

**Can the Aesthetics of Milk Alternatives Open Up  
People's Ethical Responsiveness to the  
(Comparative) Environmental Implications of their  
Food Choices?**

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This thesis is submitted in part fulfilment of the requirements for the BA (Hons) Geography degree at the University of Lancaster.

I declare that this submission is my own work, it has not been written or composed by any other person, I have not submitted it in substantially the same form towards the award of a degree or other qualification and all sources have been appropriately referenced or acknowledged.

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## **Abstract**

The disproportionate contribution of animal product consumption to climate change exemplifies the power of our everyday aesthetic choices. Investigation into the non-representational effects of attending to the 'thick', environmental dimensions of these aesthetics reveals that ecological literacy can, to a degree, harness this power to advance humanity's 'green agenda' and encourage a shift away from the consumption of animal products. This appeared to be largely as a result of the positive relationship between aesthetics and ethics, whereby they appeared to influence one another: focus group discussions saw the majority of participants experience affective change in both their aesthetic and ethical experiences of (oat) milk. High levels of individual affective variation, however, suggest that this relationship is complex, and what is expected of ecological literacy, and (aesthetic-ethic) change in general, should be revised. Ultimately, the goal should be to induce a sufficient affective shift in enough people that, despite those who resist, change happens on aggregate - ample enough to mitigate climate change.

**Keywords** - Aesthetics, Affect, Animal Products, Climate Change, Ecological Literacy, Environmental Ethics, Non-Representational Theory, Milk.

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## List of Abbreviations

**PA/B/C...X** - Participant A/B/C...X

**RL** - Research Leader

## Glossary

- **Aesthetics** - *‘the study of feelings, concepts and judgements... of the arts or of the wider class of objects considered to be moving... beautiful, or sublime’ (Blackburn, 2005, p.8).*
- **Agricultural Revolution** - *humanity’s overall ‘...shift from hunting to agriculture’ (Blakemore, 2019, p.1).*
- **Animal husbandry** - *‘a branch of agriculture concerned with the production and care of domestic animals’ (Merriam-Webster, 2021, p.1).*
- **Environmental ethics** - *‘the discipline in philosophy that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its non-human contents’ (Stanford Encyclopaedia of Philosophy, 2015, p.1).*
- **NIMBYism** - *‘the practice of objecting to something that will affect one or take place in one’s locality’ (Dictionary.com, p.6)*

# Chapter 1: Introduction

## 1.1 Aesthetics, Ethics and Non-Representational Affect

Historically, the study of the everyday has been neglected by Western aesthetics (Kelly, 1998). Led largely by the works of Immanuel Kant (1987), Western aesthetic study has harboured the belief that only objects of fine arts are 'beautiful' or 'sublime' enough to warrant aesthetic consideration (Hegel, 1998). Thus, everyday objects have traditionally been rejected from aesthetic recognition (Korsmeyer, 2002).

Modern aesthetic thought is increasingly open to 'the everyday' (Brady, 2006), and aesthetician Yuriko Saito has been instrumental in demonstrating the need for consideration and analysis of everyday aesthetics (Saito, 2001). Although traditionally presumed insignificant, she argues that our everyday aesthetic inclinations hold great power, oftentimes having significant repercussions (Saito, 2011). Of interest to this dissertation is the consumption of animal products as an integral part of Western diets (Swatland, 2010); the animal husbandry sector providing these goods is responsible for 81% '...of food's overall greenhouse gas emissions' (Poore and Nemecek, 2018, p.4).

Modern aestheticians are beginning to realise this significance of everyday aesthetics (Brady, 2006), generating increasing interest in whether its power could be utilised to promote worldly good (Irvin, 2008). Suggestions that attending to the (neglected) environmental dimensions of foodstuffs may harness this power and instigate deeper, aesthetic (and thus behavioural) change are prominent (Foster, 2001), yet contested (Cooper, 1992) and underexplored (Saito, 2010). Many scholars in support of this possible 'power' suggest that the potential relationship between aesthetics and ethics could be the key to unlocking it; precisely because both judgements happen below our rational cognising, they may have the ability to *move* deeply and thus to influence one another significantly (Brady, 2006).

These 'beyond-feelings' are a central feature of Nigel Thrift's non-representational theory (2008), which identifies this change as the body's affective capacity to be fundamentally moved. Little research has been conducted to determine whether there actually exists an affective connection between aesthetic and ethics (Saito, 2010). The suggestion that, should this affective relationship exist, it could be utilised to induce positive, worldly change (discussed in depth below) provides a compelling reason to investigate this (possible) connection.

## **1.2 Rationale for Research**

As previously suggested, animal husbandry is disproportionately responsible for the negative environmental impacts of food (Clark *et al.*, 2019). Alarming, there appears to be a worldwide dietary shift underway towards the increased consumption of animal products (Tilman and Clark, 2014). Consequently, these impacts will only continue to worsen. Scholars widely cite the transition to plant-based diets as the only long-term solution in the face of the pressing climate crisis (Stehfest *et al.*, 2009), but the complexity of this shift is acknowledged (Dagevos and Voordouw, 2013). Research on this issue is therefore highly important, given the potential for ecological literacy to harness the power of aesthetics, induce affective aesthetic-ethic change and thus possibly motivate such a transition, in turn mitigating the climate crisis (Hartmann and Siefrist, 2017).

## **1.3 Research Questions**

Accordingly, this dissertation takes up this research agenda to ask: "Can the aesthetics of milk alternatives open up people's ethical responsiveness to the (comparative) environmental implications of their food choices?"



More specifically, we explore:

1. How do the aesthetics of oat milk differ from traditional dairy milk?
2. In what ways does attending to the environmental implications of food choices affect (non-representationally) the aesthetic experience of (oat) milk?
3. How do (non-representational) dimensions of aesthetics and aesthetic experience affect ethical sensitisation and responsiveness to the environmental implications of each milk?
4. To the extent there is a positive relation between aesthetic and ethical sensitisation, is it one-way or two-way?

Focus groups will be employed in order to achieve this and offer an insight into non-representational, affective changes.

## Chapter 2: Literature Review

### 2.1 The Environmental Impacts of Food (Production)

Considerable environmental impacts stem from food production, carried out worldwide by countless farmhands and intermediate agents (Poore and Nemecek, 2018; Ritchie and Roser, 2020; Clark *et al.*, 2019; Sinkko *et al.*, 2019;). Small-scale environmental impacts can be traced back to the hunter-gatherer diets of early humans (Civitello, 2011), however, literature widely agrees that the Agricultural Revolution marked the beginning of food production having extreme environmental consequences (Larsen, 2006). An abundance of evidence shows these impacts to have worsened over time (Capper, Cady and Bauman, 2009); the environmental benefits from improving the efficiency of food production systems have been largely counteracted by the mass production practices required to feed 7.6 billion people (Ritchie and Roser, 2020; Sanchez-Sabate and Sabaté, 2019; Foley *et al.*, 2011).

Extensive studies have also revealed that the negative environmental impacts of food production are not evenly distributed amongst products (Capper, Cady and Bauman, 2009); literature broadly agrees that animal husbandry is responsible for a disproportionate amount of environmental damage (Ritchie and Roser, 2020; Clark *et al.*, 2019). The most recent and widely accepted estimates by Poore and Nemecek (2018) suggest that this sector is liable for 81% 'of food's overall greenhouse gas emissions... 79% of acidification, and 95% of eutrophication' (p.4). It also uses substantial natural resources, and farmland is thought to cover 40% of the planet's total land (Owen, 2005).

Literature commonly documents the occurrence of a worldwide dietary shift, seeing a current increase in the consumption of animal products - dairy in particular - propelled by urbanisation and increasing wealth (Tilman and Clark, 2014; Steinfeld *et al.*, 2006; Slingo *et al.*, 2005). Recent estimates from the OECD-FAO (2019) suggest that, globally, milk consumption could increase by 2.1% a year over the next decade.

The impacts of milk (production) are largely undisputed; as a subsection of animal husbandry, its production not only contributes to the aforementioned environmental effects but is also responsible for a disproportionate amount of degradation in its own right (Clark *et al.*, 2019; Herzog *et al.*, 2020). Poore and Nemecek (2018), for example, estimate that 7,000 square foot of land is required to produce a single glass (200ml) of dairy milk. Consequently, there exists widespread emphasis within literature on the importance of dramatically reducing global consumption of animal products, in favour of more plant-based diets (Clonan *et al.*, 2015).

As revealed in numerous studies, plant-based foodstuffs typically release fewer greenhouse gases (Tilman and Clark, 2014) and have fewer environmental ramifications (Ritchie and Roser, 2020) than animal products. It is important to acknowledge that research exists suggesting that plant-based products are not faultless; Tom, Fischbeck and Hendrickson (2016) even suggest that adopting a more plant-based diet can actually worsen some environmental impacts. An Intergovernmental Panel on Climate Change report, however, argued that there currently exists a substantial body of scientific evidence suggesting that, overall, (the effects of) climate change could be significantly mitigated through the reduction of animal product consumption (Mbow *et al.*, 2017).

Partly in response to the environmental crisis, milk alternatives have been produced claiming to have a much smaller environmental footprint (Sethi, Tyagi and Anurag, 2016). Of interest to this dissertation is oat milk. Although some studies into the environmental impacts of oat milk could be considered biased (for example Oatly, 2017), there exists a great volume of research with similar findings conducted by independent scientific bodies. Rööös, Patel and Spångberg (2016), for example, found that the climate impact of milk (production) could be reduced by up to 80% by switching to an oat milk alternative, creating a more 'sustainable' diet.

Such environmental elements of these diets have been greatly explored, at the expense of their socio-cultural aspects (Sanchez-Sabate and Sabaté, 2019). If looking to encourage a societal shift to a plant-based diet, however, these overlooked facets are central; ultimately, they are the underlying components affecting people's readiness to transition (Macdiarmid, Douglas and Campbell, 2016).

## **2.2 Reducing Consumption of Animal Products**

Owing to the increasingly detrimental impacts of animal husbandry and the ever-pressing climate crisis, discussions regarding sustainable diets have centred around reducing animal product consumption (Macdiarmid, Douglas and Campbell, 2016; Gerber *et al.*, 2013). Thus, these ideas have acquired growing precedence on the 'political, social and economic agendas' of developed countries (Capper, Cady and Bauman, 2009, p.2160) - yet the majority of Westerners still consume animal products (Oleschuk, Johnston and Baumann, 2019).

It is approximated that only 1-2% of British citizens identify as vegan (Bryant, 2019). Several studies attempt to explain this, suggesting that only a minority of consumers are actually aware of animal products' environmental impacts and, when they are, greatly underrate the climate change mitigation capabilities of reducing their consumption (Macdiarmid, Douglas and Campbell, 2016; Hartmann and Siefrist, 2017). Sanchez-Sabate and Sabaté (2019) argue that, while consumers remain ignorant on the connections between food and the environment, this will remain unchanged. Many scholars therefore advocate the importance of educating people on the environmental ramifications of their food choices, thus improving their 'ecological literacy' (Foster, 2001; Saito, 2004). Consequently, enhancing the public's ecological literacy has been suggested as key to inducing a dietary shift away from the (routine) consumption of animal products (Springmann *et al.*, 2018).

This, however, has been disputed. Literature generally agrees that animal products are consumed for reasons other than simply to satisfy nutritional needs: conveying socioeconomic status, consumption practices, enjoyment, traditions, socio-cultural norms, and individual values (e.g. identity) are all proposed reasons behind this continued consumption

(Badilla-Briones, Sanchez-Sabate and Sabaté, 2019; Macdiarmid, Douglas and Campbell, 2016; Schösler *et al.*, 2015; Sobal, 2005). Thus, within literature, enhancing people's ecological literacy has often been presumed insufficient in overcoming these deep-rooted connections (Cooper, 1992).

Growing research into the power of aesthetics, however, has sparked increasing curiosity amongst aestheticians as to whether ecological literacy may be able to induce sufficient change in our deeper, *aesthetic* reactions and experiences to overcome such existing associations (Saito, 2010).

### **2.3 (The Power of) Aesthetics**

The definition of 'aesthetics' is continuously debated, however the dominating views of contemporary aestheticians appear to be most accurately represented by Blackburn (2005). He suggests that 'aesthetics' is 'the study of feelings, concepts and judgements... of the arts or of the wider class of objects considered to be moving... beautiful, or sublime' (p.8). Generally undisputed is this idea of 'beautiful' being the basis of aesthetic theory, and a fundamental component of aesthetic experience (Charters and Pettigrew, 2005).

For centuries, theories regarding what qualifies as 'beautiful' (and so 'aesthetic') have been debated (Bosanquet, 2005), yet historically foodstuffs have been rejected as objects worthy of aesthetic recognition and evaluation (Korsmeyer, 2002). Important to note is that this tradition is unique to Western aesthetic discourse which, unlike various non-Western counterparts, is extremely hierarchical and art-centred (Kelly, 1998). Modern aestheticians have largely rejected these practices, arguing for the expansion of Western discourse to recognise such 'everyday aesthetics' and their significance, power, and beauty (Brady, 2006; Saito, 2001). Although met with some resistance, particularly from Kantian thinkers (see Forsey, 2014), contemporary literature now widely agrees that no set group of objects are 'aesthetically worthy' - rather, 'anything at all, whether sensed or perceived, whether it is the product of

imagination or conceptual thought, can become the object of aesthetic attention' (Stolnitz, 1969, p.27).

A sense of urgency is increasingly apparent amongst aestheticians arguing for the increased aesthetic evaluation of everyday objects, stemming from their acclaimed significance not only to everyday life but also to the health of the planet (Irvin, 2008). Although people's everyday aesthetic inclinations and opinions are traditionally presumed insignificant, Saito (2011) argues that they affect our beliefs and behaviour to a remarkable degree. She suggests that significant repercussions, whether deliberate or unintentional, can therefore result from this 'power of the aesthetic' influencing our everyday choices and interactions - a neglected topic in literature. Western society is an example of this, holding many widespread, 'established' aesthetic values often noted to clash with ecological values (Brady, 2006).

This is increasingly apparent in the food industry, with a recent survey suggesting that 85% of UK adults are worried about climate change (Cecil, 2019), whilst 98-99% continue consuming animal products (Bryant, 2019). Thus, the importance of further researching the power of aesthetics is stressed, aiming to promote awareness of this power and its potential (environmental) ramifications (Ratiu, 2013; Saito, 2017).

The current leading argument uniting this power of aesthetics with ecological literacy is Saito's (2004) argument for 'thin and thick' aesthetics. She proposes that an object's dimensions can be divided into two aesthetic categories: 'thin', sensual, superficial qualities, such as taste, and 'thick' life principles, such as environmental footprint. Literature has argued that when an object is aesthetically repulsive in its thick sense, it will become impossible to enjoy it for its thin qualities alone (Foster, 2001). This suggests that ecological literacy *could* be a method of utilising the power of the aesthetic to advance humanity's concerted 'green agenda' (Brady, 2006; Saito, 2011) - in this instance, scientific attempts to mitigate climate change through encouraging a societal dietary shift away from animal products.

## 2.4 Green Aesthetics

Such research into the thick qualities of (animal) products points to issues of environmental ethics within (everyday) aesthetics. Mention of aesthetics within environmental ethics is dominated by a focus on wilderness aesthetics (Brady, 2013) - citing the untouched, natural aesthetic qualities of the environment as grounds for its preservation (Brady, 2013). This has led to the disregard of aesthetic responses to everyday practices and items, resulting in a tendency to miss their (environmental) ramifications (Raitu, 2013). 'Green aesthetics' developed partly in response to this, setting out to explore these everyday aesthetics in the context of environmental ethics (Saito, 2007).

One of the main focuses (and concurrent challenges) of green aesthetics is exploring whether ecological literacy could be employed as a tool to affect aesthetic attitudes and thus actions (Saito, 2010). In this regard, Saito (2007) highlights that green aesthetics regarding nature have been prioritised, with little research exploring green aesthetics in relation to products such as food. She provides one of the only attempts to explain this, proposing several challenges to the green aesthetics of objects. The main unique obstacle, she argues, is that environmentally damaging products widely seen as appealing (such as milk) must become more (aesthetically) negative on those (environmental) grounds (Saito, 2001; Eaton, 2001). The effectiveness of ecological literacy in achieving this is disputed in green aesthetics, with many scholars sceptical that it is powerful enough to induce *fundamental* aesthetic change (Cooper, 1992). Consequently, there are resounding calls for further research into this relationship (Saito, 2010).

## 2.5 Non-Representational Theory and (Green) Aesthetics

Human-geographical analysis places great emphasis on representation (Simpson, 2016). This approach has been widely criticised, resulting in the birth of non-representational Theory (Doel, 2010). Thrift (2008), who developed the theory, had concerns not with what is *revealed* by representational thought, but what is *excluded* (Boyd, 2016). Unlike representational

thought, non-representational Theory is 'the geography of what happens' (Thrift, 2008, p.2) as opposed to what has *already* happened.

Put concisely, literature generally agrees that non-representational Theory is 'an umbrella term for diverse work that seeks to better cope with more-than-human... multi-sensual worlds' (Lorimer, 2005, p.83). It explores the way experiences and 'forces' transpire in life (Dewsbury, 2009; Lorimer, 2005) in a non-anthropocentric manner, prioritising relations as opposed to voices which typically dominate representational thought (Anderson and Harrison, 2010; Thrift, 2008; Vannini, 2015). This could be revelatory when investigating the effects of ecological literacy, as the *deeper*, non-representational relationship between environmental ethics and aesthetic experiences could be explored before the occurrence of any representational rationalising or reflection.

Modern science exploring cognitive thought is unique in that recent literature widely criticises *representational* explanations of cognising, arguing that life 'happens' beyond humanity's cognising conduct (Anderson and Harrison, 2010; Boyd, 2016). Literature frequently compares the 'cognitive' to a 'reflex' (Maturana, 2011; Boyd, 2016), suggesting that conscious thought is not responsible for the development of 'beyond-feelings' - these occur much deeper than our rational cognising (Damasio, 2000). Of particular significance to green aesthetics are Thrift's (2008) and Manning's (2007) claims that bodies are reactive - that is, aesthetic 'feelings' and experiences are subject to change as the body is constantly evolving in response to the external contexts in which it is entwined (Vannini, 2015; Boyd, 2016). Thrift (2008) expands this idea of bodily reactivity in one of his core principles of non-representational Theory: affect.

Attempts to define affect are complex, but it is most simply understood as a *capacity* (Vannini, 2015) and *intensity* (Massumi, 2002) - a sensation resulting in the deep *shift* in the beyondconscious of the body much deeper than our rational cognising (Vannini, 2015; Spinoza, 2011, Deleuze and Guattari, 1987). This shift is expressed by the body's (changed)



feelings (Anderson, 2006), which 'are an assessment of affect in a moment of experience as it moves through bodies' (Boyd, 2016, p. 37).

Although affect has been criticised for largely undermining the significance of the 'emotions' of the everyday - owing to its central focus on the 'beyond-conscious' (Thien, 2005) - exploring the relationship between aesthetic experiences and ecological literacy through a non-representational approach could prove momentous. Because aesthetic feelings and experiences occur in this 'beyond-conscious' (Saito, 2011), it appears that ecological literacy must assume the role of affect and generate a shift in the resulting 'feelings'. non-representational methodologies and analysis may therefore provide some insight into the *effectiveness* of ecological literacy as an aesthetically *affective* tool and lay the foundations for investigation into the aesthetic-ethic relationship.

Precisely *because* aesthetic engagement happens much deeper than our rational cognising (Saito, 2011), literature has suggested that these affective, aesthetic feelings are central to the formation (and equally alteration) of ethical judgements (Eaton, 2001). Their ability to fundamentally *move* people is arguably much more effective in ethically sensitising people and instigating 'appropriate moral action' (Brady, 2006, p.280); in this instance, encouraging a dietary shift away from animal products. Insights into the extent (and effectiveness) of this relationship could prove invaluable considering the pressing climate emergency, given the potential for such considerations to unlock - or conversely hold back - the deep change to ways of life needed for urgent climate action.

## Chapter 3: Methodology

To investigate affective changes in the 'beyond conscious', a non-representational research approach was employed. It is important to acknowledge that there is no singular non-representational methodology (Vannini, 2015); numerous research techniques could be employed in a non-representative study. Where these methodologies differ in this context is their *style* - how they are utilised to deconstruct and re-animate life (Dirksmeier and Helbrecht, 2008).

### 3.1 Focus Groups

Focus groups were selected largely for their ability to facilitate 'piggybacking' (Leung and Savithiri, 2009), whereby exposure to numerous aesthetic (and ethic) opinions during group discussion encourages participants to reflect deeply on their own (aesthetic and ethical) experiences.

Four groups were conducted in total, each with six participants. According to Gill (2008), this is the optimum number of participants per group to enable thorough and equal discussion whilst preventing the chaos of competing voices. The groups were semi-structured (see Appendix A) to ensure that discussion remained relevant, whilst simultaneously allowing the researcher and participants to deviate so as to explore insightful responses further (Blee and Taylor, 2002). This is key when conducting non-representational research, as participants' responses are often unpredictable (Waterton, 2013). Two pilot focus groups were conducted beforehand to test the appropriateness of the questions and their ability to offer an insight into affect, but with the knowledge that they were not a definite precursor of success (Van Teijlingen and Hundley, 2011).

For the focus groups, three sets of questions (A, B and C) were developed. Set A explored the environmental impacts of food production, focusing on agriculture and (oat) milk. It was accompanied by relevant statistics and photographic resources (see Appendix B/C), which

were utilised owing to their incomparable capacity to instigate deeper dialogue (Acocella, 2012) and provoke, in this instance, discussion of environmental issues that may not otherwise have presented themselves. Set B explored the thin and thick dimensions of aesthetic experiences (Saito, 2004), and any non-representational affects, associated with (oat) milk. This involved participants seeing, smelling and tasting a glass of dairy and oat milk in order to refresh their aesthetic experience of each for discussion. Set C were some general concluding questions, revisiting environmental, aesthetic and ethical affects.

These questions were posed to two groups in the order 'A-B-C', and the remaining two groups 'B-A-C' in order to investigate the effects of priming with environmental ethics issues on the aesthetic experiences of milk (alternatives). This then opens up investigation into whether there is a connection between aesthetical and ethical sensitisation, and whether this is one- or two-way - which has significant strategic implications for using this relation as a way to advance green agendas.

Owing to the unprecedented circumstances of COVID-19, focus groups were unable to be run in person. They were instead conducted online over Zoom, a secure platform enabling private meetings that encrypts all meeting data (Zoom, 2020). Although this excludes people without access to the internet from participating, the sample need not be representative (Vannini, 2015) and thus this was not considered problematic.

During research, locations are highly significant as they generate micro-geographies (Rice, 2010) influencing the information participants decide to divulge (Sin, 2003). Due to being held over Zoom, participants were able to choose where they would like to be during their focus group. This may have inadvertently benefitted the research, as it is likely that each participant was somewhere they felt safe and comfortable, and so they may have been more open in discussion (Elwood and Martin, 2000).

Zoom also allows meetings to be securely recorded by the host. Thus, each group was recorded (with consent - see Appendix E), ensuring the researcher was able to be entirely present in the group and the evolving discussion (Rabionet, 2011). Furthermore, the recording not only accurately captured every *spoken* word, but also participants' *unspoken* reactions, body language, and vocal inferences - crucial when exploring affective responses (McFall, 2009).

The aforementioned circumstances also made recruiting participants increasingly difficult. Facebook was initially employed to gather participants but proved unsuccessful. Subsequently, snowball sampling was utilised, whereby several primary subjects suggested additional subjects they thought may participate in the research (Etikan, Alkassim and Abubakar, 2016). Snowball sampling can often result in participants originating from a similar location with a comparable background, ethnicity or social 'status' (Emerson, 2015) - all considered limitations in representational research. However, non-representational research is just that - 'rather than to resemble, it seeks to dissemble' (Doel, 2010, p.117). Whilst interested in affective patterns and trends, it is equally consumed with unpacking individual reactions (Waterton, 2013). Thus, participants need not be a representative sample, and so snowball sampling was considered an acceptable recruitment method.

### **3.2 Data Analysis**

Each focus group recording was transcribed following the verbatim system of transcription (see Appendix G/H/I/J). Verbatim transcription captures both verbal and non-verbal communications (Halcomb and Davidson, 2006), giving a more thorough insight into any affective feelings than provided by verbal dialogue alone (Phutela, 2015). Despite being criticised for the possibility of inaccurately transcribing unspoken cues (Loubere, 2017), the ability to record (and rewatch) both the audio and video footage of the groups meant that this was highly unlikely (McLafferty, 2004).

The transcriptions were then input into NVivo 12, a reputable program for analysing qualitative data (Bazeley and Jackson, 2013), and inductively coded (see Appendix K). NVivo 12 facilitates the identification of significant patterns, issues and themes from qualitative data, and is considered a powerful assistant in data analysis (Zamawe, 2015).

### **3.3 Ethics**

Given the potentially sensitive nature of the topics covered in this research, ethical considerations were integral (Resnik, 2015). Prior to commencement, an ethics form was completed (see Appendix F), addressing potential ethical issues following Lancaster University's research ethics code. A participant information form (Appendix D) and consent form (Appendix E) were subsequently devised, outlining the essential components of the research and other important information. This included the recording of the groups and the analysis and (anonymous) publication of the results, and was read and (virtually) signed by each participant. It also informed participants of their ability to withdraw from the research at any time and had them agree to keep the identity of others confidential. However, the potential for participants to break this confidentiality agreement and disclose other participants' identities when outside of the group was emphasised (Tolich, 2009).

Despite being unable to guarantee confidentiality, the recordings were promptly destroyed after their nameless transcription to preserve anonymity to the highest standards (Bishop, Aizlewood and Adams, 2014).

### **3.4 Positionality of the Researcher**

Throughout the research it was important to recognise my positionality as a vegan (Hopkins, 2007). As I refrain from consuming animal products for environmental-ethical reasons, there was a possibility that I would disagree with the opinions of some participants. If unmonitored, this could have affected the rapport between myself as the researcher and the participants

(MacDonald and Montford, 2014). Consequently, it was essential to be constantly reflective (McKinley, 2017), removing my personal opinions by identifying and resolving any unintentional bias that may affect the research and results.

## Chapter 4: Results and Discussion

### 4.1 How do the Aesthetics of Oat Milk differ from Traditional Dairy Milk?

To facilitate thorough exploration of the affect of ecological literacy, it is first important to discuss the thick and thin aesthetic qualities of each milk identified by participants. The 'BAC' focus groups will likely provide a better indication of the *typical* aesthetic qualities associated with each milk, as they were not first confronted with (and thus potentially influenced by) their associated environmental implications. Consequently, their discussions will be the focus of this subsection.

#### 4.1.1 Thick Aesthetics

Thick aesthetics go beyond superficial characteristics and are the life principles and symbolic significance embodied by an object (Saito, 2004). The focus group discussions reinforced the widespread belief that food is consumed for reasons beyond simply to survive (Looney, Dunkel and Wood, 2013; see Chapter 2, p.6). Clear themes emerged in these aesthetics, and thus they will be discussed accordingly.

##### 4.1.1.1 Cultural Identity

For the majority of participants, dairy milk appeared integral to the development of their (cultural) identities and was associated with a profound sense-of-self. Its symbolic significance was not only apparent when discussing their upbringing (*'...[milk] reminds me of growing up'* [PG]), particularly their school experiences (*'I... think of milk when I was at school... and the... excitement that you used to get'* [PA]), but also their adult life in the form of habits and traditions (*'we always used to have a glass of... milk... wouldn't be... Christmas without it'* [PJ]) and sense of being British (*'...summers in Cornwall with... ice-cream... British milk from the coast'* [PD]). Other studies have yielded similar findings (see Looy *et al.*, 2014; Wilk, 1999), and suggested that adopting specific foodstuffs (and thus their aesthetics) as a feature of culture facilitates the strengthening of their unique cultural identity on consumption (Tricarico and Geissler, 2017).

Following this, it is unsurprising that oat milk was rejected by some participants, owing to its vastly different thick aesthetic qualities - to PG, replacing milk is '*... like saying you're going to replace oxygen*'. Broadly, it challenges the Western cultural consumption of consuming animal products (Cherry, 2006); here, it challenges '*...summers in Cornwall*' (PD) and '*...Christmas [traditions]*' (PJ) to name a few. Prior to consumption, participants had already labelled the oat milk as '*hippy-dippy vegan rubbish*' (PA) that would '*...be the end of the British farmers and... local British milk*' (PA).

These aesthetics have likely resulted from the prominence of milk-alternatives in the vegan movement (Mylan *et al.*, 2019) and their reputation as 'radical' (Thomas *et al.*, 2019) despite having a multitude of environmental benefits compared to dairy milk (see Rööös, Patel and Spångberg, 2016). These proven, environmental aesthetics were not mentioned by participants for either milk, highlighting the potential significance of ecological literacy in (thoroughly) attending to the aesthetics of each milk and affecting it.

#### **4.1.1.2 Masculinity**

Issues of masculinity were also a central factor surrounding the consumption of dairy milk, matters that were not satisfied by the thick aesthetics of oat milk. For example, PG said that '*you might give [oat milk] a try but can you imagine sitting in the... pub, with the guys after... football explaining*' that. Masculinity issues have arisen in other studies (see Potts and Parry, 2010) and are likely attributed to the fact that consumption of animal products is associated with wealth (Speedy, 2003) and strength (Rothgerber, 2013).

The aforementioned 'thick' aesthetics of oat milk involving radical movements are generally not characteristic of traditional masculinity (Greenebaum and Dexter, 2018), serving to further highlight issues in transitioning away from animal products, and the potential significance of ecological literacy.



#### 4.1.1.3 Enjoyment

Consumption of dairy milk for enjoyment was cited by some participants as central to its aesthetic experience, to the extent that PM '*...couldn't live without it*'. This could be attributed to personal taste preferences (Badilla-Briones, Sanchez-Sabate and Sabaté, 2019) or attending to cultural identity (Pollan, 2008).

Alongside direct consumption, it also became apparent that milk is often used '*...more as an ingredient than a food item of its own*' (PW); Figure 1 displays the food products participants' associated with dairy milk. Thus, it appears that milk is embedded in a wider network of foodstuffs, and subsequently associated with their aesthetics also. This highlights the complexity of inducing a dietary shift away from animal products, and the challenges when attempting to render products more aesthetically negative given their environmental values.

Further complications arise as milk is often enjoyed as an *ingredient* by those who do not enjoy its direct consumption: '*you can make porridge with water but it's... not the same as having milk*' (PG) - '*...even as a non-milk lover I would agree*' (PC). In a nutshell, not only is milk often consumed *directly* for enjoyment, but is also consumed (and enjoyed) *indirectly* through other foodstuffs.

#### 4.1.1.4 Health

The aesthetic experience of dairy milk consumption was closely associated with the formulation of good health: milk was said to contain '*...a lot of vitamins*' (PF) which are '*...good for teeth and bones*' (PA). Holm and Møhl (2000) suggest that such beliefs are typical of Western culture, where (historically) it was in political-economic interest to publicise the 'health benefits' of dairy (Development Economics, 2017), leading to the mass indoctrination of Westerners that dairy was a dietary essential. PK exemplified this, stressing that '*...the health benefits have always been drummed into us of drinking dairy milk... and... we should have milk at least three times a day*'.

Dairy milk was also compared to breastmilk, which was natural and nutritious as it ‘...came from me... and you think milk straight from the cow is doing a similar thing’ (PK). There is, however, a growing body of evidence outlining the health concerns surrounding dairy milk consumption (see Iftikhar, 2020). These thick aesthetics were excluded from discussion, likely due to challenging British societal norms surrounding dairy milk utilisation (Tricarico and Geissler, 2017) or consumer unawareness.

Health was not cited as an aesthetic component of oat milk, despite it generally providing the same nutritional benefits with fewer health drawbacks (Cooper, Rivero-Mendoza and Dhal, 2020). Overall, participants were unaware of these benefits (‘does oat milk give you the same nutrients’ [PK]) or misinformed of its health effects (‘...dairy milk is surely so much better for you because it’s natural... oat is just artificial rubbish’ [PA]).

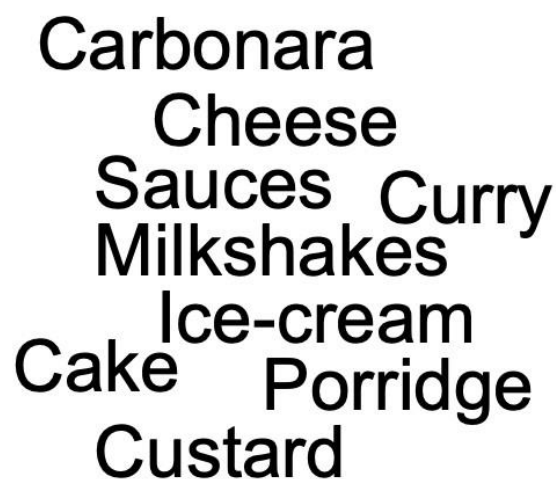


Figure 1: A word-cloud created to show the other foodstuffs that participants associated with dairy milk.

#### 4.1.1.5 Concluding Thoughts

The manifestation of such 'thick' aesthetic qualities served to exemplify the (aforementioned) challenge of ecological literacy anticipated by Saito (2007) - that is, making environmentally damaging products less appealing based on this factor. However, the focus groups suggested that the thin, superficial aesthetics of foodstuffs may play an important assisting role in the mission to transition away from the consumption of animal products.

#### 4.1.2 Thin Aesthetics

Figure 2 provides an overview of the most frequently used adjectives to describe the thin aesthetic qualities of each milk. Despite noting differences between them, most notably in their colour, taste, and texture, a large majority of the participants remarked at their similarities. They observed that not only did '*they both resemble milk*' (PP) and they could '*...hardly find any difference*' (PG), but the milks were remarkably similar to the extent that '*if you hadn't got them side by side, you probably wouldn't notice*' (PK). A minority of participants even claimed that they '*...actually... prefer the oat milk*' (PS) and that they '*...would actually buy it*' (PM). Even those that preferred the dairy milk remarked that '*...if it's the same, if [the oat milk] tastes the same, it's got... a chance [of replacing milk]*' (PR) as they '*...wouldn't feel as much like I was missing it [milk]*' (PK). This is likely down to the fact that foods generally possess (and thus are affiliated with) several recognisable thin (and thick) aesthetics (Chung *et al.*, 2016) - the removal of which may generate a disgusting affect (Vercelloni, 2017). PA exemplified this, when '*((at the mention of oat milk, [PA] pulls a disgusted face and picks up the glass reluctantly))*'.

Bubandt (1998) suggests that such reactions are not necessarily because the aesthetic experience is *actually* disgusting. He argues that these are often *learned* responses to unusual aesthetics in order to preserve the aforementioned sense-of-self created (and reinforced) by the consumption of traditional aesthetics. Pliner and Stallberg-White (2000) suggest that thin aesthetics could be used to remedy this to an extent, if they are made to imitate those familiar

thin aesthetics. In this instance, this may involve making the oat milk creamier and whiter. The similarity of these thin aesthetics may then instigate a similar thick aesthetic experience during consumption (Stiles, Altiok and Bell, 2011), suggesting that the ‘...*British farmers*’ (PA) and ‘...*natural... fresh and local*’ (PM) were involved in the production of the oat milk when they were not (Stiles *et al.*, 2011). This further familiarises the ‘unfamiliar’ milk (Castro Delgado *et al.*, 2020), providing the illusion that helps maintain the sense-of-self associated with dairy milk (Pliner and Stallberg-White, 2000).

Such findings are significant as they suggest that thin aesthetics could be used (potentially alongside ecological literacy) in the mission to render environmentally positive, ‘new’ objects/foodstuffs aesthetically positive and adopted. This is particularly significant here in light of the aforementioned thick aesthetics, with many participants unwilling to remove milk from their diet, claiming it ‘*definitely essential*’ (PE). These sub-findings, however, do not detract from the potential ability and effects of ecological literacy. This is still of central importance as it is one of the only proposed solutions to (potentially) rendering traditionally *positive* dairy milk (and other foodstuffs/objects) aesthetically *negative* (Springmann *et al.*, 2018).

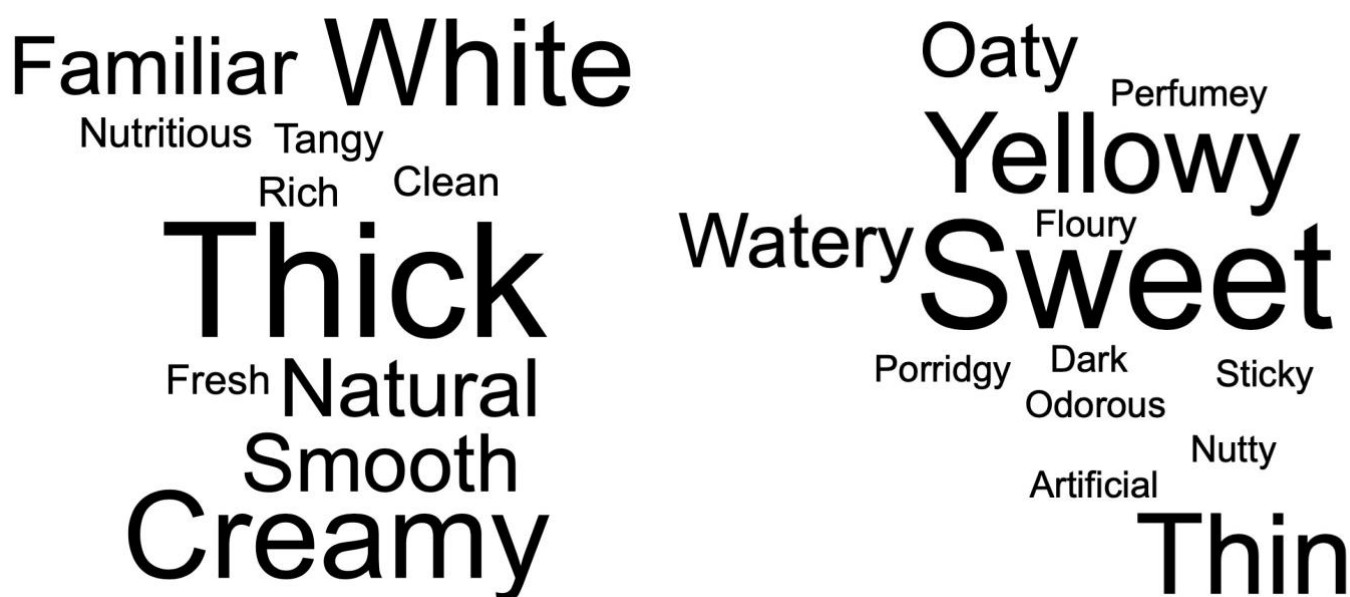


Figure 2: two side-by side word-clouds comparing the thick aesthetics participants associated with milk (left) and oat milk (right).

## 4.2 In What Ways Does Attending to the Environmental Implications of Food Choices Affect (Non-Representationally) the Aesthetic Experience of (Oat) Milk?

The ability of ecological literacy to affect aesthetic experience fundamentally is highly contested (Cooper, 1992). Previous investigation into (oat) milk aesthetics facilitates analysis of such affects, which will be explored utilising both spoken and unspoken elements of discussion. This allows us to begin the (environmentally) significant process of determining the effectiveness of ecological literacy as an affective tool (Saito, 2010).

### 4.2.1 Environmental Implications before Ecological Literacy

Although not of *direct* importance to this study, it is worth noting that participants largely overlooked and severely underestimated the environmental impacts of animal husbandry (and dairy milk). PO argued that *'...there's way more damaging stuff'* and *'I definitely don't think that's [animal husbandry] the main concern, with regards to the environment'* (PN). Instead, *'...electricity generation'* (PC), *'...fossil fuel[s]'* (PC), *'...consumerism'* (PN), the *'...increasing population'* (PM), *'...packaging'* (PL) and *'...transportation'* (PE) were cited as the driving factors behind environmental degradation. Studies investigating public awareness of environmentally damaging foodstuffs yielded similar findings (Camilleri *et al.*, 2019), further emphasising the importance of attending to their environmental aesthetics owing to the potential significance this may have in advancing green agendas (Saito, 2011). This is reinforced by the general unawareness of participants to the environmental benefits of oat milk over dairy milk: *'I can't see how much better [oat milk] would be'* (PO), *'...you have to... use electricity, and... transport and store [it]'* (PP) and *'...it would take up even more land to farm all those [oats]'* (PQ).

#### 4.2.2 Thick Aesthetics after Ecological Literacy

When attending to (oat) milk's thick aesthetics, the ABC groups centred much of their discussion on their environmental dimensions - providing a sharp contrast to BAC's discussions. For PS, *'usually you wouldn't think anything of [the environmental impacts], but now... I actually know what the impacts are... it does play on your mind'*. Similar thoughts were expressed by other ABC participants, reinforcing the belief that ecological literacy *could* have some power as an aesthetically affective tool.

Of the environmental dimensions discussed, both groups centred much of their concern around the 'koala', and how other *'...cute'* (PQ) animals may be affected: *'it just breaks my heart to think that... this milk... displaces poor animals like that... koala... and they haven't done anything wrong'* (PX) and *'...thinking I could prevent that poor koala from being displaced... would stop me from drinking cow's milk'* (PC). Although participants reflected on other environmental dimensions, including the *'...spoilt clean air'* (PR) and *'...ruined, green lake'* (PW), they appeared most passionate about wildlife and habitat degradation.

According to numerous wildlife aestheticians (Brady, 2006; Rolston, 2002), that which we find aesthetically *pleasing* we feel more inclined to protect, explaining this focus on 'cute' animals and less so on the unruly landscape. This is highly significant, suggesting that ecological literacy focusing on 'photogenic' animals (and our general aesthetic preferences) is most affective - a theme explored more so in Sub-Section 4.3.2.

A drastic change was also observed in the 'thick' aesthetics of oat milk. This saw a transformation from its general perception as *'hippy-dippy vegan rubbish'* (PA) to (more of) a symbol of *'...progress... towards a... sustainable future and... living... within... our environmental means'* (PV). Several participants also inquired about *other* milk alternatives and displayed an openness to trying them as a dairy alternative. Such transformation was, in part, likely owing to participants' overall unawareness of the environmental dimensions of

either milk beforehand, a common finding (regarding foodstuffs) among the general public (Vanhonacker *et al.*, 2013), coupled with the severity of the environmental problems visually illustrated by the photos (see Appendix C). Although oat milk challenges prevailing orthodoxies of Western cultural identity (Pliner and Stallberg-White, 2000), environmental problems threaten its very existence; if unresolved, there may be no world in which to preserve and celebrate culture. Thus, products such as oat milk likely appear as favourable alternatives to those pushed by many *radical* vegans that reject any animal-imitation product; they serve to 'preserve' culture *and* the environment.

Important to note, however, is that this 'transformation' was not unanimous, nor a complete 'reform'. PA in particular maintained a level of animosity towards the oat milk, re-emphasising his belief that '*...it's a threat to British farmers and their livelihood... and the cows wouldn't exist if it wasn't for them!*'. PA's aesthetic rejection of the oat milk is likely (in part) rooted in his occupation as a farmer. Not only does dairy milk form a huge part of his cultural identity, but is also part of his entire *being*; oat milk appears to threaten everything he knows (Fukuda, 2016).

Despite the overall transformation of the thick aesthetic experience of oat milk, dairy milk's thick aesthetics still remained partly positive. Sceptics of the effectiveness of ecological literacy may attribute this to a lack of affective power (Cooper, 1992); such long-standing aesthetical relationships may be so fundamental that they are unable to be overcome by environmental concerns, from which many Westerners are disconnected. And, although these thick aesthetic changes suggest ecological literacy induced *some* form of deeper, affective change, it is difficult to be conclusive without also investigating thin aesthetic reactions, which provide more of an insight into the innate, 'beyond-conscious' feelings (Vercelloni, 2017).

### 4.2.3 Thin Aesthetics after Ecological Literacy

Post ecological literacy, changes were generally observed in all participants' thin aesthetic experiences of oat milk. Despite displaying overall trends, these changes did vary on a participant-to-participant basis.

The majority of participants in both groups (ABC and BAC) experienced *some* changes to oat milk's thin aesthetics. Generally, participants become more *accepting* of its (slightly different) taste, and more positive about its differences (to dairy milk). For example, PL, who previously wrote off the oat milk as '*...too sickly sweet and... perfumey*', suggested that '*...it's actually not so bad... quite nice actually... that it's a bit sweeter, it'll go better with my cereal*'.

These shifting, spoken responses were supported by unspoken acts. Most notably, PG, who was initially dismissive of and reluctant to try the oat milk, not only said that it was '*...actually quite refreshing*' but also '*((...finished his glass of oat milk and poured himself another))*' and '*((...continued to sip on it whilst the discussion was ongoing))*'. Additionally, PG '*((...picked up and studied the bottle of oat milk))*' and '*((...nodded admirably))*' whilst examining it. Together, these spoken and unspoken findings suggest the occurrence of *some* form of affective change attributed to attending to the thick environmental dimensions of oat milk's aesthetics - likely due to a combination of factors.

First, the environmental benefits of consuming oat milk as opposed to dairy milk could positively enrich the aesthetic experience, making it more enjoyable (Foster, 2001). Secondly, the extreme thin aesthetic similarity to dairy milk likely facilitated this transition in part; the thin aesthetics of the oat milk give it some sense of authenticity that make it appear at least a member of the 'milk family,' making the transition less 'extreme' (Pliner and Stallberg-White, 2000).



Thin aesthetic reactions to dairy milk, however, with the exception of PC, remained relatively unchanged. Although some participants felt guilty, PU said they *'...might buy it less but... will enjoy it... often'*. Thus, there was no apparent affective change to the thin aesthetic experience of dairy milk, in spite of enhancing participants' ecological literacy. This may be because much of 'taste' preferences are thought to be innate (Vercelloni, 2017), in combination with the strength of milk's 'positive' thick aesthetics (Tricarico and Geissler, 2017), as discussed previously.

PC, however, appeared to experience a dramatic thin aesthetic change. Initially, PC said they *'...really enjoy[s] a cold glass of milk'* and they *'[do not] mind the oat milk but nothing could beat the classic [dairy milk]'*. After attending to the environmental implications of both milks, PC notably, *'(when asked... sipped the dairy milk reluctantly)'* and claimed to *'feel guilty with every sip, so it just doesn't taste good anymore... well it is good... but... it's not enjoyable... the taste itself doesn't repulse me, it's still nice, but... knowing... the damage it causes and all of those animals whose habitats are destroyed, I feel horrible and... gross every time I drink it'*.

This finding, although not universal to all participants, is highly significant; both the spoken *and* unspoken elements indicate that ecological literacy instigated an affective change. Thus, it appears that ecological literacy *could* be an effective affective tool, but its affectiveness appears to be dependent on the individual. This may be due to pre-existing factors; for example, identity and moral-life values, in combination with (the strength of) an individual's relationship with dairy milk. In this instance, PC identifies as a vegetarian, who refrains from consuming meat for environmental-ethical reasons. Consequently, they are likely more affected by environmentally ethical factors (Rothgerber, 2015) and thus are potentially more predisposed to such affective change.

This idea is reinforced by PA, also in group BAC, who appeared to experience no fundamental affective change towards oat milk's thin aesthetics. PA, *'(speaking passionately and defensively)'* maintained that *'...British [dairy] milk... is so much better... none of this artificial oat milk... you can't beat that taste... that hard work and love put in by those farmers... it's irreplaceable'*, despite being confronted with the environmental dimensions of both. This is likely because of his aforementioned occupation as a farmer, and thus deep-rooted connection to dairy milk and perception of oat milk as a fundamental threat to his livelihood as well as his identity (Cherry, 2006).

### **4.3 How do (Non-Representational) Dimensions of Aesthetics and Aesthetic Experience Affect Ethical Sensitisation and Responsiveness to the Environmental Implications of each Milk?**

Prior analysis of the affects of ecological literacy on aesthetic experiences has provided solid foundations for the exploration of claims regarding the relationship between aesthetics and ethics. In particular, Eaton (2001) suggests that human morality may be affectively shaped by aesthetic engagement, especially when attending to aesthetics supported by science (Carlson, 2000). This section will attempt to investigate the aesthetic-ethic relationship, exploring the affects of aesthetics *post* ecological literacy on the participants' ethical responsiveness to the environmental implications of each milk.

#### **4.3.1 General Trends**

As previously discussed, with the exception of PC, there appeared to be no fundamental affective change to the general thin aesthetic experience of dairy milk. Participants' thick aesthetic experience of dairy milk, however, did appear to be generally affected post ecological literacy for both ABC and BAC groups. Initially, discussion of these reformed thick aesthetics indicated that some level of ethical sensitisation had occurred in the majority of participants. PC, for example, mentioned '*...how ((sounding exasperated)) horrible it is for the environment*', and PK argued that '*((...sadly)) it takes up an unfair amount of land to produce*'. Such negative, unspoken reactions indicate that some affective *feeling* has occurred (Afifi, 2007), an idea reinforced by the increased use of negative language when discussing dairy milk's thick aesthetics.

This suggestion of ethical sensitisation was further reinforced when participants revisited the causes of the environmental problems. Notably, participants assumed more personal responsibility, citing themselves as '*...((sadly)) part of the problem*' (PU) '*...as we... vote with our money*' (PC). Furthermore, although the thin aesthetics remained largely the same, it did appear that they were experienced somewhat differently. PW said that, now, '*...it's like a guilt trip every time you drink it*' and '*knowing [the environmental impacts] you do feel guilty*' (PM)

*'especially because you don't need to have it... if there are alternatives that are better for the environment'* (PK). Resultantly, numerous participants said they *'...would reduce the quantity of cow's milk [purchased] but... wouldn't stop buying cow's milk or... derivatives'* (PG). (PB). This could be attributed to the fact that despite not inducing innate disgust towards the thin aesthetics of dairy milk, ecological literacy altered the overall aesthetic experience somewhat, resulting in a form of affective change (Foster, 2001) that encouraged participants to develop a more 'moral attitude' towards the dairy milk (Rolston, 2002).

On the other hand, PB suggesting that they will consume it as more of *'...a guilty pleasure'* indicates that being alert to the ethically problematic nature of milk may elicit BOTH ethical *rejection* and yet *even more* enjoyment, as a kind of 'forbidden treat'. This further signifies the complexity of this relationship, emphasising the levels of individuality in affective responses.

Ethical sensitisation was also apparent, arguably more so, in both the thick *and* thin aesthetics of oat milk. Following what appears to be affective aesthetic change regarding the oat milk, participants overall felt much more *'...positively'* (PW) towards it: *'((exasperated)) it... really... highlights issues with our consumption... we continue to buy the way we do without... questioning... which... got us in this mess in the first place, when there are viable alternatives... we are dismissing when... we have a responsibility to change'; 'I will 100% explore the alternatives'* (PK); *'...((avoiding eye contact with RL)) I really should stop being naive just because it suits me, even if... I can only do a little bit'* (PU). By avoiding eye contact, PU indicates a sense of shame (McFall, 2009), and the exasperation (Mandal, 2014) and growing sense of responsibility held by participants indicates an increase in their ethical responsiveness to the environmental repercussions of each milk.

It is worth noting that this increased aesthetic sensitisation to oat milk's environmental dimensions also appeared to increase participants' ethical responsiveness towards *both* milks, despite no (at least immediate) negative affect to dairy milk's thin aesthetics. This points to the potential strength of having a (milk) alternative that may come to be palatable or even *liked*,

versus the much greater difficulty of making people dislike something they already aesthetically enjoy.

#### 4.3.2 Stronger Responses

Some participants experienced stronger aesthetic reactions after attending to (oat) milk's environmental dimensions. These participants also experienced illuminating ethical sensitisation.

PC, who appeared to experience a severe affective change in the aesthetic experience of both milks, also appeared to become increasingly ethically responsive. *'It's so sad... that... we see this milk as... essential and we keep buying it, even though it contributes to the destruction of... habitats and animals like that koala have nothing to do with it and yet they're the ones affected... it's just us... being closed minded and not thinking... trying not to... and not wanting to open our eyes and educate ourselves on these... things... staying mindless... I'm really disappointed in myself'*. As previously mentioned, PC focuses much of her discussion on animals, and they appear to be the source of her (ethical) guilt.

Although unsurprising given PC's vegetarianism (Rothgerber, 2015), this animal-focus as a source of guilt was a common theme amongst participants, as previously mentioned. Additionally, participants also cited feeling guilty about the degradation of landscapes familiar to them, such as *'...Los Angeles'* (PP) and *'...Beauport beach'* (PQ). Thus, it appeared that believing their consumption of milk would affect these familiar, loved aesthetics not only generated a more severe *aesthetic* affective response, but also generally provoked an increased sense of *ethical* responsiveness amongst participants. According to Hettinher (2005), humans feel more aesthetically responsible for (and thus obliged to protect) 'cherished', places and faces. This finding is significant in advancing the green agenda, suggesting affective aesthetic and ethical change is more likely when appealing to people's 'cherished' places. However, this also presents a problem; if ethical responsiveness is only

enhanced in relation to such places, what is to be done about those wild, unruly places that also need protecting (Rolston, 2002)?

PA, who appeared to experience minimal affective aesthetic change towards (oat) milk, did appear to become more ethically responsive to the environmental implications of each milk. *'I can see the appeal... being so much better for the environment... I'll definitely think more about how I can make my [farm] milk a bit better'* (PA). This suggests that, although PA's aesthetic experience of milk was not affectively rendered 'disgusting', there was perhaps a slight change to aesthetic experience that led to increased ethical responsiveness. Worth considering is whether the discussion of the affective meaning of dairy milk *prior* to attending to its environmental dimensions may have elicited a responsiveness in PA that a purely scientific, objective discussion would not. Although possible, it is seemingly unlikely; owing to PA's daily exposure to dairy milk, with his livelihood relying on its sales, it is likely that he would remain defensive of dairy milk even when provided directly with the facts.

A final interesting finding is related to PH, who appeared to experience some thick aesthetic change towards oat milk but was no more ethically sensitised or responsive: *'I'll just forget about it and move on. I'll continue to be ignorant just drinking my cows milk'*. From this, it could be concluded that there was actually no affective aesthetic change, owing to PH's acclaimed ability to *'...forget about it and move on'*. This would not be possible in light of an affective change, whereby a person is fundamentally *moved* (Anderson, 2006). Alternatively, it implies the involvement of a third component - potentially the propensity of the self to remain 'undisturbed' - that is able to overrule both new *factual* and new *aesthetic* input.

This does not nullify the previous discussion on the general affectiveness of ecological literacy, but simply reveals that some people will *not* be changed. In turn, however, the existence of a flawless, unanimously aesthetically affective 'tool' able to channel and induce positive change is refuted. This is not necessarily to be taken as a precursor for certain environmental 'demise',

but rather highlights a crucial shift in the expectations of change: ultimately, the goal should be to instigate a 'sufficient' affective shift in *enough* people that, regardless of those that resist, change happens in aggregate.

#### **4.4 To the Extent there is a Positive Relationship between Aesthetic and Ethical Sensitisation, is it One-way or Two-way?**

Previous discussion has laid the groundwork for informed conjecture as to whether there is a positive relationship between aesthetic and ethical sensitisation. Although important to note that this body of research is not without limitations, and the findings are by no means conclusive, such research is a step towards important findings in utilising the power of the aesthetic to advance humanity's concerted 'green agenda' (Brady, 2006; Saito, 2011).

Overall, there appears to be a positive relationship between aesthetic and ethical sensitisation. Participants who appeared to experience some form of affective change to their aesthetic experience of either milk also became more ethically sensitised, notably feeling '*...guilty*' (PB) and increasingly '*...responsible*' (PK). Literature arguing for the fundamentality of the relationship between aesthetics and ethics would predict such a relationship (Eaton, 2001), suggesting that it is through such aesthetic experiences that moral identities are formed (Rolston, 2002) - thus why affective, aesthetic changes affect ethical responsiveness and sensitisation.

Important to note, however, is that the extent of this relationship varied from person to person - in some cases more than others. This appeared to be dependent on the level of affected aesthetic change, with some exceptions: PA, whose first-hand experience of milk from cow-to-bottle is thought to have resulted in ethical sensitisation without aesthetic change, and PH, whose propensity of the self to remain undisturbed may have resulted in aesthetic sensitisation with minimal ethical responsiveness.

Important to also address is whether this connection was one-way or two-way - that is, whether *first* attending to aesthetics makes participants more or less likely to care about environmental ethics, and vice versa, whether priming with environmental ethics issues makes them more or less likely to appreciate the aesthetics of milk alternatives. It was clear upon analysis that this relationship is two way, which is why discussions of each group's findings have been



integrated. ABC groups were initially more likely to address and respond to environmental ethics, but after ecological literacy, BAC groups followed suit. Following ecological literacy, both groups also seemed to display similar levels of ethical responsiveness and sensitisation.

These findings have significant strategic implications for advancing the green agenda, suggesting that this aesthetic-ethic relationship can be exploited in an attempt to instigate a Western transition away from the consumption of unsustainable foodstuffs.

## Chapter 5: Conclusion

The aim of this research was to illuminate the affects of ecological literacy on aesthetic experience, and to determine whether attending to aesthetics provoked increased ethical responsiveness to the environmental implications of participants' food choices. This facilitated the exploration of the *dimensions* of this aesthetic-ethic relationship, offering valuable insights into whether this relationship is one- or two-way. To analyse this, sub-questions were developed, the findings of which will be summarised in this chapter.

Milk, said to be as common as '...oxygen' (PG), was widely cited as a central component of participants' (cultural) identity. The political-economic interests of Western governments explain this; their longstanding advocacy for the regular consumption of dairy milk as essential for good health elucidates participants' general feelings of nourishment on consumption. In comparison, there was a noticeable lack of association between health and *oat* milk.

Feelings of wealth and masculinity also came to the fore, and the pleasure associated with dairy milk consumption as part of a wider network of (cultural) foodstuffs reinforced this fundamentality, leading to the general rejection of oat milk *despite* thin aesthetic similarities. Its thick aesthetics instead of radical veganism, pushy environmentalists and rebuttal of societal norms appeared often to provoke this 'disgust' before participants had even taken a sip. This 'disgust', however, was not unanimous, offering promise to ecological literacy.

Participants' general underestimation of the environmental implications of each milk (and of the agriculture sector) were stark. Priming with ecological literacy emphasised this, with much of ABC's thick aesthetic discussions centering around these dimensions in sharp contrast to BAC's. In particular, discussion of oat milk's thick aesthetics was dramatically affected, shifting from a symbol of *protest* to a symbol of *progress* - and a way of preserving the environment *and* (to an extent) culture, a favourable alternative to abandoning even the *idea* of animal products in light of the climate crisis. This shift was reflected in many participants' increased

acceptance (and sometimes preference) of the taste differences, although this was not unanimous - raising the question of the *extent* of the affective power held by ecological literacy.

These questions were reinforced by re-attending to dairy milk's aesthetics, in which change was twofold. Despite a general movement to more negative perceptions of dairy milk, mostly stemming from concern that consumption was affecting familiar places and faces, its thick aesthetic dimensions were still largely positive. This was reflected in no shift to thin aesthetic 'disgust' in most participants, though complicated by PC who, *despite* also not experiencing 'disgust' towards the taste, became repulsed by the thought of consuming the milk.

These findings illuminate what appears to be an intricate, complex aesthetic-ethic relationship. Despite minimal affective change to dairy milk's thin aesthetics (at least in the immediate context of this research), changes in its thick aesthetics did appear to increase ethical sensitisation and responsiveness. Increased feelings of guilt and responsibility, oat milk's dramatically affected aesthetics and participants' general willingness to transition/reduce dairy milk consumption suggest not only the *affectiveness* of ecological literacy, but also a positive aesthetic-ethic relationship. With concerns surrounding the aforementioned 'familiar places and faces' appearing to motivate much of this change, it is suggested that such NIMBYism could be exploited to maximise the affectiveness of ecological literacy as a tool to advance the green agenda. However, this must be done with caution (see p.25), particularly in light of the complexity of this relationship; oftentimes, ecological literacy resulted in *both* ethical rejection and yet increased enjoyment, which may inhibit this advancement to an extent.

Furthermore, the (general) increased ethical responsiveness towards *both* milks, apparently driven by attending to oat milk's environmental dimensions, suggests the importance of having a palatable alternative when attempting to induce widespread transition, as opposed to solely relying on ecological literacy to render milk, already aesthetically appreciated, unenjoyable.

Overall, the general affectiveness of ecological literacy in inducing aesthetic, and thence ethical, change is brought to a head by PH. PH showcased that some people's self-will to remain deeply 'unaffected' renders ecological literacy largely ineffective. This finding recommends a shift in the expectation of ecological literacy as an affective tool. It should be utilised not with the expectation of universal transformation, but the expectation of *sufficiently* changing *enough* people to cause *aggregate* change - ample to mitigate the ever-looming threat of climate change.

## **5.1 Limitations and Recommendations**

Reflectively, the main limitation of this study was the short duration (50 minutes) of the focus groups. Many of the participants underwent dramatic, affective changes that would have been interesting to explore in the long-term, particularly as several claimed that they would change their consumption habits. Furthermore, the new environmental information provided may require longer than 50 minutes to take affect so that the dairy milk becomes spontaneously disgusting. This does not detract from the findings of this study but suggests that it may have sown the seed of a more visceral aesthetic response to dairy milk, even if not immediately evident. Thus, investigating these affects on a more intimate, temporal scale may *enrich* the findings, offering a further insight into this aesthetic-ethic relationship and the effectiveness of ecological literacy as an aesthetically affective tool.

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## **Appendix A - Focus group questions**

### **1A. Environmental impacts of food (production)**

1. How do you feel when you see these pictures?
2. What do you think are the main causes of environmental degradation and why?
3. Do you believe food production, specifically agriculture has any environmental implications, and what do you think they may be?
  - a. What about cows milk production?
  - b. What about oat milk production?
4. Do you think about this environmental degradation when making purchases? / Does it affect what you purchase and why?
5. Did you know those impacts/statistics? (open stat document)
  - a. How do they make you feel?

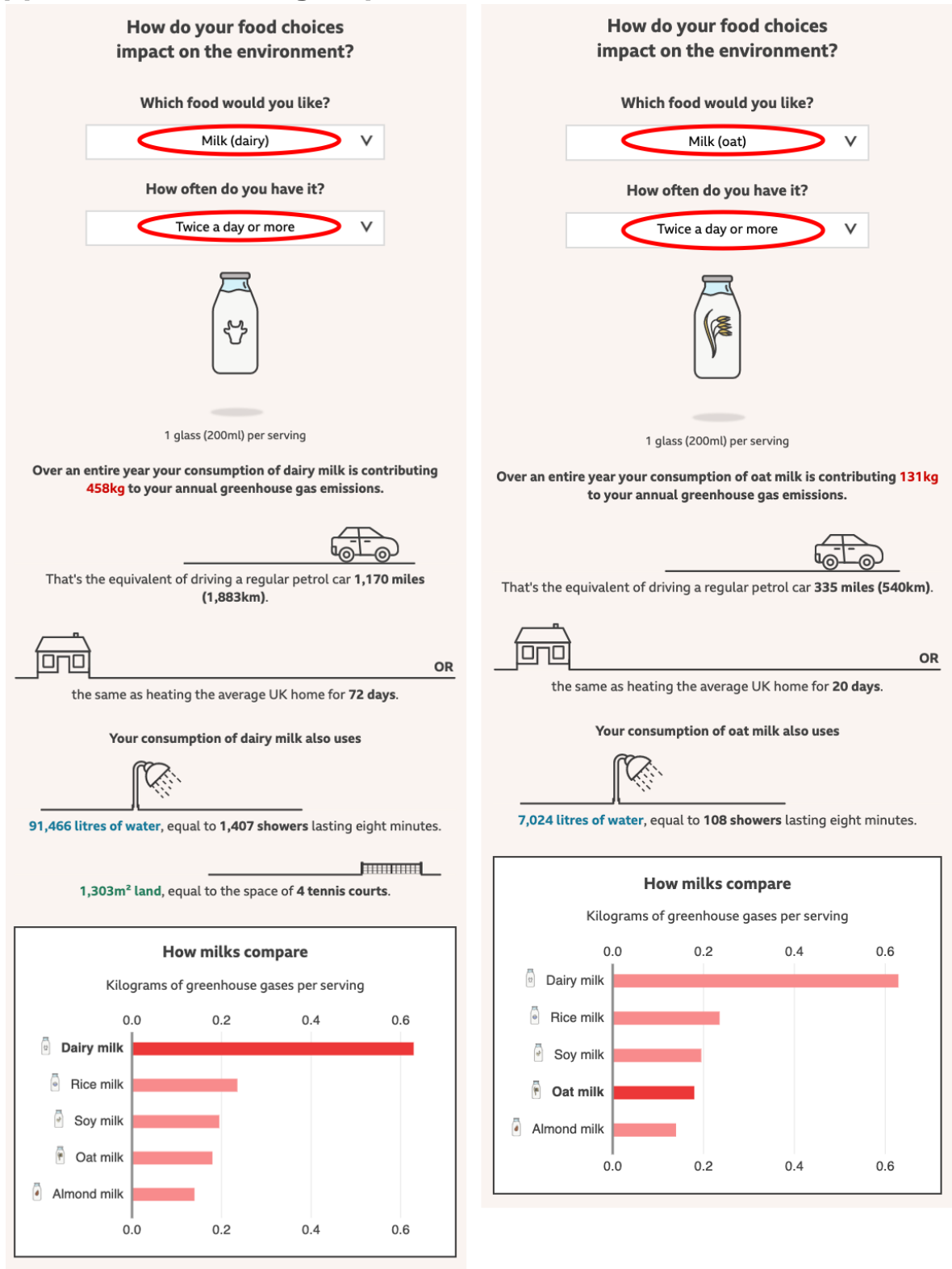
### **1B. Attending to the aesthetic experience of milk (alternatives)**

1. When you think of milk, what do you think of and why?
  - a. What does milk mean to you?
  - b. Do you often buy milk, and why?
  - c. How important is milk to you and why?
2. When you think of oat milk, what do you think of and why?
  - a. What does oat milk mean to you?
3. Can you notice any similarities and/or differences between these two glasses of milk?
  - a. What and why? (e.g. taste, smell, appearance, consistency etc...)
  - b. Which one do you prefer and why?
4. One of them is a milk alternative - which one and why?
5. Taste them again - what do you think about when drinking them?
  - a. Which one would you prefer to drink/buy and why?

### **2. Final questions**

1. Do you feel as though you experience both milks the same now as when we began the focus groups, and why?
  - a. What do you think about when drinking them?
  - b. How do you feel about each milk?
  - c. Which one do you prefer and why?

## Appendix B - Focus group statistic materials



Above: screenshot of the estimated environmental impacts of drinking (oat) milk twice a day or more (source: Guibourg and Briggs, 2019, using data from Poore and Nemecek, 2018).

### How do your food choices impact on the environment?

Which food would you like?

Milk (dairy) ▼

How often do you have it?

3-5 times a week ▼



1 glass (200ml) per serving

Over an entire year your consumption of dairy milk is contributing **131kg** to your annual greenhouse gas emissions.



That's the equivalent of driving a regular petrol car **334 miles (538km)**.



OR

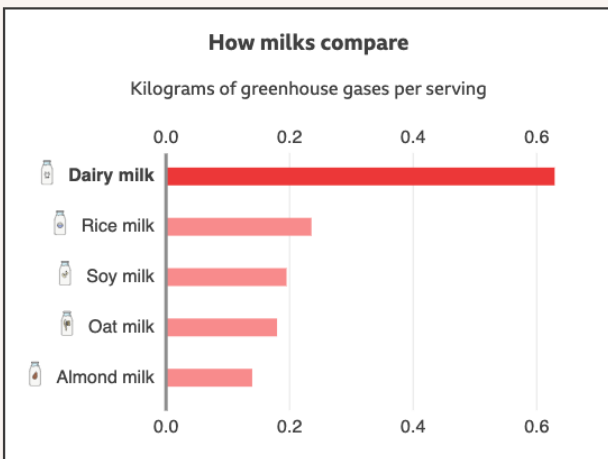
the same as heating the average UK home for **20 days**.

Your consumption of dairy milk also uses



**26,133 litres of water**, equal to **402 showers** lasting eight minutes.

**372m<sup>2</sup> land**, equal to the space of **1 tennis court**.



### How do your food choices impact on the environment?

Which food would you like?

Milk (oat) ▼

How often do you have it?

3-5 times a week ▼



1 glass (200ml) per serving

Over an entire year your consumption of oat milk is contributing **37kg** to your annual greenhouse gas emissions.



That's the equivalent of driving a regular petrol car **96 miles (154km)**.



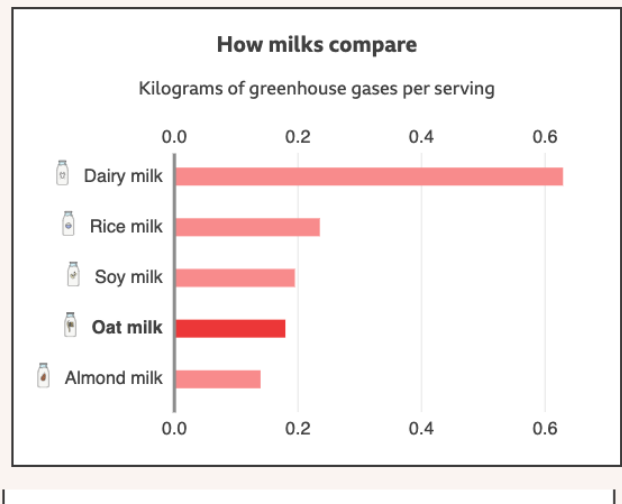
OR

the same as heating the average UK home for **5 days**.

Your consumption of oat milk also uses



**2,007 litres of water**, equal to **30 showers** lasting eight minutes.




Above: screenshot of the estimated environmental impacts of drinking (oat) milk once a day (source: Guibourg and Briggs, 2019, using data from Poore and Nemecek, 2018).

### How do your food choices impact on the environment?


Which food would you like?

How often do you have it?




1 glass (200ml) per serving

Over an entire year your consumption of dairy milk is contributing **49kg** to your annual greenhouse gas emissions.




That's the equivalent of driving a regular petrol car **125 miles (202km)**.



OR

the same as heating the average UK home for **7 days**.

Your consumption of dairy milk also uses



**9,800 litres of water**, equal to **150 showers** lasting eight minutes.

#### How milks compare


Kilograms of greenhouse gases per serving

Milk Type	Kilograms of greenhouse gases per serving
Dairy milk	0.5
Rice milk	0.25
Soy milk	0.2
Oat milk	0.18
Almond milk	0.15

### How do your food choices impact on the environment?


Which food would you like?

How often do you have it?




1 glass (200ml) per serving

Over an entire year your consumption of oat milk is contributing **14kg** to your annual greenhouse gas emissions.




That's the equivalent of driving a regular petrol car **36 miles (58km)**.



OR

the same as heating the average UK home for **2 days**.

Your consumption of oat milk also uses



**753 litres of water**, equal to **11 showers** lasting eight minutes.

#### How milks compare

Kilograms of greenhouse gases per serving

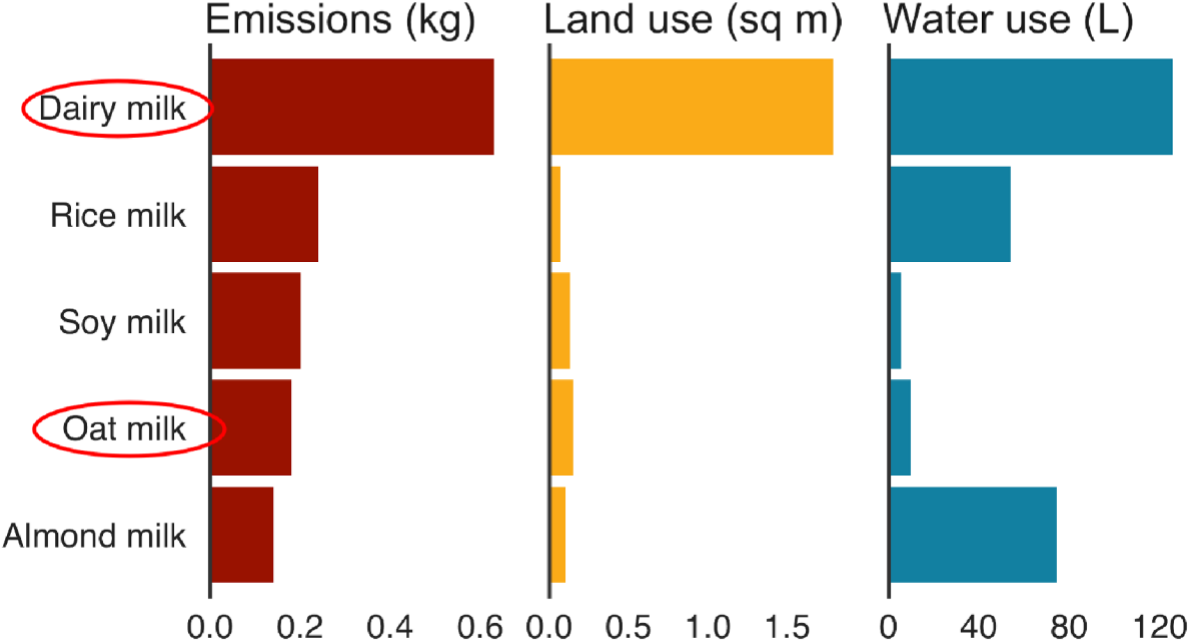
Milk Type	Kilograms of greenhouse gases per serving
Dairy milk	0.5
Rice milk	0.25
Soy milk	0.2
Oat milk	0.18
Almond milk	0.15

Above: screenshot of the estimated environmental impacts of drinking (oat) milk three to five times a week (source: Guibourg and Briggs, 2019, using data from Poore and Nemecek, 2018).



# Which milk should I choose?

Environmental impact of one glass (200ml) of different milks



Above: a graph revealing the estimated environmental impacts of drinking (oat) milk twice a day or more (source: Guibourg and Briggs, 2019, using data from Poore and Nemecek, 2018).

## Appendix C - Focus group photographic materials



*Above: photograph of Amazonian deforestation (source: Burtynsky, 2019).*



*Above: photograph of coral after ocean acidification (source: Amos, 2018).*



*Above: photograph of eutrophication in China (source: Chiu, 2018).*



*Above: photograph of habitat degradation in Australia (source: Vegan Australia, 2018).*



*Above: photograph of a California drought caused by climate change (source: Osborne, 2014).*



*Above: photograph of a California drought caused by climate change (source: Knittel, 2019).*

## Appendix D - Participant information sheet



### **PARTICIPANT INFORMATION SHEET**

My name is Bethany Lloyd and I would like to invite you to partake in my undergraduate research project. I am conducting this research for my dissertation as a BA (Hons) Geography student at Lancaster University, LA1 4YW. Participation is optional, and you will not be disadvantaged in any way if you decline this invitation. Before deciding whether or not to participate, please ensure you carefully read the information provided below. It is important for you to understand the purpose of this research and what participating will involve.

#### **What is the study about?**

This study aims to investigate participant's aesthetic experiences of dairy milk as opposed to oat milk, how these may be affected in light of environmental considerations.

#### **Who has reviewed the project?**

This study has been reviewed and approved by Lancaster Environment Centre at Lancaster University.

#### **Why have I been approached?**

You have been approached as you displayed an interest in participating in this project. This expression of interest has not committed you to participating, and it is completely your decision as to whether or not you take part.

#### **What will participating involve?**

If you decide to take part, you will be asked to participate in a focus group with five other participants. Due to circumstances resulting from Covid-19, these focus groups will be held online over Zoom. As a result, in order to participate in this study, you must be able to access Zoom. If this is possible and you decide to take part, you will be sent an information leaflet with instructions on how to access

and set up Zoom, and how to join the focus group meeting which will be organised within the next few weeks.

### **What will happen with the results?**

The focus group audio will be recorded and transcribed by myself after the session has concluded. The transcriptions will then be input into NVivo 12, a secure software for analysing and coding qualitative data. This will highlight relationships and trends in the data and enable thorough exploration of the research questions. Once this analysis has been completed, a report will be produced summarising, presenting, analysing and discussing the results. This will make up part of my dissertation, which will be formally submitted and subjected to professional examination and grading.

### **Will my data be identifiable?**

The information you provide is confidential. Only I, as the researcher, will have access to this data, and it will be encrypted and stored securely on a computer that is password protected. Zoom calls are encrypted by the platform, meaning that meetings on the platform cannot be intercepted. Following transcription, the audio recordings will be promptly deleted, and any identifying information (including your name) will be removed from the transcription, completely anonymising it. Direct quotations from the focus group may be used in the report, however these will also be anonymised as your name will not be included. Unfortunately, there are some limits to confidentiality. For example, if anything said in the focus group suggests that any participant is unsafe, confidentiality will have to be broken as I will have to discuss this with my supervisor. Where possible, you will be informed if this must occur.

### **Are there any benefits to taking part?**

There are no direct benefits to participating.

### **Are there any risks?**

There are no risks anticipated with participating in this study. However, if you experience any distress during or after participation you are encouraged to inform myself (the researcher) or my dissertation supervisor using the contact details provided at the end of this document.

**What do I do if I want to withdraw from the study?**

It is completely within your right to withdraw from the study at any point. If you would like to withdraw before the focus group, please get in touch with me using the contact details provided. If you decide part way through the focus group that you would like to withdraw, let me know and you will be free to leave the call at any time. You must remember, however, that any data already provided will be unable to be withdrawn, due to the group nature of the discussion. I will remind you of this again before beginning the discussion.

**What do I do now?**

Please feel free to get in touch with any further questions or queries using the researcher contact details provided. If you are still interested in participating, please also use these details to let me know. Upon agreeing to participate, I will send you some information on how to set up and use Zoom along with a consent form which you will be required to return upon signing (via email). For future reference, please also keep hold of this information sheet.

**Researcher contact details:**

Bethany Lloyd

Tel: 07933 259882

Email: b.lloyd1@lancaster.ac.uk

**Complaints:**

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

David Tyfield

Lecturer in Lancaster Environment Centre

Email: d.tyfield@lancaster.ac.uk

Lancaster Environment Centre

Lancaster University, Lancaster

LA1 4YQ

## Appendix E - Participant consent form



### **PARTICIPANT CONSENT FORM**

Thank you for considering participating in this research. Before signing and returning this consent form, please thoroughly re-read the participant information sheet sent to you previously. If you have misplaced this form, contact me (using the information below) and I will send you another.

To recap, this study aims to investigate participant's aesthetic experiences of dairy milk as opposed to oat milk, how these may be affected in light of environmental considerations. Participating will involve taking part in a focus group with five other participants. These focus groups will be held online over Zoom, therefore in order to participate, you must be able to access this platform.

The video *and* audio of these focus groups will be recorded securely and transcribed, following which both recordings will be deleted. You will be kept entirely anonymous. These transcriptions will then be coded and saved to a secure location, analysed, and published in the final dissertation, which will be formally submitted and subjected to professional examination and grading.

It is completely within your right to withdraw from the study at any point. If you would like to withdraw before the focus group, please get in touch with me using the contact details provided. If you decide part way through the focus group that you would like to withdraw, let me know and you will be free to leave the call at any time. Any data already provided, however, will be unable to be withdrawn, due to the group nature of the discussion.

By signing below, you are confirming to have read and understood the above information, consent to the recording of both the video *and* audio of the group, and are agreeing to willingly participate in this study:

---

**Researcher contact details:**  
Bethany Lloyd  
Email: b.lloyd1@lancaster.ac.uk



## Appendix F Lancaster University ethics approval form

### Lancaster Environment Centre

### Dissertation Ethics Form

*Please fill-in electronically, then print out and sign before submitting*

<b>Student Name</b>	<b>Bethany Lloyd - 34819029</b>
<b>Research Topic</b>	<b>Can the aesthetics of milk alternatives open up people's ethical responsiveness to the (comparative) environmental implications of their food choices?</b>
<b>Supervisor</b>	<b>David Tyfield</b>

Most dissertations that involve collecting information from individuals have an ethical dimension.

You should ensure that:

1. All participants are fully informed about the nature of your work in an appropriate manner (taking into account issues such as literacy level);
2. Participants are made explicitly aware of the ways in which information they provide will be used;
3. Participation is voluntary. No significant incentives should be given for participation. Issues such as age, learning disability, and vulnerability should be given particular consideration;
4. Participants have the right to withdraw from the research at any stage and should be informed of how to do so;
5. No research causes any physical, emotional or other harm to participants. Appropriate responses to any potential harm (e.g., participants becoming distressed in the course of an interview) should be considered in advance;
6. If relevant, appropriate arrangements should be made to preserve confidentiality, including careful attention to issues of data storage; and
7. Participants feel comfortable and safe at all times.

Identify any specific ethical issues arising from your research and state measures taken to deal with them.

1. Before conducting the focus groups, a participant information sheet was provided, read, and signed by all participants via email. This information sheet summarised the relevant

elements of my study and data collection process, answering key questions. These included, for example:

- What will happen with the results?
- Will my data be identifiable?
- What will participating involve? Etc...

The document also summarised the aforementioned necessities, including making sure participants were aware that they could withdraw from participation at any time, however any data they provided in the focus groups could not then be withdrawn.

2. Participants were made aware of the general topics of discussion (e.g. environmental ethics) in the aforementioned participant information sheet prior to the commencement of the focus groups. This is because such topics may be potentially sensitive/emotive to some people. Additionally, the discussion and participants were closely monitored throughout the activity to ensure that any apparently distressing discussion could be promptly dismissed.
3. Participants were also made aware in the Participant Information Form that participating in the focus groups would involve consumption of both dairy and oat milks. Subsequently, they were asked to provide details of any dietary requirements or allergies that may affect their participation. These were then assessed and it was ensured that each willing participant would be able to safely participate.

## Appendix G BAC focus group: transcript 1 extract

...

RL: So what comes to mind when you think of milk? (1)

PA: Cows (1)

PE: Cows (.) yes (.)

PF: Yeah (1)

PA: My next thought is goats (1) probably because I'm a farmer ((laughs)) and we milk both of 'em ((laughs))

B: I think more of the (.) creamy taste (.)

PC: And it being cold (1) icy cold (.) yummy (1)

PF: I also think of milk when I was at school (.) ((reminiscing)) in the third of a pint bottles that had been sat outside (.) and the excitement that you used to get bodging the milk bottle top so that you could put the straws in (1)

PD: And I remember milk from when I was at school (.) when it was put on the radiators to warm up ready for our break (.)

PC: That is disgusting ((laughs)) (1)

PE: And I can remember the little bottles when they had frozen (.) and there was about an inch and a half of cream pushing up the lid on the top (1)

PA: I can remember milk from milking cows by hand when I was growing up ((reminiscing)) (1) and the taste. I like milk and I can't understand why people don't like it (1)

PD: Oh (1) I also think of my yummy cereal (.) I look forward to it every morning (1)

PC: Oooh yeah (.) cereal (.) with ((emphasis)) loads of sugar ((laughs)) (1)

PD: And custard (.)

PE: Yes (.) ((fondly)) custard (1)

PA: And my morning brew (.) gets me through every day (1)

PE: And porridge (.)

PC: Oh (.) and in coffee

PG: Definitely porridge (.) makes it so creamy and nice (1)

PD: Oooo and don't forget milkshakes (.) and ice-cream (.) oooo I think of summers in Cornwall with ((emphasis)) *gorgeous* ice-cream (.) so yummy (1) made with British milk from the coast (.) it doesn't get much better than that (1)

PB: It's milkshake for me (1)

PC: Oh no (.) milk is ((emphasis)) so much better on its own (1) doesn't need any artificial flavours! (1)

PA: It's quite versatile as well milk is (.)

PC: Yeah (1)

PF: It's got a ((emphasis)) *lot* of vitamins (.)

PE: It's definitely essential (.)

PB: Sorry (.) essential to what? (.)

PF: It's got iron in it -

RL: - just, your diet which you said you consider it essential

PC: Yes because I ((emphasis)) *can't* live without cheese (1)

PB: Yeah well I would think of it as necessary (1) something that I've got to get in somehow (.) and I like cheese ((laughs))

PC: ((laughs))

PA: Calcium is in it so (.) it's good for teeth and bones (.)

PE: Yeah calcium (1) yeah (1)

RL: So do you often buy milk then? (1) or -

PE: I buy (1) what are those bottles in the shops (.) the big ones that you can get two for £2? (.)

PA: They're 2 litres aren't they (.)

## Appendix H BAC focus group: transcript 2 extract

...

- PH: A ((oat milk)) is a bit darker than B ((dairy milk)) (1)
- PI: Yeah (.) A looks more yellowy-grey (1)
- PG: And A smells stronger (.) in a way (.) than B (1)
- PI: Yeah A's got an odour (1) like oaty (1)
- PL: A is thinner as well (.) way less dense (1)
- PI: B sticks to the glass way more than A (1)
- PK: Yeah (.) A doesn't come from a cow for me (1)
- PG: A tastes artificial ((pulls sour face)) (1)
- PI: A definitely comes from oats (.)
- PL: Yeah (1) B is from a cow (1)
- PL: A is oats milk (.) just because you can taste the difference (1)
- RL: How is it different? (2)
- PL: The oats are sweeter (.) I think (1) and the cow's milk is a little bit more (2) natural (.) it's just more natural (.)
- PG: I think as well (.) as you go to sip the oat milk (1) well the one I think is the oat milk (.) A (1) you can taste the oats and you feel the grain in it (1) I don't mean the texture particularly but as you go to smell it (.) you can taste the oats
- PJ: I completely agree (1) you can definitely taste the oats in A and it's not as smooth as B (1) B tastes more creamy and smooth and tangy (2)
- PK: A tastes when you making your porridge oats when you put your oats in (.) that sort of taste in it (1)
- PG: Just feels thicker (1) B just feels a lot thicker (1)
- PK: You can taste the creaminess of B (1)

PG: Basically I just think B is a lot thicker than A (1) and B is a lighter drink than A (1) B is definitely cow (1)

H: I agree ((Sipping the oat milk, grimacing)) (2) A leaves a nasty taste in your mouth (1) it's not nice (1) it smells like (.) like porridge when you've mixed it together and you have to put it in the microwave (1)

G: And it makes your teeth feel weird (1)

I: It tastes like your cereal bowl milk once you've eaten your cereal (.)

G: [Yeah]

H: [Yeah]

K: [Yeah]

L: [Yeah] (.)

I: And it smells like flour (1)

G: It's darker as well (3)

K: All that aside though (1) I do think it does a good job of imitating it ((some nods)) like (.) if you hadn't got them side by side (.) you probably wouldn't notice (1) or at least I wouldn't (.)

RL: Okay (1) so I can now officially reveal that you all correctly guessed the milks (1) A is the oat milk and B is dairy so well done (1) just out of curiosity (.) and this is to everyone (1) which one do you prefer (.) and why? (1)

All: [B]

G: It's a lot smoother and tastes nice as well (1)

K: I think it's a taste that you're used to (1) you might get used to the other one but it's more (1) familiar you know (.) because I have it so often I can tell (1) it's just so fresh and natural (1) makes me feel nourished you know (.) I can just tell which is which (1) although I don't mind the oat milk (1) it's close enough in taste that like I say I could get used to it and I wouldn't feel as much like I was missing it (1) you know? (1)

I: Yeah (1) if I was doing overnight oats or something I might use the oat milk because that taste would go with what I was doing (.) but if I was just going for milk then I'd go B (1)

## Appendix I - ABC focus group: transcript 3 extract

...

PQ: ((Very sad)) Cute little koala doesn't have a home anymore (1) So (.) so obviously we are having a detrimental effect (.) a negative effect on our planet

PR: ((Nodding)) I agree (.)

PM: It's only gonna get worse if we don't do something about it now ((frowning)) (1)

RL: How do you feel about that?

PQ: I need you can think sometimes when it's not on your doorstep (.) it does seem a little bit kinder if you cannot realise it what's happening (1) but I suppose when you do see pictures and, you know it makes it more real

PM: When it doesn't directly affect you (.) you can become a little bit detached from it

PQ: I think we need constant reminders like this to make people realise what is happening (.) even if you don't live in these countries (4)

RL: So, my next question...

PQ: Wherever you are he's going to be affecting it isn't it (1) And obviously you don't want (.) like with that little koala (.) you don't want things like that happening (1)

R: Absolutely not (2) that poor koala it's just (.) horrific (.)

PM: It's even worse isn't it because it's absolutely not their fault (.) and yet here we are with not really a care in the world (1) but yet that poor koala who did nothing wrong (.) it's heart-breaking ((all nodding)) (1)

PP: Yeah (.)

PN: Absolutely (4)

RL: So (.) what do you think are the main cause of these things (1) Just on the whole, so the damaging the environment (.) what do you think causes that? Who do you think causes that? And why?

PQ: I'd say transport (1)

PN: Well it's industrialisation isn't it (.) continually trying to improve and better ourselves but at the cost of the environment (1)

PQ: Obviously aeroplane pollution and car pollution that's the biggie isn't it (1)

PR: Well its population growth in a lot of these areas and farming trying to get on a bit (1)

- PR: But it's also going after resources and whatever (1) like in Australia, they're not poor, but they are resource rich country (.) so (1)
- RL: So (.) you're saying that humans are pretty much the reason ((nods)) (1) So, do you think we have the right to do that? (1) Does it matter that we've done that? (1) Do you think it's right, wrong?
- PN: I suppose it's wrong because we are only guests on the planet aren't we (1) we don't own it ((sad)) (1)
- PR: It's there for everybody (1)
- RL: Yeah (1)
- PR: It's kinda always someone else's problem though isn't it (1)
- PN: Yeah (.) we've only been here for a couple of minutes in the timespan of the planet (.) and the devastation we've caused (1)
- PR: But when we have looked at ways of fixing it (.) it's always (.) they should do this or they should do that without actually doing something yourself (1)
- PN: The big problem (.) the worst polluters at the moment are China (.)and they are going to carry on building coal-fired power stations for the next 10 years and everyone has just applauded them saying they're going to be carbon neutral by (.) what was it 2040 or 2050 (.) but up to that point they going to put more and more pollution out (.) where we are going to absolutely (.) well not penalised (1) but we are spending hundreds of billions of pounds of trillions of pounds I'm getting spent worldwide to cut emissions (.) and the worlds biggest polluter is going to carry on for the next 10 (.) 20 years more more pollution out (1) So, how is that right?
- PR: But their argument would be that you've caused all the pollution beforehand (.) we are just trying to get other people to the same level as yours (1)



## Appendix J - ABC focus group: transcript 4 extract STUVWX

...

PL: Okay (.) so similar to what I asked you earlier about the pictures (1) how do you feel when you hear (.) how both milks affect the environment? (1)

PV: It breaks my heart (.) and it baffles me (2)

PS: It definitely makes you want to drink other milks more but (.) in my house (.) we already do have alternatives as well as normal milk (2) so it just kind of reinforces what we're already doing I guess (1)

PT: Yeah (.) so we all kind of knew normal milk was worse than milk alternatives (.) like (.) oat milk (1) so it's just reinforced that idea and made you a bit more shocked and aware of the extent of it (.) yeah (.) as opposed to just saying ((mockingly)) oh yeah (.) it's a little bit worse for the environment (2)

PW: Yeah (.) to be honest like (.) I had no idea (1) it makes me feel bad for drinking milk to be honest (1) like I know it's not my fault because it's a cultural thing and it's just normal to drink it but (1) yeah I'm shocked (1)

RL: Okay (3) so (.) if I asked you to think of milk (.) what would you think of? (1) What immediately comes to mind? (2)

PX: ((Exclaims happily)) School! (.)

PS: Yes (1) school! (1)

PW: The warm (.) disgusting milk we were made to drink because apparently it was so good for us (.) and I don't think I've ever drunk a glass since (1)

PS: Our school milk was much better than that ((laughs)) I quite enjoyed it (1)

PW: I wonder how many people would drink milk if they didn't have it at school ((laughs)) (1)

PX: Well there used to be big marketing campaigns (.) you know (.) drink a pint of milk a day and things like that (.)

PW: Yeah (.)

PX: I know people that regularly drink pints of the full fat cream milk because of adverts like that when they were younger (.) still to this day (1)

PT: I think it's a big part of our culture to be honest (.) especially here in Britain (1) we make a big thing about the cows and British ice-cream and British milk (.)

PV: I can't help but think of the impacts now though (.) like even though it's so normal and it is like (1) I don't know (.) not who we are as such but ((laughs)) (.) you know what I mean though (2)

PS: Yeah (.) I got that as well (2) like it looks so innocent (.) and usually you wouldn't even think anything of it (1) but now you know (1) we actually know what the impacts are and stuff (.) yeah it does play on your mind a bit more (1) when you think of milk (.) which I definitely wouldn't have said before (2)

RL: So would you say you each often buy milk (.) either cow's milk or oat milk or any other alternative?

PS: To be fair (.) we buy more of the almond milk than regular milk now (.) erm (.) and also the dates really good on it ((laughs)) so it keeps for longer (.) so you know (.) like (.) I can buy 3 (1) you know (.) three at a time (1) and I can just like (.) keep them (.) whereas when I bought more ordinary milk (1) it would always go out of date and get thrown out (1)

PX: We're the same (1) but like (.) other dairy products we use a lot of (.) like cheese (1)

PT: I do buy milk a lot (.) the only reason I buy milk alternatives as well is because my partner is lactose intolerant (.) that's literally the only reason and he is the only one that drinks it so I still buy normal milk (2) although we do use soy milk when we make cream and stuff though (.) which to be fair in cooking you can't really tell the difference (.) like I wouldn't (.) I wouldn't know (1)

PW: Have you tried your partner's soy milk (1) and you just don't like it? (.)

PT: I've tried it (.) I (.) I prefer British milk to the alternative that I've had (.)

PW: Yeah

RL: Okay interesting (.) so now you can try the milk (1) just let me know which one you think is cow's milk and which one you think is oat milk (.)

## Appendix K - Themes produced in NVivo 12 during analysis

- ∨ ● Feelings after pictures
  - ∨ ● Negative
    - Detached
    - NR expressions
  - ∨ ● Impacts of agriculture...
    - ∨ ● Cow milk
      - Agricultural land
      - Methane
      - GM food
    - ∨ ● Oat milk
      - Land
      - Processing
      - Scale (population)
      - Transportation
  - ∨ ● Main causes
    - ∨ ● Humans
      - Corporations
      - Deforestation
      - Farming
      - Population (issues)
      - Society (consum...)
      - Transport
  - ∨ ● Reaction to stats
    - Guilt
    - NR expressions
    - Shock
- ∨ ● Responsibility
  - Companies etc...
  - Humans
- ∨ ● Rights of humans
  - No
  - Yes
- ∨ ● Think about ED when...
  - No
  - Yes