent group, followed by 55 – 64 and 45 – 54.

³ There are numerous online social media platforms that include craft information, ranging from specialist websites e.g. Ravelry.com for knit and crochet, to Reddit, TikTok, Pinterest, Quora, Tumblr and many dedicated forums.

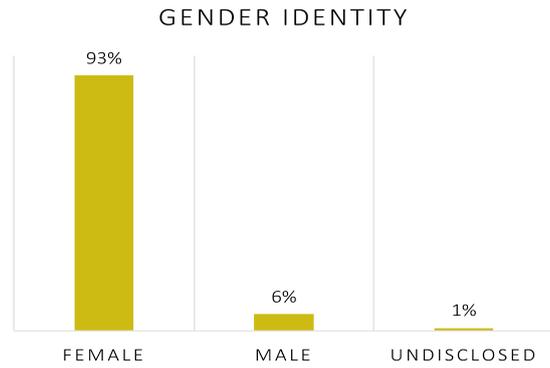


Figure 20. The gender identity of survey participants.

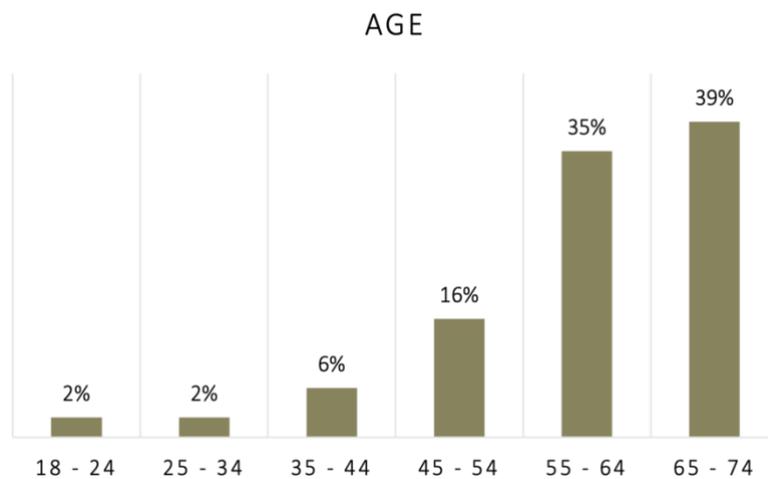


Figure 21. The age of survey participants.

Most respondents (91%) identified as white British, whilst three preferred not to disclose (Figure 22). It is unsurprising that the survey respondents were majority female; this data supports findings from other craft research that highlights the gendered nature of textile craft practice (e.g. Bratich and Brush 2011; Black, Miller and Leslie 2023).

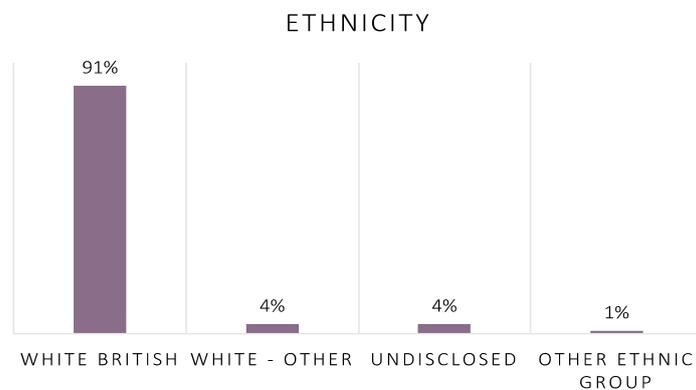


Figure 22. The ethnicity of survey participants.

The majority of respondents were retired; however, a range of professions were also represented within the responses (Figure 23).

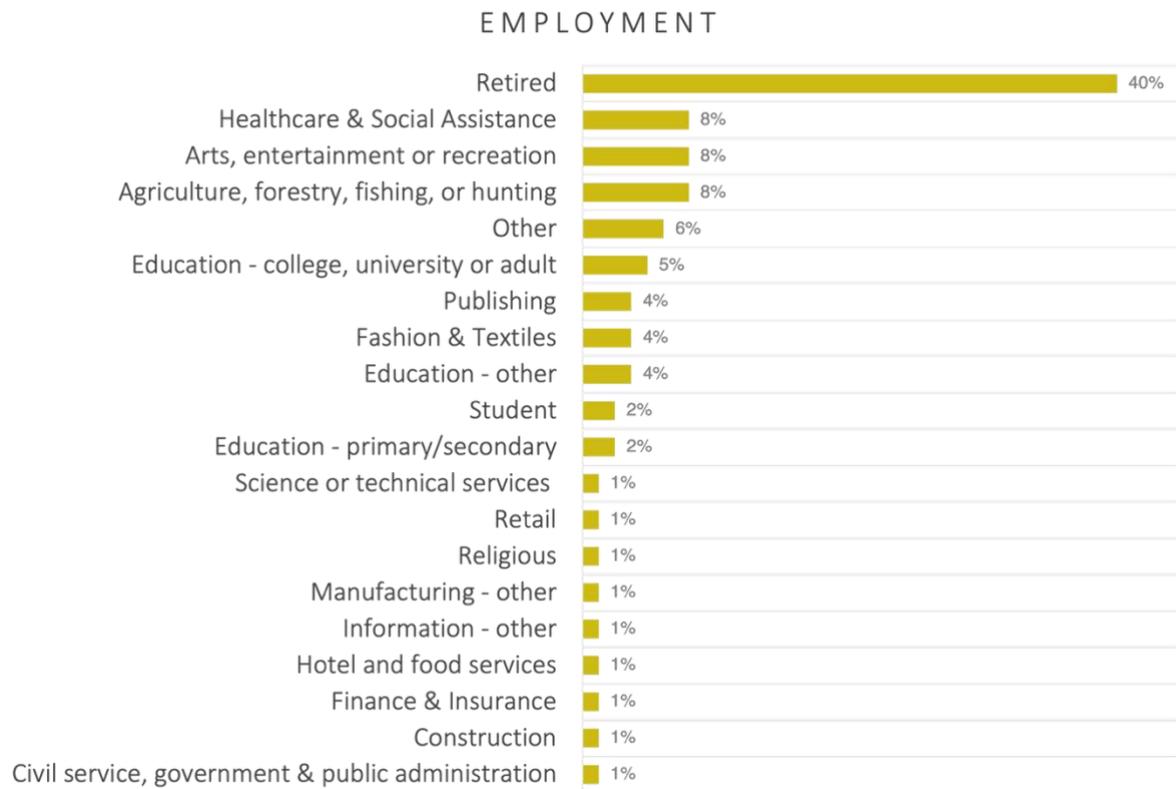


Figure 23. The employment status or sectors of employment for survey participants.

In addition to their sector of employment, respondents were asked about the purpose of their dyeing activities, i.e. whether they were practising natural dyeing for leisure purposes or as a way of generating income. In total, 29% of participants stated that their dyeing activities were for professional/work-related purposes, with 90% describing their dyeing practice as a form of leisure. The large percentage who practise for leisure suggests that some dyers practise as a form of both work and leisure, because when asked about the type of dyeing activities they undertook, 30% indicated that they sold natural dyed goods in some capacity. This suggests that selling naturally dyed goods is part of some dyers' practice and may provide a source of income generation but may not necessarily be defined as a profession or recognised by the dyers as formal work.

In their US-focused analysis of the Instagram hashtag #naturaldyeing, Doty, Green and Rogers (2020) identify that Instagram was used by dyers to market and distribute their naturally dyed products to potential customers but was also used for connecting to a like-minded community of other dyers. My social media data analysis also provided insight into this aspect of practice and suggests that social media platforms provide a useful vehicle for dyers to communicate natural dyeing information with

others in social group spaces such as Facebook but also to market and sell naturally dyed goods, in order to support themselves economically.

The geographic reach of survey participants is displayed in Figure 24. As illustrated, the survey received responses from nearly all regions across the United Kingdom, with the exception of Northern Ireland.

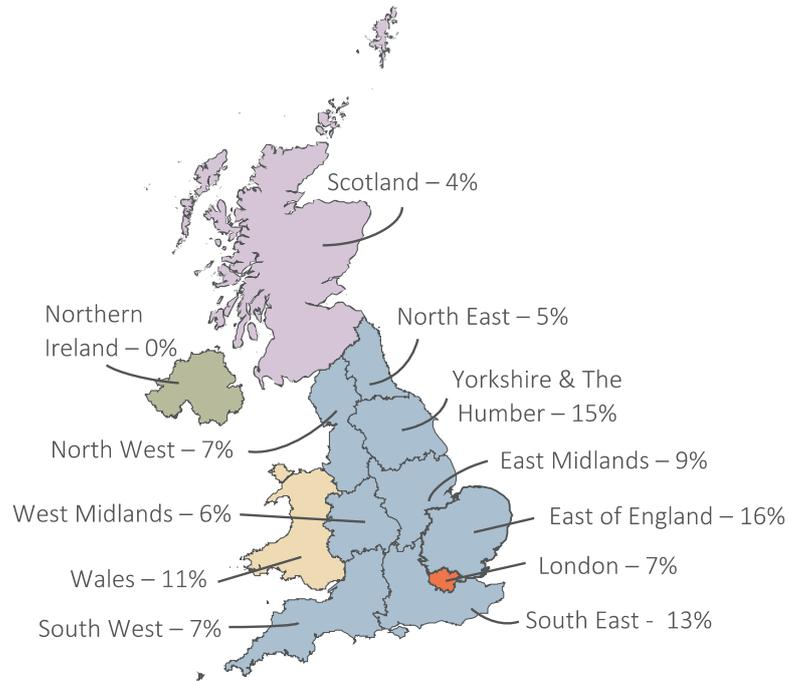


Figure 24. The location of survey participants by UK region.

Survey participants were also asked for how long they had been natural dyeing (Figure 25). One to five years was the most frequent response, which potentially highlights the recent surge of interest in natural dyeing during the past five years.

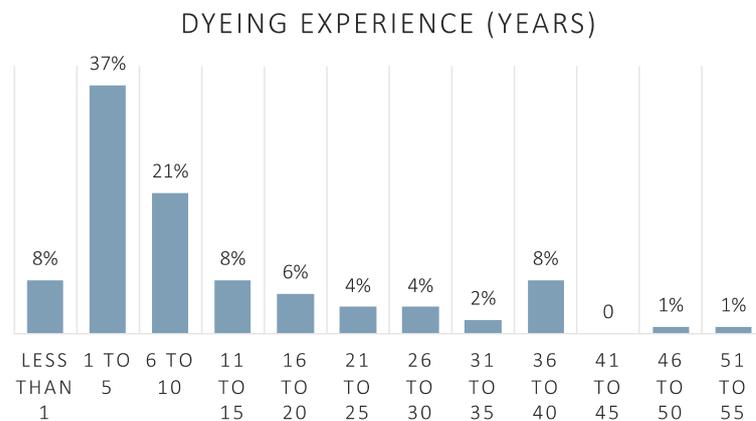


Figure 25. Duration of natural dyeing practice reported by survey participants.

Dyers were also asked to self-report their skill level (Figure 26) choosing between 'beginner', 'intermediate', 'advanced' and 'expert'. No suggestions or guidelines were given on what the distinction between each skill level denoted. Most respondents identified as 'intermediate' natural dyeing practitioners, with a representation of beginners and advanced dyers too. The range of experience levels suggests that the survey did reach a broad range of dyers, who have varied levels of knowledge, skills and experience.

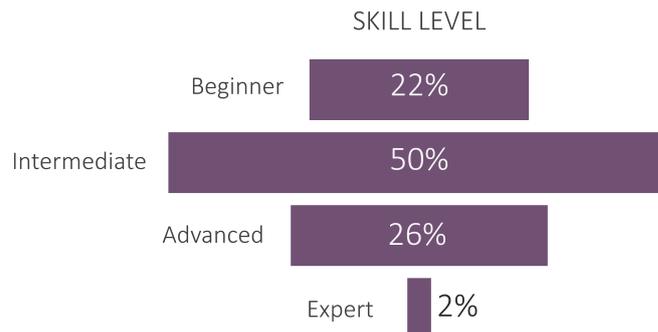


Figure 26. The self-reported skill level of survey participants.

To summarise, the natural dyers who responded to the online survey were majority female, of White British ethnic origin and aged 55 and over. The majority of respondents were retired and resided in England. Most survey respondents reported that they had been practising for between 1 – 5 years and considered themselves intermediate in skill level.

5.4 HOW IS NATURAL DYEING PRACTISED?

In this section I will present a range of findings from both the online survey and the social media analysis relating to how the craft is being practised currently, including the range of dyeing activities that dyers take part in, the mordants that they prepare their textiles with, the plants that dyers are sourcing, the fibres that they use, the purpose of their dyeing activities and the resources and teaching sources that they use to gain these skills.

DYEING ACTIVITIES & TECHNIQUES

Online survey participants were asked about how they practised the craft of natural dyeing, i.e. what dyeing activities and applications of natural dyeing they took part in, to build a picture of current practice (Figure 27).

The options were multiple choice and were informed by my own experiences and the social media data: I noted which techniques were featured in each of the social media posts. Participants were asked which activities they do/have done and could choose numerous answers. Figure 27 visualises the results (displayed as % of survey participants who reported doing each activity listed) and groups the activity type into three categories: 1) dye sources, 2) dye preparation and modification and 3) dye applications. The results reveal that foraging and growing dye plants are popular activities with practitioners. Wool is revealed as the most popular textile to dye (likely partly due to its use in weaving and spinning).

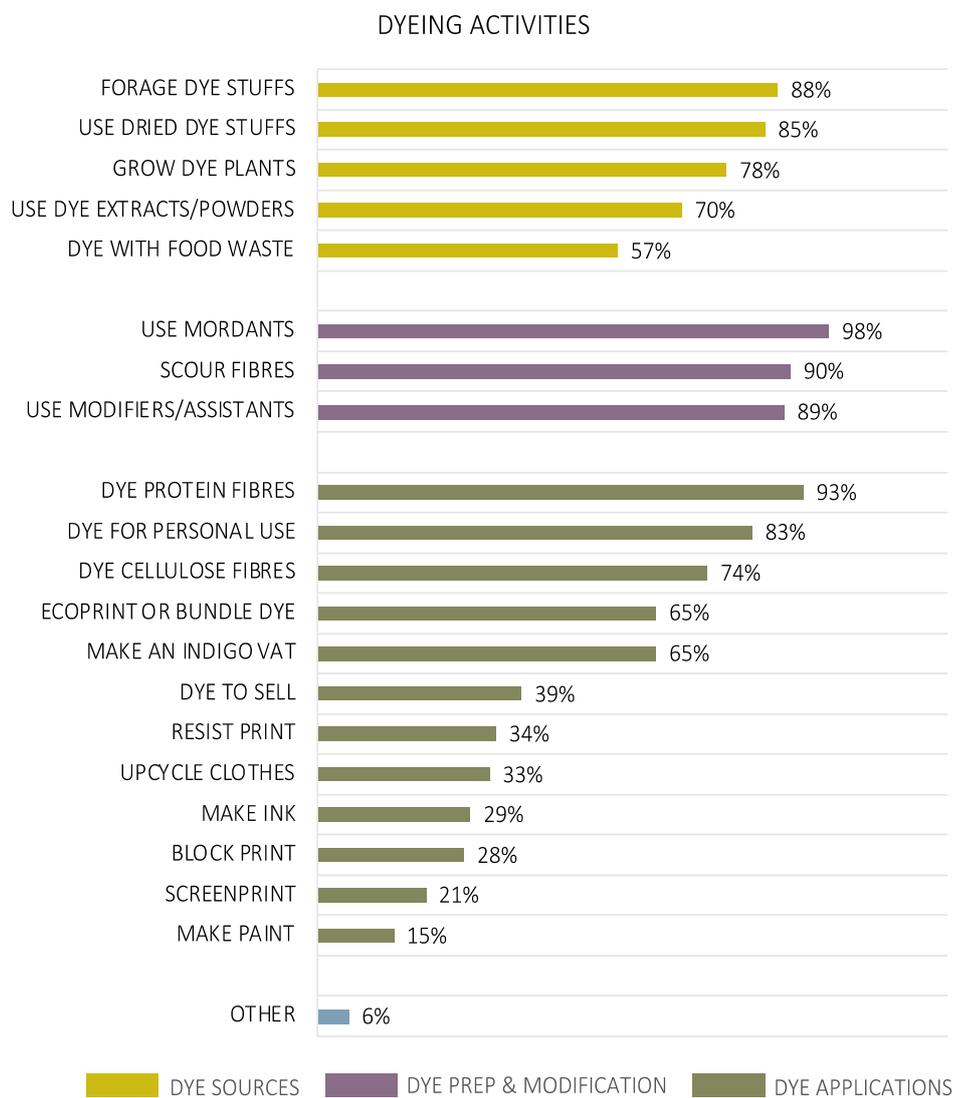


Figure 27. The percentage of survey participants who took part in each of the natural dyeing activities listed.

MORDANTS

The majority of participants indicated that they use mordants in their dyeing process. When asked to identify which mordants they use, most (85%) reported that they used alum (Figure 28).

Very few used tin (4%) and none reported the use of chrome; both substances were used frequently as mordants during the 1960s and 1970s, when the negative environmental and health consequences of their use were less well known. Since then, alum (also known as potassium aluminium sulphate or aluminium sulphate) has become the more usual choice for natural dyers, due to its reliable results, availability, and ease of both use and disposal.

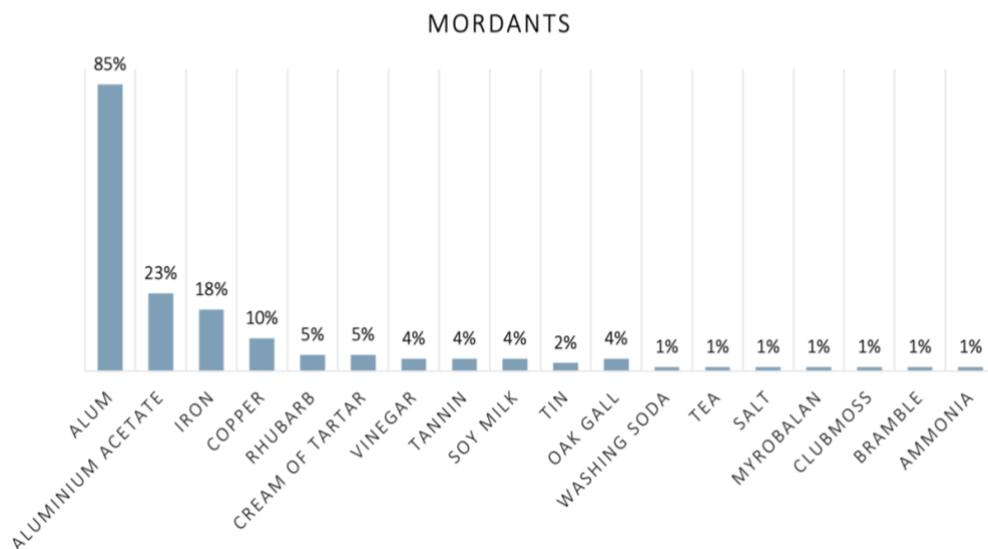


Figure 28. The mordants identified by survey participants and the % of survey participants who reported using each of them, multiple answers could be selected.

When dyers discussed their reasons for choosing specific mordants, a few did directly reference environmental concerns about other mordants. One respondent explained that she only used alum because ‘the others are more toxic and hard to dispose of’ (SR71) whilst another dyer explained that they:

will now only use alum (aluminium sulphate) as it is the least harmful of the mordants. I have to use my kitchen for dyeing and I don't want poisonous chemicals around, and don't want to pollute the drainage system. (SR7)

Other survey participants reported a desire to move away from mordants or to embrace the dye effects that can be achieved without their use:

I now avoid them completely. When asked how I get such strong colours without mordants, the answer is always - don't be stingy with your dye material. Heap it in, unless you want delicate colours in which case use less. (SR29)

These responses and reasons for choosing a specific mordant, or no mordant, suggest a desire to keep the dyeing process as 'natural' or possible. Further discussion about what is considered 'natural' in natural dyeing practice is featured in Chapters 6 and 7.

The social media data analysis revealed that mordanting was part of the dyeing process that attracted questions from social media users, particularly within the Facebook group. Three users asked about the best way to mordant different types of fibres, by asking about the differences between mordant cellulose versus protein fibres. Four others had questions about what type of mordant to use, when mordanting should be carried out and to what extent a mordant could improve the colour fastness of specific dyes. The questions about the mordanting element of the natural dyeing process suggested that it can be challenging for some, particularly for those new to the craft. The mordanting process was not a visible part of the dyeing process in the social media data either; no Instagram posts featured images of mordants or mordanting. The absence of mordanting images, when compared with the abundance of images of dyed fibres juxtaposed with fresh or preserved plants and dyestuffs suggest that this is a hidden element of natural dyeing when communicating information about dyeing to others. A more detailed discussion on mordanting is discussed further in Chapter 7.3.

DYESTUFFS

Online survey participants were asked to list some of their favourite or most commonly used dyestuffs (Figure 29).



Figure 29. A list of dye sources/dyestuffs that survey participants reported using often and the % of survey participants who mentioned each. Participants could list more than one dye source/dyestuff.

They referenced a wide variety of plants alongside food waste dye sources such as onion skins, avocado and pomegranate. Animal/insect derived dyes were also included, e.g. cochineal and lac. The three most historically significant dyes – madder, weld and woad – were also the top three sources of dye mentioned, highlighting their enduring appeal to dyers. Further to this, many survey respondents mentioned that they sourced local plants, with several dyers explaining that they did not have particular go-to dyes but instead liked to make the most of what was available to them both locally and seasonally. For example, SR32 stated that they ‘like to see what's in the garden and local area’ and SR7 used ‘everything in season that grows wild’. Another listed some of the dyes that they foraged for locally, such as ‘bracken, nettles, dandelions, cotinus, various leaves for printing’ (SR58). Several dyers also mentioned that they cultivated their own dye plants: ‘I've grown and dyed with woad a lot, currently growing up some madder (SR36)’ and ‘have tried many over the years but now grow mainly madder, weld, woad, St John’s Wort’ (SR38).

The dyestuffs used by survey participants provide an initial insight into the plants and species that dyers are encountering through the course of their practice and highlights the importance of foraging and cultivating dyestuffs, which 88% and 78% of dyers respectively indicated they did. The gathering of material for use in the dyeing process is explored in greater detail in Chapter 6, which focuses on the cultivation of and foraging for dye plants, taking in perspectives from research Phases 2, 3 and 4.

The social media data also provided insights into the role of plants within natural dyeing. Most frequently, users shared images of plants on Twitter and Instagram. These included all stages of plant cultivation, from sowing and germinating, gardens in full bloom, to harvested dye plants. The text-based references to growing plants and seeds were all accompanied by plant imagery. Some of the captions for the plant imagery referenced a sense of excitement at the growing progress, especially for images which depicted the emergence of seedlings and new growth. Others spoke of their enjoyment of tending their plants and finding a sense of hope and joy in their gardening activities, confirming that gardening was beneficial to their wellbeing. The spring and summer months featured the most plant imagery and autumn featured the most posts and imagery related to harvesting dyestuffs.

Post authors across all the platforms I collected data from demonstrated a wide range of knowledge relating to plant cultivation and preparation, alongside results (commonly including images of dyed fabric samples) of dyeing with specific plants. Many contributors possessed deep knowledge about a plant’s qualities and life; for example, identifying when it was ripe and what indicators suggested this such as evidence of colour changes. Others were able to recommend specific plant species to dye with and report their own experiences with them, offering advice on how best to extract the colour or achieve specific shades. Evident throughout the posts from Twitter and Facebook is the dissemination

of botanical knowledge. This takes place in a variety of ways; through the asking and answering of questions on the Facebook page, where information is transferred from 'expert' to 'novice' through explanations and sharing of experiences and more informally from 'peer' to 'peer'. The sharing of images of plants will also be helping to inform others of what to look for and understand the qualities of different plants and their names.

GROUPS AND LEARNING

To gain further insight into how the craft is being practised currently, dyers were asked who they crafted with (with multiple answers possible). The responses reveal that 95% practised alone. Additionally, 35% indicated that they practised in a group setting, 33% stated that they practised with friends, 12% dyed with family. Of those that were part of a group where they dyed or learned dyeing, 74% cited that this was through Guilds of Weavers, Spinners and Dyers, whilst 16% had taken part in other dyeing workshops, 6% had taken part in other textile groups. In addition, 70% of survey participants reported learning about natural dyeing on an in-person course and guild members will likely represent a large portion of this figure. Online dyeing courses had been attended by 39% of respondents.

As described in Chapter 2, Guilds of Weavers, Spinners and Dyers regularly share knowledge about natural dyeing. There are 110 affiliated guilds in the AGWSD, representing over 5,000 members, and 4 associate guilds outside the UK (ibid). They carry out a variety of activities including holding group meetings, publishing the Journal of Weavers, Spinners and Dyers quarterly, organising conferences, exhibitions and a summer school and offering qualifications. Although the high representation of guild dyers is partly the result of the way in which the survey was distributed (i.e. first social media but later through word of mouth via three guilds), I also suggest that this response highlights the important role that guilds continue to play in the transfer of craft knowledge in contemporary craft cultures.

Guilds are also excellent examples of communities of practice (Thomas and Jakob 2018) which as discussed earlier in the chapter can provide valuable opportunities for knowledge sharing and networking. Schofield-Thomsin and Littrell (2001: 41) found that 'through [textile handcraft] guild membership, women made a conscious effort to provide structure to their lives' and were able to 'achieve affective as well as cognitive experiences through craft participation'. There is evidence to suggest that guild membership plays an especially valuable role in the lives of women of retirement age, and that participation in guilds constitutes a form of 'quiet activism' by older women because they are making contributions to public life through their engagement 'in politics in myriad ways; at times directly challenging government decisions to remove arts and craft from the curriculum, while on other occasions, enacting a kind of quiet politics associated with charitable action' (Warner and

Inthorn 2022: 99). In my survey, respondents of varied ages found out about natural dyeing through their guild activities; however, similar to the research cited here, the majority of guild members (80%) were over 55 and all of them were women.

RESOURCES

When looking for information about natural dyeing and to facilitate learning, survey participants consulted a wide variety of information sources. Figure 30 summarises the key sources of natural dyeing information that they reported. The variety of resources highlights the wide range of information now available and the importance of digital and social media for learning craft knowledge.

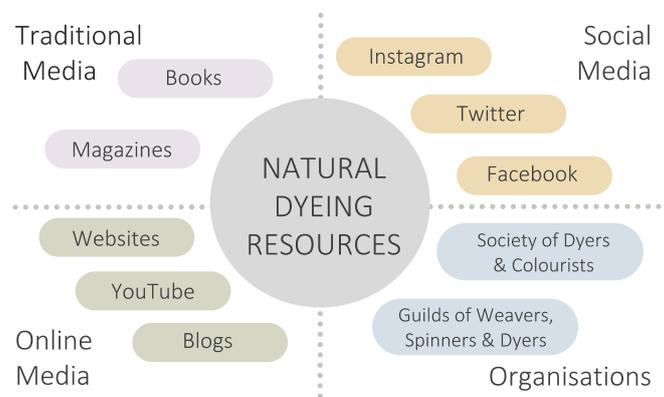


Figure 30. Types of resources and information sources that survey participants used to access information about natural dyeing.

Numerous traditional media such as books and magazines were cited by dyers. The most frequently cited book by survey respondents was Jenny Dean's *Wild Colour* which was mentioned 16 times. Dean's book was first published in 1999 and the most recent revised version was published in 2018. It features over 60 dyestuffs and covers a number of dyeing techniques. As I discussed in Chapter 1, *Wild Colour* (2010) was the first natural dyeing book that I encountered when I began my dyeing practice in 2018 and is a guide that I frequently return to. The dyeing process, techniques and breadth of plants that she demonstrates to the reader are comprehensive but communicated in a way that beginners can easily understand. Dean also maintains an extensive blog and website that many dyers cited they used. Blogs appear to play a key role in the sharing of natural dyeing knowledge, with 13 different mentions of blogs appearing in the survey responses.

Social media was another resource for natural dyers, in particular Facebook groups were mentioned by survey participants as being useful for sharing and gaining dyeing knowledge. I saw that first hand in the social media data, where Facebook groups were welcoming spaces for dyers to ask questions,

share outcomes from their dyeing, troubleshoot aspects of the natural dyeing process, share knowledge about cultivation and other features of natural dyeing. In addition to groups dedicated to discussion, some natural dyers keep business Facebook pages that other users can 'follow' and keep updated with new dyeing information.

A key source to note is the importance of organisations such as the Society of Dyers & Colourists and Guilds of Weavers, Spinners & Dyers in contemporary craft cultures. In Chapter 2.3 I outlined how guilds produced and shared information about natural dyeing during the second wave of craft revival in the 1960s/70s. The inclusion of guilds in the survey participants' answers demonstrates that guilds continue to provide valuable educational resources and training today. The Society of Dyers & Colourists (SDC) is an independent educational charity that was founded in 1884 and primarily aimed at professionals and industry. The SDC provides a range of qualifications and training in colouration, though these are mainly associated with synthetic dyes. Two survey participants mentioned the SDC with one highlighting their archive as a useful resource for natural dyers.

5.5 WHY DO DYERS PRACTISE?

In order to develop knowledge of contemporary natural dyeing practices within the United Kingdom it is important to understand how practitioners find out about the craft and what motivates them to practise. As part of the online survey, I asked participants to indicate how they first heard about natural dyeing and explain why they decided to practise. In addition, I asked my interviewees how they found out about natural dyeing and why they practise. In this section I discuss practitioners' introductions to and motivations for natural dyeing by drawing on responses from both the online survey (Phase 1) and the interviews (Phases 2 and 4).

GUILDS

In Chapters 1 and 2 I discussed the historical relevance of guild-based natural dyeing and earlier in this chapter I outlined some of the ways in which Guilds of Weavers, Spinners and Dyers contribute to contemporary natural dyeing. I also indicated that the online survey was shared amongst some Guilds of Weavers, Spinners and Dyers. The majority of survey respondents (34%) indicated that their introduction to natural dyeing originated through their guild membership. Natural dyeing emerged through their interest and experience in the crafts of weaving and spinning, as illustrated by the following responses: 'interested in spinning and joined a spinning guild whose put on dyeing days as shared experience and practice' (SR30) and 'my local spinning group - lots did the natural dyeing and I was interested and gave it a try' (SR42). Their natural dyeing knowledge would also have been complemented by synthetic dyeing techniques. For many of the guild-involved survey respondents,

their interest in and motivation to practice natural dyeing came secondary to their primary interests in weaving and spinning. The frequency of guild-based introductions highlights the number of guild members who participated in the survey and serves to further emphasise the continued relevance and importance of guilds in the contemporary craft landscape.

ONLINE

In Section 5.3 I discussed the resources that survey respondents consulted to find out information about natural dyeing, which included online resources such as websites and blogs. Additionally, I outlined the importance of the online landscape and social media in the learning and sharing of craft knowledge such as natural dyeing within the current third wave of increased interest in craft practice. Online platforms were therefore another source through which practitioners were introduced to the craft. In particular, social media platforms – most often Instagram – were cited frequently: ‘I came across natural dyeing accounts on Instagram’ (SR1). Personal blogs and online articles also drew survey respondents into the craft, for example: ‘I saw it mentioned on a blog’ (SR33) and ‘I saw it mentioned in an online article’ (SR32) prompting them to find out more. An interviewee, Lydia, explained that she had ‘seen things on Pinterest a while ago to do with botanical printing and that was in the back of my mind’ (Lydia) when she first decided to have a go at natural dyeing.

CHILDHOOD, FAMILY & FRIENDS

In addition to the introductions and motivations discussed above, a number of dyers (18) indicated that they were first introduced to natural dyeing during their childhood, by their family/friends or through school activities. For example, one dyer remembered ‘wrapping easter eggs with onion skins with my mum as a child’ (SR17). Another recalled ‘learning about stone age peoples’ (SR18) at school, and another used ‘onion skin dyes at a community archaeology event aged about 10’ (SR12). Although the majority of the survey respondents were over 55 years old, all of the dyers who recalled practising during their childhood or at school were also over 55. That could indicate a reduced amount of generational knowledge in recent times.

Others recalled doing natural dyeing with their mothers: ‘in the 1970’s from my mum who retired to Norfolk & joined the Guild of Weavers, Spinners and Dyers’ (SR47) and ‘my mother was a natural dyer so I have known about it my whole life’ (SR80). One dyer recalled doing natural dyeing with her parents as a teen (SR38). For one interviewee, Ellie, her mother’s talent for textile craft and her own profession as a gardener led her to develop her natural dyeing practice (discussed further in Chapter 6):

my mum is like very into it [natural dyeing] as well and she's a really amazing textile artist, so I think I got my love of textiles from her and so at the moment I'm working as a gardener. That's how I earn my living and then the plant dyeing, kind of I do that alongside it - but they work quite nicely together. (Ellie)

Another interviewee, Lucy, began her natural dyeing journey with her grandmother, who had been a gardener for around 60 years: 'she had an amazing garden and so we'd sort of started looking into plant dyes, and we were kind of doing it together and going into the garden and looking at different things'. From there Lucy began to incorporate natural dyeing into her weaving practice.

HERITAGE

Many dyers (23) referred to the historical context (Chapter 1) and traditional practice element of natural dyeing, which is considered a heritage craft in the United Kingdom. For some respondents natural dyeing was a way of re/connecting to the past and recreating traditional ways of living and making, for example SR7 noted that through natural dyeing they felt connected to their 'Celtic ancestry'. For others, natural dyeing formed part of their exploration and interest in historical textile practices: 'I also have a keen interest in Iron Age living and like to spin primitive breed sheep's fleece on a spindle then plant dye them' (SR20). Natural dyeing was also practised as way of realistically engaging in reenactment activities: 'I also make a lot of clothes and embroider, especially for reenactment costume, and I liked the idea of "authentically" dyeing some of my own fabric/threads to work with' (SR14). The opportunity to practise longstanding traditional craft methods and through doing so, contribute to their continued survival, was also an incentive. Dyers felt 'linked' to history through their practice: 'I also like that natural dyeing links me to history and I find it interesting to use methods that haven't changed in millennia' (SR35). In Chapter 2, I explored some of the motivations for practising natural dyeing in two previous waves of craft. During the second wave, Dickinson (1964) - writing in the journal publication of the Guild of Weavers, Spinners and Dyers – identified historical and heritage interests as one of the key subgroups of natural dyeing practitioners. The responses in the online survey demonstrate that heritage interest remains an enduring gateway into natural dyeing for some.

SUSTAINABILITY

The majority of contemporary interest in natural dyeing stemmed (both in the survey responses and interviews/fieldwork) from interest, concern and desire to contribute to issues and themes related to sustainability. Most commonly this was expressed through dyers citing that they wanted to become more 'environmentally friendly' and that their natural dyeing practice was a route to achieving that.

For some, their practice formed part of a wider lifestyle change towards becoming more environmentally friendly and incorporating more materially sustainable practices into their everyday life: 'I'm interested in how I can live in a more environmentally friendly way and came across dyeing and enjoyed making use of my food waste' (SR33). The connection between an environmentally friendly lifestyle and natural dyeing practice echoes some of the motivations I noted during the second wave of increased interest in craft practices during the 1960s/70s counterculture in Chapter 2.

Survey respondents and interviewees demonstrated an awareness and knowledge of the environmental impacts of the fashion and textile industry (which I broadly outlined in Chapter 1). For some, natural dyeing practices were a method to communicate and promote sustainable textile practices to others: 'I hope that by using natural dyes in my textile art works I am igniting an interest in sustainable dyeing of textiles and environmental issues' (SR5).

One key element of textile sustainability that connected with dyers' practice was waste. A concern about textile waste generated by the fashion and textile industry and the subsequent negative environmental impacts that the waste generates encouraged them to act to reduce the volume of textiles produced and/or discarded. One respondent described becoming 'aware of how much textile waste we were all contributing to landfill' and thus 'decided to base my dyeing on home-grown dyes and turning waste textiles into re-useable textiles' (SR54). Through her natural dyeing, SR54 sought to divert waste destined for landfill into her textile practice.

Lydia incorporated an element of thriftiness into her natural dyeing practice by working with textiles that she acquired second-hand instead of relying solely on new textiles: 'I want to move much more towards sustainability with mine and my husband's clothing. Whether it is down to dyeing virgin fabrics or dyeing things I picked up from charity shops' (Lydia). Her desire to produce naturally dyed clothing for herself and her husband was part of a wider interest related to incorporating more sustainable practices into her everyday life. Non-textile waste was also of interest: one respondent noted that they did natural dyeing because they 'enjoyed making use of food waste' (SR33). Similarly, for SR28 natural dyeing was a method of repurposing food waste: 'It's a part of the growing, harvesting process of gardening and food foraging which interests me, especially how the waste products from food preparation and jam/jelly making from hedgerow fruits can be used apart from composting them'. An interviewee, Tara, who had worked extensively as a gardener in her professional life before becoming a natural dyeing practitioner explained that she had:

'realised there was all these other things I could do with these plants that I had in the garden and with all the kind of so-called waste material that I was cutting down, you know. I could

make all kinds of really great things out of it all, and so I really enjoyed that and then yeah, the natural dyeing just started as a big extension of all of that, really and then I got really hooked [laughs]' (Tara).

The variation in responses related to reducing waste demonstrate the breadth of material inputs into natural dyeing practices. One survey respondent saw the negative impacts of fast fashion and practised natural dyeing as a counter to it:

[I want to] keep away from cheap, throw away fashion and to become more environmentally friendly. There is so much that nature gives us and I wanted to start using those goods. Which are found all around us. It doesn't have to be all about synthetic materials. (SR8)

SR8's response also picks up on another stream of interest in natural dyeing related to sustainability: material type/composition and provenance. Dyers were concerned with addressing issues of waste in textile systems, but also of concern were the materials used to produce textiles. Many dyers approached and developed their practice through a concern for the material inputs into textile production and in response, carefully selected and sourced the materials that they used. For Ria, who had a background in textile design, natural dyeing became the central feature of her practice as a knitwear designer. Her move into natural dyeing was prompted by her efforts to source material inputs sustainably:

I got interested in natural dyeing because I was constantly trying to look at better ways of sourcing materials. Initially I was working with sort of deadstock yarns from knitwear factories and things like that, which was great because obviously that's diverting waste from landfill and then I started to think about where the yarns came from. So you know - if they were merino wool obviously they'd travelled half way around the world to get here and then also how were they dyed and then obviously there's not a lot of information around as to how the spinners and stuff do all the dyeing [...] and they are mostly petrol-chemical based as well, so I was just trying to - to move away from that. (Ria)

One way of countering the ambiguous origins and composition of materials and dyes was to source materials locally. Ria managed to source wool from a farm nearby her workshop and garden in the Southwest. A desire to use local materials was a common thread for other respondents. Similarly to Ria, for one dyer localism was achieved through sourcing both fibre and dye from her area: 'I have my own sheep and yarn brand and adding colour via plants keeps to the natural, environmentally friendly, sustainable theme' (SR7). The theme of localism is also related to circularity; SR50 described

using fibres from her own goat and sheep alongside home-grown dye plants as part of a 'sustainable, circular process'. SR50's approach indicates a micro-scale textile system arrangement similar to Fibershed. I discuss the sourcing of material inputs for natural dyeing practices in more detail in Chapter 8.

Of note too is the emphasis of 'natural'. As I explained in Chapter 1, for the most part, synthetic fibres are not compatible with natural dyes. Many of the survey respondents referred to their dislike, distrust and avoidance of synthetic materials and dyes as a reason to practice natural dyeing. The use of the word 'natural' to describe the types of materials dyers were using was common throughout the survey responses, though there was little to no elaboration on what 'natural' encompassed specifically. Dyers mentioned wanting to use 'natural materials' in order to 'have a low impact on the natural world around me' (SR35). In particular, there were concerns about the impacts of using synthetic dyes. Numerous dyers cited a desire to 'avoid the use of chemicals' (SR52) and expressed concerns about the 'effect synthetic dyes are having on the environment' (SR64). One dyer recounted how she felt 'uncomfortable working with harmful dyes so decided to use an alternative' (SR1). These sentiments are very similar to the narratives first identified during the 1960s/70s countercultural practice of natural dyeing, in which a new awareness of the impacts of human's chemical interventions in nature led to caution and a desire to return to nature (Chapter 2.3). Further discussion about the ambiguity of the what the terms 'natural', 'chemical' and 'synthetic' connote within natural dyeing are explored in Chapter 7.

The responses explored under the sustainability category indicate an awareness of the environmental damage that the textile industry creates and a desire to seek out ways of repairing this damage, with natural dyeing being positioned as method of achieving this through using local, natural materials and low-impact and low-waste methods. I explore elements of sustainability in natural dyeing practices throughout Chapters 6, 7 and 8.

NATURE CONNECTION

Related to the theme of the 'natural' in natural dyeing is finding connection to the natural world through practising the craft. One dyer explained that they practised in order 'to deepen my reverence for nature while reducing my use of petrochemicals' (SR17). SR82 suggested that a desire to connect with nature through material practices is what led her to natural dyeing: 'I'm searching for a more sustainable lifestyle. I am a creative designer but disappointed at the lack of human nature connection in my previous role (architecture). Started making paper which led me to inks and natural dye' (SR82). Of note is that SR82 was introduced to natural dyeing through a non textile-based craft.

The theme of becoming closer to nature was mentioned by several survey respondents. For example, SR34 also cited that her natural dyeing practice was part of a desire to connect 'with nature and local environment' and another stated that natural dyeing brought them 'closer to the natural world' (SR32). The seasonal element of the craft was also mentioned: 'connects me with nature reflects the seasons' (SR39).

Natural dyeing was also positioned as a method of connecting to the natural resources and features of the environment, as one dyer explained: 'I am also very connected to the natural world and enjoy foraging for materials to experiment with. I love the range of colours that can be produced from these materials' (SR64). This comment suggests that aspects of the dyeing process such as foraging are methods of facilitating a connection to nature: 'I also like the connection with the environment, foraging' (SR15). For interviewee Rowena, a small-scale textiles practitioner who creates accessories from fabric printed with her photography of the Scottish landscape alongside linen that she has naturally dyed, moving to a rural location was an opportunity to explore and connect with her new environment:

I moved to the northwest of Scotland and suddenly my work became so much more rooted in place. So, with that, then came the dyeing because my photographs go onto my bags and of course - that's textiles and I thought, how I can go deeper on this and have an extra layer so it's very much rooted in "how can I translate the landscape to my textile work?" rather than just thinking ooh you know, I like natural dyes, I like the colours. It was definitely very much my direct response to where I live now. (Rowena)

As Rowena hinted in her response, natural dyeing was an opportunity to translate into a material artefact and for her was a form of meaningful connection to the Scottish landscape. Themes related to connecting to the natural world, materials and place are explored further in Chapters 6, 7 and 8.

GARDENING & FORAGING

More broadly, many dyers indicated that their practice stemmed from their enjoyment of plants and their intra-actions with plants through related practices, such as gardening or foraging. Survey respondents made numerous mentions of their love of plants: for example, 'I love using plants, especially ones I have grown or foraged' (SR70). An interest in gardening was another frequently mentioned introduction to natural dyeing, with the cultivation of dye plants being described as a natural progression of their interests in gardening: 'I am a gardener so when I learnt to spin and needed to dye the yarn it was natural for me to use the plants I had available to do this' (SR65) and 'I love the colours and it fits in well with my love of gardening' (SR56). One survey respondent described

being 'asked to research/create/work on a dye garden' (SR9) as part of her work as a gardener. Natural dyeing forming a partnership between textile craft and gardening was alluded to by multiple survey respondents: 'I have always had a passion for textile crafts and gardening. It became an obvious happy partnership' (SR22) and 'I have an interest in natural history/botany and craft so it's a good mix' (SR36). Another survey respondent indicated that her enjoyment of natural dyeing stemmed from intra-action with plants, not from an interest in textiles or through the creation of a dyed artefact at the end:

I am a gardener so only dye with plants I have grown or collected. I don't buy dried dye material. I don't have much time for using the end result, so it is a hobby. I have never tried other dyes, it is the plants that I am interested in. (SR80)

Interviewee Tara also described how her interest in plants, gardening experience and enjoyment of being close to nature spurred her on to develop her dyeing practice:

When I started natural dyeing it just really hit a spot for me totally because not only was I having this relationship with the plants around me, which I'd always had anyway, you know, always the kind of person who took my little plant book when I was out walking and you know always wanted to know the names of things and all the wild flowers and all you know so not only did it include all of that and all my passion for the natural world.

Others described how the cultivation of dye plants was an important element of their practice: 'I like the processes of growing and harvesting or harvesting wild plants to make colour in a sustainable way, leaving no harmful waste' (SR40). A connection between cultivation and sustainability was present in several responses. It is evident that from the survey responses that an interest and experience in gardening was a key contributor to practising natural dyeing. Additionally, several of the interviewees found the practice through their enjoyment of plants or their experience of working as gardeners, as I have indicated earlier in this section. In Chapter 6, I delve deeper into the intra-actions between humans and the more-than-human in natural dyeing by exploring my interviewees' experiences of cultivating dye plants.

Foraging for dyestuffs for use in their practice was also mentioned by dyers with frequency, for example: 'I enjoy foraging for dye plants when walking. I love making my own colour and designing projects around them' (SR73). The idea of 'designing projects around' what can be grown or foraged hints at an approach to dyeing that does not centre human intentions and that dyers work with what

nature provides them, I pick this idea up again for discussion in greater detail in Chapter 7. Foraging practices more generally are discussed alongside cultivation in Chapter 6.

COLOUR

As indicated in some of the responses I have highlighted above, an interest in the colours that can be obtained from nature inspired dyers to practise the craft in order to uncover the colour possibilities that different plants could offer them. Numerous dyers referred to their dyeing activities as an 'exploration', stating that they dyed 'to explore the variety of colours and hues obtainable from local flora' (SR16) and 'to explore the range of possible colours' (SR21).

The complementary tones of a naturally derived colour palette were also highlighted in survey responses. For example, SR73 explained that they 'love the colours and how they work together' whilst another stated that the naturally dyed colours were more 'harmonious' (SR59) than synthetic. Others stated that they liked how natural dyes 'tend to produce colours that all go together aesthetically compared to acid dyes which don't always look good side by side' (SR35) and another described how they 'work together beautifully and do not "clash"' (SR20). The naturally derived colours were also identified as being reflective of the landscape, which was a desirable quality: 'I like the quality of colour achieved, which better replicate the colours in natural landscapes' (SR15). Another dyer remarked that they preferred the 'natural variation' (SR70) that came through using natural dyes. In Chapter 7 I explore the features of plant-derived colour in greater depth by examining my interviewees' perceptions of and attitudes towards the naturally dyed colour palette. The attraction to the naturally dyed colour palette described here is reminiscent of the attitudes towards natural dyeing expressed by members of the Arts and Craft movement (Chapter 2), suggesting that an appreciation of the unique qualities and beauty of naturally derived colour has endured over time.

DISCUSSION

In this section I have presented an overview of some of the main routes into practising natural dyeing, as reported by survey respondents and supplemented by a selection of interviewee responses.

The prevalence of dyers being motivated to practice dyeing as a way of countering the negative consequences of the mainstream fashion and textile industry is a feature that is unique to this wave of increased interest in natural dyeing. During the previous two waves of increased interest, the fashion and textile sector existed on a much smaller scale (Niinimäki et al. 2020). In addition, the pressing need to address the climate crisis and growth logic (Fletcher and Tham 2019) that drives the fashion and textile industry had not yet emerged. In the contemporary practice landscape, amidst a

pressing need for change and response to the climate and sustainability crises, natural dyeing is perceived as a way of contributing to sustainability within fashion and textiles.

More generally, an interest in material and environmental sustainability has been identified as a key driver to practise craft in the third wave (Luckman and Andrew 2020) and these findings support that. The motivations outlined here are also aligned with some of the key reasons identified in a study by Doty and Green (2020: 1) which sought to examine natural dyers' motivations to practice in a USA-based context. The authors identified three key reasons: '(a) perceived environmental and health concerns, (b) personal fulfilment and identity, and (c) the opportunity for autonomy over production.' The themes of 'no chemicals' and 'sustainability' could be categorised similarly to the environmental and health concerns that Doty and Green identify. The second category of personal fulfilment and identity has strong overlaps with the themes of 'nature connection'. Their third motivation 'opportunity for autonomy over production' is less apparent in this dataset, which could be attributed to the different sampling approaches used. The theme of autonomy is present elsewhere in this study; my interviewees indicated that keeping their practice small scale and local is something that they value and this is explored in later chapters, but mostly in Chapter 7.

5.6 CONCLUSION

In this chapter I have presented findings from an online survey of natural dyers (supplemented by some interview insights in Section 5.5) which sought to uncover detail about the current practice of natural dyeing in the United Kingdom in order to further address RQ1: *What is the context of contemporary natural dyeing craft practice in the United Kingdom? Why is natural dyeing becoming more widely practised?*

In Chapter 1 and 2 I introduced the historical context of the craft to establish a foundation of knowledge about current practice, outlining key groups of people who practised: such as members of the Arts and Crafts movement; Guilds of Weavers, Spinners and Dyers; and the countercultural movement. This chapter has built on that by firstly revealing *who* is practising natural dyeing in the current wave of increased craft interest. Dyers who took part in the survey were majority female, of White British ethnic origin, aged 55 and over, retired and resided in England. Most survey respondents had been practising for between 1 – 5 years and considered themselves intermediate in skill level. Further context about contemporary practice was provided through the survey respondents reporting the techniques, mordants and dyes that they used. In contrast with some of the mordants reportedly used during the second wave of increased interest in craft, dyers had moved away from mordants such as Tin and Chrome, in favour of less environmentally damaging mordants

such as alum. A diverse array of dye sources were reported by dyers, showcasing the extent of natural dyes that dyers are engaging with, but also serving to highlight the enduring appeal of indigo, madder and weld. Insight into why natural dyeing is becoming more widely practised was gained through discussion of dyers' introductions to and motivations for practising. A wide variety of reasons were uncovered and the main drivers are an increased awareness of the environmental consequences and unsustainability of the fashion and textile industry, alongside the desire to cultivate, forage and connect with nature. In addition, throughout the chapter there were numerous mentions of cultivation and growing practices, indicating how intra-actions occur between humans and the more-than-human (RQ2). In the following three chapters I will focus in on these intra-actions and consider their implications (RQ3).

6. GATHERING

6.1 INTRODUCTION

In this chapter I will explore the first part of the dyeing process: gathering dyestuffs. As described in Chapter 5, natural dyers use natural dyes in a variety of forms, including purchased concentrated extracts, powders and preserved dyestuffs. The survey showed that it is also common for dyers to grow their own dyestuffs or forage for them (78% and 88% of respondents respectively). The data in this chapter has been taken from Phases 2, 3 and 4 (interviews and fieldwork), with additional insights drawn from my own practice. Gathering fresh dyestuffs can involve different approaches, including growing dye plants or making use of what is already present in gardens, allotments and other cultivation spaces, foraging for dyestuffs in the local environment or being given dyestuffs by others. The dyers who I interviewed gathered in a variety of ways (Table 6) but the majority both grew and foraged for dyestuffs, whilst two foraged only and some dyers collected dyestuffs such as food waste from others. The preservation of harvested dyestuffs is discussed in Chapter 8.

Cultivation and foraging activities bring dyers into direct contact with the more-than-human world and involve close intra-action (Barad 2007) with plants and other inhabitants of gathering places. This chapter will explore the features of these intra-actions and uncover how dyers navigate gathering by growing and/or foraging their dyestuffs. In Section 6.2 I focus on the experiences of dyers who grow their own dye plants and outline what their motivations are, highlight a selection of the challenges they face and variety of intra-actions that occur. In Section 6.3 I introduce foraging as a way of gathering and explore dyer's approaches. Section 6.4 focuses on some of the elements that feed into dyers' approaches to harvesting.

Dyer	Gathering Method	Gathering Context	Textile Type	Making Context
Lydia	Grows & Forages	Mainly grows dye plants in her garden and forages for a few dyestuffs locally.	Cellulose	Cellulose fibres (organic cotton) to make clothes for her family.
Ria	Grows, Forages & Collects	Grows dye plants in their purpose-built dye garden and allotment, forages some dyestuffs locally, collects food waste.	Protein	Wool to create knitwear for their business, Ria also delivers workshops.
Ellie	Grows & Forages	Grows dye plants in her garden, but mainly gathers from gardens that she works in (works as a gardener) and forages.	Protein & Cellulose	Silk or cellulose and sells accessories small-scale.
Rowena	Forages & Collects	Currently only forages from her immediate local area and collects some dyestuffs from friends or family gardens.	Cellulose	Cellulose (linen) to use make accessories for her small business.
Ilona	Grows, Forages & Collects	Grows dye plants at her allotment, forages locally and collects food waste from her small network of contacts.	Cellulose	Cellulose (hemp and cotton) to make clothing for her small business, teaches natural dyeing workshops.
Lucy	Forages & Collects	Currently relies on foraging in her local area, used to gather from family members garden. Also collects food waste from her local contacts.	Protein	Dyes only wool to use in her weaving practice.
Tara	Grows & Forages	Mostly grows her dye plants (has a horticultural background) but does forage locally for things she can't/doesn't need to grow.	Cellulose	Mainly cellulose, setting up a small business selling naturally dyed clothing and accessories.
Georgia	Grows & Forages	Grown a few dye plants and forages locally for dye material and other plants.	Protein & Cellulose	Cellulose and protein fibres to create samples.
Susan	Grows & Forages	Grow dye plants together at their dye-focussed allotment and Susan is an experienced forager.	Protein & Cellulose	They have a business focussed on natural dye plants, and sell seed, offer advice and guidance to others interested in dye plant cultivation and run workshops.
Ashley				
Sophie	Grows	Grows dye plants at a farming collective.	Protein & Cellulose	Sells cultivated dyestuffs commercially, engages others in natural dyeing from a therapeutic horticulture perspective, works with a range of textiles.

Table 6. A summary of the gathering methods, context, textile type and dyeing activities of each interviewee.

6.2 GARDENING & GROWING

Gardens and allotments are highly managed by humans but play an important role in the greening of urban spaces. In the UK overall, around 85% of the population has access to a private or shared garden, whilst those aged 65+ have the highest rates of garden access at 92% (ONS 2024). Spending time outdoors and attending to the garden, caring for plants and noticing the more-than-human world around us has been proven to greatly benefit our mental and physical wellbeing (Genter et al. 2015; Niala 2021; Fjaestad et al. 2023). In the context of climate change, domestic gardens and other small-scale cultivation spaces such as allotments and community gardens have potential to offer solutions to mitigate the climate crisis, especially when located in urban areas. They can help to alleviate issues such as biodiversity loss, extreme temperatures and contribute to food provision but they are dependent on the practices, interests and values of the individual gardener (Delahay et al. 2023; Clarke et al. 2018; Tomatis et al. 2023). In the UK a report by the Horticultural Trade Association (HTA) found that around 65% of adults regularly or occasionally do gardening activities (HTA 2023). Gardens have a variety of uses and the HTA found that within their gardens: 62% of people grew plants, flowers or trees; 45% provided food, watched or encouraged wildlife and 36% grew their own food (ibid). Gardens therefore can be understood as sites of relational encounter between humans and the more-than-human (Bhatti et al. 2009). This section explores the garden as a space of correspondence between dyers and the more-than-human as they cultivate plants for their material practice and a taskscape (ibid; Ingold 1993). In this instance, the garden is a space of craft production.

Of the 11 dyers that I interviewed, nine of them grew their own dye plants in some capacity, whether on a small scale at their homes (Lydia, Georgia, Ellie, Tara), in purpose-built dye gardens at home or on allotments (Ria, Ilona, Susan and Ashley) or on a larger scale in a field (Sophie).

For many of the dyers, their motivation to grow their own dye plants stemmed from an existing interest in horticulture, meaning that they already had growing knowledge and experience but wanted to further develop or enrich their growing practices by branching out into dye plants.

I'm trying to go - to become more sustainable with my own clothing, anyway, I have a large garden. I grow a lot of my own vegetables. I have lots of room for growing my own dye plants, so also. [...] I actually sowed several dye plants in my garden anyway, with a view to using them this summer. (Lydia)

Of course I'm a gardener, so it was natural for me to grow them in the garden. So then I have a little dye patch. (Tara)

Natural dyeing has stemmed from my passion, and knowledge of textiles, and then also horticulture, and sort of organic farming, like combined. And then realising that I could make colour on textiles with natural plants, and then realising I could grow the plants. And that's kind of the stem of, of where I've got to - where I am now, for sure. (Sophie)

Natural dyeing was often described similarly to how Sophie expresses it: as an alluring combination of fashion, textiles and horticulture, alongside a strong association with sustainability (expressed also by survey respondents in Chapter 5). The provenance of purchased dyestuffs was also noted as a concern, with home grown dyes offering a more sustainable solution:

Before I started growing them I was mostly buying them in, sort of - as extract powder which is fine but it's kind of like - you don't really - it's quite hard to work out where the source of that extract is and you don't know how it's been extracted and all of that and you know, obviously it was hard to sort of trace it - it kind of led to me growing the plants literally in my back garden cos I think - I had been sort of foraging and stuff locally as well - Yeah, I don't know - I think like the localism thing ties into my view of what I think sustainable fashion should be like. (Ria)

In contrast to the other interviewees' interest in fashion/textiles and sustainability, Susan and Ashley's interest in natural dyeing was rooted firmly in a shared deep interest in horticulture and a difficulty in cultivating other crops at an allotment site which had infestation issues:

Unless you're really diligent about protecting your crop with fine insect nets and making damn sure that nothing gets in, you don't stand a chance there's so then the range of plants that you can actually grow down there is quite limited. Anyway, that's one thing. So when it came to growing the dye plants a whole new world opened up for me, plants that will grow very successfully. And they all have different characteristics. And I really enjoyed learning about them in a way, you know, in a way which I found much more exciting than growing vegetables. Much more exciting. (Ashley)

Although the dyers in Phases 2, 3 and 4 approached their decision to grow dye plants from sometimes differing perspectives all had prior growing experience, whether that was through home cultivation of vegetables or ornamentals or through previous work in the horticultural industry (Tara and Ellie had both trained and worked as gardeners). Growing dye plants was not any of my participants' first forays into cultivation.

GROWING DYE PLANTS

The prior growing experience and insight gained from having successfully grown other plants meant that many dyers had existing experience and embodied knowledge about cultivation that they could draw on when starting to grow and nurture dye plants. However, as Susan explained, the characteristics of dye plants means that this existing experiential horticultural knowledge does not always translate to a dye-plant context, which can prove challenging:

One of the things when we try and help people learn how to grow dye plants, a lot of people have trouble because they don't behave like vegetables, and highly cultivated gardens - they're very wild. There's a lot of wild genetic traits, some of them are purely wild. [...] But the vegetables and the, you know, decorative garden plants, the annuals, they've been bred and bred and bred, to the point that there isn't much unexpected, that's going to happen there - and a lot of the advice on how to grow them just doesn't carry across to the dye plant.

(Susan)

The dyers would however have gained familiarity and knowledge about their specific growing environments and likely have become attuned to other more-than-human actors present in their gardens, for example parameters such as soil type, sunlight distribution, pests, damp or dry areas and exposed parts of the garden or allotment. Possessing 'insider' knowledge (Breen 2007) would at least help them to situate their dye plants, even if not all of their dye plants behaved in ways that were familiar to them. It was also challenging for Susan and Ashley (who ran a natural dyeing business centred on cultivation together) to articulate to others how to grow dye plants successfully:

We're having to think hang on a minute, how come people are struggling to germinate that or keep it alive? Or? Ah, okay. Yeah, a plant has trained us to assume that this is, of course, how you do it, but we haven't. We haven't been consciously aware of it. And then you have to unravel that knowledge and try and share it. (Susan)

Susan's phrase that a 'plant has trained us' offers insight into the role of the gardener and plant in cultivation spaces. The idea that the dyer is in control of or leading the intra-action is subverted; instead, the plant is conditioning the human to provide the care that it needs, reinforcing the idea that plants are active agentic participants (Barad 2007; Thompson 2022).

The challenge of having to 'unlearn' what other plants, i.e. vegetables, might have 'taught' us to do means that dyers may have to do careful research to work out what a dye plant prefers; this research might take the form of looking up the plant's preferred conditions in a book or online. Lydia did this to great success:

Yes, learning what the plants like. For example I - the Japanese indigo, has just gone absolutely berserk because I read that it likes rich soil and is a water side plant. So I planted it in neat compost. I stand it in water and my plants are just huge. (Lydia)

Other dyers adopted a more trial-and-error approach; Ria struggled to get their madder to germinate and be successful when growing from seed. I had a similar experience with madder, as I noted in a journal excerpt from April 2022 below:

The seedlings have reached approximately 10cm now – but the leaves are small and they are struggling to stand on their own, they look like they’re becoming leggy. The others [other dye plants] have overtaken them now – do I move them again? They aren’t waterlogged and it’s too cold to put them outside the greenhouse. What do they want!?

I was able to get the seed to germinate successfully but the seedlings withered and died after a couple of weeks and I could not understand why; it seemed that my dialogue with madder (Ingold 2015; 2020) was more challenging than with other dye plants. They did not respond to my actions in the way that I anticipated and I could not decipher what they needed to survive. In the end, I did not try to cultivate them again. Ria did eventually manage to get the ‘knack’ for nurturing madder, with two sources growing large enough for them to harvest from.

My mum has been growing some madder for me in her garden - in beds. Whereas I’ve grown it in containers because I didn’t want it to spread everywhere and comparing what I harvested in my garden last year compared to what we harvested in her garden a couple of months ago - totally different because she’s got different soil and she admitted that she hadn’t fed them or watered them at all [laughs] just ignored them. The colours are slightly different, it’s interesting. (Ria)

As Ria explained, the two madder plants that they had gathered roots from were treated differently yet still produced a red dye, with only a slight difference between the two. This led Ria to wonder which approach was best and demonstrated the plant’s ‘wildness’ or unpredictability. Despite these challenges, over time and with increasing experience, dyers became more attuned to anticipating a dye plant’s needs and most favourable growing conditions.

That cultivating dye plants can prove challenging for experienced gardeners and leaves them attempting to anticipate what a plant wants or ‘unlearn’ what a plant has ‘trained’ us to do speaks to the difficulties of intra-acting with and establishing a dialogue with actors that do not communicate in ways that are familiar to us. i.e. through speech (Ingold 2020; Marder 2013). Further, when plants thwart our intentions or do not seem to respond in a way that we can understand they demonstrate

their agentic capacities (Barad 2007) in ways that are potentially disruptive to the intentions of the gardener.

MANAGING MORE-THAN-HUMANS

One element of growing that some dyers particularly embraced was not trying to overly control what the plants did, the spaces the plants inhabited or how the plants intra-acted with other more-than-humans. When I visited Ria at their home dye garden in Bristol (Figure 31), we spent some time picking dyer's coreopsis.



Figure 31. Ria's home dye garden in Bristol. Own photo, September 2022.

As we were doing so, I recognised some weld seedlings just establishing themselves in the dye bed alongside the dyer's coreopsis, which looked like they might crowd the existing plants if they grew. However, Ria was not concerned about this:

Yeah, I think they might be competing a little bit, but I don't really want to touch them. I think I quite like the idea of them just doing their own thing and see which one wins. (Ria)

They were happy to let the plants intra-act with each other without seeking to involve themselves, even if it meant that some may not survive – potentially resulting in the loss of one colour source. At my own allotment, I know that if a weld seedling appears somewhere that I do not want it to be, then I cannot move it; from past experience I know that these plants do not thrive after being moved from a spot that they have already ‘chosen’. Instead, the distribution of weld plants has gradually moved across my dye plot over the years, as the wind scatters the seeds a bit further north each year. I simply plant my annual dye plants around them and allow weld to express its capacity to move within the allotment (Figure 32).



Figure 32. Weld plants that self-seeded and grew at my allotment in Leicester, June 2022.

I take this approach instead of expecting the weld plants to fit within boundaries I have set, because I desire the colour that they can produce if left to act on their own. As such, I compromise on deciding their location, or perhaps a negotiation is a better way of describing our relationship. In allowing the plant to decide its position in the garden a more dynamic form of correspondence can be reached between the dyer and the plant (Lohmann 2024). As Power (2005: 50) asserts, ‘when plants are understood to be capable of challenging the roles set out by the people of the garden, gardening emerges as distinctly less human centred’. From a material engagement perspective, Power’s assertion takes on a slightly different meaning. Dyers are growing their dye plants in anticipation of a material to engage with – which can be interpreted as a distinctly human-centred endeavour. Growing a plant to produce a specific colour by planting it out into the garden and then harvesting it

could be viewed as a simply transactional relationship, whereby the plant has little input. Instead, some adopt a growing approach in which the plant is encouraged by the dyer to perform according to its own preferences and agentic capacities (Barad 2007); i.e. expressing its 'plantiness' (Head et al. 2014). In this sense, there is more represented in the human and more-than-human intra-actions that *do not* occur rather than the intra-actions of tending and care that *do*. Instead of being stage-managed closely by the dyer, a less anthropocentric approach to cultivating material is achieved. For the dyer, leaving the plant to act how it wishes leaves a large element of uncertainty about how much plant material the dyer may be able to harvest in the future. The cultivation of dye plants is revealed to be an active dialogue between dyer and plant (Ingold 2020).

GATHERING IN THE GARDEN

Many dyers expressed a desire to make use of what was already around them, not necessarily through going out into their local environment and foraging but through making use of plants that were already present in their gardens or that they had grown for purposes other than dyeing. This was another way of limiting the use of purchased dyestuffs and extracts. This method of gathering prompted new discoveries about plants that the dyer may already be familiar with and sometimes a newfound appreciation for a plant they had previously overlooked.

For Ellie, her job as a gardener meant that she had plentiful opportunities to gather plant material to use in her practice and sometimes to add to what she was growing at home:

Trying to think what else I grew - had loads of Dahlias. That's, uh, that's probably my go to and because they're just so popular in gardens anyway, so you can easily find them and you have to deadhead them regularly. So in my - when I'm in my clients' gardens, they're more than happy for me to go around. I can take as many of those as I want and it, like when it's used on silk, it creates this like really nice gold colour. (Ellie)

I asked if she approached gathering differently outside of her own garden:

Oh so in my own garden I'll just take it when whenever I want, if it's looking like absolutely perfect, it doesn't matter, it's just that - that patch is literally just for dye plants anyway, so it doesn't need to look particularly nice and then. So yeah, when it's looking, its best I suppose that's when I would take it when I'm at home, and then when I'm in other people's gardens you have to wait until it's like slightly wilted and then it's like, oh that's mine. Take that now. (Ellie)

For her customers, who may not be aware of natural dyeing and how gathered plants are used, Ellie took into consideration that they would value the aesthetic appeal of a flowering plant that is at its

best. However, for herself she placed greater value on what the plant could contribute to her dyeing practice, potentially sacrificing some enjoyment of the aesthetic qualities of the plant. Additionally like a number of survey respondents mentioned, Ellie also made regular use of what others deemed to be garden waste:

Working in the garden, quite often there's things that people just discard and they see it as rubbish and it goes straight to the compost heap, whereas I can - I can take all of that stuff home. So like all of the kind of like when we're pruning the fruit trees and things like that, and rather than burning it, I can use that. (Ellie)

This way of gathering demonstrates dyers' resourcefulness and ability to see potential and value in plants that other people would consider as waste and entering into new dialogues with overlooked plants.

OVERLOOKED PLANTS & WEEDS

In many contexts, when plants do not respect the boundaries or roles that a gardener has established and instead express their agentic capacity by moving 'across time and space they become "aliens", "invaders" or "weeds" in their new territories' (Head et al. 2014: 863). Other plants could be overlooked because a dyer may not have much knowledge of them or may not have identified them, as a result they remain unaware of that plant's potential agentic capacities. But if a dyer values what a plant has the capacity to do, i.e. to create a colour, then the plant is not overlooked or interpreted as a weed or invader. My interviewees indicated that their perceptions of some plants had changed through their close engagement with them, sometimes leading to new-found appreciation for those plants:

This process has forced me to identify a number of plants and weeds in my garden that otherwise I would have overlooked - there was a small sapling growing that had weeded itself - that sowed itself in my front garden, that I thought was an ash, and I looked further into it. I found it was called tree of heaven. [...] I'm now viewing my garden differently. I'm weeding - I'm weeding more selectively. But there are certain plants, like certain weeds, traditional weeds in the garden I've identified that I perhaps actually want to leave and want to let grow. (Lydia)

But also, I'm seeing plants in totally different ways - like a botanical printer sees beauty in the most modest looking weed because they know what it'll do when you print with it. (Susan)

Lydia recounted how her encounters have now altered her perceptions of some of the plants in her garden, to the extent that in Lydia's garden some plants may no longer be considered 'weeds'. Hitchings (2003: 106) relates to this, describing the way in which some plants 'draw the person down into their world, and make for an understanding of their concerns and a commitment to their care'. In other words, it seems that some plants draw the dyer into ongoing dialogue and through that dialogue, knowledge about the plant is gained through material engagement with them (Ingold 2020). In the case of weeds this is particularly evident. By producing a colour, the plant draws itself into the dyer's practice, subsequently drawing the dyer's attention towards itself and potentially ensuring its continued presence in their garden. Interdependence and reciprocity between the plant and dyer are nurtured; in exchange for colour the dyer commits to their care (Puig de la Bellacasa 2017).

Related to this, Lohmann (2024) suggests that existing cultural perceptions can make it challenging to imagine the possibilities of some materials. Writing about her encounters with kelp, she explains that it:

revealed that cultural framing can define the usage of organisms like algae and their applications as strongly as their inherent material properties. If for generations, a material is known as food, it is difficult to realise that it might also have other uses and applications. Our cultural framing limits the scope of our imagination. (ibid: 269)

From that perspective it could be challenging to imagine the possibilities of something with a well-defined category, i.e. a weed or an invasive species. The term 'garden waste' suggests no other utility for the material, but a dyer may see possibility for engagement. Through gathering previously overlooked plants in their gardens/local environments or those otherwise considered 'weeds', a dyer may enter into a new correspondence with those plants. Such correspondence can lead to new understandings and knowledge of what a plant's agentic capacities *are* through encouraging a plant to intra-act with textiles to show the dyers what it can *do* (Barad 2007; Ingold 2020). This form of correspondence can widen our scope of imagination and uncover the possibilities that intra-active engagements with overlooked or already defined plants might offer.

PESTS & POLLINATORS

Throughout this chapter, I have presented dyers' growing actions as a way of entering into a meaningful correspondence with plants, through methods such as getting to know and appreciating overlooked plants or letting the plant express its agency in the garden instead of seeking to exert control. Acts of noticing and tending are ways of expressing care for the more-than-humans that natural dyers encounter (Puig de la Bellacasa 2017; Hall 2021; Fletcher and Tham 2019). However,

when growing dye plants or tending a garden for any purpose, humans will also encounter other more-than humans such as birds, snails, insects and rats. Sometimes they can live harmoniously together or provide enjoyment to the gardener, but if they affect or disrupt cultivation then they can be considered pests. Pitt (2018) suggests that encounters with more-than-human species that are considered pests can demonstrate the limits of the ethics of care for the more-than-human that gardening is purported to cultivate:

The logic that connecting with nonhumans leads people to value them takes proximity as the foundation for ethical relationships: we care for those close to us. But it is not clear that closeness is an inevitable source of care, or that spatial proximity overcomes separation by difference. (ibid: 257)

When a more-than-human species is not involved in an instrumental relationship with a gardener the extent to which the gardener cares for it can be limited or move into combative actions such as eradication (Atchison and Head 2013). Dyers must decide how to negotiate the presence of other more-than-humans. Some dyers expressed their frustration at the perceived interference of animals in their growing spaces, but their frustration did not necessarily translate into *action* to counter the other species' actions. When I visited Ilona at her allotment and dyeing workshop in Norwich (where she grows her dye plants and dyes the textiles she makes clothing from for her small business) she took me on a brief tour of her allotment growing space (Figure 33).



Figure 33. Ilona's allotment and natural dyeing workspace in Norwich. Own photo, September 2022.

We added some exhausted (used) dyestuffs to her compost heap. She explained to me that the main issue she faced at the allotment site was rats:

There's basically rats on this site a lot and they really invade the compost and it's quite annoying. So basically they take out a lot of my - a lot of my compost so I put it in there - kitchen waste you know - lovely organic whatever - great and then it's just like the next week I come and I'm like half - it's more than half - it's gone because they're just eating it like - urgh!?! (Ilona)

Because Ilona was located on a large city-based allotment site that was mostly devoted to food-growing, steps to counter rats that she might be able to take in a private garden (such as poison) were not available to her (nor do I believe she would have considered it). As a result she seemed resigned to the fact that they were present and part of her allotment environment. Ria expressed a similar resignation to the presence of birds on their woad plants:

Birds are the worst one - because woad is like a brassica. They absolutely love that! They'll go for like the cabbages and stuff first but then if they can't, if they've had enough of those they'll go for the Woad as well. There's only so much you can do. There's definitely a point where you've just got to accept that that's what the ecosystem is like. (Ria)

This attitude of 'only so much you can do' feels, in my experience, somewhat different to the attitude of gardeners growing vegetables. I am not sure whether the dyers had the same attitude towards animals eating any food crops that they grew, but in my view there is more lenience with dye plants. Generally, dyers use the flowers, stalks and leaves of the plants to create dye; it would be unlikely that a pest would eat an entire dye plant (aside perhaps slugs). In general, the dyers I spoke to adopted a laid-back attitude towards dealing with pests that matched their desire not to overly control or manage the distribution or actions of plants in their gardens:

You need the pollinators and things, everything is part of the environment - we are, insects are, it's all part of the - I can't remember the word - ecosystem, there we go. And it - I think - it's sort of, someone said to me a couple of years ago when I was whinging about snails eating everything, and it was if pests aren't eating the plants in your garden then your garden isn't part of the ecosystem um which was just, that just completely changed my life - I was like yeah, that's such a good point - yeah do you know what, as long as they don't eat everything they're fine [laughs] (Ria)

As Ria pointed out, some more-than-human species are seen as beneficial, rather than pests and were welcomed by and received attention from dyers. In particular, pollinators were highly valued and mentioned by other dyers:

I mean, there's a really rare - It's a bee that's tiny - a minute solitary bee. It's either yellow faced or white faced - can't remember, think it's a white face bee. And actually its habitat is upright stems - hollow upright stems, it makes its nest in them. So rather than cavities or in the ground, it's got to be in an upright hollow stem. So it's often found around weld and it definitely - we've seen it all over our weld flowers. And then realising how vulnerable that particular species is and knowing that weld is one of its major food plants. That just adds a whole other dimension to the being that is the weld plant in the dye garden. (Susan)

For Susan, who dedicated much of her time to the cultivation of dye plants and sharing knowledge with others, learning that weld provided a habitat and food for an endangered bee gave her a sense of awe about her weld plants. Already grateful for the bright yellow colour that weld provided, she found herself appreciating them more for what they could do for more-than-human others:

Sometimes we've had desires for plants, like, we wanted sawort to be the ones that Michel Garcia grows in the south of France, which are really big, and these aren't. But they are such a gorgeous plant. I adore every part of them. Because the flowers are so beautiful, their seedheads are so beautiful, the insects they attract so beautiful. So now, the plants in the dye garden, the ones I love the most are the ones that have the biggest wildlife value [...] I find that I am more and more motivated to encourage people to grow the dye plants for the wildlife. (Susan)

Here Susan suggested that when desires for a plant that feature particular qualities i.e. a large size, which would mean more plant material to harvest, go awry due to the unpredictability of the plants, she finds joy and beauty in the features of the plants which can provide value for other more-than-humans. As a result, her care for pollinators was expressed through growing dye plants that had benefits for them as a form of reciprocity, which contributes to improving the biodiversity of the area that she lives within.

The quotes that I have chosen to highlight in this subsection convey the idea that dyers recognise that they are part of something wider than themselves and their dye plants when working in the garden. Susan articulated clearly that she recognises the more-than-human species that are entangled with the plants grown for her natural dyeing practice and works to provide habitat for them in return for the value they provide to the wider ecosystem. It is about recognising the interdependence of more-

than-humans within the garden and wider ecosystem, an ability and value that is greatly needed amidst the current climate and ecological crises (Hickel 2020). Pitt (2018: 253) explains that ‘for gardening to promote environmental stewardship any sense of responsibility must extend beyond garden places and beings which represent a tiny proportion of human interactions’ with more-than-humans. Some of the examples from dyers in this section suggest that environmental stewardship could be framed as part of their gardening practices that arise through their natural dyeing practice, due to the way they intra-act with the more-than-humans that they encounter.

In a sense, when actions to improve biodiversity are incorporated into a dyer’s practice they represent a literal form of the ‘rewilding’ of fashion and textile practices that Payne (2017) calls for. The same might be said for the navigation of unwelcome or disruptive more-than-humans in the garden; their presence highlights the entanglement of dyers in a complex web of other more-than-human elements. By seeking to interfere only minimally in intra-actions between other more-than-humans, dyers act to decentre themselves and instead embrace their position as just one agent in an ever-unfolding complex intra-active entanglement that is the garden/taskscape (Bhatti et al. 2009; Ingold 1993).

SUMMARY

The insights presented here into dyers’ approaches to growing and gathering their dye plants align with Doody et al’s (2014: 127) assertion that gardens are ‘precarious and relational achievements where plants, insects and wildlife shape and respond to varying levels of human care and involvement’. I narrated how some of the potentially disruptive features of plants’ agentic capacities are tolerated or even embraced by the dyer, for example through allowing self-seeding. Plants that may have previously been overlooked or considered unwanted in the garden can enter into new correspondence with humans when a dyer develops knowledge about their capacity to intra-act with textiles through engaging with them materially. When encountering more-than-humans that could be considered pests, dyers recognise that they are part of a wider entanglement of more-than-humans, seeking not to eradicate if they can and instead learning how to negotiate the garden alongside them. Expressions of care for the more than human through acts of tending and reciprocity demonstrate dyers’ commitment to the more-than-human beyond the immediate confines of their cultivation spaces. Altogether, the examples that I have drawn on in this section serve to highlight how the cultivation of a material for use in a craft practice can be a distinctly less human-centred endeavour than first expected. More-than-humans are encouraged to express their agentic capacities in the garden.

6.3 FORAGING

In the previous section I have explored the relational encounters and correspondences between dyers and the more-than-human in the context of their activities within domestic or private cultivation spaces such as allotments and gardens. Another element of gathering in natural dyeing relates to the foraging of dyestuffs. Historically, to ensure our survival, humans have sought subsistence from their environment. Foraging usually refers to the gathering of plants, mushrooms and other flora for food but also refers to the provision of materials and medicine. Ingold (2000: 59) describes activities such as foraging, hunting and gathering as ‘forms of skilled, attentive ‘coping’ in the world, intentionally carried out by persons in an environment replete with other agentive powers of one kind and another’ which he suggests are a form of dwelling. Poe et al. (2014: 902) in their study of urban foraging in the US position foraging practices as part of a ‘relational ecology of belonging’ which prompted them to rethink the ‘complex people–nature relationships as contingent and layered processes, practices, and projects of human and more-than-human inhabitation and belonging’. Their relational ecology of belonging has similarities with Ingold’s notion of dwelling (1993; 2000) in which the world is continually unfolding and becoming. Poe et al. (2014: 915) go on to describe foraging ‘as a communicative project not only between different groups of people, but also between people and more-than-human nature’ which suggests that foraging can be positioned as another form of correspondence (Ingold 2020) between humans and the-more-human. In contrast with gardening practices, where a human is encountering the more-than-human from a space that is managed by them, when dyers go out into the environment to forage for dyestuffs they encounter more-than-humans in different ways. In this section, I will explore some of the ways in which intra-actions between dyers and the more-than-human occur when foraging for dyestuffs.

All of the dyers that I interviewed had foraged for dyestuffs previously, with some dyers such as Ellie, Ilona, Tara and Susan doing so more regularly than other dyers. For Rowena and Lucy, this was their only approach to gathering dyestuffs. Coincidentally, they were the only dyers located in Scotland and lived more rurally than the others. For both of them foraging was integral to their dyeing practice and the decision to forage was a natural choice due to the environment that they were immersed in:

It's pretty much immediate vicinity because there is so much growing here that I'm in - especially in the summer and I just hadn't realised at all. So, from ferns to the reed flowers that grow at the bottom of the garden which - cause I can find greens and the weld with a friend who lives over on the black isle who come up in her garden, so that was probably the furthest away. That's what 60 miles, but everything else, literally I could walk to pretty much - to gather, and I wasn't trying to be elitist about that! (Rowena)

There's like hundreds of thousands of acres of woodland and hills and you know beaches and everything - there's I mean, there's not really anyone you know kind of watching and nobody knows - nobody will notice if I - you know we took like the mosses off this tree yesterday, but no one's going to notice because there's so much there, but it's - no one else is taking anything, so it doesn't really make a difference and there's so many places to you know to choose from. I've never really grown plants specifically for dyeing before, that's something that I'd really like to do but it's not something I've done up till now. I've always foraged really, or you know, use my grandma's garden. (Lucy)

For these dyers, the great abundance of plants and variety in the landscape that they had immediate access to meant that they did not feel the need to cultivate their own dye plants. Their local landscape could readily provide all that they would need within their practice. Both dyers expressed to me their enjoyment of the richness and abundance of the Scottish landscape. For dyers who grow their own dye plants but also forage for dyestuffs, foraging in the environment can be a different experience to cultivation in a domestic garden or allotment, as Tara articulates:

The coreopsis and all that kind of stuff kind of prairie plants that we're like growing - we're growing things that are not made to [grow somewhere]- like you might in any garden situation, really because you want something from those plants, whether it's dye or colour or show or whatever you want from them. But going out into the wild places or something that's British native is - is a very different experience I think, yeah. As you're not in control of that, you're just having a look around and seeing what nature's producing at that time that you can use and so yeah, it's very different and you get quite different results, too often if you're just using wild plants. (Tara)

Tara refers to gathering from 'wild' spaces and my interpretation of her meaning of wild was non-urban or countryside areas. Tara notes the lack of 'control' when leaving the garden – the dyer moves from a domain that is largely guided by their desires to an environment in which they do not have the same capacity to act or guide the more-than-human. Not all dyers who forage gather from rural spaces though; for many dyers, including myself, their immediate environment is the urban landscape of the city or a town. Foraging in these landscapes can be an altogether different experience to the rural landscapes of Scotland and England:

Norwich is kind of quite easy because there are there are quite a lot of green spaces and I feel like for things like ivy that is everywhere like but again, yeah, I guess it's everywhere where you have buildings that aren't pristinely, you know, kept or whatever or walls or trees you

know that are covered in it, but and things like alder as well. There's, I guess, elder, ivy, alder, like all, they're quite common - I find quite easy to find, but I think Norwich is maybe also quite a kind of a green city or you can reach green spaces where those kinds of things would be growing quite easily, whereas I don't know. Yeah, maybe in places like London it will be a bit more like OK well where's a park where there's actually elder growing? (Ilona)

The abundance of plants that are so apparent in rural landscapes are not as immediately visible in an urban landscape, but over time dyers learn the locations of specific plants and pay close attention to plants that they encounter every day. In cities and towns, public green areas such as parks become valuable spaces for dyers to encounter the more-than-human.

KNOWING

When a dyer steps out into the environment in search of plant material to use in their crafting process there is an element of stepping into the unknown. They do not necessarily know what they are going to encounter or find, some might venture out with a specific plant that they know and would like to find whilst others might adopt a more open approach and see what nature is going to offer them on any particular day, as Tara recounted above. What is necessary for all dyers who gather in this way is possessing knowledge to identify plants and having confidence in what they are picking:

[...] you also have to know your plants I think, if you're going to go foraging. If you pick the wrong thing or pick something poisonous or something like that, you know it does really help if you know what you're doing as well. (Tara)

Susan was particularly interested in the how the skills that a dyer needs to be able to identify the plants that they encounter were developed:

But that foraging dimension is another really interesting one, because rather than growing the plants if you're foraging them, that opens up, how do you learn to identify things? What's, what's going on in your local area? And just how closely do you have to look and foraging can give people a motivation to actually learn, you know, this massive green stuff. That's a hedgerow, I know most people just walk past it and it's just green stuff. But the moment you're taking something useful from it, we engage all these ancient skills. So yeah, I think, certainly amongst a lot of the traditional dyers seeing that everything has exploded into this, you can forage anything, you know, throw anything in the dyepot, it's like, oh, no, our ancestors *knew*, which were the really good things. Let's keep that. Let's keep that track back to all those millennia of wisdom and knowledge and be selective and be mindful in what we pick. (Susan)

Susan picks up on a salient issue in the transfer of natural dyeing knowledge. As synthetic dyes became the dominant choice for the mainstream fashion and textile industry, natural dyeing knowledge that was once closely tied to the local environment gradually reduced over generations. A study by Prigioniero et al. (2020) sought to measure the loss of traditional botanical knowledge (i.e. dye plant knowledge) in Southern Italy. By consulting historical records on species that were used in natural dyeing and comparing those to current knowledge using a survey, they found that just 8.6% of traditional botanical knowledge of natural dye sources remained, indicating a huge loss of natural dyeing knowledge since the 1800s. Susan's suggestion that our ancestors had foraging knowledge ingrained within them, i.e. they 'just knew', supports the idea that historically our ancestors were more engaged with their natural environments. Susan hints at this when she explains that some people perceive only 'green stuff' but 'the moment you're taking something useful from it, we engage all these ancient skills'. Ingold (2000: 60) suggests that 'for hunter-gatherers as for the rest of us, life is given in engagement, not in disengagement, and in that very engagement the real world at once ceases to be "nature" and is revealed to us as an environment for people'. In the case of dyeing, engaging with a plant through foraging might reposition the plant from 'green stuff' to an active participant in material engagement and new possibilities.

There are many ways to gain plant identification and botanical knowledge and here there are overlaps with gardening knowledge too. Some use taxonomic tools to assist with identification; for example, when Georgia and I went on a walk through woodland to gather some dyestuffs to sample, we used a tree identification book which contained illustrations and detailed description of each tree's features. We consulted the book to ensure that we could be confident that we could identify which trees we were encountering and we agreed on the identification between us before gathering. Others may rely on tacit knowledge that they have developed through previous encounters with plants or rely on their familiarity with the environment that they gather from. For example, from my previous encounters with stinging nettles I can identify the colour and shape of their leaves and up close I can see familiar textures along the stems. When I gather nettles from my local park, I know the places to look for them from my past harvesting but there is little uncertainty regarding what I will find and be able to gather. However, the amount and which plants I choose to gather from will depend on the form and quantity of a particular plant, which is dependent on how it has been intra-acting with other more-than-human elements in the landscape.

6.4 HARVESTING

In this section I consider some of the decision-making elements that feed into what a dyer harvests and the experiences of harvesting plant material to use in the natural dyeing process. In Chapter 8.3 I return to a discussion closely related to harvesting, where I explore preservation of dyestuffs in the context of seasonal change and harvesting in relation to efficiency in Chapter 8.4.

As I discussed in the previous section, being able to identify a plant that a dyer would like to gather from is an important element of foraging (and applicable to when harvesting from home-grown plants). An interest in harvesting mindfully, with a sensitivity to the wider more-than-human world and the specific plants they were gathering from, was expressed by several dyers:

You do have to be a bit careful. You can't go taking from protected areas and picking all the seed heads off and things like that where the plants need to regenerate. Obviously, you don't want to be doing that (Tara)

An awareness of the dangers of over-harvesting was demonstrated by many dyers. When considering the role of the dyer in a foraging environment, the dyer is harvesting plant material which can be perceived as a renewable resource, but this could easily tip into the realm of extraction if the amount gathered exceeds the plant's capacities to regenerate or kills the plant. An awareness of the plant's needs to regenerate (what capacities the plant needs to remain vital) and willingness to allow that to happen over the desire to gather a certain amount is crucial for sustainable harvesting; and more widely an ethos central to discourse within sustainability (Fletcher and Tham 2019; Hickel 2020).

RECIPROCITY & KINSHIP

Considering specifically which plants to gather from and how much material to gather can provide opportunity for dyers to enter into meaningful correspondence with the more-than-human. In this subsection I foreground the gathering experiences of Susan, Ilona, Rowena and Ellie, all of whom were well-experienced, regular foragers and who I had talked most extensively with about foraging.

Two of the dyers I interviewed, Ilona and Susan, mentioned being inspired and moved after reading Robin Wall Kimmerer's 2013 book *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. In her beautifully communicated book Kimmerer artfully explores human-nature relationships in the context of indigenous wisdom, botany and her own insights into ways of being with nature. I had also read *Braiding Sweetgrass* at the beginning of this study and I was immediately captivated by Kimmerer's words. Themes of reciprocity and kinship with the more-than-

human world are central to the ideas she expresses within her work. In particular, Kimmerer's account of 'The Honorable Harvest' appeared to have struck a chord with other dyers, as it did myself:

The Honorable Harvest asks us to give back, in reciprocity, for what we have been given. Reciprocity helps resolve the moral tension of taking a life by giving in return something of value that sustains the ones who sustain us. One of our responsibilities as human people is to find ways to enter into reciprocity with the more-than-human world. We can do it through gratitude, through ceremony, through land stewardship, science, art, and in everyday acts of practical reverence. (Kimmerer 2013: 190)

Ilona explained to me that when she read *Braiding Sweetgrass*, Kimmerer's way of speaking about how we commune with and are part of nature had spoken to her deeply because she was able to relate to Kimmerer's words through reflecting on her own embodied intra-actions with the more-than-human world through her dyeing practice:

I think like the alder cones, you know, it's just that once they've dropped, they're just there, and it's almost like how can you not gather it? How can you not pick up what nature offers us and it feels like a real kind of exchange I guess, and like yeah I want to say communion but that sounds quite religious but like, yeah a real sort of crossing with well, being part of nature - that we are, but like realising how interwoven we can be in in so many ways and just yeah, how much it offers I guess to us not just food but also this beauty of colour. (Ilona)

For Ilona, the idea of picking up what nature offers suggests there is so much we can appreciate and receive from nature if we know what to look for and spend the time doing it. Natural dyeing practices which reveal the agentic capacities of plants to create beautiful colours are just one route to experiencing this. I found Ilona's comment about communion and the mention of religion insightful and they echo some of my own feelings towards being in nature. There is an element of spirituality, if not necessarily a religious quality, that is felt in these moments of dialogue and exchange with the more-than-human world. Writing on the quality of craft as a practice of relating to the natural world, MacEachren (2000: 193) suggests that:

Eventually the engagement, interaction, and reciprocation of the crafting process will all seem to intertwine and will nurture a deeper sense of relationship with the natural world [...]. I recognise this as a spiralling inwards on a trail which affirms our relationship within the natural environment.

The sense of a deeper relationship forming was something that dyers (and myself) found (and still find) challenging to articulate and supports the idea that through dialogue with the environment, in

the form of craft practices such as natural dyeing, ‘a profound (re)consideration of the relationship’ (Mäkelä 2022:) can be fostered. Susan described that for her, this sense of nurturing a deeper relationship with the more-than-human world was felt through her engagement with the liquid amber gumtree:

The thing that brought me to the threshold of that connection was this beautiful liquid amber gumtree that where I parked my bike when I go to the supermarket. And so I see it at all different times of year and then once I got into botanical printing, I realised what a really special plant it is. And there aren't many around here. There are lots in Norwich. Oh my goodness. But anyway, so me and this plant – and when I read Braiding Sweetgrass - I've been talking to it a little bit. (Susan)

Susan was referring to an expression of gratitude for the liquid amber gumtree, inspired by Kimmerer's interpretation of gratitude:

I think oftentimes we dismiss gratitude as a kind of good manners—you know, it's politeness—but to me, gratitude is this powerful sense of connection because, in gratitude, you can't be anonymous. I am grateful for you, you as an individual who is sharing with me, and gratitude just invites reciprocity because you feel so grateful for the presence, for the gift, for the teaching of those beings, that you want to give your own gift in return. And that's the synchronicity that makes kinship for me. And it grows out of gratitude for the beings and for the gifts of those beings. (Kimmerer 2021: np)

In this interpretation, the expression of gratitude is a form of dialogue that can communicate something beyond the language that we use – it holds a much deeper meaning than just the spoken words of ‘thank you’. Through expressing gratitude to the liquid amber tree, in recognition of the beauty of colour that is hidden within it and the joy of intra-acting with it has brought Susan, their exchange could be considered as a form of practising reciprocity.

Related to the idea of communicating gratitude and reciprocity with the more-than-human, Rowena and I discussed another representation of dialogue between humans and the more-than-human when gathering. Rowena explained:

I've got a friend who's a herbalist and I had a conversation with her about trees [laughing] and certain trees would - she would say that certain trees would *allow* her to take stuff. This is before I was into dyeing and she was telling me and I was sort of snorting [as if] to say don't be ridiculous [laughs]. Well, I totally got what she was saying because definitely there are

certain limits to what you would take, and you almost feel like is with the permission of whatever it is you're taking. (Rowena)

Rowena described some initial scepticism at her friend's suggestion that she was being given permission by the plant to gather from it, however her viewpoint has changed. For Rowena, her natural dyeing practice and reverence for the Scottish landscape in which she lives and works appears to have deepened her dialogue with plants. She goes on to narrate an encounter with hawthorn:

I did quite a lot of hawthorn leaf foraging and there were certain trees I wouldn't touch because I just felt the hawthorn was just like 'no don't'. It was like a whole avenue of hawthorns - it was so funny and some I'd almost like, every third one I would take some from and then there'd be one that would be like 'no' - I know you don't want your leaves taken. And it's such a weird thing and it was only after that I had a whole basket full; I thought 'wow' that really felt like that was something I was given permission for, and I wouldn't be able to go back and do another batch. (Rowena)

She explained that there was an intangible feeling that she picked up around certain plants and instead of overruling that to retrieve the hawthorn she wanted to craft with, she respected what she felt was being communicated, leaving the plant alone. Her dialogue with the plant was non-verbal – she describes her perception that the plant was communicating 'no', which suggests that she was attuned to and somehow 'listening' to it. The sense that she 'wouldn't be able to go back' is intriguing but Rowena did not articulate what might happen if she did. Ellie expressed a different sense of attunement, describing her intuition for encountering dye plants when gardening or foraging:

It does feel like sometimes it's like a subconscious thing. You just kind of gravitate towards it. And then it's later on that, because I'm still learning, I still don't know all of them. I'll look it up and I'll realise oh my god, that's a dye plant - like I didn't even know it actually is but somehow, like something within me *knew* that, but like on a subconscious level. (Ellie)

Again, this suggests a form of 'listening' that dyers are engaging in - another form of correspondence (Ingold 2020) between dyers and the more-than-human. In previous studies on foraging, similar insights from foragers have been identified. Poe et al. (2014: 912) explain that 'listening' to plants was common to the foragers in Seattle, USA that they spoke to. Through 'listening' foragers were seeking a way to 'assess the being's desire and purpose; to seek signs of whether it wanted to be harvested; and to determine sustainable limits'. They go on to explain that foragers:

developed individual relationships with specific plants; they described listening to these beings in order to learn how best to receive their gifts. The relational acts of giving,

receiving, and interacting between foragers and more-than-human others produced a sense of belonging in place regardless of any given species' origins. (ibid: 912)

For Rowena, listening to plants enabled her to assess whether a plant wanted to be harvested and how much she could harvest, whilst for Ellie dye plants revealed themselves to her and were a community that she was attuned to and related to. The dyers whose words I have featured in this section expressed the most plant-centred approaches to their intra-actions i.e. their gathering activities. For them, gathering became a relational act of giving and receiving (ibid), inviting them to feel kinship and practise reciprocity with the more-than-human on a deeper level. From such a perspective, 'crafting-with' the environment (Fredriksen and Groth 2022) entails recognising the agentic capacity of plants to express a desire to not 'craft-with' the dyer and be left in place. Respecting the limits expressed by plants helps to ensure sustainable harvesting, by prioritising the plant over human interest. In Chapter 1 I outlined how human exceptionalism and Enlightenment thinking had led to binaries between man/nature and nature/culture that drive the extractivist and exploitative tendencies that have led to our current environmental, climate and sustainability crises (Hickel 2020; Fletcher and Tham 2019). Approaches that seek to flatten the hierarchies (Fox and Alldred 2022) between the human and the more-than-human and diversify our ways of knowing and being in nature are needed in order to foster sociocultural change and more sustainable material practices (Fletcher and Tham 2019). As Kimmerer (2021: np) explains 'kinship is a radical challenge to the status quo—a dangerous conception—because when we feel kinship, when we practice kinship, we belong'. The ideas and sentiments expressed in this chapter embrace diverse ways of knowing that move beyond human exceptionalism and instead greet plants as kin. Some dyers were directly inspired by Robin Wall Kimmerer and her writings on indigenous and animist ways of knowing and being. These insights were further informed and nurtured through dyers' embodied experiences of being in and intra-acting with nature, further demonstrating that through attending and crafting-with plants, dyers can nourish a deeper and more profound relationship with the more-than-human world (MacEachren 2000; Mäkelä 2022; Mäkelä and Aktas 2022).

6.5 CONCLUSION

This chapter has explored the first stage of natural dyeing – the gathering of material or dyestuffs for dyeing. The experiences of dyers who cultivate dye plants in their home gardens and allotments as well as those who forage for dyestuffs in rural and urban environments were presented. Through focusing on the gathering activities of dyers, insights into how intra-actions with the more-than-humans occur have been gained. At first glance, the cultivation of dye plants could be interpreted as a distinctly human-centred endeavour, in which dyers manage and extract from nature. Instead,

growing dye plants is positioned as a relational entanglement of dyers and the more-than-human. In the context of gathering, whilst it is important to understand how intra-actions between humans and the more-than-human occur, it is also essential to consider the intra-actions that do not occur between dyers and the more-than-human. The absence of intra-action, for example through allowing plants to self-seed and grow, not intervening with garden 'pests' or not harvesting from a particular plant, reveals insight into how dyers navigate human-nature relationships in the environment. Through acts of attending to the garden, allowing or encouraging the more-than-human to express their agentic capacities, dyers demonstrate and express care for and reciprocity with the more-than-human world. By 'listening' to plants, some dyers were able to nurture deeper relationships with the more-than-human, recognising them as kin by embracing plural ways of knowing and being in the world. Altogether, the examples that I have drawn on in this chapter demonstrate how gathering material for use in craft is a complex ongoing relational entanglement of humans with the more-than-human world. In Chapter 7, I will explore the next stage in the dyeing process – the creation of a colour with the gathered dyestuffs.

7. COLOUR

7.1 INTRODUCTION

In this chapter I explore the next stages in the natural dyeing process by focusing on the transformation of gathered plant material into a dye and the transfer of the newly formed colour to textiles.

Firstly, in Section 7.2 I focus on the transformation of dyestuff into a dye, reflecting on how dyers feel about naturally derived colour and how they perceive the colours that they achieve with their gathered dyestuffs, including factors that influence the colours that are formed. In Section 7.3 I describe the attitudes and approaches towards mordanting taken by the dyers and reflect on perceptions of natural and chemical within natural dyeing. In Section 7.4 I consider the time spent tending the dye pot when mordanting or dyeing. Finally, Section 7.5 focuses on the final stage of the dyeing process: the creation of a dyed textile. I consider how it feels for dyers to wear naturally dyed textiles and discuss issues related to longevity.

As in Chapter 6, the data presented in this chapter is drawn from Phases 2, 3 and 4 (interviews and fieldwork), alongside insight from my own practice.

7.2 DYEING

Releasing or extracting colour from plants can be achieved via myriad methods (see Chapter 1 for an introduction to the methods and Chapter 5 for methods used by survey respondents). Most commonly, a dyer steeps the plant material (dyestuff) in water in a dye pot and applies heat, then once the colour has seeped out of the plant and into the water, the dyer will usually add textiles to the pot to steep, absorb the dye and impart the colour. All of the participants in the interviews and fieldwork visits used this as their main dyeing method and a further five dyers (Lydia, Ellie, Tara, Georgia and Susan) had done botanical printing. In this chapter, the discussion of dyeing experiences, the colours that are achieved and attitudes towards wearing and caring for naturally dyed textiles relate only to dye bath and botanical printing methods, with the vast majority focused on dye baths.

PLANT-DERIVED COLOUR

Colour has always been an enduring but often overlooked part of our lives. As outlined in Chapter 1, natural dyes and the colours that they produce have a lengthy and complex history. Over time, certain colours have gained significance and cultural meanings which have endured, whilst others have been forgotten. The proliferation of synthetic dyes means that almost any colour can be produced with

ease and at a relatively low cost – creating a so-called democracy of colour compared to the historical distribution and production of colour - when certain hues such as purple were reserved for the privileged due to their scarcity and cost (St Clair 2016). We have long sought to categorise and define colours, with some of the earliest colour charts for use in taxonomic descriptions dating back to 1686 (Paclt 1983). The 1814 publication *Werner's Nomenclature of Colours* featured an extensive collection of 108 colours with information on where each shade could be found in a mineral or on an animal or a plant. Natural dyers have also kept careful records of methods and recipes to achieve specific shades of colours. The careful recording is evidenced through historical records such as the Crutchley Archive which featured over 1000 dye instructions and from an 18th Century London dye house (Quye, Cardon and Paul 2020).

In Chapter 2 I outlined how during the Arts and Craft movement, natural dyers extolled the beauty, richness and vibrance of the naturally dyed colour palette over the newly developed synthetic dyes that were quickly gaining popularity. It seems that today's dyers echo the sentiments of William Morris and his contemporaries:

I think there is a depth to the colours that you don't get - you know there's a sort of richness to the colours that you don't - that you don't get from an artificial dye. There's so many different pigments, isn't there in a plant and all those different pigments they're going to affect the colour in some way, and so they're quite rich and they have a lot of depth to them. Especially on the silk, I mean God they can be so beautiful. (Tara)

I think like - for me, it's almost like a form of colour therapy as well, so when I look at the - looking at a natural dye affects me emotionally in a different way to looking at a synthetic dye. If I look at a synthetic dye, I don't really feel anything - but looking at something that has been dyed with plants. It's - it's so beautiful that it makes you feel good and when I put on my clothes in the day I want to - that's how I would like to feel. (Ellie)

The naturally derived colours were perceived as having special qualities that stood them apart from synthetic dyes, through the richness and depth of colour that could be achieved. The difference in the qualities were challenging for the dyers to articulate due to their intangibility, but I suspect echo what Morris and Mairet were referencing when describing their beauty:

It does feel different, and the colours feel different, and I can't photograph plant dyes - there's something very odd about the molecular structure of them - and they just don't photograph. They sort of do sometimes in really bright sunlight, but I - I can't fathom it out at all. It's almost like it's got a different colour spectrum completely to the printed dyes and they

all get on together as well, which is another weird thing I haven't quite fathomed that colours that I would never put together they all get on - the plant dyes. (Rowena)

It's like you can almost have any colours with, uhm, natural dyes and they sort of look really nice together. They really kind of harmonise, no? At least. Yeah, they look lovely together. Even though there's like yellows and oranges and brown all sorts of colours in there actually. But they've all got a sort of lovely kind of subtle feel to them, haven't they? (Tara)

A common thread amongst dyers I spoke with was that within the naturally dyed colours there was a particular intangible aspect to the colour that made them special. This quality cannot be attributed just to the tone or shade of the colour but was a mysterious quality that meant naturally derived colours complemented one another, even in combinations that may otherwise be unappreciated or, if produced synthetically, clash.

COLOUR PALETTES

The colours that dyers can achieve are largely governed by the dyestuffs that they have gathered (though can be altered through modifying or some mordanting methods, see Chapter 1). The colour palette created is therefore representative of the wider landscape, geographic features (such as weather and climate) and specific spaces that they were grown within, found or foraged from. Dyers' achievable colours are shaped by the plants that they choose to grow or can gather, which in turn are shaped by what the landscape and local environment can support (Ingold 2000). Figure 34 depicts the palette of colours that I created through growing or foraging for dye plants in Leicester and Norwich.



Figure 34. A wooden yarn key displaying alum-mordanted wool dyed with plants that I had grown or foraged over the course of the research project. Own photo, December 2024.

Using only 'native' or 'wild' dye plants (i.e. those that were available to be foraged locally and/or where the UK is their natural growing habitat) can produce a more limited palette than the wide variety of (often non-native) species that many natural dyers are accustomed to growing in their private gardens or allotments:

But going out into the wild places or something that's British native is - is a very different experience I think, yeah. As you're not in control of that, you're just having a look around and seeing what nature's producing at that time that you can use and so yeah, it's very different and you get quite different results, too often if you're just using wild plants. I mean, the colours are often a bit more muted, aren't they? And that's the sort of palette of British dye plants it's different isn't it? (Tara)

I think plants that are native to the UK give quite - for me, quite unsatisfying results like - I think it's so often quite like very muted, soft, gentle colours, and that like reflects the English like natural landscape, I suppose and I think now I've just got kind of hooked on like getting

slightly more impactful colours and that those are always the things that people compliment the most as well. They're like, wow, that's like so amazing! (Ellie)

In both Tara and Ellie's accounts, there is an evident distinction between the muted hues of 'native' plants and the more intense colours that can be produced by non-native species. I perceived that for some dyers, the more muted shades that can be sourced from locally available plants were somewhat boring or less impressive when compared to the more intense colours of other dye plants.

When you think back to what people in this country have traditionally worn, like you know, Saxons and whatever they all traditionally wore lots of greens, yellows, browns. Really muted colours and the bright colours were only ever for the rich who could afford to get dyes from abroad and so those are our kind of - they are our colours, aren't they? They are sort of our British or English or whatever they are. They're our colours - all the more muted greens and yellows. Because so many British wildflowers - you think? Oh, let's try that in - and you just get yellow don't you [laughs]. You get a lot of murky yellows, uh greens and browns [laughs].
(Tara)

Although Tara identified that native British plants produced more muted colours, she expressed a sense of belonging and cultural identity within that colour palette. Describing these shades as 'our colours' hints at a deeper entanglement between cultural heritage, landscape and textiles that natural dyeing connects her with. Ingold (1993: 59) suggests that 'the landscape is constituted as an enduring record of – and testimony to – the lives and works of past generations who have dwelt within it, and in so doing, have left there something of themselves'. By creating colours from the same landscape within which our ancestors dwelt and that they shaped, natural dyers are connecting with those ancestors and their lived experience, whilst shaping the environment themselves through their ongoing intra-actions with it (ibid). The colours created through the practice can be interpreted as the material embodiment of an ongoing dynamic entanglement of humans and nature and a plethora of other more-than-human elements that shape a landscape such as soil, weather and geography (Mäkelä and Aktaş 2022).

In a similar vein, for Lucy, whose woven textile art pieces depict the rugged coastal landscape of Scotland, more impactful colours like vibrant reds and purples would feel out of place in the more muted palette of wild plants that she forages and the landscape that inspires her creativity:

I'm just, I kind of - I don't know I think it's interesting to see what I get - I don't tend to go towards like reds and purples like strong colours, it's more to those soft, softer colours, I

suppose, but I did get an awful lot of shades of brown and tan to begin with so yeah, an awful lot of them [laughs]. (Lucy)

Lucy's approach to dyeing and colour can be contrasted with the approach of William Morris, discussed in Chapter 2. Both Lucy and Morris sought to represent specific landscapes in their work; for Morris it is the managed and human influenced Upper Thames riparian environment (Leonard 2022), while for Lucy it is the more rugged Scottish landscape that she calls home. Lucy seeks to engage with the Scottish landscape on a deeper level by using local plants in her practice, which reflect the environment where they have grown, and which will become visible when they are transformed into a colour. In contrast, Morris did not engage so deeply with the landscape because he did not source dyestuffs locally and instead imported them. As a result, Morris's depiction of his favoured landscape is merely a representation of it in the form of a pattern or design, but materially separate from the environment. On the other hand, Lucy's work could be interpreted as being a part of or even inseparable from that landscape. More-than-human elements of the landscape i.e. the plants in colour form are woven into her designs in wool, becoming an ongoing representation of the dynamic material engagement of herself, textiles, dyestuffs and the wider Scottish landscape i.e. the intra-active entanglement (Barad 2007) of natural dyeing.

The strong colours and shades of red, pink and purple (Figure 35), that Lucy referenced do not readily feature in plants that dyers can gather in the United Kingdom.



Figure 35. The vibrant samples of (left to right) alum-mordanted wool dyed with madder, brazilwood, cochineal and logwood. Own photo, November 2024.

Purple dye sources are particularly scarce in nature (Balfour-Paul 2011), though plants in the madder (red-giving) family do grow wild (Sandberg 1997). In my experience of foraging I have not encountered madder.

The difficulty of gathering dyestuffs locally in order to produce vibrant bright shades of red, pink and purple can be a source of frustration for some dyers, viewed as a challenge by others or be of little interest in the case of Lucy. For those who do want to obtain those shades, one solution is to purchase dye extracts/preserved dyestuffs from abroad. However, for some dyers purchasing extracts/powders or sourcing dried dyestuffs originally grown abroad is unappealing due to their interests in sustainability, localism and the provenance of their materials.

I mean there's beautiful dyes like logwood and madder and indigo. I just - I'm not sure if that just fits in my palette of - not only the colours, but in my mind, I'm not even - I'm not sure that that's more sustainable than the dyes I'm using digitally. (Rowena)

Another option is for dyers to grow their own such as madder or murasaki (a Japanese plant that has purple-giving roots, Figure 36) and many dyers are happy to do so.



Figure 36. A one-year old murasaki plant grown from seed at my allotment in Leicester, May 2023.

Both Ria and I sought to achieve home-grown purple and purchased murasaki seeds from Susan and Ashley:

There's a couple that you can get purple from which really interests me because purple is like impossible with native plants in the UK really. Unless you do a red and a blue on the top. (Ria)

Both Ria and I grew murasaki because we were keen to expand our natural dyeing palette. Finding a 'true' source of purple, i.e. one that does not involve overdyeing madder red with indigo blue, was viewed as an achievement due to the scarcity of purple-giving plants. At the time of writing, I have not

yet harvested the muraski that I grew so cannot comment on the colour achieved. However, the ability to be able to grow our own source of a 'rare' colour such as purple offered exciting possibilities from a material perspective, especially when the majority of dyes produce shades of yellow. While not native to the UK, I felt that by cultivating the plant myself, it would respond to the local environmental conditions and as such become part of the landscape (Ingold 1993). In addition, the cultivation of non-native plants that can thrive in our climate is now commonplace among gardeners. Over time, the British landscape has been shaped by the introduction of such 'non-native' plant species. Though some can be invasive and affect the biodiversity of a plant community, not all non-native species of plant are invasive and damaging to biodiversity (Thomas and Palmer 2015). The complexities of what constitutes 'native', or 'non-native' are beyond the scope of this thesis, but in this section I have sought to highlight some of the reasoning behind how dyers engage with different colours and plants.

In all, the colour palette that can be produced from plant-derived dyes is reflective of the dyestuffs that are used. The choices of which dyestuffs to intra-act (or not) with are unique to each dyer. Some dyers seek to use only home-grown or locally available plants, in order to materially embody the landscape in the artefact produced, whilst others might supplement locally available dyestuffs with purchased ones in order to expand their palette beyond the shades immediately available to them.

MISINFORMATION

Morris's desire for vibrant colours eventually led him to move away from natural dyes once synthetic dyes had developed enough to meet his aesthetic requirements (Chapter 2). When compared to synthetic dyes, the more muted shades and an abundance of yellow tones of the plant-derived colour palette may be off-putting to those unfamiliar with natural dyeing or beginners to the craft.

A consumer study investigating perceptions of natural derived colour (Mabuza, Sonnenburg and Marx-Pienaar 2023: 5) revealed that some viewed sustainably produced naturally dyed garments as 'bland' and 'dull' with a colour palette consisting of mostly 'neutral earthy colours'. I discussed above how dyers can navigate this, with some dyers embracing a locally gathered palette whilst others grow their own dye plants to acquire a more diverse colour palette. The vibrancy of the colour that can be achieved from naturally derived colour is also dependent on whether the textile that is being dyed was mordanted. I will explore this further in Section 7.3. In my own practice, I enjoy growing plants such as hollyhock or scabious, which are less colour and washfast than more traditionally known dye

sources but the shades of blue-green, that fade to grey, are appealing to me amongst an abundance of yellow (Figure 37).



Figure 37. Samples of alum-mordanted wool dyed with black hollyhock (left) and black knight scabious (right). Own photo, November 2024.

When conducting my social media research (Phase 1) and searching for natural dyeing information myself online I came across frequent mentions of vegetables such as beetroot and cabbage as dye sources for vibrant pinks and purples. However, neither of those are dye sources recognised in dyeing literature. I suspect that the allure of beetroot and similar sources stem from their initial appearance of vibrancy in the dye bath and their accessibility; particularly for beginners they appear to offer an easy way to achieve ‘coveted’ or ‘rare’ shades. Fugitive dyes lack the chemical stability to bond permanently with textiles, even when mordanted. As a result, they will fade rapidly when exposed to light or washed, which can serve to reinforce the idea that natural dyes are dull and unreliable. I discussed the spread of unreliable dyeing information with Lydia and Ria. Lydia had also come across beetroot being discussed as a dye:

I have become aware, obviously, that there are a lot of very colourful vegetables that for example, beetroot. That there is this myth, on the internet that you can use things like that for dyeing. (Lydia)

She went on to explain her own experiences with attempting to use dogwood bark as a source for a bright blue dye without having to make an indigo vat:

If you Google dogwood dye, you'll get a lot of information about “you can get blue from dogwood bark” and I later found out that this was incorrect. I found that out through someone else asking the question on one of the Facebook groups I'm on. And I think it - it's like Chinese whispers [...] someone says “you can get a blue stain from dogwood berries” that

moves on “you can get blue dye from dogwood berries” to “you can get blue from dogwood” to then someone says “oh, you can get blue from Dogwood bark” and when I looked into it - because I'd saved all this matter because I wanted blue, uh, I couldn't find a single example of anyone actually having got blue from dogwood. (Lydia)

Misinformation about sources of natural dyes can influence wider perceptions of what can be achieved naturally which can discourage engagement with the craft:

There is a lot of misinformation out there unfortunately which is frustrating because I imagine there a lot of people that watch it and then go to try it out and then they don't get a good result and they might get put off doing it. Education is really important for sure. (Ria)

The examples I have drawn on here demonstrate the utility of online natural dyeing information and communities, for example myths can quickly be dispelled through drawing on the shared knowledge and experience of a group of dyers on Facebook. However, the spreading of misinformation, particularly through online platforms, risks contributing to negative perceptions of natural dyeing in contemporary craft cultures.

CHANGED PERCEPTIONS

The colour produced can also affect how the dyer *feels* towards a particular plant. In Chapter 6 I explored a similar theme, demonstrating how some plants draw themselves into a dyer's world when a dyer learns about their agentic capacities through materially engaging them (Barad 2007). However, when dyers derive a colour from plants it may not always lead to the start of an ongoing correspondence (Ingold 2020).

Sometimes you know, you get a colour from something, and you think oh actually I'm just not gonna bother with you! Like Colt's Foot. It's growing at the moment, and I keep trying to go back to it and get a nice colour from it and I just [laughs] and what was - ah there's a mediaeval term for green - was it goose turd green? [laughs]. It is - it's pretty much a goose turd green that comes from this leaf. I'm not going to bother with that again because I can chuck some iron at it and actually, I can try chucking some copper at it, but ultimately, it's just. It's just not my plant I think, yeah, so whether that is the plant telling me that or it's just the colour I don't like, yeah. It's nuanced isn't it. (Rowena)

Rowena's efforts to engage positively with Colt's foot (which she forages due to its abundance in her local landscape) to produce an appealing colour were unsuccessful. For her, success would mean producing a shade of green or yellow that she finds aesthetically pleasing enough to use in the

accessories that she makes with her naturally dyed linens. However, she could not warm to the shade of green produced despite persevering with the plant over time and attempting to modify the original colour with iron (which acts to ‘sadden’ i.e. to darken the colour of a dye; see Figure 38) or copper (which can bring out a green tone when applied to certain dyes).



Figure 38. Samples of naturally dyed alum-mordanted wool modified with iron (left) and the original shades (right). Own photo, November 2024.

Rowena, who as I mentioned in Chapter 6, was one of the dyers who engaged in deeper ‘listening’ (Poe et al. 2014) to plants, also wondered whether the challenging dialogue was the result of the plant communicating that it did not want to craft-with (Frederiksen and Groth 2022) her.

It is not only colour that can change perceptions. Sensory elements such as the smell of the dye bath can discourage a dyer from engaging with a particular plant again, especially for those dyeing indoors:

last year I was doing the other colt's foot and the alder - the thing with the alder is I find it really stinky, and it's got that fragrance that - I find it really cloying and because I'm dyeing inside at the moment, I thought I might give that one a pass [laughs] (Rowena).

This particular agentic capacity of a plant i.e. scent, may not be apparent until a dyestuff intra-acts with water and heat, demonstrating another way in which the agentic capacities of dye plants are revealed *through* intra-action (Barad 2007). Much like some of the hues produced by the intra-action

between plant, water and textile, this agentic capacity can be unappreciated by or in this case, disruptive to the dyer. In response to the smell, Rowena ended her correspondence with alder when working indoors. Disengagement reveals a prioritising of the human over the more-than-human and demonstrates that there are limits to the acceptance of plants' ability to express their 'plantiness' (Head et al. 2014) when their capacities are deemed disruptive or aesthetically unappealing.

Other dye plants can stand out and capture the attention of others. The vivid and nearly neon yellow tones that can be achieved from the weld plant are used by Ria to demonstrate to non-dyers the capabilities of dye plants:

I always use weld in my workshops anyway because that yellow is just so good like it's - people can't believe that it's come out of that plant and that it's a natural dye that's made that yellow so I always use that plant as a teaching tool. (Ria)

Demonstrating natural dyeing through a plant that produces such a vivid colour helps to subvert perceptions that natural derived colours are weak and unimpressive. Historically, weld is the most significant source of yellow and has long been prized for its vibrance and colour/wash-fastness (Cardon 2007). The appeal of weld due to its vibrance is related to the appeal of dye plants that produce rare shades of pink, red and purple. As I noted in the section above, many natural dye shades are more muted and often similar in tone, therefore plants that have the capacity to create particularly intense, vibrant or rare colours appear to be coveted by dyers.

For many dyers, these discoveries about the different capacities of plants are central to the appeal of natural dyeing. In Chapter 5, I noted how survey participants reported that they practised natural dyeing in order to find out what colours different plants have the capacity to create. In this section, and the corresponding discussion from Chapter 6, I have sought to highlight how such revelations can influence which plants dyers engage with and why.

SHIFTING COLOURS

In Chapter 6 I outlined how the 'wild' nature of dye plants can create challenges for the dyer attempting to cultivate them. Dye plants' unpredictability and 'wildness' are also made visible in the colour that they form on textiles. As dyers become more practised in natural dyeing and repeatedly use the same dyestuffs, they can find that the colours achieved vary from one batch to the next, even if their methods used for releasing the colour are the same. The unexpected and incidental discoveries about a plant's capacities and qualities that emerge demonstrate how craft practice can be interpreted as a blend of 'serendipity and intentionality' (Mäkelä 2016: 32; Finke 1996; Mäkelä and

O'Riley 2012). The serendipitous aspect to the practice was mentioned by several dyers as being a source of great enjoyment that kept them curious and encouraged to practise more:

I find it really interesting actually - with trying to get the same colour. I'd picked nettles and I did like - I wanted lots of greens and greys so I picked nettles in the spring, the summer and then in the autumn and did the exact same thing with all three and I've got different colours for each one, and I think that's one thing that I find really fascinating - that it depends on the time of year that you pick the plants but that'll affect the colours and I think that's something that's quite nice about it - it's all a bit uncertain, you never know what you're going to get.

(Lucy)

When I visited Georgia at her home in Norwich, we had foraged for some nettles from a nearby park. We were gathering in October and with Lucy's comments in mind, I wondered aloud what tone we might achieve. Georgia, who works in an environmental science field, was able to connect her scientific understanding of nettles to explain why we might see different colours across the growing season, though we could not be sure if that was the reason why:

Don't they say that you can make good fertiliser with nettles earlier in the year? And that's because they either have a really high concentration of phosphate or nitrate and then maybe they withdraw that. Which would make sense because they don't need to grow so much over winter. (Georgia)

When we steeped our foraged nettles in a pot of water and soaked a swatch of alum mordanted silk in it on Georgia's kitchen hob later that day, we achieved a pleasant cool silvery-grey tone (Figure 39). The next spring, when the fresh shoots of that year's nettles began to emerge, I gathered some and repeated the method, this time achieving a greener tone on wool.



Figure 39. Spring harvested nettles on alum-mordanted wool, placed on top of autumn harvested nettles on alum-mordanted silk. Own photo, November 2024.

I am sure that if we were to repeat the same methods another year, different shades would be revealed again. Ria identified some of the other factors that they understood could influence the colour achieved:

But as I've learnt over the years it is like, impossible to get it bang on every time because you're working - especially as I now grow the plants as well you're working with an organic material, like there's always going to be some variations in that. [...] Last year's flowers for example, might have grown slightly differently because of the weather. You know - the soil, loads of things like that. And that as a result might produce a slightly different strength of pigment within the plant. (Ria)

The attitude that 'there's always going to be some variations' was common amongst the dyers I spoke with. Much like how they approach gathering, dyers did not want to or expect to be able to fully 'control' the shade achieved and instead acknowledged that the colours revealed were representative of working with organic materials:

Allowing nature to be another hand in the work. So, allowing that spontaneity and allowing that - those natural processes to also be part of the work. And I think that still dyeing does allow you to do that? So, nature, weather, dogs, everything, all kind of play into what you produce. I mean, that's what makes it different to buying a pot of a Dylon, isn't it? (Tara).

As Tara points out, the value to her for using natural dyes comes through the interplay between humans and the more-than-human. The variation in colour is a material and visual manifestation of that interdependent entanglement i.e. nature being 'another hand' in what is created and a form of 'crafting-with' (Fredriksen & Groth 2022) the environment. I believe that the colour variance serves to highlight the ongoing vitality of the material within this stage of the dyeing process; i.e. when the dye plant has been gathered and could be considered as inert 'material' or 'dyestuff'. Writing on the making and growing of willow basketry, Bunn (2014: 163) questions the transformation from 'plant' to 'material':

Implicit in this argument is the notion that plants grow of their own volition, in domains quite distinct from that of humans, and that once cut, the plant is now 'dead', ceasing to grow through its own efforts. What future 'growing' the plant may do, it is assumed, is henceforth managed through the nurturing agency of human hands, which control the transformation of material into artefact through the act of making. This assumption is underpinned by the idea

that making takes place in a uniquely human domain, quite distinct from the domains of plants and from processes of growing.

In the case of natural dyeing, the ‘making’, i.e. the formation of a colour from plant material, could be viewed as taking place distinct from the more-than-human world, within which it was vibrant and ‘alive’. The practitioners’ experiences that I have drawn on here suggest that within natural dyeing, the domains of making and growing are indistinct. The plant’s entanglement amongst other elements of the more-than-human world, for example seasons, soil and weather, guide the colour that is achieved meaning that dyer does not ‘control’ the transformation from plant to colour. Additionally, Bunn (ibid: 63) suggests that viewing growing and making as indistinct hides the human role in cultivation and serves to ‘reflect the division often presupposed between nature and culture’. Instead, natural dyeing is an ongoing nature/culture (human/more-than-human) entanglement across all stages of the dyeing process. The notion of making being indistinct from growing is also supported by Ingold (2000:88) and in his view, artefacts ‘emerge’:

That is to say, they [artefacts] emerge – like the forms of living beings – within the relational contexts of the mutual involvement of people and their environments. Thus there is, in the final analysis, no absolute distinction between making and growing, since what we call ‘making things’ is, in reality, not a process of transcription at all but a process of growth.

In natural dyeing the colour formed on textile (the artefact) emerges as a result of the plant’s intra-actions and entanglement with both the more-than-human and human world. Natural dyers do not have mastery over the ‘material’ or dictate the colour produced, the plant’s prior intra-active engagement with other more-than-humans do. The plant and its ‘plantiness’ (Head et al. 2014) lead and shape the material engagement; the dyer facilitates the emergence of a colour. By embracing the serendipitous experience of unpredictable colours and seeking not to dominate the emergence of the colour, natural dyes demonstrate another way in which they centre the more-than-human in the dyeing process.

SUMMARY

In this section I have explored aspects of the natural dyeing process that relate to the colours that emerge. I sensed some internal conflict with the colours that could be achieved from readily accessible UK plants and the qualities of dyes that stand out to the dyer. Others expressed a sense of belonging to the landscape that their dyestuffs were gathered from and saw dyeing as a way of ‘translating’ the landscape into a material artefact. Dyers conveyed an appreciation for vibrant colours and coveted those that were rare, however for some their interests in localism and sustainability

precluded them from engaging with some dye sources. By embracing a landscape's colour palette and how a plant's earlier encounters with the more-than-human can shape the colour that is achieved, the dyers here demonstrate an approach to 'crafting-with' the environment. Plants continue to be active participants in the dyeing process, despite being transformed from 'plant' to 'material'.

7.3 MORDANTING

Mordanting is a key element within the natural dyeing process. Most often it is carried out before the textile is introduced to the dye. As presented in Chapter 5.4, a variety of mordants are used by natural dyers, the most common being alum when dyeing wool or other protein fibres and aluminium acetate when dyeing cellulose fibres such as cotton and linen. All of the dyers I interviewed had used alum in their practice and Rowena, who worked exclusively with cellulose textiles, always used aluminium acetate and tannin.

Originally I was just using like the rusty water [a form of iron mordant] and, kind of, yeah, I've - I've sort of realized that I wanted a bit more control over things and I didn't want these like orange streaks over everything so now I use alum mostly because I like the really bright colours that you get from that as well. (Ellie)

As I got better at the dyeing, especially with linens, which need so much process and I'm finding I'm getting much richer colours from not only scouring but doing 3 mordants. So, a tannin and then an aluminium acetate and then another tannin. (Rowena)

The reasons dyers used alum were to improve the colour results that they could achieve. Dyers referred to the richness, vibrancy and brightness that alum helped bring out and the improved colour and lightfastness of mordanted textiles; both properties which are coveted by dyers. However, several dyers voiced concerns about the provenance of the mordants that they used in their practice. Much like their attitude to imported dyestuffs, they did not want to use imported or synthetic materials if they could avoid it:

I use alum because it works well, for me making an end product like a piece of knitwear I obviously want that to last as long as possible so it means I want the colours to be as strong as possible, so I use a mordant and that's the one compromise I guess I make [...] That's the one thing in the supply chain that's not something I can trace which is annoying. [...] I know what company I get from, I know they make it in the UK which is great but - yeah it's cool I managed to find a company that makes it in the UK but I don't know where the minerals

come from - they're still mined, they aren't synthetic as far as I'm aware but you can synthesise it. That's something I'm really interested in looking into. (Ria)

...like any chemical process, there's by-products and you know it's all sort of fairly in the system, in the loop of like making other chemical products so it's hard to kind of assess its sustainability. (Ilona)

Traceability and provenance of the material inputs into their practice was important to all of the dyers that I spoke with. Gathering dyestuffs themselves was an integral part of their natural dyeing experience, therefore dyers knew exactly where their dyestuffs had originated because they had either tended the plants themselves or spent time foraging for them. Through gathering themselves, they got to know about each plant's qualities and capacities. Mordants like alum or aluminium acetate were elements that had to be purchased. Dyers tried to make informed choices about where they sourced mordants from, but tracing the provenance and production methods of them was challenging. Sometimes these concerns prompted dyers to try out other approaches:

[...] Yeah, but I use quite a lot of just the kind of plants that are actually on their own pretty strong like pomegranate, onion skin and like walnut I guess is the other one I use quite a lot. (Ilona)

Ilona, who mainly worked with cotton and hemp fibres, sought out substantive dyes such as walnut which do not require a mordant or took the approach of using less alum mordant with dyes that were stronger. Dyers also sampled different alternatives:

I've tried to sort of create my own mordants as much as possible, like the iron - what she [natural dyeing book author] calls iron liquor [a form of mordant made from iron]. I guess it's like iron with rusty nails with water and yeah and vinegar. [...] I've started using alum that I've bought as a kind of commercial thing and - but initially I just used like people's bits of salt crystal deodorant like leftovers, uhm so that was sort of trying to make that because I - I don't know enough about the process of making alum. (Ilona)

I've used different salts and all sorts of different things as mordants to see you know what works best? And it's interesting to see the difference in the colour - like the strength of the colours, so the soymilk yarn is much paler, and it's much lighter, but it's still worked. (Lucy)

Dyers tried various alternatives to alum such as iron, salt and soy milk but the paler hues or inconsistent results (due to their different capacities to intra-act with textiles, i.e. salt cannot perform

the same bonding action of dyes to fibres that an actual mordant like alum can) encouraged them to predominately use alum. Amongst dyers, the use of soy milk as a mordant can be contentious:

I think that mordanting baffles people and there's a lot of new approaches to mordanting, they may not be new, but they haven't been in the Western European canon. Like the use of soya, and I think that causes quite a lot of friction amongst traditional dyers who don't see it as a mordant. (Susan)

When cellulose textiles are soaked in soy milk, the proteins present in the soy intra-act with the fibre and bind together creating a physical bond, unlike the chemical bond created with alum. The bonding is not as 'permanent' as alum which leads some dyers to dismiss the use of soy as the dyes may fade sooner. However, as Susan asserts, dismissive attitudes towards soy as a mordanting treatment highlight the privileging of western knowledge in the craft. What might seem 'new' in our lexicon might be everyday somewhere else, much like how our 'discovery' of the more-than-human in the ontological turn often overlooks indigenous ways of being (Todd 2016).

My interpretation is that the appeal of soy milk mordant to contemporary UK natural dyers lies in its plant-based origins and their aversion to using 'chemical' mordants:

even if you tell people, well, you know, alum is a perfectly naturally occurring substance. You dig it out of the ground. But that that cuts no ice - cuts no ice, you know, as far as they're concerned, it's been processed, highly processed, and they don't want to have anything to do with it. (Ashley)

As Ashley identifies and as I presented in Chapter 1, historically alum was mined in the UK although nowadays it is commonly synthesised. The choice of 'natural' over 'chemical' is present throughout natural dyeing discourse. When presenting the motivations for natural dyers to practice in Chapter 5 I outlined frequent mentions of the lack of 'chemicals' involved in the dyeing process. The definition of what is chemical and what is natural is left ambiguous though. However, I believe that the aversion to chemicals that dyers talk about is related to a societal issue of chemophobia. The term 'chemophobia' refers the aversion or fear of chemistry or chemical substances (Rollini, Falciola & Tortorella: 2022), but in modern life they cannot be avoided entirely:

The prevalence of some unfounded fears evoked by chemicals among the public [...] has resulted in the impossible desire [...] to live in a world where chemical substances do not exist. Similarly, many claim that they do everything they can to avoid chemical substances although they clearly - and most likely unknowingly - rely extensively on products [...] that

would not be possible to manufacture without synthetic chemicals. (Siegrist and Bearth 2019: 1071)

That is not to say that all apprehension of chemicals is unfounded. As I outlined in Chapter 1, there are numerous negative environmental and health impacts from fashion and textile production and its associated chemical inputs. In Chapter 2 I explained how Carson (1962) and Bookchin's (1962) work exposing man's impacts on nature through chemical and technological means paved the way for the modern environmental movement. There is a suggestion that well publicised chemical pollution incidents and the work of Carson have inadvertently contributed to chemophobia (Breslow 1993). However, an aversion to *all* chemicals that is rooted in irrational fear only serves to 'undermine the effectiveness of measures that have historically improved human health and food production' (Chalupa and Nesměrák 2022: 698) and a balance must be struck.

When considering chemicals in relation to the use of mordants within the natural dyeing process I suspect that the 'otherness' of the material form of the most common mordants such as alum and aluminium acetate – which are usually white powders or fine clear crystals (Figure 40) is one of the contributors to avoiding them.



Figure 40. Powdered alum mordant. Own photo, November 2024.

In my own practice, I regularly use alum and aluminium acetate and have done from the start, when I first followed Dean's (2010) dyeing instructions. I wanted to achieve colours that had longevity and shades that were bright and vibrant. I felt that without mordanting I was not giving the plant a chance to demonstrate its true capacity to create colour. However, as my practice has developed and I have become more attuned to dye plants and working with dyestuffs in their fresh or dried forms, I have reflected on my use of alum and aluminium acetate. Whilst I appreciate the capacity of powdered alum mordant to facilitate a future intra-action between the plant and textile, when working with

alum I would not describe a feeling of 'dialogue' with the material in the same way that I do with plants. The features are not familiar to me and I have not expressed 'care' for it or entered into reciprocity with it. Much like Pitt (2018) questions assumptions of care for all more-than-humans in gardening, I think an indifference to more-than-human elements such as mordants (which are from the earth) show the difficulty of extending care to all elements of the more-than-human within dyeing. This feeling prompted me to explore mordanting methods such as rhubarb leaves (which contain oxalic acid that has mordanting properties) that are usually composted on my allotment, when I harvest the stalks to eat, but that I now save to make a mordant. This method of mordanting brings me back into dialogue with the more-than-human world.

What is evident in the choice of mordants is a lot of ambiguity about what dyers mean when they refer to sustainability or chemicals in their dyeing processes and what 'natural' represents. It is clear that dyers value a mordant's intra-action with textiles because they facilitate the creation of lasting, vibrant colours which dyers desire, but dyers' interest in provenance and sustainability of their materials can override the benefits to be found in mordanting.

7.4 TENDING THE DYE POT

An important action that a dyer carries out within the natural dyeing process is what I refer to as 'tending the pot' i.e. the time spent attending to the mordant, dyestuff and/or textiles when they are immersed in the dye pot and steeping. Often, when the textile is introduced to a dye, the dyer will apply heat to the dye bath and stir regularly for a couple of hours or alternatively leave for longer periods and check the dyestuff or textile's progress at regular intervals. This can be lengthy process that appears to require little intervention and limited attention from the dyer. However, for many dyers this is a cherished time.

I had the following exchange with Susan, after I asked her what she does during the steeping time, whilst the dye and textiles intra-act in the dye pot:

Susan: I just sit and watch it.

Beth: Yeah, I'm just there really? And I think that's a form of meditation, I suspect. Just, there's no worry. But you're still doing something.

Susan: You're connected with it. You're monitoring it. Well, I mean, there's that whole - I don't know whether you'd say there's a mythos of it, but of the cauldron, the witch's cauldron, and the, you know, this creative vessel that contains healing and nourishment.

I think what I was trying to articulate to Susan was how the time had a reassuring emptiness; very little was required of me, all I had to do was stir - that was my sole responsibility. My phone was not in my hand and I was not at a screen. I was slowly stirring and watching the yarn swirl through the dye liquor as it gradually deepened in colour. The plant, now in liquid form, and the wool were doing all of the 'work' and I was just *there*, almost hypnotised by the transformation and intra-action between the materials that was often slowly unfolding in front of me, nearly imperceptibly. Susan also refers to the 'mythos' of the pot, similar to Dickinson's (1964:635) comments that I highlighted in Chapter 2 of natural dyers and their 'potion brewing' and 'toadstool stewing'. These comments speak to the transformative power of the dye vessel and combination of raw materials to create something unexpected, but hint towards a connection to ancestral knowledge.

These descriptions of tending the pot demonstrate how craft can be a form of mindfulness which can contribute to a practitioner's sense of wellbeing and satisfaction (Pöllänen 2013; Niedderer and Townsend 2025). The repetitious act of stirring the pot, the hypnotising swirl of the dye and the textile and the presence in the moment allows practitioners to experience a meditative time of deep focus and relaxation, often referred to as experiencing a state of 'flow' in the crafting process (Huutilainen et al. 2018; Niedderer and Townsend 2025). Some dyers may also leave the pot and return briefly to spend minutes stirring. This crossover between passive and active time was described by Rowena as slow time but also nurturing, similar to Susan's feeling of healing and nourishment:

But also, I mean, it's passive and active, but there's a really lovely passive part of it, but yes, you can have half an hour of faffing about but then you just know it's sitting there cooking away, and it's not going to boil, especially cold dyes. So, I do quite a lot of cold dyeing. Actually, I don't tend to do so much hot dyeing, but it can sit there for three days and be quite happy and you can go and tend to it, and it's almost like gardening from that respect, it's very nurturing. Yeah, I love that - it's definitely taught me patience. (Rowena)

For Rowena, her dyeing took place over a number of days with the colour slowly emerging through intra-action between dye and textile. Whilst Rowena goes about her day she can periodically return to monitor the progression of their intra-action and stir the bath. Rowena's comparison between time spent with the pot and gardening are apt. The acts of stirring and checking the progression of the colour are acts of care for the textile and dyeing process and mirror those daily tasks of care and maintenance that gardeners regularly undertake (Bhatti et al. 2009) such as pruning and watering. In my view, the development of the colour across the textiles whilst the pot is tended represents a form of 'growth' as the colour emerges slowly and then blossoms to its final shade, adding further credence to the idea that artefacts are not made but grown (Ingold 2000: 88). The sense of growth

and satisfaction I derive from tending the dye pot which contains dye is not the same for one that contains a mordant. When mordanting with alum or aluminium acetate, the textile looks the same as when it was immersed and the water is clear. I do not derive enjoyment from sitting and stirring a bath of what looks like clear water and undyed textile. The excitement and nurturing feeling that emerges from facilitating a visible intra-action between a textile and a dye is satisfying and tangible. I am unsure if the dyers I interviewed felt the same way, but none of them expressed reverence for the mordanting process like they did with dyeing.

In Chapter 5 I described how the majority of survey respondents practised the craft in their homes alone. Dyers may spend much of their time outside gathering, but the dye pot is most often located inside on the kitchen hob. However, some dyers like to take all of their practice outside when they have the opportunity:

My favourite thing to do is - I've only done this a couple of times 'cause it's such a faff but is to do it outside and to make a fire and put the pan on the fire and then just sit with it and I feel like it adds like a whole another element to it rather than - because natural dyeing is not supposed to be like an instant quick thing anyway and yeah, I like that. (Ellie)

The dyeing outside - yeah what is it about that! It's just kind of the fresh air and you're not under artificial light, so you're in the spectrum of light that the plants like to be in yeah.
(Rowena)

For Rowena and Ellie, dyeing outside presents an opportunity to be present in the landscape that they have gathered from. As Rowena describes it, you are in the plants' favoured domain. By being outside dyers are drawn into a wider entanglement of the more-than-human and share experiences with the plants. The day after I visited Ilona in Norwich, she was running a natural dyeing workshop and I asked what she wanted her participants to feel or take away from the experience:

The magic of getting lost in something a bit, getting immersed in the textures of the plants and the fibre, and we'll have a fire, you know, like - FIRE!! We're doing it over a fire - I'm so excited! And just like being outside and sort of just surrounded by - you know - just feel your senses to just like, try and sort of let go of too much expectation and thinking of time and thinking of outcomes. (Ilona)

Ilona describes wanting her participants to feel the benefits of flow and wellbeing (Niedderer and Townsend 2025) from practising the craft but also refers to the sensory, elemental engagement of dyeing over a fire. Encouraging direct engagement with elements of the more-than-human world by greeting the materials in their environment (Aktaş 2019) suggests another form of 'rewilding' (Payne

2017; 2021) textile craft practices. The material element of the practice is rewilded through close engagement with the more-than-human, but perhaps the practitioners themselves, through close engagement with the elemental forces of earth, fire, air and water expressed as the soil, the heat of a fire, the water in the vessel and the air outside are experiencing their own form of rewilding through reconnecting with the experiences of being in nature, much like our hunter-gathering ancestors.

7.5 WEARING

The final part of the natural dyeing process for some dyers involves another stage of material transformation; working with the naturally dyed textile to create a garment or other textile artefact. For some dyers this includes the construction of something from start to finish, whilst others may decide to upcycle existing garments or items. It is important to note that for some dyers the creation of textile artefacts is not the central reason for practising the craft. In Chapter 5 I highlighted that many dyers were motivated to practise in order to learn what plants can offer them and as part of their existing interests in plants and gardening and not necessarily with an interest in fashion/textiles. Many of those dyers may create 'samples', i.e. small swatches of textiles that demonstrate the colour that can be achieved, and do not necessarily 'make' anything else. Ilona, who does make clothing, articulated well why for some dyers samples are the end artefact:

You've just gone and picked something that already is something beautiful that you've interacted with it, you've chosen the plant, you've looked at it, you've put it in a pot, and you've transformed it, you've extracted this colour, you've watched that happen, and you've sort of smelt it, and then you've put fabric in which - it's a new interaction. It's like two things interacting. It's enough. It's like that in itself is like, 'Ah! Amazing!' A lot has happened.

The focus on practising natural dyeing for the enjoyment and discovery of what the more-than-human world offers challenges ideas of productivity and purpose when crafting (a theme I return to in Chapter 8). The skills needed to construct or upcycle garments differ from those needed to practise dyeing. Not all dyeing practitioners may have craft skills such as weaving, spinning, knitting, crochet or sewing.

MAKING & WEARING

For those that do make garments, the final stage of transformation has the potential to obfuscate and overpower the stages that came before it because the focus on the colour can be shifted to the form of the artefact created:

[...] Sometimes I feel like I'm almost sort of, I don't want to say adulterating - but I'm there cutting it up and I'm going, this is amazing - but it also almost doesn't feel like I'm quite honouring - it's weird. It doesn't feel like I'm quite honouring that process that it's gone through, because I'm now transforming again. I'm sort of almost transforming it, not beyond recognition, because it's always - the colour is still there. But I'm sort of like taking away the focus of just the colour on the fabric. And the focus is now the design. (Ilona)

Ilona's comments highlight how the dyeing process might become 'hidden' or overlooked. Despite this, dyers derive great enjoyment from making and wearing clothing and other items that are naturally dyed, whether or not they have constructed them with their own hands or breathed new life into something that already existed:

Yesterday I was wearing a T-shirt that I dyed last October from walnuts - walnut hulls, and it's still brown and it's like - it's literally been through the wash at 60 degrees like a billion times and it's still brown and it definitely - every time I look at it, I'm reminded of that time and who I was with when I was harvesting it and yeah, so it definitely helps connect me with that plant and a time in history as well - I suppose a time in my life. (Ellie)

And it is personal because you do - you might remember the walk that when you picked it or the day or what you were doing at that time, or you remember - you can remember all of those things. (Tara)

For these dyers, the clothing that they make holds memories of how the colour was formed. When they wear garments that they have dyed themselves, with plants that they have foraged or cultivated, they recall how those experiences felt, which can serve as a way of reconnecting them to the plant form and the landscape from which they emerged. Forming deeper bonds with our clothing relates to the concept of 'emotionally durable design' (Chapman 2015) within fashion and textiles, which suggests that greater longevity of clothing can be achieved through creating deeper bonds between people and materials. Greater longevity of clothing is thought to contribute to reduced levels of consumption and disposal which are needed in order to achieve more sustainable levels of production and consumption (Niinimäki and Hassi 2011; Fletcher and Tham 2019). As well as being able to recall their gathering activities when wearing naturally dyed garments, Ilona and Tara described the way

that they felt the plants were still present somehow in the textile, despite being transformed from plant to liquid dye to the form of coloured textile:

And I think the hemp fabric is - what I love about it as a textile is that it does feel, in combination with being naturally dyed, it feels like a second skin. It's like, I've put so much love into this and it's come out of the earth, the colours and then I'm just surrounding myself, a bit like I said earlier - like an embrace of nature, or like a second natural skin - just feels like [sighs] 'ahhhhh'. (Ilona)

I do think the plants are still present yeah and I think when I did my degree project, quite a lot of it was based on that idea. I wanted to do something about the sort of regenerative qualities of certain plants too, kind of re-take over and rewild and that sort of thing so the plants that I used to dye with were plants that I knew were kind of pioneer plants and colonisers, so I use gorse and I use Birch bark and also I used nettles and things that I knew that were dye plants but also had this like vigour to them. Which really appealed to me that I wanted to kind of put that into the fabric part of the project – so, to me - the fact that the - some of that energy I felt was in a way being captured by the fabric which I then used to make things for this particular project that I did. (Tara)

Ilona's comments about wearing naturally dyed clothing made from materials that she had gathered and garments that she had constructed herself (with organic hemp) are reminiscent of my discussion of kinship and reciprocity in Chapter 6. Ilona described being 'embraced by nature' and that the garments felt like a 'second skin' – to me this feels like a way of expressing that she feels she is part of nature. Through engaging closely with the more-than-human and feeling a sense of deep connection, her clothes have become a material embodiment of her deep reverence and attunement to nature. Tara felt that by engaging with plants that were known to be vigorous she could then transfer that vitality into her fabric. Across all the transformation that the plant has gone through in the dyeing process, for Tara and Ilona the plants and their vitality, i.e. some of their 'plantiness' (Head et al. 2014), were present in the textile. By wearing naturally dyed clothing, dyers are able to feel an ongoing sense of connection to plants and nature and the garments themselves are part of 'nature' – translated into material form by the dyeing process.

LONGEVITY

When interviewing dyers who stated that they wore naturally dyed clothing or sold their garments to customers, discussion about issues related to longevity and uniformity in the dye process were often raised. In particular, longevity qualities such as the light and wash-fastness of the dyed garments was mentioned frequently. As I described earlier in this chapter, mordanting helps to improve the light and wash-fastness of natural dyes, giving them greater longevity. Fading could be perceived as an undesirable trait by some, especially for non-dyers:

We're so used to being able to wash things like loads and loads and it never ever fading and like - would a regular consumer appreciate that their item they've just spent loads of money on is potentially going to fade in the wash? (Ellie)

A few dyers suggested that they would not use dyes that are known to be less light and wash-fast in order to avoid this issue, but some dyers also viewed this as a feature of natural dyeing, akin to the attitudes expressed around variability in shade:

The colours might fade, but I feel that's part of the whole organic thing of it really. Yeah, I think that's fine personally. I think it's part of it and I do have a little sort of disclaimer label that I put on [the items that she sells] that say the fabric, the colours may change over time, but that's part of natural dyeing. (Tara)

Conversely, the possibility for a garment to stain or bleed was a worry for Lydia who was constructing her own dresses to wear on a holiday through a combination of botanical printing and natural dyeing:

I think the first few times I wear the logwood - the other dress I'll probably be worried that I've rinsed it all out as well, and if I go, I'll be - I'll probably be looking behind me to see if I've left any marks on seats as well so yeah. (Lydia)

The main issues around the finish of the dyed garments related to marks, splotches and patches where the dye finish was uneven or darker/lighter. This was a particular issue for those who were dyeing with preloved fabrics and upcycling existing garments. Existing stains or marks can intra-act with the dye, leading to uneven patches. To avoid this, Lydia often did botanical printing instead of dyeing and any marks would be less visible:

There's one that does have some marks on. But if I can't get the marks out through scouring, I'll be botanically printing anyway, so I will position leaves to hide the marks. (Lydia)

Additionally, the use of aluminium in deodorant and sweat can cause changes to colours, resulting in clear differentiation between the armpits with the rest of the garment. Several dyers cited concern about marks under the armpits of naturally dyed clothing. Lydia highlighted this in our discussion about a dress that she was hoping to make:

I'm wearing it next week and it's for next week. Uh, I'm actually a bit worried about it because I've used logwood, which I know is pH sensitive and um I'm concerned about um - about bodily sweat and deodorant changing the colour of the fabric - so that concerns me. [...] if you end up with big marks under the armpits, then it's not something that's desirable. (Lydia)

This was echoed by other dyers. For example, Ilona recalled her experience wearing an onion skin dyed jacket that had reacted to sweat and deodorant, serving to alter the underarm colour:

It's slightly different under the armpits but not enough that it puts me off wearing it and like other people have borrowed the jacket and been like - they don't notice - well it's underarms so it's not like you're constantly [lifts arms up][laughs] - it's not like it's that visible, but you don't really - it's not a great look. Like you don't want to be drawing attention to your armpits in that way [laughs].[...]The only thing with that, is that - there's a limit, I think to how much people are like, do people want their - I don't think I'd want my clothing. I wouldn't want to wear it *that* much if it had patches under the arms that were a different colour. (Ilona)

As Ilona observed, whilst she was not very concerned with marks, for others there might be a limit to their acceptance of variations in tone and saturation across one garment. She suggested that this could discourage some from wearing and keeping naturally dyed garments, potentially reducing the connection to a garment that a dyer feels, thus serving to reduce its longevity (Chapman 2015). Whether this is a desirable trait is of course subjective, but in mainstream fashion systems where uniformity in production and quality control is crucial, these imperfections could be contentious. These attitudes and expectations about garments are also related to the perception of handmade items more generally. As Twigger Holroyd (2018:95) suggests and the dyers hinted at, although some may be accepting of blotches and marks, when it comes to artefacts that do not look factory made or reveal features that make them look handmade, 'our personal perceptions may be outvoted by the crowd'. However, when reflecting on her correspondence with seaweed and the artefacts created, Lohmann (2024: 275) asserts that when collaborating with natural materials 'we must let go of ideas of permanence and uniformity. We need to question prevalent industrial concepts of repeatability and perfection. No two things made of seaweed will be the same'. I believe that a desire for

uniformity represents a desire for control over the material. Elsewhere in this chapter and throughout the gathering chapter I have highlighted how dyers adopt an approach of crafting-with (Fredriksen and Groth 2022) the more-than-human world by acknowledging and accepting that they do not always lead the crafting encounter. Dyers embrace variability in the colours that they achieve and limitations in availability of some dye sources. However, when it comes to marks and splotches that arise from a textile's previous intra-actions i.e. through being previously worn or stained, then uniformity becomes desired. This serves to highlight that the textile being dyed is not necessarily an inert 'blank canvas' and is also an active participant in the material engagement (Aktaş 2019; 2020). In this context, their embrace of more-than-human intra-activity is somewhat curtailed, revealing a more anthropocentric positioning of their dyeing activities when compared to earlier stages. The rejection of the intra-action between a natural bodily function and the plant and textile is also curious, given dyers' earlier emphasis on the 'natural' in natural dyeing. The plant is simply continuing its earlier dialogue with the textile and responding to new inputs. This serves as an example of how 'materials actively participate in everyday interactions and experiences through their embedded agencies' (Aktaş 2020: np). In this case, through intra-actions with natural functions of our bodies (sweat) and everyday life (marks and stains) plants and textiles continually demonstrate their agentic capacities.

In contrast, dyers were more accepting towards the fading of naturally dyed textiles over time and permanence was not a quality they appeared to seek. When dyers discuss light or wash-fastness they refer to the impact of sunlight and water on a textile. I feel that this is the reason why fading is accepted but variations in colour caused by bodily functions and everyday life are less so. When describing the similar way in which Kelp fades over time, Lohmann (2024: 275) expresses that 'the artefacts made show the seaweed's characteristics so that encounters with them equally become encounters with seaweedness'. Plants depend on the more-than-human elements of sunlight and water to survive and thrive and when the days are shorter many plants wither and fade into the winter. The fading of naturally dyed textiles through washing or light exposure represents a plant's ongoing intra-action with those more-than-human elements. The textile artefacts therefore demonstrate the plant's characteristics and their changing over time highlights how the artefact continues to 'grow' (Ingold 2000:88) with the wearer over time, despite having reached its 'final' form as an artefact. In this way, the wearing of naturally dyed textiles becomes part of the ongoing intra-active entanglement of the more-than-human (Barad 2007).

The fading of dyed textiles does not necessarily mean that the item will be discarded; for some dyers it presents an opportunity to re-dye the textile and renew the vibrancy of the initial colour. Likewise,

more careful washing practices can also help to conserve the initial colour for longer. However, many dyers expressed values similar to (or are part of) the Fibershed movement, whose soil-to-soil fibre and dye system sees garments returned to the earth at the end of their life (Burgess and Courtney 2019). This suggests that some garments may be returned to the gardens from which their colour emerged. The forms of caring for the dyed textile, shown through everyday practices of laundering, repairing, re-dyeing or composting, serve to complement the everyday acts of tending the garden (Bhatti et al. 2009) and tending the pot that I identified earlier. These often small and everyday acts of tending demonstrate how care for the more-than-human world can be nurtured through everyday encounters and activities that including cultivating, gathering, dyeing, making and wearing clothing (Fletcher and Tham 2019, 2023; Puig de la Bellacasa 2017).

7.6 CONCLUSION

In this chapter I have explored the theme of 'colour' within the natural dyeing process by exploring different facets of the craft, from dyeing, mordanting, tending the pot, to the making and wearing of naturally dyed textiles. Through doing so I have uncovered more of the ways in which dyers intra-act with the more-than-human in varying capacities and degrees of relation (RQ2). The geography and landscape of an environment shape the colours that can be formed by shaping (alongside the dyer) the distribution and variety of dye sources. The difficulties of repeating shades revealed how dyers enjoy and embrace the serendipitous aspects of the craft, whilst quiet acts of tending the pot can be beneficial for practitioners' wellbeing (RQ3). The variations in colour achieved represent the complexity of a plant's entanglement with myriad other more-than-human elements within the environment: a feature that dyers embrace as another way of crafting-with the more-than-human world. However, limits to dyers' openness and receptivity to crafting-with the environment were also revealed when colours that they dislike, or disruptive agentic capacities of plants (such as scent) emerge from their material engagement. Likewise, whilst dyers accept the fading of colour over time, they are less accepting of marks and splotches that arise through the ongoing intra-active entanglement of the plant, textile, dyer, the wider more-than-human world and everyday life.

8. CONNECTION, RESISTANCE & POSSIBILITY

8.1 INTRODUCTION

In Chapter 6 I explored how dyers gather dyestuffs for their practice through cultivation and foraging, during which they form meaningful correspondences with the more-than-human world. In Chapter 7 I investigated the experiences of dyers creating colour from their gathered dyestuffs and touched upon the implications of wearing and caring for naturally dyed textiles.

In this chapter, I move away from focusing on the process of transformation from plant to dye to coloured textile and instead adopt a broader perspective of contemporary natural dyeing practices, by examining the wider landscape that the practice is entangled within. I draw on the concept of assemblages that I introduced in Chapter 3. I identify other elements that feed into a dyer's practice (both human and more-than-human), framing these elements, together with the previously introduced intra-actions in Chapters 6 and 7, as part of a natural dyeing assemblage. By framing the practice as an assemblage and considering the connections formed, frictions and challenges encountered, I uncover and reflect on some of the possibilities, impacts and opportunities that are created through practising natural dyeing.

Firstly, Section 8.2 focuses on highlighting some of the ways in which dyers procure materials including dyestuffs and textiles, outside of the gathering activities I discussed in Chapter 6. This section also highlights the organisations and knowledge exchange opportunities that dyers encounter and reflects on the material and social connections that are formed. In Section 8.3 I will consider how the intra-active entanglements I introduced in Chapters 6 and 7 and Section 8.2 are situated in relation to the influence of seasonality and weather. Finally, in Section 8.4 I will discuss aspects related to the pace and scale of natural dyeing practices.

As in Chapters 6 and 7, the data presented in this chapter is drawn from Phases 2, 3 and 4 (interviews and fieldwork), alongside insight and reflection from my own practice.

8.2 MATERIAL & SOCIAL CONNECTIONS

In Chapters 6 and 7 I explored aspects of the relational entanglement between humans and the more-than-human world that occur in natural dyeing, by focusing on the cultivation and foraging of dyestuffs and how plants are transformed into colour. Those chapters demonstrated how dyers engage and connect with the more-than-human world through their practice. As Gauntlett (2011: 2)

explains, through ‘making things and sharing them in the world, we increase our engagement and connection with our social and physical environments’. In this section I will shift my focus towards those social and material connections by exploring relational entanglements of humans and their interrelation with the more-than-human world.

In Chapter 2 I highlighted the role of natural dyeing during two previous periods of increased interest in craft, the Arts and Crafts movement and the 1960s/70s counterculture. During both movements, craft was a form of collaboration and social expression in response to the wider socio-political, material and economic landscape (Hofverberg, Kronlid and Östman 2017). For William Morris and his contemporaries, the workshop was the favoured hub of craft production, providing a location within which members could collaborate, share knowledge, develop their skills, socialise and produce artefacts that represented their shared commitments to traditional craftsmanship (Watkinson 1997). Morris’s workshops were inspired by the craft guilds of the medieval era, which played a key role within their communities. They were sources of employment, knowledge and training and provided collective support and fostered a sense of belonging and identity amongst their members (Sennett 2008; Rosser 1997). Community and craftsmanship took on a different form for members of the 1960s/70s counterculture. As part of their rejection of modernism and a desire to go ‘back-to-the-land’ some counterculturalists formed communes based around embracing alternative ways of living – enacting their ideals through engaging in craft work, growing their own food and striving towards self-sufficiency (Farber 2013; 2016). The exchange of skills, ideas and materials were central to these networks of people and were facilitated by publications such as the *Whole Earth Catalog* (Brand 1968). In Chapter 5 I identified that contemporary natural dyeing practitioners were members of numerous communities of practice (Wenger-Trayner and Wenger-Trayner 2015) such as online crafting groups and Guilds of Weavers, Spinners and Dyers. The online landscape in particular is recognised as a key way in which practitioners can find social connection based around their practice, enhancing their wellbeing (Mayne 2016) and providing opportunity for learning and development across a potentially global community. These examples all serve to demonstrate how craft can be a form of community-building and foster opportunities for collaboration based on shared interest, skills and values (Gauntlett 2011; Robertson and Vinebaum 2016). Although most survey respondents suggested that they practise alone (i.e. do their dyeing activities alone), through interviewing natural dyers and visiting them in their workspaces it became apparent that they often created or were part of both informal and formal networks, groups, social circles and contacts in order to meet a variety of material and social needs, outside of those I identified in earlier chapters. Therefore, in this section I will unpack some of these features of the natural dyeing assemblages (see Chapter 3) in order to

demonstrate some of the ways in which natural dyeing practices contribute to the creation of ‘new practices and expressions designed to create more sustainable ways of life’ (Mannion 2019: 1)

DYE SOURCES

In Chapter 6 I illuminated the intra-actions that occur between dyers and the more-than-human when they gather dye materials by growing their own plants or foraging for them locally. However, many dyers use alternative sources for their dyestuffs, for example materials that are often considered waste products. As highlighted in Chapter 6, dyes can be sourced from garden waste, for example in the case of Ellie who collected dyestuffs from her customers’ gardens as she tended them. Dyestuffs can also be sourced from food waste (reported by survey respondents). Onion skins are a popular dye material due to the strong yellow (Figure 41) that they produce and their popularity in cooking makes them readily accessible (though some dyers of course grow their own). Pomegranate skins are another food waste dye source that can produce a yellow tone (Figure 42).



Figure 41. Alum-mordanted wool (left) and silk (right) and cotton (bottom) dyed with onion skins. Own photo, November 2024.



Figure 42. Aluminium acetate-mordanted cotton (top) and alum-mordanted wool (left) dyed with dried pomegranate rinds (right). Own photo, November 2024.

Other common food waste dyes include avocado skins and seeds which can impart light shades of pink (Figure 43). Pink can be challenging to source from homegrown or foraged plants in the UK (aside from the madder family) and avocados would be challenging to grow due to our climate.



Figure 43. An organic cotton scarf dyed with avocado seeds and skins. Own photo, September 2019.

To source food waste for their dyeing practice, dyers could have gathered what they produce themselves, but saving a suitable quantity to create enough for a dye pot could take a long time to accumulate enough. Instead, many dyers looked to others and sourced food waste from their personal connections and crowdsourced large enough quantities to use within their practice:

I've got a few people in Norwich who eat a lot of pomegranates. Yeah, over the years I've sort of just yeah developed contacts, people who save them for me and then I'll pick them up when they've got a bunch. (Ilona)

I live in a house with a lot of people. It's like a communal place. There's like 30 people in the whole building so it means that if I decide - 'cause in the past when I was living with less people, I'd have to like save these avocado, so I'd like go round cafes begging them. And but now if I want to dye with avocado stone, so just send a message out and then a couple of days later I've got 30. So it's quite - it's very easy to collect food waste. (Ellie)

Ellie described the benefits of living communally; the ability to draw on numerous people's waste and repurpose it for her dyeing activities. Another popular source of dyestuffs is the waste produced by florists:

I've also in the past worked with a florist and she - because she gets, uses imported flowers, she'll just give me whatever is wilted and then I've still got fresh flowers into the winter as well. [...] it does feel different [to dyeing with grown/foraged] because there's not that kind

of memory connection with them, but it's still very - it still feels very exciting and still feels positive because you're using something that would have just gone in the bin otherwise.

(Ellie)

I have a friend who's a florist so it's been quite good being able to say to her oh do you have any like leftover roses from the wedding you just did? You know that kind of thing and so rather than them being thrown out, I'll get them and use them for dyes. (Lucy)

Both food and flowers for use in dyeing could have been purchased by the dyers from supermarkets or florists in sufficient quantity; however, by sourcing from others (in addition to what they might save themselves), as Lucy and Ellie point out, the dyers are recycling something that would otherwise have been discarded. I suspect that for these dyers, and in my own experience, I would not purchase avocados, pomegranates or flowers for the sole purpose of dyeing. Doing so would involve a material input from a non-local context and connect dyers to the assemblages of global food or flower production which are associated with environmental consequences and exploitation of people and nature (Sommaruga and Eldridge 2021), much like the mainstream fashion and textile assemblage (Niinimäki et al. 2020). By using what is already existing they are not contributing to the production of something new and managing the material inputs of the assemblage. Dyers found that collecting or 'saving' the waste from others was satisfying and aligned with their sustainable values, in particular the desire for circularity and processes that produce as little waste as possible. Once dyers had extracted the colour from the food or floral waste, they would be able to compost it – eventually contributing to the soil health of their gardens or allotments and potentially diverting waste from landfill. For dyers that sourced food waste from others, they often highlighted their surprise at how willing others were to help them. They enjoyed the social aspect, viewing it as an opportunity to form connections with those they may not otherwise:

I think I find it very interesting how many people are keen to, you know, can help with things like with the allotments and the barns, like they're you know they're keeping bits and pieces for me. And Emma, my friend - she's got a coffee shop and so they get in - they've had like rose petals that are for salads. And so, when she's had some that are you know kind of getting close to the end date, she just gives them to me. She's like yeah you have them, be better than throwing them out! I feel like it has built a bit of a community so even when I'm doing the actual dyeing it's by myself, but there seems to be a much wider community that kind of goes into it and get you know into all the other stages, which is really nice. (Lucy)

Great potential was seen by dyers in these informal emerging networks and sourcing arrangements. Some expressed surprise at how new connections were formed so easily and were appreciative of the chance to be part of a wider community of people, which is especially valuable in a craft that the majority report practising alone (Chapter 5):

Just spreading the word about what we're doing and seeing how we can work together. It might be that at some point, you know, we take the onion skins from some of the local growers and do like a project with that. It's all just like, flexible and the opportunities I think are like, always arising, which is great. And it's really nice to be part of that community. I think it's really important - in isolation it's so much harder [laughs]. (Sophie)

This idea of also that it's yeah, a part of a connecting kind of scheme it's - it's not just about getting it in the most - you know if you're collecting from restaurants, for example, that in itself that action of someone going out and collecting from different restaurants is a way of connecting community. You know it's a way of interacting where formerly there wouldn't have been an interaction, and so I just I find that kind of quite an interesting process (Ilona).

Many of the examples of creative sourcing that I have highlighted here pick up ways of exchanging, sharing and gifting materials to others. I suggest that this evidences a way that the natural dyeing assemblage exists counter to the growth logic of the mainstream fashion and textile assemblage which organises formally through contracts and prioritises financial gain (Fletcher and Tham 2019). The dyers here do not pay for what they receive from others and instead create informal arrangements to source what they need, creating social connection with those in their local community along the way (Gauntlett 2011). These approaches have parallels with the countercultural practice of natural dyeing during the 60s/70s where great value was placed on living communally, frugally and close to nature. Sourcing locally and creatively is another way that dyers keep the natural dyeing assemblage 'local' and reflects their commitment to locally grown or foraged plants.

The lack of financial exchange may also be attributed to the categorisation of items that dyers are receiving; most of the dye sources are classed as 'waste' which supposes that they no longer have 'value'. A dyer however sees possibility for material engagement (Lohmann 2024). By engaging others in such interactions, dyers may help to change their way of thinking and approaching materials. More generally, such ways of organising and provisioning are viewed as having great potential to contribute to a degrowth future because they 'call for a higher level of understanding and consciousness about what we're doing here and why' (Jarvis 2019: 270).

TEXTILES

In addition to gathered plant material, natural dyers also require another material input in the form of textiles to dye. When deciding what types of cellulose or protein fibres to use, many dyers carefully consider where to source their materials from. Similar to how some dyers source dyestuffs from waste material, textile waste or surplus/deadstock fabric is of great use to them:

I've got an amazing lady who makes wedding dresses and she's been saving me like all of the scraps from the wedding dresses [...] because I only need small pieces anyway [...] she basically gives me like a bag full at a time which is amazing. (Ellie)

Additionally, charity shop, second-hand or preloved garments are useful textile sources for dyers. These sources were mentioned with frequency by survey respondents (Chapter 5). As I discussed in Chapter 7, preloved textiles can present difficulties for dyers when striving to achieve even results as their previous life becomes visible through ongoing intra-action between the plant and textile. Despite this, preloved fabrics hold great appeal to dyers because by repurposing existing materials dyers do not have to introduce 'new' textile/material inputs into their practice.

I've mainly been working with silk and then prior to that I was just kind of getting things in charity shops and yeah, barely, never really buying new fabric. And also my parents live in France, so whenever I went there I'd just take an empty suitcase and then just fill it up with like - because they have all these like amazing vintage shops there and you can get like a really lovely like French linen sheet for about 50p. (Ellie)

Repurposing existing textiles appeases dyers from a sustainability perspective. Second-hand shops are sites of 'incidental' sustainability because they help shoppers to 'pursue more ecological lifestyles and help cities divert huge quantities of materials from landfills and incinerators' (Kuppinger 2023: 269). By choosing to source materials from these spaces rather than purchase new textiles, dyers demonstrate further commitments to sustainability within their practice. Fletcher and Tham (2019:46) also suggest that a commitment to 'using fewer materials is a political activity, understood not as party politics, but as how it affects all citizens' and in this way, aligns with values of the degrowth movement by reducing demand for the production of new material (Hickel 2020).

From another perspective, preloved items can offer affordable alternatives compared to purchasing new garments or textiles to dye with. The unpredictability of the dyeing process, as evidenced through the disruptive agencies of the materials discussed in Chapter 7, means that a desired result cannot always be achieved on the first attempt and repeated attempts could become costly.

Sourcing new cellulose textiles to use in their practice can be challenging for dyers who are concerned with provenance and sustainability, as many of the dyers involved in Phases 2, 3 and 4 were. Sourcing textiles from sustainable sources with minimal environmental damage was important:

I've bought lots of hemp because it's going – because, becoming more sustainable - I'm looking at fabrics and I know that cotton is not actually that sustainable. (Lydia)

The hemp fabric and trying to source organic fabric has been a massive part I think of just trying to create a product that has had as little damage to the environment whilst being produced. (Ilona)

Lydia, who was making clothing for herself and her husband, and Ilona who produced and sold clothing to others, both turned to hemp fabric because they were aware of the sustainability issues relating to the environmental impacts of cotton. Ilona sourced a mix of organic hemp and cotton. Though not produced in the United Kingdom, both dyers viewed hemp as a more sustainable alternative to cotton, which complimented their sustainable intentions for their dyeing practices. Sourcing cellulose textiles produced from within the UK was especially challenging for dyers. The lack of availability or ability to identify textiles that were produced in the UK was something that I also found challenging in my own practice. Although I did not produce large quantities of dyed goods, when I did source cellulose fibres to dye with I was disappointed at the lack of availability of 'local' options but realised that the globalised nature of the fashion and textile industry meant that I would have to source from abroad and I viewed this as a necessary compromise. I felt that this detracted from what I was producing because although the textiles were dyed with plants that I had tended or foraged, their colour was displayed in an object that was outside of my input. In a similar sense to the 'otherness' I described when working with powdered mordants in Chapter 7, the fabric felt like an outsider to my practice when I had managed to control the provenance of all other material elements. When discussing sourcing textiles to dye with Rowena, who naturally dyed linen to line the purses that she produced and sold, she expressed her disappointment to me at the recent loss of a linen mill near her home in Scotland:

I was using Scottish linens and it was the last linen mill in Scotland. Yeah, and it closed last year. It was badly run and in fact nobody knew it was there, it was in the centre of Kirkcaldy in Fife. And most people who lived in Kirkcaldy unless they worked there just didn't know. You know it's a failing management structure. It was such a shame because I think nobody appreciated what a precious thing this was, but we've lost basically. All the machinery got sold off, all of everybody got made redundant and so now there's no – apart from, there is an

island that has got a mill, but it's not specifically for linens, but now the whole Scottish linen thing is gone it's really sad. (Rowena)

As a result of the linen mill closure Ilona began sourcing her linen from Lithuania:

I'm surprised there wasn't more of a kind of upswell of ahh you know we're losing enough manufacturing as it is without these really precious things. So now I source it from Lithuania which has got its own problems Brexit wise. It's all horrendous, Brexit has been such an impact. So sourcing wise - yeah, I print in the UK, the linen is not UK and sort of try and buy as sustainably as possible, but within the limits of a small business really. (Rowena)

I sensed that the sadness that Rowena conveyed in her answer was due to the loss of connection to Scotland. Her practice is firmly rooted in the Scottish landscape at all levels. She foraged locally for her dye plants and was inspired by the Scottish landscapes creatively and incorporates printed images of Scottish nature into her designs. Though not Scottish herself 'Scottishness' as an identity is expressed through her practice and the Scottish landscape is materially present in her work (Ingold 2000), which incorporating foreign materials could lessen the feel of. From an assemblage perspective, this reveals how factors such as policy and governance can affect a textile assemblage to the extent that what was rooted in one space must reterritorialize in another, changing the features (Jones, Heley and Woods 2019). In this case, the assemblage's ties to Scotland and identity of 'Scottishness' are weakened through external market factors.

Dyers who primarily worked with wool had more success in sourcing UK-based materials, due to our rich and enduring trade in wool (Rutter 2020). Sourcing wool local to the dyers was important to them and provided an opportunity to form working relationships with local farms. The desire for local wool was related to valuing traceability of the material inputs into the natural dyeing assemblage:

It was a long process but the yarn that I use now is from a farm that is like a half an hour drive, so as soon as you get to the countryside basically out of Bristol so - super local. (Ria)

The yarn basically - that's what I'd like to sort of work on next, and my friend Ruth - she has a croft and she's just had - she just got 4 Shetland sheep, they've just had lambs as well, they're very cute. So, we're hoping in the future that we can kind of work together a little bit, and I would weave with her wool and use her wool and it would be maybe, uh, you know every couple of years we would we sort of the fleece out. I think she's got four sheep or six or something, so it would have to be - you know, it would be quite a slow process, but it kind of fits in with the whole ethos I suppose of it being slow textiles. (Lucy)

The ability to source wool locally and for Lucy to intra-act with the sheep and spin her own yarn demonstrates how other more-than-humans can become part of the natural dyeing assemblage, alongside their role in other assemblages e.g. the food assemblage (Jones, Heley and Woods 2019). Introducing additional more-than-human elements adds complexity to the natural dyeing assemblage because it links textile practices with other species (sheep) and spaces (i.e. farms) who are involved in other complex human and more-than-human entanglements. It also demonstrates how local, small-scale business connections and collaborative opportunities can be nurtured through the creation of new links and networks formed through dyers' actions of provisioning. Through these connections and collaboration the natural dyeing assemblage can move further away from the mainstream fashion and textile assemblage, demonstrating how new micro-textile systems can have the potential to impact the mainstream. Should such initiatives grow in number, it is possible to imagine that they could disrupt the mainstream assemblage by providing local alternatives.

A challenging textile element for dyers who were designing and constructing naturally dyed garments was sourcing a variety of small components such as sewing thread and garment labels. Ria and Ilona both mentioned this to me:

But it is all these little things like your sew in labels and threads: people are finding really difficult because there's no - because thread is from well - I just don't know where it's come from so (Ria)

Part of the issue is that those components tended to be made of polyester which is synthetic and not easily degradable. As such, it does not fit with the dyers' ethos of natural and biodegradable materials, nor does it align with the circular soil-to-soil goal of some natural dyeing assemblages.

FIBERSHED & COLLECTIVES

Issues such as sourcing components and threads are where organisations such as Fibershed become invaluable to the dyer. Through working collectively on devising solutions to problems that are encountered, the Fibershed model can draw on wider resources and knowledge than would be available to a lone dyer or producer. As I introduced in Chapter 1, the Fibershed movement is developing, rebuilding and relocating textile infrastructure and production back to a regional scale as a counter to the globalised assemblage of the mainstream fashion and textiles industry (Burgess and Courtney 2019). Of the dyers that I interviewed and/or visited, four (Ria, Ellie, Lucy and Sophie) were involved in the Fibershed movement in some capacity:

It's just a really great community of likeminded textile practitioners, there's me obviously as like a designer maker but I am also now a grower - a producer, and then there's the farmers

who, you know grow the wool to make my yarn so it's just yeah - it's a really lovely network. We have sort of meetings about once a month, every six weeks or so. Just - that's just really nice because there's always just a bit of a check-in and catch up and finding out what people are up to and it helps us to kind of solve problems and we share our knowledge quite a lot around sourcing issues, the big thing we're on about at the moment are things like labels and threads. (Ria)

Fibershed [...] has certainly created customers for Pigment and yeah, collaborators. I'm meeting with a knitter, a textile designer next week. She's part of that as well. And we're going to sort of collaborate in some way so it's always, there's always conversations happening from Fibershed. (Sophie).

In order to avoid intersection and reliance on the mainstream fashion and textile assemblage, the Fibershed assemblages creatively use their combined knowledge and skills to design solutions to the 'gaps' in provision and facilitate the development of new and productive working relationships between people and between humans and the more-than-human. As Ria and Sophie explain, as part of its ethos Fibershed works to connect designers with growers and textile producers to encourage collaborative working.

Similar to the Fibershed movement, Sophie is also a member of the Baddaford Farm Collective where her natural dyeing business Pigment is based. Baddaford is 'a cohort of small-scale land-based ethical enterprises' which 'enables those working at the human scale to earn reasonable incomes whilst working the land in ways that are sympathetic to the complexities of our intricate landscapes' (Baddaford Farm Collective 2024). Sophie explained that Baddaford was a community of like-minded land-based practitioners with varying backgrounds and skillsets. For Sophie, her work and the Baddaford Collective more widely was about care for the land and care for people:

We've got a meeting tomorrow, for example, it kind of creates, yeah, it's like a social network, even within a farm, and then how that farm interacts with its local economy and people in terms of fibre farmers that might not be on site, but you work with them. And I think yeah, I'm all about the people and care about the communication that you have with people, care about the relationships you have with customers and the people that you work with. (Sophie)

The social, material and business connections formed through the Fibershed model and collectives such as Baddaford can be compared with the values of those practising natural dyeing in the contexts of the workshops of the Arts and Crafts movement and historical, guild-based natural dyeing. These connections are about developing opportunity and capacity with the natural dyeing assemblage in

order to address areas where the natural dyeing assemblage encounters resistance, such as sourcing small components or textiles.

OTHER ORGANISATIONS

Alongside organisations such as Fibershed and Baddaford Farm Collective, dyers were involved with organisations that worked in horticultural, agricultural and farming spheres. For example, Ria was interested in the potential of their practice expanding into a smallholding and had recently registered their dye garden as a flower farm (natural dyer does not exist as an option yet) to join the Land Workers Alliance and benefit from their networks, knowledge and opportunities:

I'm a member of the Land Workers Alliance as well. It's kind of like a trade union for like, ethical land workers. Basically. They're anti-capitalist. I've joined as a flower farmer even though – well they're like, what's your acreage? I'm like, what's the smallest I can put in? [laughs] (Ria)

Dyers also mentioned engaging with horticultural organisations such as the RHS, foraging organisations (in relation to best practice for foraging methods) and other non-Fibershed regenerative agriculture groups and farming shows such as Groundswell. There were no mentions of fashion and textile organisations other than Fibershed as sources of information for dyers, aside from Guilds of Weavers, Spinners and Dyers which I discussed in Chapter 5. The focus on horticultural, regenerative agriculture and land working knowledge and connections emphasises the foregrounding of the more-than-human in the natural dyeing assemblage, as dyers seek out connections and knowledge to facilitate their intra-actions with the more-than-human and at the same time form connections with other humans. Dyers are involved in growing organisations and communities that foster skills sharing and creative resourcing and prioritise the more-than-human over profit and growth. These organisations contribute to the governance of fashion and textile systems (Fletcher and Tham 2019) by moving their management and ownership out of the hands of large corporations and into local contexts that benefit both the human and more-than-human world. The organisation of craft work in this manner, provides dyers with greater autonomy over their lives and work and emphasises the value of local governance specific to the context and culture of the community, which are values that align with the wider degrowth movement (Hickel 2020; Rennstam, and Paulsson 2024).

The foregrounding of horticultural knowledge represents another form of rewilding fashion practices (Payne 2017), whereby the knowledge base of fashion and textiles is reconnected to the more-than-human world.

TEACHING

Natural dyers were also keen to share the practice with others through teaching. Of the dyers I spoke to, Ria, Susan, Ashley, Sophie, Ilona, Tara and Ellie all indicated that they had taught or were planning to teach natural dyeing to others in some capacity. Other dyers including Rowena and Lucy mentioned sharing their dyeing knowledge informally with friends and others who expressed an interest. We did not discuss their experiences extensively, however they suggested that they were interested in communicating more than the 'how to' of natural dyeing in the form of particular dyeing techniques. Instead, it was important for them to express and share the values that mattered to them in relation to their practice e.g. localism or nature connection. Rowena described sharing her dyeing with a friend:

It's a nice thing to be able to share - I had a friend staying and she [had grown] a few things actually, but she never actually dyed with them, so she's up here on holiday and we dyed a few things, but it was so nice to be able to share it and share the process and then she sort of loved seeing it as well. And workshops are the way forward really, isn't it? A lot of dyers must really love that. (Rowena)

There was also enthusiasm from some dyers to frame natural dyeing as a way of facilitating nature connection for others, born out of their reflection on what they've gained through their own embodied material engagement with the more-than-human. In particular, a desire to emphasise the sensory, tactile elements of the craft and the slowness of making was also clear:

I mean it's very personal and you can't necessarily translate it always, but to give people the kind of space I guess in a workshop, for example, to really just enjoy and kind of slow down and come into the kind of just like enjoyment of the visualness and the texture and the smells [...] you can never sort of tell someone how to feel about something but to try and kind of create an appreciation of natural dyeing as a way of engaging in nature and being sort of present, and yeah, that's something I'm going to try and bring into my practice as well. (Ilona)

For Sophie, therapeutic horticulture is central to her natural dyeing activities and facilitating nature connection is a core element to the structure of Pigment. She viewed the combination of intra-acting with the plants grown on the farm with textiles on site as a particularly valuable experience for her clients:

I think it's a valuable tool [what she does] because again, it's like what we've talked about, it's like connecting for people that haven't come across natural dyeing or even thought about what their clothes are made of. It's instantly doing that by showing them the plant and

showing them where it's coming from. And then showing them like a final outcome of doing some shibori folding, dyeing or underdye a garment that is made with naturally dyed fabrics. I think that whole message is carried through by teaching it and showing the craft as well as growing it. I think doing both of those things hand in hand, in this setting works really well.

The examples that I have highlighted here evidence how natural dyers can engage others and prompt more interest in the practice. Dyers are actively encouraging new people to experience the practice, and not necessarily those who have an interest in textiles. Instead, natural dyeing can be positioned as way to explore therapeutic benefits of being with the more-than-human world and form a deep connection with nature. From an assemblage perspective, I think dyers' efforts to share the craft with others shows the diversity of applications and framings of natural dyeing, beyond textiles.

SUMMARY

Through exploring the other material and social inputs into natural dyeing practices, this section has revealed some of the people, organisations, materials and spaces which are part of the natural dyeing assemblage, in addition to the plants and mordants discussed in Chapters 6 and 7.

Fletcher and Tham (2019) call for greater plurality within fashion and textiles, by encouraging new centres and a diversity of perspectives within fashion. In Chapter 6 I focussed on the dyers' activities within the home, gardens and allotments. Here, as dyers seek material inputs for their practice in the form of textile and dyes, locations including restaurants, farms, charity/second-hand shops and florists amongst others become part of a natural dyeing assemblage and as such, become spaces involved in the production of fashion and textiles. Through their dyeing activities, practitioners are opening up new avenues of exchange and supply where they may not have existed before; these new avenues cultivate social connection between humans and further intra-action between humans and the more-than-human. They also solve challenges that dyers encounter along the way and demonstrate the diversity of knowledge contexts that feed into natural dyeing. These new connections are reminiscent of the actions of the counterculturalists during the 1960s/70s who embraced a similar ethos of sharing and conviviality in their lives and work (Farber 2013) and earlier organisations of craft work such as guilds.

Overall, the examples from dyers that I have drawn on here demonstrate how the natural dyeing assemblage draws on a diversity of social and material connections and knowledge contexts. This meeting of different assemblages, people and practices could lead to new ways of working and knowing, constituting new dyeing methodologies and sustainable ways of life (Mannion 2019).

8.3 SEASONALITY

As I depicted in Chapters 6 and 7, natural dyers become entangled with the more-than-human world through their practice by attending to, caring for, noticing and intra-acting with plants and other more-than-humans. From a broader perspective, the more-than-human world aligns and alters with the seasonal shifts of the earth. Plants grow, multiply and fade according to nature's rhythms (Figure 44).



Figure 44. The dye patch at my allotment in Leicester during spring, summer, autumn and winter (left to right).

Being part of and connecting with the more-than-human community and inhabiting the landscape can also be reflected in the ways in which dyers structure and perform their practice in response to more-than-human elements such as seasons, weather and daylight. In this section I will present how the natural dyeing assemblage is governed by the more-than-human world by presenting how natural dyers navigate seasonality and weather and consider some of the ways that these elements facilitate, shape and constrain dyers' activities.

SEASONS

When interviewing natural dyers, I was interested in gaining insight into their perceptions and experiences of how the changing seasons affected their practice. As noted in Chapter 6, several of the dyers that I interviewed had extensive gardening experience, meaning that seasonal working was familiar to them:

I've been a gardener for like 25 years, so I've always worked to plant time, so yeah [laughs]. Uh, it's really normal for me to do that. I think because the whole gardener's year is exactly the same in many ways as the dyer's year and it just completely revolves around what the plants are doing at that time - at that time of year, and therefore your work just completely goes through a cycle every year depending on the time of year and what you're actually doing. (Tara)

Tara described working to 'plant time' i.e. following the growth cycle and actions of plants as normal for her due to her extensive gardening experience. Over time, she had become attuned to changing her activities in the garden across the course of a year. The idea of working to 'plant time' picks up on sentiments echoed throughout Chapters 6 and 7, in which dyers adopted a non-anthropocentric approach to intra-acting with the more-than-human. Dyers 'crafted-with' the environment (Fredriksen and Groth 2022) instead of exerting control over materials or seeking to manage intra-actions between themselves and the more-than-human and between other more-than-humans.

For Ria, who had a background in fashion and textiles design, cultivating their own dye plants and subsequently adopting a cyclical structure to their practice was a surprising but welcome change:

I didn't really think that I'd ever become a gardener as part of my job [laughs] but I really enjoy it and it actually gives me quite a nice - it gives my work a real seasonality so, in spring and summer I'll be working on plants and growing and spending a lot of time outside and then as it starts to cool down and get darker I'll come into the studio and I'll be focusing on making the knitwear and things. So, it's kind of given it this really lovely like annual cycle which is really nice. (Ria)

Sophie took a similar approach to seasonal change and for her 'the winter months are playing with the colour and the summer months for growing'. For natural dyers who rely on gathering fresh dyestuffs, the verdant and abundant months of May, June, July, August and September are most often the busiest months of the year. During spring and summer, the more-than-human-world is especially vibrant and active, responding to long days and warm temperatures. Dyers allot time to tending, nurturing, and caring for plants and harvesting dyestuffs. During the colder months of the year, when the days are shorter, the leaves have fallen and many plants and other more-than-humans slip into periods of dormancy, dyers often turn their focus to other aspects of their practice such as working with their dyed textiles and fibres. The slow winter months can be a source of frustration too, for dyers keen to begin the new growing season:

...it's quite hard in January I find because you're - as a gardener - because you're quite keen to get going but it's far too early to do anything. (Ria)

However, as Ashley narrated below, for him the winter represented a welcome time of rest after a busy growing season:

I think, what it [working with plants] does is it restricts my ability to do other things. And it restricts my ability to go anywhere. I used to help run a vegetable growing course with a colleague, and the one thing we used to try and emphasise is if you're growing vegetables, don't go on holiday! Right in the middle of the harvest season is what so many people do. And it's crazy, but this - growing seasonally, it brings you back - it brings you back to Earth, you know, it stops you thinking that you can do anything at any time. Because you can't, you've got to make time. If you're working with plants, you've got to make time when they need it. The only time you can actually relax a bit is winter... it's not an unpleasant responsibility. I don't feel it's onerous in any way [laughs]. (Ashley)

Ashley (whose practice focuses on the cultivation of dye plants and not the production of textile artefacts) identified one of the key challenges of cultivating or foraging from nature; there are often short windows of opportunity to harvest materials before they wilt. For example, some delicate flower petals can disappear in a few short hours, whilst others might persist for months. Working out when exactly a dyestuff will be ready to gather can be challenging to decipher; requiring deep attention and knowledge from the dyer of both the plant and the environment (Ingold 2011; Hidalgo Uribe 2023). For Ashley, growing seasonally meant making adjustments to how he structured his time and activities: 'you've got to make time when they need it'. Ashley decentres his wants to instead prioritise care and responsibility for the more-than-human during the growing season, in order to make the most of what nature can provide him.

That is not to say that dyestuffs cannot be gathered in winter. When I first began using fresh dyestuffs in my own natural dyeing practice I was under the impression that my gathering and dyeing activities would mostly cease during the winter. Lucy felt similarly:

I had just presumed that you could only do natural dyes and plant dyes when the plants were growing, so like summer and you know, autumn, spring maybe? And I thought Winter was a bit of a kind of off-season almost, but I got asked to dye some fabric [in winter] and I was like "oh, I can't - it's the winter" and then I started looking into it and it's like oh no, actually you

can - you know there's plants - they're still you know, out there. (Lucy)

Once I became more knowledgeable about sources of dyes that I could gather, gained through my embodied experience of and familiarity with the environment that I lived in (Ingold 2000), I soon realised that plants like ivy, gorse and evergreens such as eucalyptus could be found easily during the winter months, alongside other plant material such as the bark and /or roots of other dye-giving species. The vitality of plants and abundance of leaves and flowers during the spring and summer months provide opportunities for gathering more readily than the winter months. While less conducive to cultivation, the winter months were when I foraged most often. Overall, I found that all of my interviewees' dyeing activities occurred with greater intensity during the summer months. This heightened activity was also reflected in the social media data from Phase 1, where the frequency of content reduced during the winter and fresh dye material and greenery were less present in the imagery. In my view, this demonstrates how natural dyers connect deeply to the rhythms of the more-than-human world by mirroring its seasonal cycles through vibrant and active summers to slowing down in winter.

PRESERVING THE HARVEST

If a dyer wishes to continue their dyeing activities across the winter, they can also preserve their gathered dyestuffs (whether foraged or cultivated) from earlier in the growing season:

I do save quite a lot of stuff and dry it and that's a real - it's almost a bit like preserving the harvest, that kind of thing - of like thinking about in the winter when there's not as much - well, there is actually quite a lot out in the winter that you can use, but I do dry lot of stuff so that sort of keeps this sense of there being some kind of perennialness to my natural dyeing process because I'll have hollyhock blossoms dried [to use] throughout the year. (Ilona)

In general, whenever dyers gather dyestuffs they may either use them immediately or decide to preserve them for later use. Preserving gathered dyestuffs for later use also means that there is reduced 'waste', i.e. a dyer can harvest available dyestuffs and save any surplus – making the most of the abundance of the growing seasons:

I think it's good to preserve if you can, if there's a glut. Like I've got a nice big pot of hawthorn berries in the freezer and I dried a lot of flowers over the summer last year [...] I would have been a bit lost if I hadn't dried all those flowers, actually. Over the winter, I wouldn't have had so much to work with [otherwise] you're buying in, not only are they more expensive, it's -

you know they're much more processed and you don't know where they've been sourced from always. (Tara)

Dyers preserve dyestuffs in various ways. Most commonly the fresh blooms or other plant material such as leaves are dried (Figure 45) and stored, whilst some dyers prefer the method of freezing. If not frozen or dried out on either drying racks, in a dehydrator or an oven at a low temperature



Figure 45. Left, the different stages and states of coreopsis flowers: [clockwise from top left] fresh blooms, dried blooms, seeds and dried seedheads. Right, the different stages and states of marigold flowers: [clockwise from top left] fresh blooms, dried blooms, dried petals and seeds. Own photo, August 2020.

setting, the dyestuffs will begin the organic process of decomposing. When dried dyestuffs are introduced to water in the dyeing pot, they rehydrate and then release their colour into the water. Though separated in state and time from when they were living plants, the dyestuff's appearance of 'coming back to life' through its intra-action (Barad 2007) when rehydrated in the dye pot gives a sense of vitality back to working with preserved plant material.

For me, the scent of the dried dyestuff (especially dyer's chamomile) when it meets water again reminds me of the summer evenings that I spent carefully collecting the blooms. In the depths of winter this can be a welcome reminder of the summer days to come.

For Ellie, who often gathered dyestuffs from the gardens that she worked in, part of her creative inspiration came from spontaneous intra-action and connection with the plants that she encountered during her working day. Preserved dyestuffs could not evoke the same enjoyment for her:

I definitely prefer doing natural dyeing in the spring and the summer when I can just literally step outside see what's flowered that day and be like - it feels like very much more creative and spontaneous. Just having all of this abundance around me [but] I do continue doing it

into the winter and I just - I mean, I wish I harvested a lot more this summer, but I just didn't - for whatever reason I didn't think ahead. (Ellie)

Not all dyers preferred the busy summer months however:

I find actually wintertime is the time when I feel most excited about dyeing because everything is kind of laid bare and you've got the dried stuff that you've got from the year, you know the summer and then you've got a lot of things that are still actually out there, like barks and stuff. (Ilona)

As Ellie pointed out, being able to work with preserved dyestuffs in the winter requires an element of planning ahead, including having space to dry and store materials. What is available to be dried also reflects the outcomes (both the successes and tribulations) of the growing season earlier in the year. Like I discussed in Chapter 7, the option of purchasing dyestuffs is always present. Purchasing dyestuffs means that a dyer can achieve a wider colour palette than what might be accessible to them locally, but it also means that dyers' practice could continue throughout the year unhindered by the changing seasons. Much like dyers' aversion to purchased dyestuffs, the same sentiments are applicable to seasonality: dyers demonstrate their commitment to and respect for the more-than-human world and connection to the places that they practice by working within the seasonal limits that they are presented with.

From an assemblage perspective, an alignment with seasonality reveals other elements in the natural dyeing assemblage: in this case, they include the Sun and the Earth's axial tilt as it orbits the Sun. The interplay between these elements affects the structuring of dyers' activities over a calendar year as well as the growth cycles of plants, revealing the diversity of more-than-human elements that have the capacity to affect and intra-act with each other across the natural dyeing assemblage (Deleuze and Guattari 1987). By connecting to the rhythms that shape the more the more-than-human world, dyers demonstrate new possibilities for working with nature by embracing a cyclical structure that counters the linear growth logic (Fletcher and Tham 2019) of the mainstream fashion and textile assemblage.

WEATHER

Close intra-action with plants, whether through cultivating or foraging, entails being outside in the environment and entangled with other more-than-human elements. As Livesey (2011: 277) notes, cultivation sites conceptualised as assemblages involve the 'agency of the gardener and many unpredictable variables'. Seasonal change is predictable and something that dyers can plan for by preserving their harvest, gathering different dyestuffs and/or changing the activities they undertake

across the year. Other more-than-human elements that affect the natural dyeing assemblage, such as weather, can introduce unpredictability which presents challenges for dyers.

Plant growth and survival is affected by and vulnerable to variations in weather, which can in turn influence the dyestuffs available to dyers:

This year for example we had that quite late frost, I think it was April and all my indigo seedlings withered as a result and it was a bit too late to kind of get them started again, so I haven't had any blue this year basically. (Ria)

As Ria explained, a late frost resulted in the loss of one colour from their natural dyeing palette: 'for me, my colour palette is whatever plants have been successful that year'. During my visit with Ria in Bristol, it was raining intermittently which led to a conversation about navigating weather in their practice. Ria explained that although they could be disheartened and frustrated by the failure of their seedlings due to pests such as slugs, the impact of weather was not as frustrating:

The weather and stuff, I'm a bit less bothered about. I think you've just got to be quite adaptable these days. I mean, like - the Bristol microclimate is really strange anyway. We're by the sea, you know we've got the Channel. So, we get really quite severe winds and really heavy rain, but then it gets really hot as well. (Ria)

The impression that I got from Ria, was that because the weather was out of their control (whereas they could, if desired, control the slugs) and was representative and unique to the place that they lived, cultivated and practised in, it was an accepted influence in their work or 'another hand'.

When I spoke to Sophie, who cultivates natural dyes at a farming collective, she was experiencing heavy rain, which led to a conversation about the impacts of weather on agriculture and horticulture:

The seasons are always going to continue to change and they're going to continue to get wetter and more extreme in heat as well as in the summer months. And it's like okay so what more perennial plants can I grow? Yeah it's just - it's slow enough that you've got time to think about it and you know, adapt, but it's, it's also fast enough that it's kind of scary and yeah it can be quite anxiety fuelling.

Sophie identified that over longer periods of time, beyond the days and months that dyers experience acutely, that the weather and seasonal patterns will be influenced by climate change. Her response highlights the potential vulnerability of the natural dyeing assemblage to the impacts of climate change in the future, specifically through mechanisms of increased severity of weather events and altered growing seasons (Eftekhari 2022). Such changes could present ever more unpredictable and

challenging conditions for dyers. Also apparent are the different temporalities that affect the natural dyeing assemblage; from weather changes experienced day-to-day, seasonal changes experienced month-to-month and climatic changes experienced over years or decades. All of these factors are experienced by dyers through their everyday dyeing tasks that take place in the landscape and cultivation spaces (Ingold 1993, 2000; Bhatti et al. 2008). For Sophie, who relies on the success of her crop of dye plants for her therapeutic horticulture and natural dyeing business, this can be a source of worry. However, Sophie had already identified ways to overcome this challenge, such as growing more perennial dye plants rather than annuals.

SUMMARY

In this section I have presented how the more-than-human world, represented through elements such as seasons, daylight and weather has the capacity to affect the natural dyeing assemblage. Within this assemblage, the more-than-human world exerts a form of governance over the organisation and structure of the work that occurs within it as its cyclical rhythms serve to guide, shape and constrain activity. Seasonal shifts prompt dyers to adapt their actions and working patterns in response to the changing conditions. Such ways of working suggest how we might reorganise fashion in a way that priorities the more-than-human over anthropocentric desires for constant, unceasing production driven by growth logic (Fletcher and Tham 2019). Though seasonal change is predictable, variations in weather are unpredictable which can cause impacts that can ripple through the natural dyeing assemblage and which challenge dyers to adapt elements of their practice in response, for example through using different dyestuffs or changing designs. The interdependence between the practice of natural dyeing, humans and the more-than-human world (Puig de la Bellacasa 2017) becomes tangible and highlights potential fragility and vulnerability within the assemblage. In another sense, aligning (or re-aligning) fashion and textile practices to the rhythms of nature is another form of 'rewilding' fashion (Payne 2017), this time in a temporal rather material sense.

8.4 PACE & SCALE

The seasonal alignment of natural dyeing and the influence of weather (Section 8.3) on dyers' practice combine together, alongside other aspects of a dyer's practice such as material sourcing (Section 8.2), govern and affect the natural dyeing assemblage. In this section, I discuss how the pace and scale of dyers' practice is influenced by some of the elements that I introduced in the earlier sections of this chapter. This section is not intended to give an in-depth exploration into the myriad factors that shape the pacing and scaling of dyers' craft activities. Instead, I highlight some of the advantages,

challenges and opportunities that dyers' ways of organising their work bring, again in the context of a natural dyeing assemblage.

PACE

Working seasonally can present challenges in terms of the 'expected' structure and pace of material and textile production when the natural dyeing assemblage encounters the mainstream fashion and textile assemblage:

I'd love to have - I think Fibershed are working on getting some designers out to the farm here and actually talking about, you know, the timeline of farmers versus the timeline of designers and there needs to be more - a lot of work going into education around the seasons. (Sophie)

Sophie highlighted that there were points of friction when connecting farmers and designers. The cyclical, more-than-human governed timelines of farmers and the mostly linear, growth and efficiency focused timelines of designers did not naturally align with each other. In this way, the natural dyeing assemblage and its temporal more-than-human governance can be interpreted as potentially disrupting (Mannion 2019) the mainstream fashion and textile assemblage. Disruption brings possibility (Haraway 2016; Mannion 2019). Elements of the mainstream fashion and textile system may be reterritorialized from global to local by acting to decentralise fashion production through reconnecting it with local materials, people and places (Fletcher and Tham 2019) and fostering collaboration between the two distinct assemblages. Organisations such as Fibershed embed the seasonal rhythms of the natural world into their business model and are now working to educate others and create new, regional and earth-centred textile assemblages (Burgess and Courtney 2019).

Sophie was in a unique position amongst the dyers that I interviewed because she is commercially producing natural dyes at the field-scale and seeking to engage with other businesses and designers. For other dyers, such as Ilona, who dyed cellulose textiles that she makes into clothing at her allotment workshop to sell in her small business, there are pressures felt from expectations set by the mainstream fashion and textile assemblage:

Part of it is just like, recognising, I guess, the uniqueness and it being different. I think in some way, we're always still trying to fit in and like, you know, initially I was selling my things I was going, I'll get it ready in two weeks. Like - what?! That's crazy. I'm not doing it full-time firstly, and secondly - it's a slow process. And by the time I dyed it probably a week and a half has gone by with all the in between coming back and stirring [...] Recently I've said three to six

weeks. I'm just like, boom you know, take it or leave it like, you know, this is - this is the reality of it. (Ilona)

The 'uniqueness' that Ilona mentioned is a core quality of the artefacts that are produced in the natural dyeing assemblage. In Chapter 7 I explored attitudes towards the variance in shades achieved. The unpredictable colours and qualities present in the artefacts created serve to represent the diversity and complexity of the interplay between (the capacities to affect and be affected by) the more-than-human elements in the natural dyeing assemblage (Bell and Vachhani 2020). In the mainstream fashion and textile assemblage elements of the unknown or deviance from the norm are designed out in favour of control and mastery over the production process, which serves to highlight their separation from the more-than-human (Hickel 2020).

Ilona also described an internal conflict that she felt about making her garments. On the one hand she did not want to disappoint customers who were used to clothing arriving within a couple of days but on the other, she wanted to enjoy the process of dyeing and making the clothing. Some elements of her work could not be 'rushed', for example the time it took to steep the dye or textiles. Her timeline of up to six weeks enabled her to produce clothing in a manner that worked with her lifestyle. Ilona prioritised her wellbeing and lifestyle over seeking efficiency and productivity, akin with the values of degrowth (ibid; Vincent and Brandellero 2023). Ilona's working practices also draw attention to another element of the temporalities within natural dyeing: the processes of dyeing, soaking and stirring can be a slow process (see Chapter 7) and incompatible with mainstream production processes or expectations. Ilona's views were shared by others: Ellie felt that working to a slower pace made the 'whole process feel kind of calming and holistic rather than literally just being for a productive outcome'.

Though most dyers that I spoke with were working in cultivation spaces such as gardens and urban allotments, the field-space that Sophie cultivated led to a conversation about the use of tools and machinery to speed up harvesting in order to save time and labour:

I think I will always be someone who, you know, sows my seeds by hand rather than using a machine, which is one of the options. Because I think it's important to kind of take that minute to be really present and to slow down and be conscious of what you're doing.

Both Sophie and Ilona's comments are reminiscent of the ideals and values expressed by practitioners within the Arts and Crafts movement (Chapter 2) during the first wave of increased craft interest. As Sennett (2008: 81) observes 'the greatest dilemma faced by the modern artisan craftsman is the machine [...] Weavers, bakers and steelworkers have all embraced tools that eventually turned against

them'. Members of the Arts and Crafts community turned to handmaking in search of joy in their labour and a desire for beautiful, skilfully made artefacts in the face of increasing industrialisation and mass production which they rejected (Krugh 2014). Sophie expressed a similar desire to slow down and be intentional about her actions. Sjöberg and Lofgren (2023: 8) summarise the dichotomy of technology versus hand labour in horticulture:

Modern horticultural crafts methods have developed in an era of cheap energy and dependency on fossil fuels. Traditional horticultural practices are more labour-, time- and knowledge-intensive but in return are based on the use of more local materials and are less dependent on external inputs. At the same time they carry the potential to improve the human-nature relationship.

Puig de la Bellacasa (2015) feels similarly that using traditional methods can enable us to see the value of living within an interdependent community as it prompts us to 'make time' to care for the more-than-human in an embodied way. By making that time, as I discussed in Chapters 6 and 7, natural dyeing practitioners are forming deep connection with the more-than-human world and forming reciprocal relationships. For Sophie, the wellbeing and therapeutic benefit of natural dyeing, for both herself and others, outweighed the potential economic and productivity benefit of using more technology on her land: 'Can you have slower days, you know, for the social therapeutic horticulture days where you are picking them [blooms] by hand, which is a therapeutic thing in itself? Of course, you need that slowness (Sophie)'.

The theme of speed and temporality within natural dyeing was present in my discussion of working seasonally, where the natural world served to govern the natural dyeing assemblage, with the rapid plant growth and vitality of the summer leading to slower periods of activity during winter. In a fashion and textile sustainability context, 'slow' fashion often refers to the slowing of both production and consumption practices (Jung and Jin 2014) that stands in contrast to the overproduction and overconsumption driven by the capitalist growth paradigm. Fletcher (2010: 264) positions slow fashion as route into system-level change and suggests a form of 'slow culture' that is part of a:

bigger story of change and transformation in the fashion sector towards sustainability. A story concerned with remodelling what we mean by development and success in fashion and profoundly rethinking the values that underpin these most influential of concepts. Sustainability requires that a foundation be laid of a different economic system with different values in the context of a wiser, saner worldview.

The dyers' experiences that I have highlighted in this section demonstrate how the natural dyeing assemblage exists at what some perceive to be a 'slow' pace. The benefits to dyers of working 'slowly' come through the opportunity to engage closely with the more-than-human world, in a hands-on way that is not mediated by technological intervention. Working in a more holistic manner brings dyers a sense of fulfilment and satisfaction which is beneficial to their wellbeing.

SCALE

Ideas around the pace of work and means of production within a natural dyeing assemblage are also closely related to scale. When producing on a small scale, either through cultivating their own plants or foraging them, dyers are able to control the provenance of their materials, a quality which I have stressed is of high importance to dyers throughout Chapters 5, 6, 7, and 8. Upscaling could potentially disrupt the 'balance' of the natural dyeing assemblage, which as I have depicted earlier is a complex (and sometimes fragile) intra-active entanglement of the dyers and the more-than-human world. In relation to scale, Ria suggested that for them it was 'impossible do what I do on a huge scale, it just kind of defeats the object of it in a way almost' because their close intra-action with the more-than-human could be lost and their existing cultivation and material sourcing strategies would no longer be viable. The natural dyeing assemblage might have to re-territorialise into a different space or geographic reach in order to accommodate a larger scale, affecting the overall entanglement of more-than-human elements across the assemblage. One of Ria's hopes was to move from a garden/home dye setup to a smallholding:

I think for me – yeah it's just maybe moving somewhere larger, maybe like a smallholding or something where I can grow more dyes and yeah possibly have some sheep but you need - you need quite a lot of sheep to get the minimum level required for the mills and things so that maybe - I don't know. (Ria)

Ria's comments highlight another tension with scaling: the infrastructure to process fibres on the micro to small-scale is currently lacking, meaning that her desire to incorporate sheep of her own into her practice and create a fully home-grown circular natural dyeing system/assemblage may not be viable. Like Rowena's experience with the Scottish linen mill that I narrated in Section 8.2, the aim of a natural dyeing assemblage from Ria's perspective is to be as local as possible, but the limited infrastructure available acts to constrain the activities of the assemblage.

Similarly to Ria, Ellie also wanted to increase the amount of dye plants that she was growing and had identified a location to enable her to do so, but the overall scale of her dyeing activities remained small and intertwined with her full-time employment as a gardener:

The garden where I work, it's a really beautiful Victorian walled garden and it has a really like lovely feel there [...]. So I basically proposed to my boss like "how would you feel about having some dye plants here?" and she said yes, so that's kind of the next stage. (Ellie)

Sophie hoped to see more growing setups similar to her own at the Baddaford collective:

As soon as things get larger scale, unless they work in a really, really regionalised way, they devalue, I think what smaller growers like myself are doing. [...] A monoculture of dyes or fibres which feels a bit sad - is actually you know, this is where market gardening in terms of vegetables is a beautiful thing. And so I'd like to see it more regionalized in terms of like, yeah, dye farms and say that there's one in the southwest, there's one in Wales or South Wales and one in north Wales, or whatever, and see how it can evolve in that way alongside the Fibershed model, for example. (Sophie)

The dyers' insights about scaling up reveal how crucial the concept and identity of 'local' is within a natural dyeing assemblage. The practice is intentionally maintained on a small scale, which challenges the dominant economic growth logic that is embedded within mainstream fashion and textile industry assemblages (Fletcher and Tham 2019). Through working locally and at a small scale, natural dyeing assemblages embody a respect for ecological limits, keeping the practice at a sustainable scale. 'Growth' in a natural dyeing assemblage might mean seeking out more opportunities to cultivate dye plants, or source fibre locally, but the growth is achieved in a way that is in keeping with ecological limits and dyers' core values of localism, sustainability and community (from both a human and more-than-human perspective).

SUMMARY

In this section I have explored some of the factors that influence the pace and scale of natural dyeing assemblages and highlighted a selection of ways that dyers navigate their practice amidst a growth-logic driven world. Dyers embrace working to a 'slower' pace as they follow nature's rhythms and work within ecological limits. By embracing slower and more holistic ways of working dyers derive a sense of enjoyment and fulfilment through working closely with the more-than-human and being part of an interdependent community of both humans and the more-than-human.

8.5 CONCLUSION

This chapter has framed natural dyeing practice as an assemblage i.e. an entanglement of human and more-than-human elements that have the capacity to affect and/or be affected by each other. Through exploring how dyers acquire dyestuffs and textiles to use within their practice, outside of the

gathering activities discussed in earlier chapters, new opportunities for social connection and collaboration were revealed (RQ3). The challenges dyers encounter when sourcing locally produced textiles and components to use in their practice reveal occasions where the natural dyeing assemblage must intersect with the mainstream fashion and textiles assemblage. Although dyers strongly value the local sourcing of biodegradable materials, the lack of current infrastructure limits the natural dyeing assemblage to fully embrace these values. The gaps in provision encourage dyers to source creatively, sometimes forming new connections and collaborations such as working with farms to source local wool (RQ2). Natural dyers are engaging with a diversity of different organisations and businesses that represent new ways of integrating textiles into local economies, such as the role of farming collectives and horticultural organisations (RQ3). These connections reveal a diversity of knowledge within and a return of textile knowledge to the earth.

By considering how the natural dyeing assemblage is guided, shaped and constrained by seasonal change and weather, the way that dyers structure and organise their work in response to the more-than-human world was uncovered. This gives further insight into how intra-actions with the more-than-human occur over the year (RQ2), for example, the busiest periods of intra-activity happen during the summer when the more-than-human world is at its most active and vibrant. These suggest ways of organising work that respect and reflect the rhythms of the natural world (RQ3). The vulnerability of a natural dyeing assemblage to elements such as weather were also revealed.

In the final section of the chapter, I presented elements that affect the pace and scaling of natural dyeing assemblages. I outlined some of the benefits and value to dyers of working 'slowly' rather than focusing on increasing productivity, taking steps to save labour/time and working on a larger scale (RQ3). By 'slowing' down dyers were able to enjoy the opportunity to be present and connect with the more-than-human world and found fulfilment in being part of an interdependent community.

In all this chapter revealed the complexities of the natural dyeing assemblage. What might originally appear as a simple collection of interrelating elements such as plant, dyestuff, textile and human is revealed to be a radically more complex entanglement of humans and the more-than-human. These include, but are by no means limited to, the sun, the tilt of the earth, air, water, soil, plants, sheep, wind, frost amongst a variety of economic and political factors that serve to influence the wider landscape that natural dyeing assemblages are part of. The places and spaces where natural dyeing take place were found to be more diverse than the gardens and allotments I had discussed in Chapters 6 and 7. Through forming social and material connections dyers encounter other places in their local community including farms, collectives, shops and cafes amongst others.

9. CONCLUSION

The aim of this study was to develop an understanding of contemporary natural dyeing practices in the United Kingdom and find out why the craft was becoming more widely practised. It also sought to uncover the intra-actions between dyers, nature and materials that occur and consider the outcomes and implications of engaging in the craft in the context of textiles, craft and sustainability. In this chapter I will present and reflect on the findings (Section 9.1), provide a brief overall summary of the study (Section 9.2), define the contributions to knowledge (Section 9.3), acknowledge the limitations of the study (Section 9.4) and suggest potential avenues for further work (Section 9.5).

9.1 NATURAL DYEING IN CONTEMPORARY CRAFT CULTURES

In this section I present and reflect on the findings of the research by framing and contextualising them to themes that I introduced in earlier chapters of the thesis such as the historical context of natural dyeing, fashion and textile sustainability, craft, agency and new materialism.

NATURAL DYEING THROUGH HISTORY

For many thousands of years, natural dyeing was the only way that textiles were dyed and humans intra-acted with a variety of more-than-human sources of colour beyond those found in the plant world, including fauna, lichen, fungi, minerals and algae (Cardon 2007). These dye sources brought humans into close contact with their environments and the temporalities of the more-than-human world, which they depended on to practice. However, these human-nature relationships were not always equitable, reciprocal relationships: natural dyes were traded globally and as such were vulnerable to expansionist, exploitative and extractivist behaviours and practices that were driven by colonialism, capitalism and industrialisation (Melo 2009; St. Clair 2016). When synthetic dyes were developed and came to dominate the fashion and textile industry, natural dyeing declined rapidly in post-industrial contexts like the United Kingdom. Dyeing became largely decoupled from nature, though the material inputs for synthetic dyes were sourced from non-renewable natural resources such as coal and oil, the temporalities of the more-than-human world no longer held any sway in their production and the community of plants present in a landscape no longer shaped the dyer's colour palette.

Once it was no longer a necessary method of colouring textiles, natural dyeing took on new meanings and symbolism. These narratives around natural dyeing were (and continue to be) shaped by those

who practised and by wider countercultural movements that they were situated in. In Chapter 2, I outlined the role of natural dyeing in two prior waves of renewed interest in crafts that formed elements of wider countercultural movements and practices during each time period.

Firstly, during the UK-born Arts and Crafts Movement (c. 1880 – 1920), natural dyeing was practised largely for the beauty and vibrance of the colours created, though also intertwined with the wider ideals and values of the movement related to valuing craftsmanship (and rejecting industrialism) and feeling ‘joy’ in labour (Krugh 2014). At the start of this period, synthetic dyes were still being developed and had not achieved the uniformity, stability, variety and vibrancy of colour that they would achieve. However, though originally a keen proponent of natural dyeing, William Morris moved away from natural dye sources in favour of the newly improved and extensive range of synthetic dyes that emerged on the market during the late 1800s. Given the shift from natural to synthetic dyes and a focus on increasing output to meet business demands, it is perhaps unsurprising that the wider Arts and Crafts movement struggled to achieve its aims. The goods created were often expensive which made them inaccessible to many. Morris’ interest in social reform was not shared by all members of the movement and Krugh (ibid: 288) notes that ‘those who were interested did not succeed in radically transforming social relations and the conditions of production’. The decline of the Arts and Crafts movement demonstrates some of the difficulties countercultural movements face when seeking to challenge dominant socio-political, economic and industrial systems. In particular, it highlights the difficulties of craft production in terms of managing scalability, the cost of producing items skilfully, by hand and slowly. Morris’ switch from natural dyes to synthetic dyes evidences these difficulties very clearly.

During the second wave of increased interest in craft during the late 1960s and early 1970s, the narratives and intentions behind practising natural dyeing had evolved once again. A new awareness about the impacts of man’s interventions in nature, particularly through chemical means (Carson 1962; Bookchin 1962), coupled with a tumultuous period of socio-economic and political upheaval (beginning in the US but also felt in the UK), led to the formation of a countercultural movement. Craft practices formed part of this movement and natural dyeing was expressed as part of a way of going back-to-the-land (Farber 2013; 2016). Values and ideals of this movement included embracing self-sufficiency, reconnecting to nature and enjoying simpler ways of living (Laurel 1970), as a rejection of mainstream socio-political institutions and modernism. One of the enduring legacies of this countercultural era is the environmental movement that was grown from it, which was inspired by the works of Carson and her contemporaries. The 1960s/70s countercultural practise of natural dyeing is the first time that natural dyeing becomes overtly connected to environmentalism.

The wider and radical socio-political and economic changes that the counterculturalists advocated for were less successful, but Slonecker (2017: np) identifies some of the enduring legacies and states that the countercultural era:

centred on the embodiment of a decentralized anarchist bent, expressed in the formation of counter-institutions like underground newspapers, urban and rural communes, head shops, and food co-ops. As the counterculture faded after 1975, its legacies became apparent in the redefinition of the American family, the advent of the personal computer, an increasing ecological and culinary consciousness, and the marijuana legalization movement.

Like the failure of the Arts and Crafts movement, the fading of the 1960s/1970s counterculture demonstrates the challenges of translating radical values such as communalism, anti-capitalism, self-sufficiency and anti-consumerism into lasting, systemic change at a socio-political and economic scale. Aside from the connection between environmentalism and natural dyeing, a review of dyeing literature during this era highlighted two other reasons to practice, which were not closely interrelated with the countercultural movement of the era. They were to connect to heritage and traditional ways of living and as part of involvement in Guilds of Weavers, Spinners and Dyers (Dickinson 1964).

Between the second wave of craft and the current third wave of increased interest in natural dyeing there has been a huge shift in the fashion and textile industry, alongside growing interconnected environmental catastrophes such as climate change and the biodiversity crisis. Despite the work of Carson and Bookchin and the emergence of the modern environmental movement from the countercultural era, man's interventions in nature have only deepened in severity and expanded in scale. The fashion and textile industry, deeply entwined with the capitalist logic of 'overproduction and uninterrupted growth' i.e. growth logic (Fletcher and Tham 2019: 6) is now one of the most polluting globally and a major contributor to climate change. The extractive and exploitative practices that fuel the industry have well-known devastating impacts on people, planet and nature (ibid: Niinimäki et al. 2020).

It is amidst this landscape of disregard, disconnection and exploitation of the more-than-human world that current natural dyeing practices sit. In the third wave of craft, the majority of natural dyeing practitioners are motivated to practise due to their awareness of the impacts of the fashion and textile industry. They express a desire to enact change themselves by engaging in more materially sustainable practices and want to be closer to the more-than-human world through embodied, hands-on engagement with plants, finding connection to nature through the sensory and material

aspects of their practice. Guild-based practice of natural dyeing and interest in natural dyeing from a cultural heritage/traditional living perspective still endure, but the root of increased interest in natural dyeing appears to lie in an awareness of our mistreatment of and disconnection from nature and a desire to repair this. The severity of the climate crisis and unsustainability of the current levels of production and consumption globally, not solely the fashion and textile industry, now necessitate an urgent response. I feel that this feature of the contemporary landscape that natural dyeing is part of sets it apart from the two previous countercultural movements and raises questions over whether more enduring systemic change might be achieved because of this.

NATURAL DYEING, FASHION, TEXTILES AND SUSTAINABILITY

With the historical context in mind, there are myriad ways that this study has identified that demonstrate how natural dyeing can contribute to sustainability from a fashion and textile perspective. In Chapter 1, I introduced Fletcher and Tham's (2019: 32 - 33) *Earth Logic: Fashion Action Research Plan* and their six holistic 'landscapes' for fashion action research: less, local, plural, learning, language and governance. Taking these landscapes as starting points for considering how systemic change within fashion and textiles could be achieved, I will briefly address how the experiences of dyers discussed and the themes presented across this study relate to the six landscapes.

Dyers demonstrated frequently through their words and actions that they valued 'less' within their practice and did not subscribe to the paradigm of growth logic. Dyers carefully sourced material for their practice to limit the amount of 'new' material inputs through acts of cultivation, foraging, thrift, gifting and exchanging. Alongside this, when faced with opportunities to increase in scale or efficiency such as using tools or buying dyestuffs, dyers chose to instead embrace slower ways of working and to respect ecological limits. Whilst inefficient from a growth logic perspective, the benefits to practitioners' wellbeing and enjoyment of connecting with nature and the slow, deliberate process of tending the dye pot and creating garments imbued with the memories of their intra-actions with plants far outweighed the monetary gain that growth logic prioritises.

'Local' was integral to all dyers' practice. Fletcher and Tham (ibid: 50) explain that 'localism builds place-context into fashion' and the environments within which dyers lived shaped a dyer's practice, making each unique (Ingold 2000). The local conditions largely govern the types of plants available, whilst seasonal change and weather affect how plants grow. Gardens, allotments, hedgerows, forests, parks and even urban streets become sites of correspondence with the more-than-human and part of a dyer's material engagement. Through their practice and by closely attending to the more-than-human, dyers learn in depth knowledge about the biodiversity of their local area and contribute to it through acts of cultivation and foraging. Dyers embraced localism in other aspects of their practice,

for example through sourcing textiles locally where they could and building connections with other local people, organisations and businesses in the process. Some dyers were members of Fibersheds, which operate on a regional scale, but others formed their own micro-scale local textile systems through creative sourcing of materials and knowledge.

Fletcher and Tham's (ibid: 53) framing of 'plural' emphasises diversity in ways of knowing and being in the world and they acknowledge that growth logic is 'deeply intertwined' with 'Western hegemony' and 'human exceptionalism'. The attitudes towards nature and the more-than-human world that dyers have grown and nurtured through their practice demonstrate how we might move beyond the binary of human/nature to instead embrace approaches to creating textiles that seek to greet plants and materials as active agents and collaborators when making. While plants have existed mostly in the background of western thought and theory (Head et al., 2014; Marder and Irigaray 2016), natural dyers are bringing plants to the foreground. For some dyers, deep relationships which centre reciprocity and kinship with the more-than-human were formed and ensured that human needs did not override the limits of nature. In another sense, plural also demonstrates the way that natural dyeing is expanding outwards rather than scaling up, as would be expected in a growth logic paradigm. More dyeing initiatives are emerging leading to a plurality of dyeing practitioners each working on a small scale in their unique local area: creating a diversity of people, knowledge and approaches within the craft.

The landscape of 'learning' is expansive and includes thinking about the ways that fashion 'can be a hub for wider learning' (Fletcher and Tham 2019: 57). Dyers expand what might be considered 'learning' in fashion and textiles to areas including learning how to tend the garden, nurture plants, identify and harvest dyestuffs. Since synthetic dyes and textiles have come to dominate the fashion and textile industry we have moved ever further from the more-than-human world. Natural dyeing represents a reconnection of fashion and textile knowledge to the earth and requires identifying new opportunities for learning. Dyers are undertaking training in areas such as horticulture and agriculture in order to further furnish themselves with the knowledge relevant to their practice. From another perspective, making, wearing and caring for naturally dyed garments might require 'unlearning' (ibid) the uniformity and repetition required by mainstream textile systems. Instead, we can learn how to nurture and care for our clothing in new ways that centre the more-than-human. Dyers also take the opportunity to and recognise the importance of sharing their knowledge with others, encouraging more engagement with the craft.

In the landscape of 'language', Fletcher and Tham (ibid: 61) ask what would happen if the 'language and practices of relationship and care' replaced 'technical language' and 'scientific reductionism'

common in sustainability communication. In this study, the actions of natural dyeing preclude the use of terms such as extracting, consuming and wasting because dyers actively work to ensure that their practice is not detrimental to the environment. Instead, dyers focus on growing, nurturing and tending the more-than-human. Language and practices of care are a choice that dyers make. In natural dyeing there is also crossover between language of care and technical language. Natural dyeing is often referred to as both an 'art and a science' (Boutrup and Ellis 2018). Language of care and kinship can co-exist with technical language and chemistry, though some dyers may lean one way or the other. The use of the terms 'natural' and 'chemical' are more troublesome and this study has revealed an ongoing ambiguity between the terms and what they connote.

Fletcher and Tham's (2019: 65) final landscape of 'governance' relates to the organisation of the fashion system and they suggest that it could move towards a 'web of relationships'. Overarchingly, natural dyeing is governed by the more-than-human world in the form of seasons, climate and weather and is a complex ongoing entanglement of people and the more-than-human world. The focus on small scale, local practices or regional systems (Fibershed) mean that the organisation and governance of natural dyeing remains in the hands of practitioners and other locally networked people, businesses and organisations. A unique feature of natural dyeing in the third wave of craft is the role of the digital realm; dyers can connect to a global community of like-minded practitioners whilst their practice remains connected to the local landscape.

In Chapter 1 I also introduced Alice Payne's (2017) concept of 'rewilding' as a strategy for sustainability within the fashion and textile sector that focused on behaviour change and social relations and did not assume continued economic growth. The examples I have highlighted earlier in this chapter serve to demonstrate how natural dyeing can be positioned as another 'rewilding' tactic. From another perspective, I feel it represents the actual rewilding of fashion and textiles through a return to the more-than-human, in the form of working seasonally and using locally grown materials. When dyers do not seek to manage the more-than-human in the dyeing process and instead let nature take its course, they demonstrate overlaps with the way that rewilding is referred to in conservation and biodiversity literature. In those realms, emphasis is placed on reducing human interventions in nature (Holmes et al. 2020) but recognising that humans are *part* of nature too. Through engaging in a practice that brings them outside into nature where they experience elements of the more-than-human world in an embodied, experiential way, for example through feeling the weather on their skin or lighting a fire and tending a dye pot, dyers are perhaps ultimately rewilding themselves.

More broadly, the facets of natural dyeing practice that I have presented here, framed by Fletcher and Tham's (ibid) six holistic landscapes and Payne's (2017) concept of rewilding, indicate a practice that is firmly rooted in care for and reciprocity with the more-than-human world. As Kimmerer (2013: 90) explains:

One of our responsibilities as human people is to find ways to enter into reciprocity with the more-than-human world. We can do it through gratitude, through ceremony, through land stewardship, science, art, and in everyday acts of practical reverence.

The acts of care for the more-than-human that dyers perform through their practice are diverse and often unique to each dyer. They could be everyday activities such as pruning or watering in the garden, stirring the dye pot or expressing gratitude to a particular tree (Gibson-Graham 2008). These acts of care for the more-than-human, carried out mainly by women and in the domestic spaces of the garden and kitchen, could easily be overlooked (Puig de la Bellacasa 2017). This research sheds light on the value of nurturing such relationships of care from a material, social and environmental perspective. Through acts of care and by growing reciprocity between humans and the more-than-human world through craft practice, we can find ways to overcome the disconnection between humans and nature that are the root of our climate, ecological and sustainability crises.

DEGROWTH

In the introduction to this thesis, I explained how the fashion and sustainability initiatives that I had introduced shared ground with degrowth and post-growth perspectives. At its core, degrowth 'is about how we can shift from an economy that's organised around domination and extraction to one that's rooted in reciprocity with the living world' (Hickel 2020: 11). By challenging dominant paradigms related to continued growth, degrowth and post-growth movements advocate for systemic change. The earlier countercultural movements I have explored in this thesis lacked effective strategies to achieve structural and systemic changes. The degrowth and post-growth movements address the socio-political and economic foundations of unsustainability and have a clearer focus on achieving institutional and structural changes (Kallis et al. 2025). They call for changes in governance, economic systems and cultural values and argue clearly for a measured decrease in production and consumption (in a high-income country context) (Hickel 2020: Kallis et al. 2025).

This thesis has highlighted how craft practices such as natural dyeing offer an example of current, unfolding efforts to cultivate alternative ways of producing and using textiles and identified clear alignment with the degrowth and post-growth movements. Dyers seek to work in partnership with the more-than-human and present methods of working locally, seasonally and slowly within natural

limits, and at a purposefully small scale. They demonstrate the benefits to wellbeing and the connections (to nature primarily) but also to other people that craft practices can foster. As such, this study provides an empirical example of how we might transition to more sustainable, post-growth futures, framed through the lens of one craft practice (Vincent and Brandellero 2023).

NATURAL DYEING, AGENCY AND DIALOGUE

The theoretical framework that I adopted in this study sought to highlight the agency of ‘matter’ and positioned the more-than-human as an active agent in craft practice. I drew on new materialist perspectives related to matter and agency, which seek to overcome the dualist binaries that position man as separate from nature (Fox and Alldred 2022). By understanding plants as agentic throughout the natural dyeing process, not just when they are rooted in the earth, a more expansive view of how plants (and other more-than-humans) might participate in material engagement could be achieved (Barad 2007). Such understandings of agency prompt reflection on how we can craft-with the environment (Fredriksen and Groth 2022) in order to embrace more relational entanglements with the more-than-human that can enable us to move beyond extractive and exploitative practices. Ingold’s notions of correspondence and dwelling were drawn upon to give further insight into how practitioners engage in dialogue or ‘correspondence’ with plants and materials, as craft practice emerges through dyers’ ongoing lived experience within the environment (Ingold 1993; 2000; 2020). A broader view of the practice was adopted by framing natural dyeing as an assemblage of intra-active entanglements between human and more-than-human elements.

By adopting this theoretical approach, a deep insight into the complex dialogue that occurs between dyer, plants and nature was revealed. What might at first seem an extractive activity of procuring ‘material’ for input into a textile-craft practice was instead an opportunity to engage in a relational practice of caring for, being with and crafting with the more-than-human. The form of dialogue that practitioners engaged in varied, as each practice is unique to its own local more-than-human entanglement and practitioner. Some dyers engaged in practices of deep ‘listening’ that allowed them to greet plants as kin, seeking their permission before gathering them into their practice and entering into reciprocity (Kimmerer 2013). Less anthropocentric approaches to material engagement were further demonstrated through dyers’ actions towards encountering ‘pests’ in the garden, which could interfere with the cultivation of their dye plants, potentially reducing the amount of material they had to work with. Patience and an appreciation of their role in a wider entanglement of the more-than-human, beyond the immediate cultivation spaces of dyers, meant that pests were tolerated rather than eradicated.

Exploring the intra-actions between humans, nature and materials also revealed occasions when the agentic capacities of plants to intra-act with textiles and other elements of the more-than-human were not always welcome by dyers. For example, when intra-actions between the body, textile and plant occur resulting in visible marks or splotches, dyers were less receptive to these agentic capacities than they were in textiles that faded due to intra-action with the sun and water.

In all, the approach that dyers took towards intra-acting with materials and nature demonstrated foremost that dyers do not seek to overly control the dyeing process. Dyers were largely content to let the plants or materials take the 'lead' in the engagement. The serendipitous aspects of practising natural dyeing, such as the variance in colour from one dye batch to the next, brought dyers great enjoyment, as did the quiet, meditative moments when tending the dye pot or the garden. Dyers also embraced the more-than-human world in other aspects of their practice such as how they structured their work across the year or limited the palette of colours that they used. Dyers had the option of purchasing dyestuffs to expand their colour palette or continue their dyeing activities throughout the year. Instead, they sought to craft-with the seasons and the landscape, working within ecological limits and to nature's rhythms. The practice also facilitated engagement with plants that might otherwise have been overlooked. For example, through engaging with plants that could be considered weeds, some dyers discovered the capacity of those plants to create colour, which drew them into ongoing correspondence with the dyer and ensured their care. This highlights how material engagement with plants can lead to new possibilities of caring for, being and crafting with them.

9.2 SUMMARY OF FINDINGS

In the first four chapters of this thesis, I presented an overview of the historical trajectory of natural dyeing which encompassed their use before synthetic dyes were developed and the time since, by focusing on the role of natural dyeing within two previous periods of increased activity. I also provided relevant context about the fashion and textiles industry in relation to the increasing scale and awareness of the negative consequences of the industry. I introduced a variety of fashion and textiles sustainability strategies and perspectives, alongside degrowth and post-growth ideas to demonstrate potential solutions to the inter-related crises of climate change, biodiversity and sustainability within which we find ourselves. I related these ideas to a wider context of human-nature relationships, within which the Western world sees a divide and hierarchy between man and nature, suggesting that we need to move to more relational approaches to being part of and with the more-than-human world. Connected to this, I introduced the theoretical framework that underpins the thesis, which focused on understandings of agency, Ingold's notions of correspondence and dwelling and assemblages. I then presented the methodological approach of the thesis which was

informed by craft research and research with people and plants. I outlined the four-phase structure of the research which incorporated social media research, an online survey, 11 interviews, three fieldwork visits and my own reflective practice.

In Chapters 5 to 8 I presented the findings of the research:

Chapter 5 – *Contemporary Practice in Natural Dyeing* presented the findings from an online survey of natural dyers to develop context about who was practising the craft in the third wave, how they were doing so and why. I explored features of practising craft in the digital realm, finding that communities of practice formed online, particularly through Facebook, were valuable sources of natural dyeing information, connecting a local practice to a global community of knowledge and social connection. The survey also revealed the ongoing relevance and importance of offline communities of practice through highlighting the role of Guilds of Weavers, Spinners and Dyers in the contemporary practice of natural dyeing. The techniques, plants, mordants and resources that dyers used within their practice were uncovered. A number of reasons why dyers practise the craft were identified, these included: concern over the environmental impact of the fashion and textile industry, to adopt a more sustainable lifestyle, as part of their interest in gardening, to feel more connected to nature and an interest in heritage/traditional craft practises and ways of living.

Chapter 6 – *Gathering* focused on natural dyeing practitioners' experiences when gathering dyestuffs to use within their practice by exploring the cultivation of dye plants in gardens and allotments, alongside approaches to foraging for dyestuffs. This chapter (as did Chapter 7 and 8) drew on the data from Phases 2 to 4 of the project (interviews and fieldwork), together with insight from my own practice. Through cultivating their own dye plants, dyers enter into and develop a relational entanglement with the more-than-human world. Examples of where dyers encourage plants to lead their intra-actions were identified, for example through encouraging self-seeding and not intervening with garden 'pests'. Ways that practising natural dyeing expanded dyers' contact with and perceptions of the possibilities of plants were highlighted through demonstrating how some plants draw themselves into a dyer's practice and thus receive a dyer's care. Aspects of foraging for dye plants, including knowing how to identify dye plants and how much of a plant to harvest were also discussed. I foregrounded the experiences of a group of dyers who engaged in a form of 'listening' to plants when harvesting plant material, suggesting that these deeper connections to plants (nurtured through their dyeing practices) demonstrated a form of kinship and reciprocity with the more-than-human world.

Chapter 7 – *Colour* explored the emergence and development of colour through intra-action between plant, textile, dyer and other elements of the more-than-human world. I presented different facets that influence the colour achieved, for example the landscape within which the dyer dwells, the dyestuffs that the dyers corresponds with and the mordanting choices that dyers make. I reflected on the meaning of ‘chemical’ and ‘natural’ in the practice, in relation to attitudes towards mordanting. Time spent tending the dye pot was found to be beneficial to practitioners’ wellbeing, alongside the connections to the more-than-human that are formed. Similar to Chapter 6, I found examples of how dyers embraced crafting-with the environment by welcoming the unpredictability of the colour that emerged. I discussed aspects related to the making and wearing of naturally dyed clothing. In particular, I highlighted how the plants’ ongoing intra-actions with textile, dyer and the more-than-human once transformed into a textile ‘artefact’ can become unwelcome by the dyer.

Chapter 8 – *Connection, Resistance & Possibility* presented some of the ways in which dyers sourced material inputs (including dyes and textiles) for their practice outside of the gathering activities I discussed in Chapter 6. It demonstrated some of the connections with other people, places and the more-than-human that were formed through their practice, illuminated some of the difficulties that dyers encounter when sourcing material inputs and the possibilities of the new connections that they formed. The diversity of knowledge sources and importance of organisations such as Fibershed were also highlighted. In addition, Chapter 8 considered some of the wider elements of that feed into a dyer’s practice such as the influences of seasonal change and weather. Their relation to the pace and scale of natural dyeing practices was also considered, finding that dyers embrace a seasonal and small-scale approach to their activities that work within ecological limits. By conceptualising natural dyeing as an assemblage, I adopted a wider view of the practice to reflect on the interplay of human and more-than-human elements within which the practise is entangled and its relationship to the mainstream fashion and textile system.

9.3 CONTRIBUTION TO KNOWLEDGE

This thesis has explored the contemporary practice of natural dyeing in the United Kingdom from a qualitative, textile-crafts perspective. The research has delved into many different facets of the practice by adopting a four-phase approach that included methods such as social media research, an online survey, interviews and fieldwork visits to dyers, alongside insights from my own natural dyeing practice. Through doing so, this thesis makes the following contributions to knowledge:

- The combination of methods used, which were informed by craft research and what I termed ‘research with people and plants’, included both remote and in-person methods which

enabled me to develop an in-depth understanding of natural dyeing. Acknowledging the significant role that the digital realm plays in contemporary craft enabled a broader insight into natural dyeing which, due to the iterative research design, served to inform the later phases of the study. By including in-person methods and interviews, I was able to focus on foregrounding the role of plants and following their agency through the dyeing process. My role as a practitioner-researcher served to facilitate richer insights and discussion. Shared experiences of the craft created a sense of mutual understanding which invited space to reflect more deeply on the practice. These shared experiences, especially during the fieldwork visits, helped to bridge the practical, embodied aspects of the craft with the theoretical perspectives on the more-than-human, agency and relational entanglements.

- By focusing on the intra-actions that occur in natural dyeing between humans, nature and materials and adopting a theoretical approach that fostered a broad view of agency and matter, this research reveals how natural dyers craft-with the more-than-human and greet materials as collaborators. This study revealed that dyers did not seek to overly control the dyeing process and instead encouraged plants to demonstrate their agentic capacities to affect the material engagement. These findings point towards less anthropocentric and extractive approaches to crafting with nature and demonstrate how craft can foster more relational and reciprocal entanglements with nature.
- Through foregrounding dyers' experience of cultivating and foraging dye plants, dyers' approaches to navigating their encounters with the more-than-human in their cultivation spaces were uncovered. The insights demonstrate how dyers express care for the more-than-human, understand their interdependence with nature and view themselves as part of a relational entanglement with the wider more-than-human world. This research highlights how small actions, such as growing and tending dye plants, carry important significance beyond the garden, through supporting local ecologies and biodiversity. Such actions are increasingly vital amid the current climate and ecological crisis.
- Natural dyers are motivated to practise by a concern for the impacts of human actions on our environment and as way of (re)connecting to nature. They are exploring ways of working seasonally, slowly and locally and carefully cultivating meaningful connections with nature, place and other people. Natural dyeing can be understood as a countercultural practice in which dyers are quietly reshaping fashion and textiles from the soil up, with some forming

their own micro-scale textile systems. This research demonstrates how craft practices can model alternatives to growth-driven systems and support the much-needed broader transition toward post-growth, sustainable futures.

9.4 LIMITATIONS

The research that is presented in this thesis, which explores natural dyeing within contemporary UK craft cultures, is not representative of the experiences of *all* natural dyers currently practising in the UK. Qualitative research is not designed to give a comprehensive and exhaustive insight into a particular topic (Jackson, Drummond and Camara 2007). Instead, this thesis presents insights into the contemporary practice of the craft through investigating the everyday dyeing experiences of a small sample of practitioners. As such, the socio-demographic reach of the participants is limited. The vast majority of the survey respondents and all of the interview/fieldwork participants were of white ethnic origins. They were also mainly women, with only one male interviewee. A different demographic combination of participants across the research phases would have provided different insights into natural dyeing practice. The participants that I reached through sharing the online survey on social media will be biased towards users of Twitter, Instagram and Facebook (although the survey was also subsequently shared by word of mouth). In Chapter 4 I discussed the limitations of using remote methods to research intra-actions between humans and the more-than-human. Further, the geographic reach of the research was limited - although I framed the study as an exploration of natural dyeing craft cultures within the United Kingdom, there were no Northern Irish participants in the survey, interview or fieldwork elements of the project and the fieldwork visits all took place in England. I am also conscious that access to private cultivation spaces such as gardens and allotments, which all dyers in Phases 2, 3 and 4 had access to, are not universal. Research to include a wider geographic reach of participants and greater diversity of growing environments, for example by including community gardens or dye gardens, would illuminate further aspects of the human-nature intra-actions and relationships that emerge through practising the craft.

In addition to the socio-demographic and geographic limitations of this study, there are limitations concerning the techniques and dye sources included. The sample of participants that took part in Phases 2, 3 and 4 may be unrepresentative of the wider community of natural dyers. The participants in those phases predominately practised natural dyeing as part of their small business practices or for purposes such as making their own clothing. Natural dyers with no interest in the commerciality of their craft may have different viewpoints. Further research might focus solely on hobbyists for example, to understand how the absence of a desire to produce a living and sell for a profit influences their practice. Additionally, the scope of natural dyeing sources discussed in this thesis related only to

dyes created with plant-derived material. Other pigment sources such as mushrooms, lichen or insect derived dyes are also used within natural dyeing. Furthermore, I focused on presenting findings related only to two natural dyeing approaches in Chapters 6, 7 and 8: dye baths and botanical printing. In Chapter 1 and Chapter 5 I explained that there were numerous other techniques and applications of natural dyes.

9.5 FURTHER WORK

There are numerous potential avenues that could be explored in further work. Firstly, enquiries that addresses the limitations of this study that I have discussed in Section 9.4 would provide further nuance towards understanding the contemporary practice of natural dyeing craft practices within the United Kingdom and the human-nature intra-actions that are central to it.

The findings of this research also create opportunity to expand the research in other directions. At the end of Chapter 7, I touched upon the experiences of dyers when wearing and caring for the naturally dyed garments that they had made. I highlighted some of the difficulties of dealing with variations in tone, splotches, and marks that naturally dyed garments can feature and which are the result of past and ongoing intra-actions between humans and the more-than-human (Barad 2007). Earlier in Chapter 7 I had also suggested that consumer perceptions of naturally dyed garments can be negative, with some viewing them as dull and uninspiring (Mabuza, Sonnenberg, and Marx-Pienaar: 2023). In this study, I presented the perspectives of those who practise natural dyeing and their experiences of wearing and caring for their naturally dyed garments will be entangled within their embodied interactions with and experiences of plants and materials. Future research to explore consumer perspectives of naturally dyed garments, from non-producers, in general would benefit the field by adding to knowledge about how natural dyes are perceived (which could be contrasted with historical examples I identified in Chapter 2 for example, and the participants in this study) and could help identify strategies to encourage natural dye use, improve perceptions and contribute to fashion and textile sustainability. Likewise, I feel that there is an important opportunity to explore the lived experiences of those who wear naturally dyed garments, from the small-scale crafts artisans that I have engaged with in this study but also from large corporations that are now releasing naturally dyed product lines (see H&M 2021). Understanding how naturally dyed garments behave with and are cared for by consumers, alongside their perceptions of what the garments represent and mean to them, will provide further insight into the contemporary and future role of natural dyeing from a practical perspective as well as in the context of sustainability within fashion and textiles. From a material perspective, exploring perceptions of different dye sources e.g. from the home-grown artisans here to the industrially produced bio-dyes that are being developed at a rapid pace (Niinimäki

and Lohmann 2023) could provide further insight into human-nature relationships across diverse forms and settings.

At the close of Chapter 8 I briefly presented an overview of some of the benefits, challenges and possibilities that working slowly, seasonally and on a small scale fostered. Further research to explore the intricacies and viability of such organisations of production and work in order to sustain a livelihood are necessary (Rennstam and Paulsson 2024). Such research could provide more detailed empirical examples that can evidence how craftwork can be an important part of a degrowth future (Vincent and Brandellero) and nurture the creation of more sustainable, localised fashion and textile businesses that work with and for the environment and people, instead of being led by growth logic (Fletcher and Tham 2019; Payne 2017; 2020).

9.6 CONCLUSION

The practice of natural dyeing has evolved over thousands of years and natural dyes once held rich cultural, economic and political significance globally. When synthetic dyes were developed, they came to overtake natural dyes and largely replaced the role of natural dyeing within the fashion and textile system. The practice saw periods of increased interest during the Arts and Crafts movement and the countercultural era of the 1960s/79s. In recent years though, natural dyeing has seen a larger resurgence in the United Kingdom. Contemporary natural dyeing, set against the backdrop of growing human-caused environmental and climate crises, is positioned as way of fostering sustainable textile practices that are rooted in nature and community, both human and more-than-human. This research highlights how dyers form deep relationships with the more-than-human world through their practice and considers how their actions may contribute to wider systemic change that is aligned with post-growth.

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APPENDICES

APPENDIX 1: GLOSSARY OF NATURAL DYEING TERMS

TERM	DEFINITION
Adjective dye	Natural dyes that require a mordant to be light and wash fast e.g. madder, & weld. The majority of natural dyes are adjective. They are soluble in water.
Aniline dye	Dyes made from a coal-tar (fossil fuel) derivative, the first synthetic dyes were aniline dyes.
Botanical printing & Ecoprinting	A technique whereby plant material is printed directly onto the surface of textiles, then tightly rolled and steamed. A clear impression of the plant material is transferred onto the textile.
Bundle dyeing	A technique where plant material is placed onto textile and then rolled into a bundle and steamed. The textile displays the colours and prints of the material, but is typically less defined than with ecoprinting.
Cellulose fibres	Fibres from plant sources e.g. cotton, linen (from flax) and hemp.
Colourfastness	Refers to fading of dyes when washed or exposed to light. Highly colourfast dyes remain stable.
Dye bath	Refers to the solution of dye/colour that is used to dye textiles.
Dye pot	Refers to the vessel that holds the liquid dye that the textile is added to - used for water soluble dyes.
Dyestuff	A substance/material that is used to create a dye.
Food waste dyes	Dyes that are sourced from food waste e.g. Avocado, Pomegranate and Onion skins.
Fugitive	Dyes that fade through washing or light exposure.
Lightfastness	Refers to fading of dyes when exposed to light. Highly lightfast dyes such as Indigo fade less.
Modifier/Assistant	Refers to substances added before, during or after dyeing process to alter the colour e.g. copper, vinegar, soda ash.
Mordant	Refers to a substance used to 'fix' the dye molecules to the textile fibres by forming a chemical bond. Common mordants include aluminium potassium sulphate (known as alum) and Aluminium Acetate.
Natural dyes	Dyes from natural sources such as plants, fungi, lichen, insects and minerals.
Overdyeing	A technique where a textile is dyed once in one colour and then again in a different colour to create mixed shade.
pH	Refers to the level of acidity or alkalinity. Some dyes such as Madder change shade depending on the pH of the dye bath.
Protein fibres	Fibres from animals sources e.g. wool and silk
Sadden	Refers to the darkening or lowering of a colour tone with a modifier. Usually refers to using iron.
Scouring	First step in the dyeing process. Involves the removal of dirt, oils and residue from fibres using substances such as washing soda or liquid detergent to increase absorption of mordants and dyes.
Steeping	Refers to soaking dyestuffs in water to extract colour, soaking textiles in the dye bath or soaking textiles in mordant solution.
Substantive dye	Natural dyes that do not require a mordant to be light and wash fast, e.g. indigo and walnut.
Synthetic dyes	Refers to man-made, chemically synthesised dyes often from fossil-fuel sources.
Synthetic fibres	Man-made materials from chemical or fossil fuel origins e.g. polyester, acrylic & elastene
Vat dye	A technique of dyeing with water insoluble dyes such as indigo, whereby a reducing agent is used to render the dye water soluble.
Vegetable dyes	Older term for plant-based natural dyes. Not exclusively from plants considered vegetables.
Washfastness	Refers to dyes fading or bleeding when washing. Highly washfast dyes do not fade.

APPENDIX 2: SURVEY QUESTIONS: NATURAL DYEING IN CONTEMPORARY CRAFT CULTURES

Section 1: Information

Project title: Colours of nature: Exploring the sustainable potential of natural dyeing within contemporary craft cultures and geographies

I am a PhD student at Nottingham Trent University. The following questionnaire has been designed to collect data relating to current practice of natural dyeing in the UK. This information forms part of my PhD that explores contemporary practice of natural dyeing, the human-nature connections that take place when dyeing and how dye crafts can contribute to sustainability. Data collected may be used for other research activities, including subsequent publication. All individual response information will be stored on a password-protected system and will only be accessible to the research team. No personal information will be shared with third parties and will be anonymised within the final report. All data shall not be retained for longer than necessary for the research project.

This survey should take no longer than 15 minutes. All participants must be 18 or over. Your responses are confidential and will only be used after any identifying features are removed. All of the questions are optional and you may choose to stop and withdraw from the study at any time by closing the browser.

The data will be made confidential and cannot be connected to you. However, if you wish to withdraw you can do so by e-mailing the researcher with your unique participant number (provided at the end of the survey) or name. By submitting your data at the end of this questionnaire, you assent to its use, unless withdrawn. If you withdraw from the study within one week any contributions made to the project will be destroyed and your data removed. After this period, data will be anonymised and prepared for analysis. Therefore, it will be unable to be individually identified and cannot be withdrawn.

If you have any concerns about the questions or content you should contact the researcher or supervisor.

Researcher: Beth Pagett

Researcher contact details: beth.pagett2020@my.ntu.ac.uk

Supervisor contact details: amy-twigger.holroyd@ntu.ac.uk

Supervisory team: Dr Amy Twigger Holroyd, Prof Eiluned Edwards & Dr Katherine Townsend

1. I have read the above information and understand the purpose of this study.
 I agree
2. I confirm that I am over the age of 18.
 I agree

3. I understand that I can stop and withdraw from this study by following the process outlined above/by closing the browser window.
- I agree

Section 2: About You

1. What is your age?
- 18-24 years old
 - 25-34 years old
 - 35-44 years old
 - 45-54 years old
 - 55-64 years old
 - 65-74 years old
 - 75 years or older
2. What gender do you identify as?
- Female
 - Male
 - Other
 - Prefer not to say
3. How do you identify your ethnicity? Categories and descriptions are based on the 2011 England Census
- White** - British / English / Northern Irish / Scottish / Welsh
 - White - Irish**
 - White - Gypsy or Irish Traveller**
 - White - Other White Background (please specify)**
 - Asian / Asian British - Bangladeshi**
 - Asian / Asian British - Chinese**
 - Asian / Asian British - Indian**
 - Asian / Asian British - Pakistani**
 - Asian / Asian British - Other Asian Background (please specify)**
 - Black / African / Caribbean / Black British - African**
 - Black / African / Caribbean / Black British - Caribbean**

Black / African / Caribbean / Black British - Other Black / African / Caribbean

Background (please specify)

Mixed / Multiple Ethnic Groups - White and Asian

Mixed / Multiple Ethnic Groups - White and Black African

Mixed / Multiple Ethnic Groups - White and Black Caribbean

Mixed / Multiple Ethnic Groups - Other Mixed / Multiple Ethnic Groups (please specify)

Other Ethnic Group - Arab

Other Ethnic Group - Any Other Ethnic Group (please specify)

Prefer not to answer

4. Where in the UK do you live?

Scotland

Wales

Northern Ireland

South West

South East

London

East of England

East Midlands

West Midlands

Yorkshire & The Humber

North East

North West

5. Which of the following best describes the area you live in?

Rural

Village

Town

City

Other (please specify)

6. Which of the following best describes the industry you primarily work in? From ONS.

- | | |
|---|--|
| <input type="checkbox"/> Unemployed | <input type="checkbox"/> Software |
| <input type="checkbox"/> Retired | <input type="checkbox"/> Telecommunications |
| <input type="checkbox"/> Student | <input type="checkbox"/> Transportation and warehousing |
| <input type="checkbox"/> Agriculture, forestry, fishing, or hunting | <input type="checkbox"/> Utilities |
| <input type="checkbox"/> Arts, entertainment, or recreation | <input type="checkbox"/> Wholesale |
| <input type="checkbox"/> Broadcasting | <input type="checkbox"/> Other industry, please specify: |
| <input type="checkbox"/> Education—College, university, or adult | |
| <input type="checkbox"/> Education—Primary/secondary | |
| <input type="checkbox"/> Education—Other | |
| <input type="checkbox"/> Construction | |
| <input type="checkbox"/> Finance and insurance | |
| <input type="checkbox"/> Fashion and Textiles | |
| <input type="checkbox"/> Civil Service and public administration | |
| <input type="checkbox"/> Health care and social assistance | |
| <input type="checkbox"/> Hotel and food services | |
| <input type="checkbox"/> Information—Services and data | |
| <input type="checkbox"/> Information—Other | |
| <input type="checkbox"/> Processing | |
| <input type="checkbox"/> Legal services | |
| <input type="checkbox"/> Manufacturing—Computer and electronics | |
| <input type="checkbox"/> Manufacturing—Other | |
| <input type="checkbox"/> Military | |
| <input type="checkbox"/> Mining | |
| <input type="checkbox"/> Publishing | |
| <input type="checkbox"/> Estate agency, rental, or leasing | |
| <input type="checkbox"/> Religious | |
| <input type="checkbox"/> Retail | |
| <input type="checkbox"/> Scientific or technical services | |

Section 3: Your natural dye practice

1. How did you first hear about natural dyeing?

2. How would you describe your skill level in natural dyeing?

- Beginner
- Intermediate
- Advanced
- Expert

3. What is the purpose of your dyeing?

For work/professional

For leisure

Other (please specify)

4. How long have you been practising natural dyeing?

X months and X years

5. Why have you decided to use/make natural dyes?

6. What resources have you accessed to learn about natural dyeing? (Tick all that apply)

- Books
- Blogs
- Websites
- Magazines
- Organisations e.g. Guild of Weavers, Spinners & Dyers; Society of Dyers & Colourists.
- YouTube
- Social Media – Twitter
- Social Media – Facebook

- Social Media – Instagram
- Social Media - other
- Television
- Other (please specify)

6a. If you selected 'Organisation, Books, Blogs, Websites, Magazines, Television or Social Media' please could you provide some examples of specific blogs, organisations, books, Facebook pages/groups etc that you can recall.

7. Have you taken part in a dyeing course? (Tick all that apply)

- No
- Yes – online
- Yes – in person

7a. If you selected "Yes" – who was the course with, what was it about and how long did it last?

8. Which of the following activities do you do/have done? (Tick all that apply)

- Scour fibers
- Use metal mordants (e.g. aluminium acetate, alum, titanium oxalate, ATF, iron etc)
- Use non-metal mordants (e.g. symplocos, rannins, rhubarb, club moss etc)
- Use binders (e.g. soy milk, casein etc)
- Use thickeners (gum Arabic, gum tragacanth)
- Use modifiers/assists (copper, chalk, iron, soda ash, cream of tartar etc)
- Dye Cellulose fibers (cotton, hemp, bamboo, ramie, viscose, linen, lyocell, tencel, rayon)

- Dye Protein fibers (wool, silk, alpaca, cashmere, mohair, feather etc)
- Grow your own dye plants
- Use dried dye stuffs e.g. dried madder roots, logwood chips.
- Use dye extract powders
- Forage for dye plants
- Dye with food waste
- Eco-print or bundle dye
- Screenprint
- Make paint
- Make ink
- Resist print
- Block print
- Dye items for myself/friends/family
- Dye items to sell
- Make an indigo Vat
- Other (please specify)

9. Where do you dye?

10. Who do you dye with? (Tick all that apply)

- Alone
- With Family
- With Friends

- As part of a group
- Other (please specify)

10a. If you selected 'As part of a group' could you provide some more details about what kind of group you are dyeing with?

11. Are there any final comments or thoughts about natural dyeing that you would like to share?

Section 4: Interview recruitment

OPTIONAL As part of this research I would like to carry out some online interviews with natural dyers, lasting between 30 minutes and an hour. I'm keen to hear about your experiences with natural dyeing, the materials and methods that you use and your thoughts and reflections about the craft. If you might be interested in taking part, please leave your name and email address below and I will be in touch with further information in the next couple of months. If you'd like some more information about the interviews, I'm happy to answer any questions or queries. You can contact me (Beth Pagett) at beth.pagett2020@my.ntu.ac.uk.

1. What is your name?
2. What is your email address?

Section 5: Thank you

Thank you for taking part in this survey!

APPENDIX 3: INTERVIEW INFORMATION SHEET AND CONSENT FORM

PARTICIPANT INFORMATION SHEET: NATURAL DYEING IN CONTEMPORARY CRAFT CULTURES

WHAT IS THIS PROJECT ABOUT?

This project is about the craft practice of natural dyeing. It seeks to explore the human-nature connections in natural dyeing, develop an understanding of contemporary practice of the craft and reflect on how craft practices can help us to cultivate a more sustainable future.

WHO IS RUNNING THIS PROJECT?

Beth Pagett, a NTU Vice Chancellor's Scholarship funded Doctoral/PhD Student (and keen natural dyer) in the Nottingham School of Art and Design at Nottingham Trent University (NTU).

WHAT WILL IT INVOLVE?

You are invited to participate in an interview of between 30-60 minutes, either online (via Microsoft Teams) or over the phone, depending on your preference. The interview will consist of a number of open questions for you to respond to. I'm interested in hearing about your experiences with natural dyeing and your thoughts/reflections on connecting with nature through craft.

WHY HAVE I BEEN CHOSEN TO TAKE PART?

You have indicated that you would be willing to take part in this study and have been selected on the basis of creating a mixed group of interviewees overall.

WHAT DATA WILL YOU COLLECT FROM ME?

The interview will be audio recorded. You are also welcome to share photographs of your dyeing process or dyed items you've made or add to your responses in writing subsequently.

WHAT WILL HAPPEN TO THE DATA YOU GATHER?

The audio recording of the interview and any written responses will be anonymised (unless you are happy to be named) and transcribed into text form before the audio files are deleted. Text files will be analysed to identify key themes and quotes from the interview data. Quotes may be used in future research outputs (e.g. publications, presentations, online resources or teaching materials) but will be

anonymised and not attributable to any identifiable individual, unless permitted by you. Any photographs you share of items you have made or your dyeing process may be used in future research outputs to illustrate points discussed in the interview, but only where no individual is personally identifiable in the image.

HOW WILL YOU PROTECT MY CONFIDENTIALITY AND ANONYMITY?

All of the raw data and any personal information you provide will be kept confidential and in a secure place. Interview transcripts and data analysis files will be fully anonymised so that you are not personally identifiable within the data (unless you are happy being named). Where any anonymised data is subsequently used in the form of quotes, a pseudonym will be used so that you are not identifiable. In line with research best practice and NTU's Research Data Management Policy, the fully anonymised data from this study may be made available to those conducting subsequent studies in a form where no individual is identifiable. Any images you share of items you have made may be reproduced in materials published from this research, no image in which you are personally identifiable will be used or shared (unless you give permission).

WHAT HAPPENS IF I WANT TO WITHDRAW?

You are welcome to withdraw from the interview at any time, and do not need to give an explanation. You may choose to withdraw from the research up to one month after the interview. While your contribution will remain in the raw data, it will be anonymised and your comments and any images you have shared will not be quoted or used in any outputs.

HOW CAN I FIND OUT MORE ABOUT THE PROJECT AND ITS RESULTS?

You may contact the researcher using the details below and Beth can keep you updated with the progress of the project too.

Lead researcher: Beth Pagett, Nottingham School of Art & Design, NTU,

beth.pagett2020@my.ntu.ac.uk **Director of Studies:** Dr Amy Twigger Holroyd, Nottingham School of Art & Design, NTU, Amy-twigger.holroyd@ntu.ac.uk or 0115 848 8249.

If you want to speak with someone who is not directly involved in this research, or if you have questions about your rights as a research participant, please contact Professor Richard Bibb, Associate Dean for Research at the Nottingham School of Art & Design, Nottingham Trent University. You can contact him on 0115 848 8131.

APPENDIX 4: FIELDWORK INFORMATION SHEET AND CONSENT FORM

PARTICIPANT INFORMATION SHEET: NATURAL DYEING IN CONTEMPORARY CRAFT CULTURES

WHAT IS THIS PROJECT ABOUT?

This project is about the craft practice of natural dyeing. It seeks to explore the human-nature connections in natural dyeing, develop an understanding of the historical context and contemporary practice of the craft and reflect on the ways in which natural dyeing can contribute to sustainable futures.

WHO IS RUNNING THIS PROJECT?

Beth Pagett, a NTU Vice Chancellor's Scholarship funded Doctoral/PhD Student in the Nottingham School of Art and Design at Nottingham Trent University (NTU).

WHY HAVE I BEEN CHOSEN TO TAKE PART?

You have indicated that you would be interested in taking part in this study.

WHAT WILL IT INVOLVE?

This phase of the research project aims to focus on three key 'dyeing moments': growing dye plants, harvest/gathering of dyestuffs and dyeing textiles to explore the interactions between humans, materials and plants. It is divided into two elements:

Element 1 - You are invited to share monthly updates of your progress with me. This could take the form of photos (up to 10), short videos (up to 5 minutes long) and text (up to a couple of paragraphs).

I'm interested to hear about:

- How you plan what you're growing and what you intend to do with it
- What and when you sow
- How your plants and dyeing plans are progressing
- Any problems you encounter along the way and how you're solving them (e.g. pests, slow or no growth)

Element 2 - An in-person visit to accompany you in gathering/harvesting dyestuffs and dyeing something. There may be two visits if you are dyeing on a different day to harvest. The visits will take place where you would typically be doing your dyeing activities, e.g. a garden, allotment, studio or home. At the beginning of the visit we can look together at the content you created in Element 1 and talk about your experiences of growing dye plants. The visits are a chance to explore your practice in more depth and will involve observation of your dyeing practice and related activities such as gathering/harvesting dye stuffs, preparing a vat and dyeing textiles. We will talk about what is happening and harvest or make a dyed artefact during the visit.

WHAT DATA WILL YOU COLLECT FROM ME?

The Element 2 visit will be recorded through a combination of audio, video and photographs that aim to capture your actions during the craft practice. For example, this might include videos of you harvesting/gathering dye stuffs, audio of our conversations whilst you practice and photos of the natural dyeing process. You will also provide photos/videos and short written text about your experiences growing dye plants in Element 1.

WHAT WILL HAPPEN TO THE DATA YOU GATHER?

All of the data will be analysed for the research; audio and video recordings may be transcribed into text form. Quotes may be used in future research outputs and will be anonymised unless you indicate that you would like to be credited by name for your participation in this research. The images or video created in both elements may be used in future research outputs. Visual data (images or video) in which you are identifiable will not be used in research outputs unless you give permission for this on the consent form.

HOW WILL YOU PROTECT MY CONFIDENTIALITY AND ANONYMITY?

All of the raw data and any personal information will be kept confidential and in a secure place, in line with NTU's Research Data Management Policy. You can choose to be identified or anonymised in the

raw data and the outputs relating to this research. Please indicate your preference on the consent form. If you choose to be anonymised, a pseudonym may be used.

It is possible that you may choose to appear in the photographs or video created by yourself. Please indicate your preference on the consent form to confirm whether you are willing for material in which you are identifiable to be shared in research outputs.

The data generated in this research project will be stored in the NTU data archive for 10 years and only legitimate researchers will have access to the archive. The data archive will omit all contact details and the names of any participants who opt for anonymity.

WHAT HAPPENS IF I WANT TO WITHDRAW?

You are welcome to withdraw from the study, and do not need to give an explanation. You may choose to withdraw from the research up to one month after the visit and all of your data will be destroyed. If you choose to withdraw after one month, all of your personal and any identifiable data will be destroyed, whilst anonymised research data may still be retained.

HOW CAN I FIND OUT MORE ABOUT THE PROJECT AND ITS RESULTS?

You may contact the researcher using the details below:

Lead researcher: Beth Pagett, Nottingham School of Art & Design, NTU, beth.pagett2020@my.ntu.ac.uk **Director of Studies:** Dr Amy Twigger Holroyd, Nottingham School of Art & Design, NTU, amy-twigger.holroyd@ntu.ac.uk or 0115 848 8249.

If you want to speak with someone who is not directly involved in this research, or if you have questions about your rights as a research participant, please contact Professor Jake Kaner, Associate Dean for Research in the School of Art and Design at Nottingham Trent University. You can contact him on 0115 848 8131 or send an e-mail to jake.kaner@ntu.ac.uk

CONSENT FORM:

NATURAL DYEING IN CONTEMPORARY CRAFT CULTURES

Please read and confirm your consent to participating in this project by ticking the appropriate boxes, signing and dating this form.

1. I have read the participant information sheet and had the opportunity to ask questions about the project and these have been answered.

2. I understand that my participation is voluntary, and that I am free to withdraw by informing the researcher of this decision up to one month after the visit without giving any reason and without any negative implications.

3. I give permission for the visit to be recorded in video, photo and audio formats. I understand that the recordings will be stored securely.

4. I understand that the data I generate (photos of growing dye plants and accompanying paragraphs) and data generated during the visit may be used in future research outputs, subject to the preferences recorded below.

5. I wish the data I generate and data recorded during the visit to be anonymised. My comments may be quoted and the data I created may be used, but I will not be identified.

OR

I waive my right to anonymity and wish for my name to be included in relation to the data I generate and data recorded during the visit. I will be identified when my comments are quoted and the data I created are used.

6. I confirm that if I choose to appear in any video/photos, this will be on a voluntary basis.

7. If I am identifiable in any video/photos, I do not wish this material to be shared in any research outputs.

OR

If I am identifiable in any video/photos, I am happy for this material to be shared in research outputs.

8. I understand that the anonymised data from this study may be used by those conducting subsequent studies and will not include contact details and the names of any participants who opt for anonymity. Preferences regarding the use of video/photos recorded in item 7 will be observed.
9. I am willing to participate in this part of this research project.

_____	_____	_____
Participant's name	Date	Signature
_____	_____	_____
Researcher's name	Date	Signature

Lead researcher: Beth Pagett, Nottingham School of Art & Design, NTU, beth.pagett2020@my.ntu.ac.uk | **Director of Studies:** Dr Amy Twigger Holroyd, Nottingham School of Art & Design, NTU, amy-twigger.holroyd@ntu.ac.uk or 0115 848 8249

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