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The changing shape of mental health

How psychology enacts eco-anxiety in performative methods and theories

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Abstract in English

What happens when climate change-related emotions become the object of scientific interest? This master's thesis addresses the production of knowledge in psychology through a comparative analysis of methodological and theoretical approaches to eco-anxiety. I investigate scientific articles about eco-anxiety (or climate anxiety) in order to see how different methods and theories used by psychologists enact their research object. In STS theory, scientific methods and concepts not only describe but also (re)produce and multiply their object. This thesis aims to make visible the taken-for-granted practices in psychology, not only contributing to STS insights about mental health research, but also to contestations to mental health expert authority.

Abstract in German

Was passiert, wenn Emotionen im Zusammenhang mit dem Klimawandel zum Gegenstand des wissenschaftlichen Interesses werden? Diese Masterarbeit befasst sich mit der Wissensproduktion in der Psychologie durch eine vergleichende Analyse von methodischen und theoretischen Ansätzen zur Öko-Angst. Ich untersuche wissenschaftliche Artikel über Öko-Angst (oder Klima-Angst), um zu sehen, wie unterschiedliche Methoden und Theorien, die von Psycholog:innen verwendet werden, ihren Forschungsgegenstand umsetzen. In der STS-Theorie beschreiben wissenschaftliche Methoden und Konzepte nicht nur ihren Gegenstand, sondern (re)produzieren und vervielfältigen ihn auch. Diese Arbeit zielt darauf ab, die selbstverständlichen Praktiken in der Psychologie sichtbar zu machen und so einen Beitrag zu den STS-Erkenntnissen über die Forschung im Bereich der psychischen Gesundheit, aber auch zur Anfechtung der Autorität von Expert:innen für psychische Gesundheit zu leisten.

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1. Introduction

Two years ago, my master's thesis was an object of the future, and I could easily and freely reflect about what I was interested in researching. I started with climate change: Climate change, I wrote down, breaks down modern cosmology (Latour, 2018), it confronts us with an 'ontological shock', a new being-in-the-world (Horn, 2020). Its "scale [is] formidable" (Latour, 2015, p. 1), it is unprecedented, vertiginous. It makes people nostalgic (Foessel, 2012), it "drives people crazy" (Latour, 2017, p. 13), it scares. What it is like to live in climate change is a question we collectively need to explore. This can and has been done in forms of artistic expression, in a philosophical search for new conceptions, or in addressing the affective states that this new (post)human condition awakens in us.

I noticed that climate change has also entered the fields of psychology and psychiatry. In recent years, 'environmental emotions' have been increasingly researched and debated, and new notions such as *climate anxiety* have emerged. In my research, I wanted to look at how the science of psychology constructs the notion of climate anxiety and, in doing so, integrates climate change into its disciplinary discourse.

When I delved into academic psychological articles about climate anxiety, I found a burgeoning, albeit young, field of research. The nascent field of *climate psychology* boomed from around 2017, after climate change-related emotions became intensely present in the media. I also understood that there was a certain terminological heterogeneity and that I needed to include *eco-anxiety* as well, because the two terms are not neatly separated: Even though in theory they are supposed to carry distinct meanings, in practice they overlap in research. Because *eco-anxiety* is a broader term, I decided to use it instead of *climate anxiety* in my thesis, whereas in fact my research is about both at once.

In the course of my research, another fundamental interest emerged: How does psychology produce facts in the first place? How does a psychological knowledge claim need to be constructed in order to pass as legitimate within the discipline? How are such elusive, subjectively-experienced and intangible 'things' as emotions or moods (in this case, worries and anxieties) turned into an object of scientific inquiry? This general question has become the central theme permeating my thesis and my very motivation for carrying out my research.

My interest in how psychology generates knowledge – how it turns emotional and mental states into facts – reconnects my thesis with one of the central and broad concerns of Science and Technology

Studies (STS): How scientific accounts of the world are made in practice (e.g. Law, 2004). Empiricism, which has become so powerful that it has become conflated with Western common sense, tells us that modern science uses exact methodology to describe the world objectively. Facts, in this paradigm, issue directly from the character of reality. STS rejects this understanding of science and so it needs to develop other accounts of what science does – and I rely on some of these to ground my theoretical approach to psychology (see Theory Chapter). In my theoretical lens, psychology employs particular strategies to handle its research object in the process of knowledge production. These practices are cultural, located in a specific time and space, but routinised so as to appear matter-of-course. They ensure that 'nature' – the experience of eco-anxiety – can be turned into discourse – scientific articles (Latour & Woolgar, 1987a). This process is *performative* because it not only describes eco-anxiety but also *enacts*, (re)produces it (Mol, 2002; Law, 2004).

There is, however, more than one way of handling eco-anxiety in psychological research. There are different psychological traditions, and so scientists use different methodologies, as well as different theories, through which they relate to it. This plurality of coexisting methods and theories provides me with an opportunity to challenge the seemingly self-evident nature of psychological research practices. In my research, I thus ask how different methods and theories used in psychological research on eco-anxiety enact their research object (see Research Question). To do this, I conduct a comparative analysis of scientific articles about eco-anxiety (or climate anxiety), questioning their methodological and theoretical assumptions by making visible the differences between them. Although there are many ways to study psychological research practices, I focus on the written discussion unfolding in scientific journals in an approach that considers documents as practices (Asdal & Reinertsen, 2022; see Method Chapter).

Psychology itself is constantly grappling with the question of *how* to study the 'psyche'. This issue permeates, often implicitly, particular research *methods* that psychologists use. As there is more than one methodological approach to study eco-anxiety it provides me with an analytical opportunity to 'open up' these methods and look at the assumptions on which they are built. Specifically, I argue that different psychological methods employed to research eco-anxiety assume (and perform) particular conceptualisations of *what mental health is* in the first place and how science can best study it (see Part I of the Empirical Chapter).

As I began to familiarise myself with psychological literature about eco-anxiety, one of my first observations was the pervasive need to take a stance on the 'value' of eco-anxiety – such as what forms of eco-anxiety are beneficial or detrimental, and what justifications lie behind it. This issue is

connected to *theoretical frameworks* that psychologists use to conceptualise the notion of eco-anxiety and the way in which these psychological theories understand *the pathological*. Even though eco-anxiety is not an official mental disorder (at least not yet), a boundary between mental health and mental pathology is inherent in the scientific notion of eco-anxiety (see Part II of the Empirical Chapter).

Finally, I merge these methodological and theoretical considerations to discuss the *ontological status* that eco-anxiety holds in different psychological approaches. If psychologists conceptualise eco-anxiety in particular ways at the theoretical level, and if they research it in practice with the use of certain research methods, how do they approach the very possibility of accessing and communicating about it? How do they relate science (discourse) to reality (nature)? What *is* eco-anxiety, and how do we *know* it (see Part III of the Empirical Chapter)?

In the following chapter (State of the Art), I situate my research within contemporary debates in the social sciences (STS, but also history of science, anthropology and sociology) about psychology and mental health. Methodological debates have long been a concern in psychology and the literature discusses its constant need to (re-)invent itself as a scientific discipline (e.g. Hogan, 2018). Nowadays, these old considerations are fuelled by the 'neurobiological turn' on the one hand and replication crisis in science on the other (e.g. Pickersgill, 2019). There is an inspiring body of work about psychological theories and how they are embedded in the cultural context of emergence (e.g. Valasek, 2022). The foundations of the modern psychological approach to the human mind and mental health have been discussed as the individualisation of the 'ill' and the assumption that mental categories are universal (e.g. Mills, 2015; Rhodes, 2000). STS scholars, however, have also pointed to the multiplicity and performativity of psychological concepts (e.g. de Boer et al., 2023; Pickersgill, 2012), and my research follows in this spirit.

Lay people have been an invaluable source for disrupting the unanimous authority of expert psychological discourses (e.g. Wiley, 2024; Tran, 2016), and STS research also speaks to the question of scientific uncertainties and how psychologists cope with them in practice (Peterson, 2016; Pickersgill, 2011). In my research, I attempt to make visible the assumptions underpinning psychological research about eco-anxiety in order to contribute to this disruption of expert power. I do not aim to construct an alternative truth claim, yet another expert account of reality, a single, simple understanding of eco-anxiety, mental health and what psychologists should or should not do. What is problematic for me, however, is the homogeneity and exclusivity of authoritative knowledge that is being produced and reproduced in the exclusive presence of only some actors, those in a position of

expert authority. I think what we need to aim for is not a general consensus on a singular interpretation, but rather a pluralisation – or multiplication – of discourses on eco-anxiety and mental health in general, and, crucially, their mutual dialogue.

As Duncan (2017) puts it, such analysis may highlight "the critical importance of anthropological engagement with global mental health and development to help generate analytic, theoretical, and practical frameworks that stimulate – rather than extinguish – pluralistic visions of health, self, and society" (p. 48). The anthropological approach, with its habit of 'intellectual poaching', is inspiring here: In particular "the internal diversity [of anthropology] and the fact that [anthropologists] have taken insights and inspiration from many places […] and traffic comfortably with integrative pluralism. […] [T]he messiness and lack of consensus in anthropology, together with [anthropology's] porous borders, are a source of intellectual strength" (Downey, 2023, p. 168). My research aims to contribute to this way of thinking about psychology by staging a dialogue between different methodological and theoretical approaches to their object – eco-anxiety – making the frictions visible and thus depriving the science of its taken-for-grantedness.

2. State of the Art

2.1. Introduction

My thesis is concerned with the performativity of psychological methods and theories in relation to eco-anxiety. In this State of the Art, I review relevant literature from the field of STS, but also reach beyond it to sociology, anthropology and history of mental health. In line with the topic of my thesis, I focus on work related to social scientific analysis of psychological methods and the construction of psychological notions. The State of the Art is structured as follows: Firstly, I discuss social scientific work concerned with psychological research methods. Secondly, I introduce social scientific approaches to psychological notions and theories. Thirdly, I discuss studies of contestations or alternatives to the Western expert psychological discourse. Finally, I conclude the chapter with the study of psychology's ontological and epistemological uncertainty. In the end of each section I elaborate on how my empirical research reconnects with the issues discussed in the literature.

2.2. The *'Methodenstreit'* and psychological research methods

What is the best way for psychology to gain knowledge about emotional and mental processes? One axis of my research are psychological scientific methods. In this first section of the State of the Art, I discuss the literature in history, anthropology and STS that deals with the use of psychological research methods and methodological debates that surround them. I introduce the controversy that has developed within modern psychology over the use of natural scientific versus humanistic methods and the more recent debate over the neurobiological understanding of mental health. I then discuss how these issues are relevant to my empirical research.

Historians of psychology have traced psychology's self-conception as a scientific discipline, including its longstanding preoccupation with scientific legitimacy (Hogan, 2018). Since the division of the (natural) sciences and the humanities (and later the social sciences) in the 19th Century, psychology has needed to position itself within these categories, which in turn relates to its internal debates about appropriate methods. The 'two cultures', 'scientific' and 'humanistic', have both been present in modern psychology, leading to internal frictions (Hogan, 2018; see also Rüppel & Voigt, 2019). Therefore, throughout the history of modern psychology, there has been a methodological debate within the science, referred to as the *'Methodenstreit'* (German for 'dispute over methods') (Valtonen & Lewis, 2023). The point of disagreement is whether the psy-disciplines, in their study of human mind and mental health, should rely on 'exact', quantitative methodologies developed in natural sciences or use a qualitative, humanities-based approach.

The post-war self-conception of psychology as a natural science implied the adoption of natural scientific experimental and statistical method, which was expected to ensure the production of objective (reliable, generalisable and standardisable) knowledge (Morawski, 2015). This 'psychometric' approach dominating psychology implies an understanding of mental states as quantifiable and measurable (Stark, 2018). While 'exact' methods, i.e. statistical and experimental research, are currently widely employed and considered authoritative in psychology, they are also questioned and contested and there has been no final resolution of the controversy.

Along with economics, psychology is criticised to have become an "excessively confident" (Downey, 2023, p. 165) science, a "privileged, authoritative" (Downey 2023, p. 166) social scientific discourse in the eyes of the public and the state. Yet, according to anthropologist Greg Downey (2023), it is currently undergoing a deep methodological crisis linked to the 'replication crisis'[1] in science. In short, the replication crisis concerns doubts around standard research methods whose results systematically fail to replicate (Downey, 2023; Nelson et al., 2022). The evident failure to replicate results generated by experiments and surveys has provoked internal criticism voiced by psychologists themselves and "a profound crisis of confidence in psychology" (Downey, 2023, p. 166) and its scientific authority. Critics identify both excessive generalization from experiments (universalising claims about human nature) and "questionable" (Ibid., p. 165) use of statistics as the core problems of the two prominent psychological methods, together with common use of university students as research participants. Downey sees the root of the crisis in the fact that psychologists do not dedicate enough "time for critical scrutiny of methods or theoretical reflection" (Ibid., p. 166), while their research methods are fairly homogeneous. In what he calls 'zombie methodologies', scientists adopt particular methods inherited from their predecessors without a thorough understanding of what these methods do.

While the 'Methodenstreit' is played out around the clashes of natural scientific and humanistic methodological approaches, the debate about objectivity in the psy-disciplines has been gradually shifted and complexified along a different axis of contestation by the development of psycho-pharmaceuticals in the 1950s, and further by the vision of 'personalised medicine' since the 2000s (Rüppel, 2019; Rüppel & Voigt, 2019): The new issue is the nature and location of mental states and psychopathologies, where the more classical psychiatric/psychological diagnostic methods are opposed to more novel understandings coming from neurobiology. Advances in genetics, biotechnologies and the use of large data sets have enabled "new modes of thinking and doing medicine" (Rüppel & Voigt, 2019, p. 568), which can be described as the "'molecularization' of the

1 The replication crisis is extensively discussed specifically in relation to psychology but in fact has developed in parallel in many scientific fields since around 2010 (Nelson et al., 2022).

‘medical gaze’” (Ibid., p. 568) – an approach known as ‘personalised medicine’. With these developments, an understanding of mental disorders as diseases of the brain has gained ground, in other words, mental pathology is redefined as neurobiological pathology (Pickersgill, 2019). This is a very different paradigm from the older logic of the Diagnostic and Statistical Manual of Mental Disorders (DSM), which consists in a scientific consensus on clusters of clinical symptoms (Rüppel & Voigt, 2019, Pickersgill, 2019). In the new vision, psychiatry, which is “frequently considered to be the last medical specialty that still lacks any somatic measurements and whose treatment still follows a strategy of trial and error” (Rüppel, 2019, p. 582), is to be transformed into a global, personalised ‘bio-’psychiatry, in which medical diagnosis and treatment would become individualised, more ‘objective’ and more effective.

Yet, this transformation of psychiatry by neuroscience “is by no means consistent and monolithic” (Rüppel & Voigt, 2019, p. 570). While the proponents of the neurobiological turn criticise the DSM as not being ‘objective’, their opponents accuse them of ‘biological reductionism’ (Pickersgill, 2019). Diagnostic practice still operates within the logic of the DSM, and the DSM continues to act as “‘connective tissue’ […] between diverse institutions and actors” (Ibid., p. 613), both in the realm of scientific definitions and in the clinical practice of diagnosis and treatment. As STS scholar Martyn Pickersgill (2019) emphasises, while these arguments have also been made in the social studies of psychiatry, psychiatrists themselves are engaged in this debate from within (see also Rüppel & Voigt, 2019). Despite past failures to deliver on its promises, however, the vision of personalised psychiatry is becoming increasingly institutionalised.

The points discussed here resonate well with my empirical research, where I look at the differences in the use of methods in research about eco-anxiety and the performativity of these methods. First, the dominant research method in the field is quantitative measurement based on survey questionnaires that are analysed using statistical mechanisms. This is not surprising given the dominance of quantitative methodologies in psychological research in general, and the belief that these methods ensure the production of objective psychological facts (e.g. Morawski, 2015). However, there is also research using qualitative interviews or self-reflexive methods. Thus, issues discussed here appear in research about eco-anxiety in the form of either explicit disagreement about, or tacit plurality of, the use of ‘good’ research methods. Second, we have seen that ‘personalised psychiatry’ based on neurobiology is contesting the more traditional DSM-based paradigm (e.g. Pickersgill, 2019). As I show in the Empirical Chapter, eco-anxiety research operates within the logic of the DSM (building on its definition of generalised anxiety disorder), rather than the neurobiological approach. This may be

linked to the researchers' tendency to emphasise that eco-anxiety should not be 'pathologised' and medicalised, keeping it out of the realm of psychiatry.

2.3. Location of the 'ill' and the construction of psychological notions

Conceptual developments and theoretical work was identified as the core part of psychological scientific endeavour (Jensen, 2019). In my empirical research, I study the conceptual work surrounding the emerging notion of eco-anxiety in the expert debate. In this second section of the State of the Art, I focus on literature that deals with psychological theoretical paradigms and the construction of psychological notions. I begin with literature that critically examines the science's tendency to individualisation, i.e. the location of the 'ill' in the individual and even specifically in the brain. This body of literature challenges the conception of psychological categories as naturally and universally present in reality. In this regard, work that examines the historical/cultural construction and use of psychological notions is particularly illuminating. I then introduce the performativity of psychological notions as discussed in the literature. Finally, I relate the reviewed literature to my empirical research.

Scholarly critique is concerned with the increasing pathologisation – and, as a next step, medicalisation – of various sorts of mental states and behaviours. This has been criticised for deepening the population's dependence on both psycho-medical experts and psycho-pharmaceutical industry (Rose, 2003; Mills, 2015). Moreover, psychiatry tends to present pathology as an individual's inability to fit into society (Rhodes, 2000). Just as neoliberalism shifts responsibility from the state to the individual and the family (Moreira, 2018), the psychiatrisation of an ever-widening range of issues frames them not as social problems in need of a political solution, but as medical problems in need of a technical solution, i.e. appropriate individual treatment, often medication (Mills, 2015). It has been observed in the cases of women's mental health (McGibbon & McPherson, 2013), and poverty (Mills, 2015), that what can actually be understood as symptoms of social – patriarchal or economic – oppression is being seen as symptoms of an individual neuropsychiatric disorder.

Similarly, those who disrupt the rules of social order, such as women who do not fulfil the 'good woman' figure, may also be psychologised and diagnosed (Mills, 2015). Anthropologist Lorna A. Rhodes (2000), in her ethnography of US prisons, recounts that because the objective of prison staff is a smooth management of incarcerated populations, they seek to eliminate any bizarre or irrational behaviour of inmates, which is then considered as 'something for the psychiatrists' – i.e. disruptive behaviour is interpreted as being due to mentally ill or disordered nature of individuals. From the traditional viewpoint of psychology and psychiatry, the 'ills' are not searched for in the social world,

but are located within the individual. Moreover, because psychiatry locates the mental disorder in the physiology of the brain, the source of problems is supposed to be a physical malfunction (chemical imbalance) of the organ itself, to be adjusted by medication (Rose, 2003; Mills, 2015).

In line with the omission of social context in the psy-disciplines, mental health experts are supposed to carry a "context-free and portable" kind of knowledge (Rhodes, 2000, p. 358). The US Diagnostic and Statistical Manual, globally used in diagnostic practice, presents the complete range of available diagnoses and their symptoms. This diagnostic system purports to represent reality accurately in the taxonomy; its categories are presented as 'found' in nature, rather than 'made'. In this view, each individual is 'already known', already represented in the book, just like plant species in a botany handbook (Rhodes, 2000). Diagnoses are considered pre-cultural, universal, applicable to literally every human being, which obscures the fact that they emerge from a particular context (Rhodes, 2002; Mills, 2015).

It is precisely the study of the context of origin of psychological concepts that helps to shed light on their cultural characteristics and the normative assumptions that are built into them but made invisible. Medical sociologist Chad Valasek (2022) inquires the racialised history of the psychological concept of 'dual self' – a selfhood composed of an intuitive, impulsive part and a self-reflexive, self-controlling part. His critical analysis deconstructs the notions of self-control and self-management as linked to whiteness and White colonisation, and emerging from a racialised discourse about the virtue of self-control. "[P]oor attention and psychological frailty was often, particularly between 1880s and 1930s, racialized. Although later psychological models have largely discarded explicit racial comparisons, their work continues to obfuscate the racist origins of their concepts and practices" (Ibid., p. 247). Valasek argues that at the heart of the contemporary 'dual self theory' in psychology lies the legacy of the 19th Century obsession with disciplining and civilising 'savagery' – in the colonies but also internally, in oneself. This imaginary has lived on – for instance, Sigmund Freud explicitly theorises the unconscious as the 'aboriginal' part of our self. This history points to "implicit scientific racism" (Ibid., p. 247), where "the traits of [White] scientists become the standard that other populations are tested and evaluated against" (Ibid., p. 247). This white paradigm is reproduced by the science even today, which takes up and perpetuates its racist legacy, albeit less explicitly and in an updated language. This then has a real impact through policies on certain populations (such as Black and Indigenous people, women, children or disabled people) who are deemed cognitively deficient because they do not meet the scientific standard, set by the more powerful.

Another empirical example of how past conceptualisations, emerging from the science's history, are perpetuated – albeit in a renewed vocabulary – in contemporary conceptions is the focus of literary scholar Melissa Rampelli's (2022) genealogy of the notion 'highly sensitive person'. The contemporary diagnosis is a continuation of the 19th century discourse about (exclusively female) 'hysteria'. Despite differences, Rampelli argues, both notions are embedded in our "Western culture [that] at large has problematised sensitivity as a flaw to be cured in a climate that values toughness and self-command" (Ibid., p. 146). This fundamental normative (and patriarchal) assumption made its way from 'hysteria' to 'highly sensitive person', even though the diagnosis is no more explicitly gendered.

How the – cultural and historical – construction of psychological/psychiatric notions (in particular gender dysphoria) then plays out in practice is the concern of a Dutch collective of medical researchers (de Boer et al., 2023), who discuss how the notion of gender dysphoria has been constructed on the related notion of 'gender' and how particular normative assumptions about body and mind are thus inscribed in it. As the understanding of the notions of 'gender', 'gender dysphoria' and being 'trans' changes over time, "the understanding of transgender healthcare's object changed remarkedly over the years" (Ibid., p. 4). "As Gender Dysphoria is shaped by cultural notions related to gender, health and public order, the field of transgender medicine is a contested one" (Ibid., p. 4). Rooted in Annemarie Mol's (1999; 2002) ontological multiplicity (see Theory Chapter), their article traces how 'gender dysphoria' is *done* in clinical practices, and therefore how gender dysphoria is multiple in Mol's sense.

As these cases illustrate, psychological/psychiatric notions not only describe reality, but also construct it; in particular, the categories of the DSM determine the available range of identities in current diagnostic practice (Rhodes, 2002), and what a condition *is* equals in practice to how it is defined in authoritative sources (Pickersgill, 2011). In addition, STS scholar Martyn Pickersgill (2012) shows how pathology (in particular, psychopathy) is framed together by both scientific/clinical and legal/societal discourses. In the case of psychopathy, political needs to respond to concerns about 'public danger' have shaped the directions of research, administrative categories coexist with medical diagnosis, and control (the carceral system) and care (the medical system) overlap and intermingle (Pickersgill, 2012).

In my empirical research, I am concerned with the construction of the notion of eco-anxiety as it grows out of existing theoretical frameworks. Since climate change and ecological degradation are issues that reach far beyond the individual, the anxiety they evoke is also a place where the individualisation of psychological struggles (see e.g. Mills, 2015) can be challenged. As we shall see in the Empirical Chapter, for quantitative survey research the individual's (in)ability to 'function' (e.g.

work or socialise) is one of the distinctive marks of their (un)healthy amount of eco-anxiety. The notion of ‘anxiety’ in psychology grows out of its modern Western history (Tran, 2016), and so does ‘eco-anxiety’. The scientific tools to recognise and measure eco-anxiety are based on assumptions about how anxiety manifests, and they are used in different social contexts without reflecting on the cultural embededness of the very notion of eco-anxiety. In my research, I interpret the notion of eco-anxiety as multiple (similarly to how de Boer et al., 2023, discuss gender dysphoria). Juxtaposing the different theoretical frameworks help me to reveal the performativity of these theories. In my Empirical Chapter, I shall also see how particular social needs (mitigation of climate change, functionality of workers) play into the delimitation of reasonable and pathological eco-anxiety.

2.4. Contestations and alternatives

Alongside scientific authority on mental health, there are nevertheless alternatives – discourses and practices of resistance, carried out by patients themselves. Patients do not always conform to the ‘mental illness’ framework within which they are identified by medical professionals, challenging the division between what is ‘normal’ or ‘healthy’ and what is ‘pathological’ and in need of a treatment. Although my thesis does not focus on sites of contestation beyond the scientific discourse, but rather on the internal differences and frictions within science, I nevertheless find these contributions highly relevant in the sense that they show that other paradigms are possible and enable to view the dominating expert conceptions (and their blind spots) from a critical perspective. In this part of the State of the Art, I start with patients’ accounts that challenge the pathological framework of mental health struggles. I then reach beyond the Western space through the anthropology of mental health to see what issues emerge when the Western scientific approach is implemented in other cultural contexts in a vision of a globalised modern mental health care. In the end I discuss the inputs for my research provided by these studies.

Anthropologist Adrianna Wiley (2024) studies how Canadian university students with ‘mental health struggles’ do not identify with the usual notion of mental illness, which would be objectively and permanently present in their bodies and would classify them as ‘ill’, different from those who are healthy. Rather, these students “normaliz[e] their mental health struggles by understanding them as fluid and ephemeral experiences which exist as a continuum” (Ibid., p. 2). Instead of seeing mental health struggles “as the loss or lack of ‘normal’” (Ibid., p. 2), which is the dominant conception, they prefer to think of them as both unique (valuable) *and* mundane (shared) experiences, lived through by nearly everybody at some point and in some form. This view de-stigmatises the experience as transient and occurring on a spectrum of diversity, not fully determining the person’s self-identification. It is

not, however, in line with biomedical psychiatry, which prefers “a clear and stable border between mental health and mental illness” (Ibid., p. 4).

In a similar vein, medical humanities scholars Laboni Das and Sathyaraj Venkatesan (2024) use a graphic narrative by Dana Walrath, based on her personal experience of caring for her mother with dementia, as a source that “refram[es] dementia as a different form of existence” (Ibid., p. 11) and “refuses to define [the mother] by her illness” (Ibid., p. 12), as a “victi[m] of a tragic decline” (Ibid., p. 11) – in contrast to the pathologising and “dehumanizing” (Ibid., p. 12) cultural and medical discourses surrounding dementia. Interestingly, the de-pathologising and de-stigmatising effects can also be motivated by the recent turn to neurobiology in psychiatry: This paradigm has been embraced by the so-called ‘neurodiversity movement’ of people who reframe their specific condition (e.g. autism) not as a disease to be treated but as a human variation (Rüppel & Voigt, 2019).

A critical reflection of how the psy-disciplines operate in a specifically Western paradigm is offered by anthropologists studying the practice of mental health care in non-Western contexts. Whitney Duncan (2017) recounts how psychological services imported from the West are proliferating in Oaxaca, Mexico, as a part of a global project of ‘psychological modernisation’. She discusses how “Oaxaca’s newly flourishing psy-services […] are based on a different set of assumptions about the self from that of traditional medicine” (Ibid., p. 37) of local healers, and how psychological professionals construct a discursive opposition between their practice and ‘cultural’, ‘unmodern’, Indigenous practice. Mental health practice in Oaxaca “not only provides means of self-understanding and technologies for self-cultivation in the context *of* modernity but also seeks to produce the psychological conditions *for* modernity” (Ibid., p. 37, emphasis original). Mental health care imported from the West not only ‘cares’ for the Mexican patients, but also it shapes their relation to themselves so that they become amenable by the expert care in the name of their own best interests: “Mental health practitioners seek to create the types of subjects who will not think in ‘magical,’ ‘cultural’ terms but in psychological and psychiatric terms” (Ibid., p. 47), “subjects who willingly submit themselves to therapeutic authority […] in the interests of their own rights and well-being” (Ibid., p. 47), “their own liberation and empowerment” (Ibid., p. 48). Western psychological paradigm fits well to Mexican neoliberal development, as the individualisation of struggles “exculpate[s] the state and shift[s] responsibility to […] citizens” (Ibid., p. 37). At the same time, however, the practitioners themselves see the modernisation process as a source of distress in the context of the Mexican state’s failure to address poverty and inequality, which are evidently beyond the control of individual citizens.

Anthropologist Allen Tran (2016) focuses on the conflict between the notion of 'generalised anxiety disorder' used by medical professionals in a Vietnamese psychiatric hospital, and the notion of 'neurasthenia' endorsed by their patients. This conflict reflects two competing models of mental health and selfhood practiced by Western psychiatry and Vietnamese popular medicine. For medical professionals, 'generalised anxiety disorder' is a biomedical diagnosis, presumably globally applicable, located in the individual and requiring treatment for the sake of individual well-being. Worry here is a "personal feeling that individuals must learn to manage" (Ibid., p. 209). This approach is based on the "liberal theory of emotion as something that individuals can possess and therefore control" (Ibid., p. 208), which assumes that people can (learn to) master their emotions. On the other hand, the patients identify with the notion of 'neurasthenia' (itself of colonial origin, but much older and incorporated in – or appropriated by – Vietnamese medicine) and their concern – or what they insist doctors should help them with – focuses on the physical struggles related to worry, such as insomnia. The logic here is that worry itself arises from moral obligations a person has in relation to others, so it is not to be avoided or cured – what needs treatment are the physical difficulties caused by 'weak' or 'worn out' nerves. Doctors dismiss their patients' view as 'health illiteracy' and cultural backwardness and insist on their exclusive status as experts. Tran argues that there is a disempowering element to this biomedical psychiatric practice: patients are not seen as experts on their own emotions but as in need of professional assistance in mastering them. His study also highlights the way in which 'anxiety' (generalised anxiety disorder) is a particularly Western concept.

In my empirical research, I focus narrowly on the frictions within psychology (science) due to variations in research methodologies and theories. I deliberately do not include perspectives other than those of psychologists (experts) for the sake of maintaining my research focus. In this section of the State of the Art, however, I have reviewed literature that brings to light lay or outsider perspectives (those of patients or caregivers in both Western and non-Western contexts). The themes that emerge from this research are interesting for my research nevertheless. While remaining within the paradigmatic boundaries of Western psychology, the researchers I study also relate in different ways to the pathologisation and individualisation of eco-anxiety. At the same time, the literature presented here enables me to identify the ways in which research on eco-anxiety is confined within the paradigm of modern Western science by the very use of the notion of 'anxiety' (Tran, 2016).

2.5. Practicing ontological and epistemological uncertainty

I have tried to highlight some of the ambivalences and paradoxes inherent in psychology, which is both an authoritative expert discourse and a cultural practice. On the one hand, the discipline is confident in its use of 'objective' research methods in the study of universal mental health categories

‘found’ in individual bodies. On the other hand, since the emergence of modern psychology, there have been persistent internal methodological and theoretical disagreements, now fueled by the neuroscientific turn and the so-called replication crisis. Moreover, critical scrutiny from outside of the science’s assumptions and practices – performed by both scholars and lay people (patients, activists...) – is putting psychological ‘givens’ in question. How is the science dealing with frictions in practice? In what follows, I connect these considerations to the STS study of ontological and epistemological uncertainty and ‘uncertainty work’ in psychology and how it is relevant for my empirical research.

The concrete strategies for coping with particular uncertainties of experimental research done in developmental psychology laboratories are studied by the sociologist of psychology David Peterson (2016). He builds on STS literature about how experimental science turns unruly nature into a predictable and regular object through methodological standardisation on the one hand, and embodied skills of researchers on the other. In his case study, he discusses how psychologists develop particular strategies to produce statistically significant results despite ‘difficult’ research objects, while these strategies are not made explicitly present in the final research papers. The omission of these local, informal and tacit strategies is then mitigated by a system of research reliability based on an again informal hierarchy of trustworthiness of laboratories and on experimental replication to test research results provided by other laboratories.

More research discusses the relation between conceptualising mental health categories and performing these categories in practice. Although the diagnostic categories appear to be strictly defined, the science is “ambivalent” (Rhodes, 2000, p. 349) about its diagnostic system: Despite the naturalising presentation of facts, psychiatry and psychology are haunted by a continuous ontological and epistemological uncertainty, i.e. whether their conditions ‘really’ exist and how to recognise them (the long history of the ambition to physiologically locate mental disorders in the brain which would satisfy the doubts stems from this insecurity) (Pickersgill, 2011). Drawing on Trevor Pinch’s notion of ‘uncertainty work’, Pickersgill (2011) analysed how science deals with these uncertainties in the case of antisocial personality disorder and psychopathy.

Both science and policy/legislation need to assume the existence of “clear definitions for mental disorders” (Pickersgill, 2011, pp. 71-72) in order to be able to research and govern them. To make research objects (both ‘natural’ and ‘social’) “amenable” (Ibid., p. 73), science orders them through classification systems. Due to classification systems, Pickersgill argues, meanings become stable across localities and temporalities. They also enable putting collected individual data together, make them compatible with other individual data. Classification systems are thus of paramount importance

to science: “[Classifications] render uniform unruly thought and action, reconfiguring opaque notions of madness into delineated and legitimate objects of research” (Ibid, p. 73). In current mental health research and practice, the key classification system is the Diagnostic and Statistical Manual of Mental Disorders (DSM) issued by the American Psychiatric Association and globally used: “[The DSM’s] diagnostic categories and criteria circulate globally through mental health theory, research and practice” (Ibid., p. 73).

In scientific research, classification systems allow for the handling of individual data and the construction of a homogeneous population to be studied, enabling stability of meaning and thus compatibility and reliability of individual studies. Conversely, to question the classification system is to question the presumably robust body of knowledge itself. Because scientists need to make their research both authoritative and doable, they systematically overlook existing uncertainties (Pickersgill, 2011; see also Hollin, 2017). While there are constant debates over the accuracy of categories and criteria used in the DSM, these doubts are systematically overlooked in clinical practice. A similar paradox is described by Rhodes (2000) in the context of prisons: On the one hand, the seemingly unambiguous mental health diagnostic system manifestly does not hold in practice, but on the other hand, the prison structure is dependent on the stability and authority of the diagnostic logic.

This work on ontological and epistemological uncertainties and uncertainty work in psychology is highly relevant to my empirical research because I am specifically observing the methods (epistemology) and categories (theory) used by psychologists, and then how these methods and theories play together in relation to the research object: *what* they suggest eco-anxiety *is* and *how to study* it implies an assumed way of ‘finding’ and ‘observing’ eco-anxiety in the world. The respective researchers do not present eco-anxiety as an uncertain category, but the juxtaposition of different scientific approaches in my empirical analysis weakens the seeming singularity, seeming solidity of theories and methods they use, thus opening up the question of scientific (un)certainty.

2.6. Conclusion

In this State of the Art, I have organised the reviewed literature along the lines of my empirical research: First, I discussed the debate surrounding psychological research methods and scientific objectivity, which resonates with Part I of my Empirical chapter, where I analyse different methodological approaches. Rather than constructing a critique of psychological methods from outside the discipline, by bringing together different methodological approaches in my empirical analysis I try to open up ways of questioning them through the mere juxtaposition and pluralisation of approaches.

The discussion of what constitutes a ‘good’ method in psychology is thus established through my description of differences in the use of methods and the performativity of these methods.

Second, I have reviewed the literature concerned with psychological notions and theories that support them, and how current theories emerge from the historical cultural context in which modern Western psychology developed. This literature elicits the question of in what ways the psychological notion of eco-anxiety, built on anxiety theory, is a specifically Western concept. It is also a notion that is generative in terms of individualisation of social problems in psychology, since environmental degradation and climate change – the triggers of eco-anxiety – are issues that reach far beyond an individual life. Similar to some of the literature discussed, I approach psychological notions as performative and multiple.

Third, I review research that brings in external and dissenting perspectives – either those of lay people (patients, caregivers) or perspectives from outside the Western space. Although I keep my empirical research within the narrow scope of analysing only expert practices, the perspectives raised by these studies are informative for me in that they put into question the issues that psychology treats as givens. In this way, they enable me to see more clearly what is *not* being questioned in psychological research across different research strands, or whether there are issues that psychologists are indeed questioning themselves.

Fourth, I have discussed research on ontological and epistemological uncertainty in psychology and the uncertainty work that the science does in its everyday handling of the uncertainties. This provides me with an insightful perspective because the relationship between epistemology (method), ontology (notion) and the way in which these are linked to the research object is at the heart of my empirical analysis.

Last, reading existing research about psychology from different social science fields (anthropology, sociology, history, STS) has inspired my overall approach in my empirical research about psychology: Instead of creating a yet another authoritative truth claim, I would rather like to contribute to the literature that seeks to *multiply* discourses about the psychological object (eco-anxiety) and thus to counter any seeming coherence and homogeneity of the research object and the truth claims made about it in psychological research (see Introduction, Discussion).

3. Theory

3.1. Introduction: An STS take on psychology

My aim in the thesis is to explore and think about the way in which psychology generates knowledge and understanding, focusing on the case of eco-anxiety. In doing so, I draw on the STS tradition of subjecting science to a social scientific analysis. So how is my research shaped by the concepts developed in STS(-related) theoretical work? In the present Theory Chapter, I outline the theoretical grounds on which I base my thesis. In particular, I follow the STS angle that rejects the empiricist idea of science as mere observation that generates impartial depictions of the world (Part I) and asks instead what science *does* in practice.

Instead of the empiricist paradigm (substantial and specific for a *modern* approach to knowledge), my theoretical grounding is a 'relational ontology' (Part II). If we look at the world and science through its prism, the empiricist narrative about science no longer holds – so what can be an alternative account of scientific work? First, scientific knowledge is made of *reductionist accounts* about reality (Part III). Second, in practice this is done with the use of *inscription devices* (Part IV), which allow a cleaned-up 'fact' to emerge from the local and messy context. Third, scientific realities emerge through scientific practices, they are *enacted* within them. As practices vary, realities become *multiple* (Part V). Fourth and finally, we should understand science – its methods, theories and practices – as *performative*: both in the sense that it acts upon its object, and in the sense that it reproduces the assumptions that are built into it (Part VI). In what follows I discuss these theoretical moves in detail and how I use them in my research.

3.2. Part I: 'Thingification', modern science and the scientific method

> "Many of our ideas about materiality in fact remain indebted to Descartes, who defined matter in the seventeenth century […] as extended, uniform, and inert." (Coole & Frost, 2010, p. 7)

Surely René Descartes did not invent the modern worldview, but he distilled it into a pure form in his theoretical work. Since then, the 'Cartesian divide' of mind/body and subject/object has become naturalised and deeply embedded in modern common sense. This understanding of the world is imbued with what Karen Barad calls 'thingification' – a taken-for-granted process by which we think of the world as a container of entities with fixed boundaries and inherent properties. "*Thingification* –

the turning of relations into ‘things’, ‘entities’, ‘relata’ – infects much of the way we understand the world and our relationship to it” (Barad, 2003, p. 812). In the modern order of things, nature is inert, passive matter whose processes are governed by universal laws – they are thus predictable and universal (Coole & Frost, 2010). The ‘things’ we talk about are supposed to be laying passively ‘out there’, independent of us – the observers (Barad, 2003). Reality is supposed to be singular, ‘out there’ and shared. This notion of reality has become Euro-American common sense (Law, 2004, Chapter 2).

This ontology emerges along with modern science and its ideal of objective knowledge gained through impartial observation and exact measurements (Latour, 2018). Scientific statements are supposed to issue from the world itself, from reality as it is. Therefore, a crucial point for science is the deletion of the observer’s subjectivity (Law, 2004, Chapter 2). Said with Haraway, scientists are “hiding behind the fiction that what they are reporting comes direct and unmediated from nature” (Law, 2017, p. 35).

At the heart of science, (self-)conceived in this way, lies the scientific method. If reality is shared, universal, passive and available to the knowing subject, the crucial question becomes what is the best way of ‘getting it right’, of producing reliable conclusions. The scientific method is conventionally understood as a reliable shortcut – “it hopes to guide us more or less quickly and securely to our destination” (Law, 2004, p. 9), it prescribes the steps to take in order to make good research. The general belief is that “science is special because it uses the scientific method” (Law, 2017, p. 32). “[S]cientific knowledge – good, true, or accurate knowledge – grows if people adopt the scientific method” (Ibid., p. 32), which is “especially good at collecting accurate data, generating logical generalizations which explain that data, and testing those generalizations” (Ibid., p. 32). Scientific methods are supposedly regular and reliable mechanisms for arriving at the ‘right’ conclusions, producing valid statements about reality. In short, science is considered as capable of producing truths because it uses reliable methods that guarantee the right way of knowing reality.

My thesis is about science, in particular about psychology and its ways of fact-making and explaining mental health processes. Like any Western science, psychology inherits the modern paradigm, and so it is important for me to understand these fundamental premises that go with it. Later in the thesis, I will observe how psychology does indeed treat mental processes as a reality ‘out there’, knowable thanks to the scientific method. For now, however, I turn to an alternative ontological paradigm, as developed in Actor-Network-Theory (ANT), STS and the new materialism. This paradigm challenges the modern ontology and constitutes my own theoretical basis for thinking about mental health.

3.3. Part II: Relational ontology: The elusive nature of mental processes

"And matter is […] not a thing but a doing." (Barad, 2003, p. 828)

Reaching back to post-structuralism, both ANT and the new materialism operate within a 'relational ontology' (Barad, 2003), breaking with the modern ontological paradigm through a "profound conceptual shift" (Ibid., p. 815). New materialist thinkers suggest that we understand reality as an incessant flow of becoming, of relationality (Barad, 2003; Coole & Frost, 2010). In Barad's (2003) 'relational ontology' the primary ontological units are not entities but relations, or phenomena. Matter - "nature, the body, and materiality" (Ibid., p. 812) – is an ever-changing, active, emergent, open-ended process of 'becoming'. In contrast to the Cartesian divide, the new materialist ontology suggests "blurring of clear boundaries or distinctions between bodies, objects and contexts" (Coole & Frost, 2010, p. 16).

This conception of matter implies that it can no longer be considered as inert substance subject to predictable causal forces and explainable by universal laws (Coole & Frost, 2010). We are thus faced with reality that resists our attempts to make definitive knowledge claims, to reach/access any single and complete 'truth'. Sure, there is meaning and there is causality, but these are always only *local* 'enactments', embedded in, and emerging from, webs of relations. In Barad's (2003) conception, "matter and meaning are mutually articulated" (p. 822). "It is through specific agential intra-actions that the boundaries and properties of the 'components' of phenomena become determinate and that particular embodied concepts become meaningful" (Ibid., p. 815).

Under this paradigm, mental and emotional processes are multifaceted, multivocal and elusive, too. So when I attend to how psychology makes knowledge claims about mental health, or about eco-anxiety in particular, the crucial question for me is this: How does it become possible for researchers to 'handle' (observe, explore, measure, describe, talk about, draw conclusions about) the complex, elusive and invisible 'nature', or 'reality out there', of mental and emotional processes? How do they turn it into something stable, something available for sharing and discussion, an object of their scientific practices where 'facts' are the outcomes? If the modern conception of science and the scientific method generative of accurate knowledge claims about a passive and objectifiable reality is a myth, what can be an alternative account of how science operates? How does a 'scientific object' emerge from the infinitely multifaceted and undifferentiated flow of reality, how is 'nature' transformed into a form that can be *known*?

I now turn to the rich STS(-related) literature that studies this very mechanism. It provides me with the concepts of account and reduction, inscription device, ontological multiplicity and onto-ethico-

epistem-ology, and finally the performativity of scientific methods (and theories). They all help me to understand the mechanisms of scientific practices, which are relevant to my empirical analysis of psychological knowledge-making.

3.4. Part III: Turning ‘nature’ into accounts

> “The powerful (try to) insist that their statements are literal depictions of a single reality.” (Law, 2004, p. 89)

In the previous section, I introduced my theoretical standpoint in relation to eco-anxiety (and mental health more generally), which is indebted to new materialist ontology. I do not see eco-anxiety as an independent object, a matter-of-fact that is out there waiting to be known by the psychologist. Instead, I see mental processes as elusive, entangled with a myriad of other bodily and environmental processes, and evading immediate observation. Thus, I ask how it is that scientists manage to handle them and transform them into a scientific object – a question that is going to be answered theoretically in the rest of the Theory Chapter, with the help of several crucial concepts. In this section I introduce the first one: the ‘account’ coming with ‘scientific reduction’. It is about the processes by which ‘nature’ or ‘matter’ is turned into meaningful narratives.

Lindsay Prior (2007) studies the process of ascribing meaning to nature that lies behind any knowledge claim. He discusses how particular events – cases of death – are accounted for in order to be classified as either accidents or suicides. In practice, this is often far from being clear. Using this empirical case, he observes how to turn events into ‘accounts’ means “to describe the salient history of an event and thereby single out some issues for mention while ignoring others” (Ibid., p. 349). In fact, it is only in the account that an event – what happened – becomes either a suicide or an accident. The account enables an understanding and categorisation that is not ‘out there’ by itself.

Scientific method – a way to create an account – selects and amplifies certain patterns of similarities and differences in order to ‘see’ some order out of the chaos of reality. It aims to the creation of a singular, coherent narrative, which requires a work of reduction. “The multiple or the fractional, the elusive, the vague, the partial and the fluid are being displaced into Otherness” (Law, 2004, p. 137), they are not included in the scientific representation. The account is selective and reductionist; it is never identical to the absent realities it ‘represents’. ‘Representation’ is always mediated: “There is nothing direct or literal about the link between present statements and the absent realities” (Ibid., p. 89).

However, scientific accounts pretend to be literal representations of reality, seemingly issued directly from it. This denial of the 'allegoric' nature of representation is linked to the authority of science and the sense that scientific fact is the only correct statement about reality. Scientific disciplines – sources of authoritative knowledge – "insist that their statements are literal depictions of a single reality" (Ibid., p. 89). They hide the 'mediations' that were necessary to the production of the fact/statement. The idea of an exact scientific method is based on the ideal of coherence, the pursuit of a single, unambiguous account of reality, the one 'truth'. "Non-coherent realities" (Ibid., p. 93) belong to the realm of art or the subjective/personal, whereas "singularity demands experts, a single point of view" (Ibid., p. 98). Thus, not only do scientific methods generate reductions (which, in one way or another, is inevitable), but they also pretend that the single narrative they construct is derived from nature itself, from the way things *are*.

The creation of reductionist accounts, albeit pretending to be literal depictions identical to the reality they represent, is the first part of the answer to what it is that science *does*. It sensitises me to the ways in which mental processes are represented in psychological research: as reductionist accounts, because that is the only way to turn the elusive reality into something semantic. A narrative structure is unavoidable in order to be able to talk about eco-anxiety at all. However, there is nothing straightforward about the way the reduction is done (what is represented and what is omitted). Moreover, the carefully constructed and powerful narrative produced by the selection of certain patterns and their amplification is presented as a statement about people's states of mind resulting from the direct application of the scientific method to reality. Yet how are these accounts generated in practice? It is far from being a straightforward process: it is, rather, a "vast machinery of manufacture" (Prior, 2007, p. 350). This leads me to another concept: the notion of 'inscription device'.

3.5. Part IV: Inscription device

> "If the Salk Laboratory is a system of material production then how are its various material resources turned into texts?" (Law, 2004, p. 19)

When stable accounts are issued out of the necessarily elusive and local reality, particular complex mechanisms of mediation are at play, intended to "pin [nature] down" (Latour & Woolgar, 1987a, p. 69). This process is captured by the notion of *inscription device* as coined by Bruno Latour and Steve Woolgar (Ibid.). Based on their ethnographic investigation of a biological laboratory, they argue that the main purpose of the laboratory is to produce scientific papers whose statements would ideally become accepted as 'facts' (i.e. what is believed to the point when it ceases to be discussed, it is "no longer contested" – Ibid., p. 87). Reading, writing and discussing texts thus constitutes the main

occupation of scientists. Interested in the process of turning the 'material' into the 'textual' in the Salk Laboratory, Latour and Woolgar created the concept of 'inscription device' as the medium between the material and the textual (Ibid.; see also Law, 2004, p. 20). In order to represent 'the matter' in documents, they subject materiality to a chain of translations or 'inscription devices' that "transform pieces of matter into written documents" (Ibid., p. 51) – for instance, by generating a set of figures that are used as evidence in the scientific articles. "An inscription device is a system (often including, though not reducible to, a machine) for producing inscriptions, or traces, out of materials that take other forms" (Law, 2004, p 20).

Latour and Woolgar (1987a) portrayed scientists as "manic writers" (p. 48), suggesting a provocative claim that "[writing] is what laboratory work is all about" (Asdal & Jordheim, 2018, p. 64). They identify the process of turning nature into discourse as central to scientific practice: Scientific practices translate their objects into written accounts, 'data'. The semantic medium becomes a device into which the elusive and always local reality is 'inscribed', recorded. This process is what "enabl[es] the movement of nature-objects into […] samples, graphs, [and finally] scientific papers and facts" (Asdal & Hobæk, 2016, p. 99).

Let me now introduce another empirical example: clinical diagnosis of Alzheimer's. Just like scientific practice, clinical diagnosis is a selective process. Building on Annemarie Mol's (2002) conceptual apparatus (discussed in Part V), Prior (2007) writes about the diagnostic practice of Alzheimer's disease. Instead of merely 'finding' the disease in the patient's body, the practice of diagnosis implies translating the 'matter' of the body into something meaningful through the use of scientific methods and instruments. It is these instruments and methods that make the disease 'visible'. "The relationship between organic matter, pencil and paper images, electron-microscope images, staining techniques and so forth is central to the production of many kinds of fact" (Ibid., p. 353). It is actually these technical processes that enable the disease to emerge, to be seen and understood. "[T]he world of nature is never immediately visible but has to be made and manufactured in order to be seen" (Ibid., 353).

Another telling illustration of the process of inscription is provided by Asdal and Hobæk's (2016) analysis of the 'whale issue'. Tracing a historical controversy over whaling in Norway, they tell the story of how the whale, a wild animal in the sea, emerges in the form of expert reports and bureaucratic paperwork that enable its 'handling' by the Norwegian parliament. They are attentive to how it is the actual documents that allow 'nature' to enter political deliberation and assessment. It is through documents that 'nature-objects' "become available" (Ibid., p. 99), it is there that "actors encounter 'nature'" (Ibid., p. 99).

The crucial aspect of the process of scientific representation of the matter via inscription devices is the assumption that these inscriptions "hav[e] a direct relationship to 'the original substance'" (Latour & Woolgar, 1987a, p. 51; see also Law, 2004, p. 20), that they constitute its faithful representations. "[O]nce the end product, an inscription, is available, all the intermediary steps which made its production possible are forgotten" (Latour & Woolgar, 1987a, p. 63) – these steps are assumed to be "merely technical" (Ibid., p. 63), of no impact and interest in relation to the scientific statement about nature. In the final account (the scientific fact), the material and technical media necessary for its production are made invisible, "the materiality of the process gets deleted" (Law, 2004, p. 20). The problem, however, is that without this network of material, technical and human elements, the scientific fact could not come into being in the first place. It is the inscription devices that construct realities, as "none of the phenomena […] could exist without [them]" (Latour & Woolgar, 1987a, p. 64; see also Law, 2004, p. 21). "It is not simply that phenomena *depend* on certain material instrumentation; rather, the phenomena *are thoroughly constituted* by the material setting" (Latour & Woolgar, 1987a, p. 64, emphasis original). However, this construction is denied because the final fact is 'cleaned up' and stripped of the background of inscription devices that had enabled it to emerge. Latour and Woolgar argue that this paradox – the human skills and material and technical devices that make the emergence of facts possible and yet are invisibilised in the final statement – is "an essential feature of science" (Ibid., p. 69).

These points are formative to my understanding of what psychology does to eco-anxiety: I understand psychology not as observing 'it' as it presents itself 'out there', but rather as *making* it accessible, disposable, through particular semantic practices that enable its emergence. Certain discursive and methodological processes need to be at play in order to 'grasp' eco-anxiety, make it an object of research. Eco-anxiety is not 'visible' unless the 'accounts' of it are constructed, which requires the mediation of inscription devices – the "vast machinery of manufacture" in Prior's words. Only when subjected to this process can eco-anxiety emerge as an object of research, similarly to Alzheimer's disease. Thus, it is not 'found', but rather enacted and given meaning through research methods and instruments. Just like the whale, it needs to be 'recorded' via the 'inscription devices' in order to become stable, available, manipulable and shareable beyond the local from which it emerges. In scientific accounts, however, these processes are invisible and eco-anxiety is presented as an object out there, whose traces are taken as representative 'data', as identical imprints of the original reality, and the facts about it as directly derived from its nature. In my empirical research I aim to observe how this is done in practice.

3.6. Part V: Onto-ethico-epistem-ology, enactment and ontological multiplicity

> "If we no longer presume 'disease' to be a universal object hidden under the body's skin, but make the praxiographic shift to studying bodies and diseases while they are being enacted in daily hospital practices, multiplication follows." (Mol, 2002, p. 83).

I have proposed to study the psychological research about eco-anxiety through the theoretical lens that it is psychology itself, with its methods, theories and tools, that allows eco-anxiety to emerge as its object. Yet in existing psychological research, there is neither a single scientific method examining eco-anxiety nor a common theoretical lens through which it is viewed. Rather, there are several coexisting research paradigms, as I will show in the Empirical Chapter. In order to tackle this research variety conceptually, I turn to the work of Annemarie Mol (1999, 2002) who discusses precisely how an entity, a disease, is enacted through *several* paradigms and techniques at once.

The first important conceptual step is already present, more or less explicitly, in the literature about 'inscription device'. It is the statement that disease (the reality under examination) is produced by medical practices, rather than being 'found' as located 'out there' in the body. For instance, to diagnose anaemia, doctors inspect the colour of a patient's eyelid or use machines to measure the haemoglobin level in the patient's blood sample (Mol, 1999). Mol speaks of 'enactment', the doing of realities. Medical professionals need to *do* certain things, perform certain acts (moving, cutting, measuring…) in order to 'enact' the disease. Mol's conceptual work thus "contributes to a philosophical shift in which knowledge is no longer treated primarily as referential, as a set of statements *about* reality, but as a practice that interferes with other practices" (2002, pp. 152-153). "Objects enacted and practices of diagnosing and intervening belong together. They are intertwined" (Ibid., p. 159).

Mol's approach resonates with Barad's (2003) notion of 'onto-ethico-epistem-ology'. Ontology (being), epistemology (knowing about being) and ethics (doing, acting) – traditionally thought of as separate categories – are in fact one, they merge. There is no detached observer of reality (the knower), but the observer is implicated, they are an active part of what they observe. "We are not outside observers of the world. Nor are we simply located at particular places *in* the world; rather we are part *of* the world in its ongoing intra-activity" (Ibid., p. 828). The notion of 'enactment' suggests "the ontology that comes with equating what *is* with what is *done*" (Mol, 2002, pp. 83-84). This is the 'ethico' part of Barad's concept: to know reality by means of practices, through enactments, is always to act upon that reality.

In the course of her "empirical philosophy" (2002, p. 1) Mol explored these philosophical considerations of ontology in the empirical world of a hospital. She focused on the ways in which different disciplines (e.g. the general practitioner as opposed to the laboratory worker or the pathologist) diagnose a disease (anaemia – Mol, 1999; atherosclerosis – Mol, 2002). She states that it is not just that these disciplines diagnose the disease differently – in the sense of having a different perspective on the same thing, a shared reality. Rather, what they have for the disease is not exactly the same: "[D]ifferent practicalities of research, diagnosis, and/or treatment each address a slightly different 'atherosclerosis'" (Mol, 2002, p. 162). The ontological reality that they call 'anaemia', or 'atherosclerosis', differs in each case – in other words, there are multiple anaemias or atheroscleroses at once.

In Mol's language, multiplicity is 'more than one and less than many'. Mol's assertion that realities are multiple does not mean that the different realities, the different atheroscleroses, are simply juxtaposed, existing in different worlds, never coming into contact. Rather, they are interrelated, sometimes overlapping, sometimes colliding, but often simply coexisting peacefully: "Although atherosclerosis in the hospital comes in different versions, these somehow hang together" (2002, p. 84). There is work being done to maintain the apparently singular reality – the 'virtual singularity' as John Law (2004, pp. 57-58) named it. Following Mol, Law (2004) empirically studies the case of alcoholic liver disease and writes of it as "a shape-changing object that, even more misleadingly, also change[s] its name" (p. 79), as contexts vary. All this is not to say that reality is not 'really there' (as the extreme relativist position would have it); it is rather to say that the character of reality should be acknowledged as less clear and less coherent than it is assumed to be in the usual Euro-American worldview (Law, 2004).[2]

For me these theoretical considerations mean attending to how the act of psychological knowing brings into being (and acts upon) its object, in the spirit of Barad's onto-ethico-epistem-ology. If disease is enacted through medical practices, I aim to explore the ways in which the psychological phenomenon – eco-anxiety – is enacted through the practices of psychological research. Based on Mol's theoretical shift, I understand eco-anxiety not only as enacted, but as enacted in multiple ways. In my thesis, I am therefore interested in the ontological multiplicity of eco-anxiety (and, by extension,

2 The implication can be disconcerting: There is suddenly not *the* 'atherosclerosis' but *several* 'atheroscleroses' that are entirely dependent on the specialist who was supposed to 'find' them in the patient's body. Knowledge claims (diagnoses) now seem much less stable and trustworthy. Indeed, Mol does away with the aspiration to fact-finding and certitude. In her own words: "The crucial philosophical question pertaining to reality was: how can we be sure? Now, after the turn to practice, we confront another question: how to live with doubt?" (Mol, 2002, p. 165) Or as John Law (2004) puts it, abandoning the old truths about science may be "painful" (p. 139) because "[it] will lead to a world of less certainty" (Ibid.). "But a world in which the politics of ontology is no longer practiced by stealth" (Ibid.)

mental health), as performed by different strands of psychological research. How scientific practices constitute realities is already inherently present in the theory about 'inscription device'. Mol's theory, however, brings the multiplication into it. Building on Mol, I aim to explore how different research methods, ways of measuring, but also different theoretical frameworks and ways of defining, enact different research objects – perhaps overlapping, but nevertheless 'more than one' eco-anxieties.

3.7. Part VI: Performativity of science, its methods and theories

> "It is one of STS's tasks to scrape away the self-evident to understand and question how methods structure the world." (Law, 2004, p. 40)

The idea that scientific practices 'enact' their objects, as discussed in the previous section, is only a step away from the thesis about the performativity of science – its methods and theories – as offered by John Law (2004; 2017). Performativity here is understood in its double (and interrelated) meaning: it captures what science *does*, the fact that knowing and representing is an active endeavour that acts upon reality; but also that the seemingly natural character of scientific facts (their 'naturalisation') reinforces and reproduces the assumptions and mechanisms on which the facts were built. Law (2017) argues that this performativity itself should not be understood as an argument 'against science' or against particular methods over others: "*all* methods narrate and format the world" (p. 40, emphasis mine), the issue is to attend to their own specific and local ways in which they do this, and also to break with the seemingly natural way in which they operate.

The key building block of Law's argument comes from Latour and Woolgar, who stated (in line with what I discussed above) that science produces not only knowledge – statements about reality – but also the realities. Scientific facts do not 'reflect' reality in a mirror of objectivity and accuracy, but science in practice manipulates and rearranges the matter in the course of the fact production. From the perspective of ethnographers studying scientists in the laboratory, they could observe that the particular realities could not exist outside the local settings; there needs to be a network of particular scientific instruments (inscription devices) and practices at work for the 'fact' to be produced at all: "[I]f a statement is to last it needs to draw on – and perhaps contribute to – an appropriate hinterland" (Law, 2004, p. 28). The facts do not necessarily and logically derive from reality, but rather from the scientific work. This is, clearly, a radically different view about scientific knowledge than the empiricist notion (see Part I) "that there is a reality out-there of a definite form waiting to be discovered, if only we can get it right" (Ibid., p. 22). In other words, "scientific knowledge doesn't reflect nature. Instead it is a practical *tool* for handling and making sense of the world" (Law, 2017, p.

33). What Latour and Woolgar (1987b) suggested is that making of realities, making of statements about them, and the mediating networks (inscription devices, or "instrumental, technical and human configurations and practices" (Law, 2004, p. 31)) involved are all inseparable, coming together.

This leads to a pragmatist position: "Knowledge that works in practice is taken to be true […] And there is no other way of knowing truth" (Law, 2017, p. 33). A nice illustration of how methods and theories are mutually constitutive, and thus it is impossible to say whether the theory (about what reality is like) or the method (how it is measured, known) is flawed, is the study of the experimental detection of gravitational waves (Collins & Pinch, 1998). There is a problem that cannot be solved in the mere realm of scientific theory and method: If one does not detect gravitational waves, it can either be because they do not exist, or because the apparatus for detecting them (the method) is not good enough; so we can never know whether the scientific theory or the scientific method is wrong if they do not match. Collins and Pinch point out that, in the end, the gravitational waves controversy could only be resolved 'socially', outside the purely scientific arguments – the scientific community just largely agreed that gravitational waves do not exist and that there is no point in trying to measure them.

The usual scientific (and common sense) position, however, is the empiricist one. Successfully constructed realities are stabilised, removed from their local origins, and so they begin to seem naturally out there, they create an illusion of facts matching with independent realities. In Latour and Woolgar's (1986b) words, "more and more reality is attributed to the object and less and less to the statement *about* the object. Consequently […] the object becomes the reason why the statement was made in the first place" (p. 177). The cleaned up 'fact' is made transportable, the local modalities disappear, and so "the realities are suddenly turned into the causes of those statements" (Law, 2004, p. 59). "The thing and the statement correspond for the simple reason that they come from the same source. Their separation is only the final stage in the process of their construction" (Latour & Woolgar, 1986b p. 183).

Scientific practices, then, are performative because they reproduce certain (social) processes and mechanisms from which they emerge; they are based on, and reproduce, narratives that structure both common sense and science alike, and that carry political and social agendas (Law, 2004). What is assumed, unproblematically built into the method, is thus strengthened: Methods powerfully enact such incidendal 'collateral realities' (Law, 2017, p. 40) by assuming them.

For Law (2017), the study of scientific methods and their performativity lies at the heart of STS. Focusing on local practices in case studies, STS reworks the notion of scientific method: "methods are never simply techniques. Theories, methods, the empirical, modes of writing, disciplinary structures, audiences, authorities, and realities – all are staged together" (Ibid., p. 47). 'Science is social' not only because scientists are trained into disciplinary cultures. It is also because we cannot discern what is 'scientific' and what is 'social': "[T]heories, methods, perceptions, practices, and institutional arrangements are all mixed together: [methods] carry personal, skill-related, theoretical and other agendas" (Ibid., p. 33).

In my thesis, I aim to be attentive to the performativity of psychology in relation to eco-anxiety; in the double sense of the term: First, to try to capture the ways in which psychological research enacts eco-anxiety; and second, to reflect on the implicit assumptions built into scientific practices and their outcomes (the 'facts' or narratives about what eco-anxiety – or mental health – is said to be).

3.8. Conclusion: Eco-anxiety as emerging from psychological methods and theories

I have introduced several STS(-related) concepts that help me to think about science – psychology in particular – in a way other than the modern empiricist way. The modern paradigm, a legacy that still lives on in contemporary psychological research, presupposes that mental processes are realities out there, accessible to the psychologist who observes them and draws conclusions about them (see Part I). The poststructuralist-inspired, alternative account, first, does not consider mental processes to be accessible to scientific observation in a direct, unmediated way, because they are elusive, ever-changing and incoherent (see Part II). Secondly, it does not presuppose that there *is* such a thing as a singular eco-anxiety. Rather, eco-anxiety is produced by (among other) science itself in particular practices of engaging with reality. The scientific articles in which eco-anxiety is represented construct particular accounts of the object (see Part III), and their statements are the result of a chain of translations carried out with the use of inscription devices (see Part IV).

Looking at psychological research as presented in academic articles, I compare different methodological and theoretical approaches to eco-anxiety. The different theories and methods produce different accounts about eco-anxiety, and they incorporate particular assumptions about mental health into them. On the one hand, there is a diversity of them, which implies a multiplication of eco-anxiety, in a similar way that Mol's diagnostic practices multiply the human body (see Part V). On the other hand, the psychological strands are performative in the sense that they reinforce particular partial perspectives and ways of doing, naturalising them and pretending that they are universal (see Part VI).

I have decided to structure the Empirical Chapter along these lines: First, I identify and discuss the different methodological approaches and ask what and where they consider ‘the psyche’ (mental and emotional life of people) to be. Second, I focus on the different theoretical frameworks and how they conceive of what is ‘good’ and ‘bad’, how they draw the line between health and pathology, as this distinction is built into the concept of eco-anxiety. In the third part, I focus on the relationship between these three elements – the scientific object (the supposed ‘reality’ of eco-anxiety), the ways of knowing it (methods), and the ways of defining it (theories). Based on the theoretical considerations discussed in the Theory Chapter, my main interest lies really in the relationship between these three elements, as it is done in psychological research.

I believe that scientific theories are just as performative as scientific methods, although they do so in a different way. John Law explicitly states the performativity of theories alongside the performativity of methods, but the STS literature I draw on is generally much more focused on methods (practices). However, I aim to treat methods (what psychology does, what the practices are) and theories (how psychology thinks about its object of study) symmetrically. Ultimately, my main point will be to observe the way in which psychological theories and methods act together, making each other stronger.

4. Research Question

In the Theory Chapter, I introduced the STS(-related) perspectives on science that help me to think about psychological research on eco-anxiety as a performative practice. In this chapter, I relate these theoretical considerations to my empirical research through the means of the research question. I introduce my research question, which issues from the theoretical discussion, and then present the sub-questions that structure my empirical research.

The STS(-related) concepts discussed in the Theory Chapter enable me to think about psychology from a particular theoretical perspective: In this paradigm, eco-anxiety is not a singular 'thing' and psychology does not merely observe and describe it. Rather, mental processes are elusive, scientific practices construct a particular notion of eco-anxiety, and psychological research is performative (it acts upon its object and (re)produces realities). The scientific articles I analyse are seen as particular 'accounts' of eco-anxiety, resulting from a chain of translations (inscription devices). The variety of theories and methods, (re)producing different notions of eco-anxiety and assumptions about mental health, multiplies eco-anxiety in Mol's (1999; 2002) sense. Methods and theories are thus performative in Law's (2004) sense: they naturalise particular partial perspectives that are built into them.

Thus, I understand psychology as performative in the sense that it not only generates truth claims about its object – eco-anxiety – but in doing so, it also acts on it, constructing or enacting it in particular ways. Moreover, it reinforces and naturalises particular perspectives and assumptions that are built into its methods and theories. My research interest, then, is in analysing how methods and theories work together, and how they act on the research object. In other words, I am interested in the particular dynamics between ways of knowing (methods), ways of defining (theories), and the scientific object, in this case eco-anxiety. My research question can thus be expressed as follows:

RQ: How do different methods and theories, used in psychological research on eco-anxiety, enact their research object?

In order to address this research question, I rely on three main sub-questions that guide the three parts of my Empirical Chapter. These sub-questions are then supported by a series of more detailed questions. The first part of my empirical research compares different methodological approaches used to study eco-anxiety and analyses the implicit conceptions of mental health that they contain. It begins with a presentation of the psychological research methods and the ideal of good knowledge on which

these methods are based. It then looks at the agency of the researcher on the one hand, and the source of empirical data and how it is extracted and processed on the other. Finally, it suggests the different methodological practices are underpinned by a particular conception of mental health, which is linked to how mental health can best be researched. The first part of my empirical research is thus structured along the following questions:

SQ I: How are the methodological approaches used in research on eco-anxiety linked to particular implicit conceptualisations of mental health?

I.1 How do researchers generate knowledge about eco-anxiety (what are their methods)?
I.2 What is the ideal of good and valuable knowledge that drives the different methodological approaches?
I.3 What is the place and role assigned to the research subject in relation to the research object?
I.4 What is the source of data and how is data extracted and subsequently analysed?
I.5 What is the implicit concept of mental health that is inherent in, and foundational of, these different methodologies?

The second part of my empirical research focuses on different theoretical approaches to the notion of eco-anxiety and the distinction between mental health and mental pathology that they contain. First, it looks at the different theoretical paradigms used to conceptualise (i.e. contruct the notion of) eco-anxiety. Second, it asks about the different ways in which the theoretical frameworks value eco-anxiety as good or bad. Third, it analyses the different ways in which the theoretical frameworks distinguish between mental health and mental pathology, since the notion of eco-anxiety necessarily involves a boundary between health and pathology. Thus, the second part of my research asks the following questions:

SQ II: What conceptual frameworks are used to construct the notion of eco-anxiety and where do they place the boundary between mental health and mental pathology?

II.1 What theoretical paradigms are used to conceptualise, or construct the notion of, eco-anxiety?
II.2 How is eco-anxiety, conceptualised within these frameworks, valued as good or bad?
II.3 What distinction between mental health and mental pathology is implied in the different conceptions of eco-anxiety?

The third part of my empirical research builds on the previous two (methodological and theoretical approaches, their assumed notion of mental health and the borderline between mental health and pathology) to ask about different constellations of the relationship between method (knowing), theory (notion) and phenomenon (object of research) as performed in the three different scientific approaches. It begins by focusing on terminological choices, how they are justified, and how the theoretical notions are linked to the 'real' research object. It then focuses on the ways in which researchers identify eco-anxiety 'in the wild', in the flow of reality, which is related to how they recognise pathology as opposed to the healthy state. Finally, it draws conclusions about the relationship between the notion used in research and the 'reality' of the research object – how it is possible to know and agree on what eco-anxiety *is*. It is thus about the ontological status that the different strands of research assign to eco-anxiety. The third part of my research therefore proceeds along the following questions:

SQ III: What is the relationship between methods (how the object is known), theories (how the notion is constructed) and the phenomenon (what is supposed to be the research object)?

III.1: What terminological choices do researchers make, how do they justify them, and how is the terminology linked to the object it is supposed to denote?
III.2: How do the researchers identify eco-anxiety (and, by implication, pathology) in reality?
III.3: How do researchers approach the possibility of knowing and sharing what eco-anxiety is? In other words, what ontological status do they assign to eco-anxiety?

5. Method

5.1. Introduction

In the present Method Chapter, my intention is to be as transparent as possible about how I went about my empirical research in practice. I therefore describe in detail how I worked with my research material – how I selected and analysed it. At the same time, I consider it important to make explicit the theoretical underpinnings that have shaped my approach. I also decided to include all the pitfalls and doubts I encountered during the research process. Rather than simply referring to 'textbook' versions of my method, I prefer to familiarise the reader with my embodied, messy process.

The chapter – and my method – is structured as follows. I worked with written material, namely scientific articles about eco-anxiety and climate anxiety written by psychologists. Therefore, in the first part of the Method Chapter, I discuss my approach to the documents, drawing on both my initial background in literary studies and 'document analysis' method as developed in STS (Asdal & Reinertsen, 2022). I then explain how I used this method in my empirical analysis in relation to the particular material. I decided to compare different psychological methodological and theoretical approaches, how they construct the notion of eco-anxiety and how they study it. Thus, in the second part of the Method Chapter, I discuss the act of 'comparing', which in my account draws simultaneously on the 'mapping' method (Venturini, 2010) and the case studies approach. I explain how I selected my material and how I grouped it into clusters or approaches that I then compared with each other. I also clarify how I proceeded in the analysis, i.e. what particular themes and questions I followed. The process of selecting material, categorising it and analysing it was not completed without obstacles, and I try to make them transparent as well. At the end of the Method Chapter, I write about my approach to research ethics relevant to my thesis and what in my view is the ultimate point of making an STS research about psychology.

5.2. Researching documents

To study science and scientific practice, I decided to look at scientific papers, which constitute a fixed and final outcome of scientific work. They are also the means of scientific debate as it takes place mainly in academic journals. My empirical material thus consists of uniquely written texts, a selection of psychological articles about eco-anxiety and climate anxiety. Although the terms climate anxiety and eco-anxiety may be differentiated on the theoretical level, in practice (in the literature I have analyzed) the discourses on them overlap and they are used in a way that makes them very close to each other. I therefore decided to include research about both of them. Throughout the thesis, I use

“eco-anxiety” for simplicity, by which I mean *both* climate anxiety and eco-anxiety. I only use “climate anxiety”, if a particular piece of research is concerned namely with it. In this part of the Method Chapter, I aim to make my approach to documents transparent. First, I write about my background in literary studies, which significantly shaped my reading practices. Second, I discuss the STS-rooted method called ‘document ethnography’ (Asdal & Jordheim, 2018; Asdal & Reinertsen, 2022). Last, I explain how I used these principles in my empirical research.

5.2.1. My default perspective

Studying written material in my thesis felt like an obvious choice to me. What I like about analysing documents is that they do not behave in unpredictable ways, you do not feel that you are wasting their time when you consult them, and you do not have to negotiate your research needs with a personal attachment (or antipathy) which, for me, is almost inevitable when working with people face to face. Replacing research participants with documents, however, does not guarantee any more reliable access to reality. Nor does it relieve the researcher of accountability.

For me working with texts feels most ‘at home’, partly because of my undergraduate academic focus on (francophone) literature(s). Although one might expect that reading and analysing literary texts is a different kind of work to reading and analysing psychological scientific papers, there are similarities in my approach as an academic reader. In the course of my literary studies, I acquired certain academic reading habits that I use also in the present research. I became sensitive to the ways in which texts are constructed, to different layers they contain, to their rhetorical strategies, their style, and to the ways in which they seek to exercise agency, to act on the reader. I learnt to read in a non-linear way, reconnecting seemingly unrelated points in the text, and to pay attention to what details can reveal. I attend not only to what is in the text, but also to what is missing, what has been omitted. All this is to suggest that *reading* is a creative activity, rather than passive reception. It is to say (again) that the text comes to life in the hands of the reader; what the text ‘says’ depends partly on who is reading it.

The reading to which I had become accustomed during my undergraduate studies constitutes rather an ‘experiential’ skill than theoretical knowledge. I approached the analysis of texts in my empirical research with this background – what I see as my ‘default’ perspective – deeply inscribed in my reading practice and coming from a mix of sources and practical literary experience. In what follows, I turn to the STS approach to documents, which provided me with theoretical background and the opportunity to combine my literary experience of working with texts with STS empirical research.

5.2.2. Document analysis and document ethnography

When we read through textbooks that introduce qualitative social science research (such as *Doing Real Research*), we can see that the most discussed methods work with human participants rather than texts. Documents are treated as "background information" (Jensen & Laurie, 2016, p. 248), rather than *the* data – they would be a support for research with the living material, rather than a sphere to be studied in itself. In other words, such accounts treat the written "as if [it] do[es] not belong to the world of practices" (Asdal & Reinertsen, 2022, p. 210). In my studies of STS, the most developed method for working with documents that I have encountered is offered by Kristin Asdal and colleagues (Asdal & Jordheim, 2018; Asdal & Reinertsen, 2022) under the term 'document analysis' or 'document ethnography'. In this section I discuss the principles of this approach.

In order to liberate the written from the distinction between discourses and practices (or lived reality), it is helpful to consider a re-reading of Michel Foucault, as done by Paul Veyne (2010). Foucault's term 'discourse' only quite unfortunately evokes 'speech'. For Foucault, 'discourse' "consists precisely in that which is not said and remains implicit" (Ibid., p. 18). 'Discourse' here is the shared assumptions in which all practices are embedded in order to be intelligible. 'Practices', however, are not opposite to words/texts/speech: they are both "what was *done* and what was *said*" (Ibid., p. 10, emphasis mine). Texts become analytically interesting when we understand them, as Foucault did, *as practices* (Asdal & Reinertsen, 2022).

How, then, to approach documents otherwise than as sources of 'additional information' collected along the way? How to *study documents as practices*? Asdal and Reinertsen's (2022) concept of 'document ethnography' offers such an approach. It invites us to apply the ethnographic method to documents, "to think of documents as sites that we visit" (Ibid., p. 25). If we conceive of the document as a site/world, we can approach it as an ethnographic field. This involves not only to reconsider the place we assign to documents in our research, but also *how* we study them. We can conceive of the practice of reading as an ethnographic experience, an encounter, an immersion in a specific space that the document constitutes.

The study of documents raises questions about reading as an activity in itself. How do we, as researchers, then become also readers? This discussion resonates with what I encountered in my literary studies. As in ethnography, we can never access a text *objectively*. How the reader approaches the text shapes the way they perceive it, which in turn informs how they think about the world outside of it and how they read other texts (this loop is called 'hermeneutical circle'). Therefore, a text is read

differently from different positions and sensitivities[3]. In document analysis, then, "the research questions we ask […] and the concerns we approach our documents with are tied in with what we gain from the text" (Ibid., p. 88). If we go a little further, we can think of reading as a creative activity in itself.

Both the reader and the text should be understood as active sources of mutual influence. How does a text affect us? Here we can employ rhetoric, a tradition that focuses on the effects of communication on its audience. "The rhetorical situation is always a social situation" (Ibid., p. 90); the author employs rhetorical tools with the intention of *intervening* in specific situations. Genre and style are ways in which the text acts on its readers and context. Another is the construction of a 'narrative' – even in documents that do not seem to tell a 'story' in the usual sense. Narrative analysis sensitises us to how arguments are constructed, how bits of information are assembled to form "very specific accounts of reality" (Ibid., p. 91, quoted from Lysgard 2021[4], p. 18).

In the light of 'material-semiotics', a particular re-reading of Bruno Latour's ANT, "documents are both words and things" (Ibid., p. 218). Since in ANT "[t]he 'actant' is whoever or whatever takes part in the process" (Asdal & Jordheim, 2018, p. 63), documents – as things – should be considered 'actors' in the same way as any other entities. Documents are, however, a specific kind of entity. Latour calls them 'immutable mobiles', expressing that "writing is a practice that both stabilizes *and* enables […] mobility" (Ibid., p. 67). When documents (as *simultaneously words and things*) move, they act on the world, "move others" (Ibid., p. 74). Yet, the 'immutable mobile' nature of documents is not enough to set them on the move: Latour emphasises the necessary presence of a sender – a concern or 'passionate interest'. "[I]nterests […] drive action; without passion, […] nothing would happen" (Ibid., p. 72).

5.2.3. Methodological implications for my empirical research

In my empirical analysis, I use the document analysis perspective more as a source of implicit background tools to guide my work with documents – scientific papers. I approach psychological papers in line with the call for the written word to be understood as a practice, like any other action, and not just as additional, 'dead' research material. Psychological papers can be understood as actions or actors aimed for certain purposes and intervening in their contexts in particular ways. Moreover, they can be explored as ethnographic 'sites', as 'spaces' where things happen, in Asdal's sense (Asdal

3 For instance, postcolonial re-reading of texts written under colonization.

4 Lysgard, S. (2021) *Statoil in the Oil Sands: Tar vs. Oil and the Trouble of Storytelling.* Unpublished dissertation manuscript in preparation for submission to the degree of PhD, TIK Centre for Technology, Innovation and Culture, University of Oslo.

& Reinertsen, 2022). During my empirical work I practiced this ethnographic immersion in the realm of the particular document.

Psychological papers, as rhetorical acts, intervene in their context and act on the reader in specific ways through the means of their genre, style and narrative structure. “The genre is produced through a series of concrete choices made about style, structure, format and language” (Asdal & Reinertsen, 2022, p. 83). Especially when studying formal documents, paying attention to these elements enables us to ‘break’ their seemingly self-evident nature. The genre of “texts of power” (Ibid., p. 83) “enact[s] a certain form of seemingly neutral authority[.] […] This form of authority is not necessarily based in the document itself, but is a product of the trust […] built up to this genre of documents and to the institutions from which they emerge” (Ibid., p. 83). Through their formal and ‘neutral’ style, psychological papers confer an expert authority on themselves that is associated with their genre, their place of publication and the fact that they are scientific articles.

“[F]ormal and public documents […] often slip out of our grasp […], their form and content [seems] self-evident” (Ibid., p. 91). Asdal and Reinertsen (2022) suggest that “[n]arrative analysis offers us methods for breaking open this self-evident seal” (Ibid., p. 91). Applying narrative analysis to psychological papers, in my understanding, means tracing the argumentative structure and how the pieces of information and facts are assembled to lead the reader to the conclusion that then seems right and obvious (as Latour and Woolgar (1987a) pointed out, scientific paper presents facts that lead to the right conclusion). I thus approach the documents I study as carefully constructed narratives, rather than as neutral and self-evident representations of reality. Their authority is rooted in their neutral style and their seemingly logical and self-evident structure, which, however, can be analysed as a construction. By attending to these formal aspects of documents, I become sensitive to how they ‘intervene’ in their context, what the rhetoric of psychological papers consists of.

The fact that I analyse psychological papers as scientific practices links my Theory and Method Chapters. In the Theory Chapter, I discussed how scientists work through writing (‘inscription devices’), and how written ‘accounts’ is what enables them to handle the elusive ‘nature’. In the Method Chapter, I look at scientific writing from a different angle, discussing how I study scientific documents in my own research. However, the material-semiotic approach rooted in ANT, which sees documents as both things (with agency) and words (with meaning), relates to both the theory and the method I use. In my understanding, based on this approach, psychological articles are one of the key sites where science ‘happens’. I see the written word both as a practice inherent to science and

necessary for its relationship to its objects, but also as a social practice to be analysed from an 'ethnographic' point of view.

5.3. Comparative research

In the Theory Chapter I discussed how and why scientific writing should not be seen as identical representation of reality. Earlier in this chapter, I mentioned that during my undergraduate studies I was trained to think not only about what is in a text, but also about what has been omitted. The concept of 'hermeneutical circle' enables us to tackle the reciprocal processes that take place between the text and its reader, where the reader brings their subjectivity and the texts that they have read before, which shapes their reading experience, but where the text also influences the reader in the course of the reading process. All these points lead me to the use of a comparative method to study a number of selected documents – psychological papers. The comparative method is not a mere juxtaposition of different documents, but it motivates the establishment of a dialogue between them, a dialogue that is staged in my empirical analysis. In what follows, I discuss in detail how I practised the comparing, the methodological concepts behind it, and the pitfalls I encountered along the way.

5.3.1. Logics behind the selection of material

The first question is how to select the material to be compared out of the infinite scope of potential research field. Here I explain how I proceeded.

5.3.1.1. Mapping

In the initial phase of my empirical research, I attempted a general exploration of the field using the method of 'mapping' as developed in the 'cartography of controversies' (Venturini, 2010). This methodological approach is rooted in ANT, which recommends that social analyst remains open to the perspectives encountered in the field and takes seriously the logic of all actors involved, without making *a priori* assumptions or treating their own perspective as superior (Venturini, 2010; Michael, 2017). Cartography of controversies is a practical method that consists of mapping the landscape of a debate: identifying influential actors, their relationships and interests, as well as controversial issues and existing positions (Venturini, 2010).

There are limitations to this method. To map is to actively select, to make visible some realities at the expense of others. Moreover, what can be mapped is conditioned by what the cartographer is able to see and recognises as noteworthy. While the methodology recommends reflecting on what gets marginalised, silenced or omitted, the practical implementation of this idea seems to me always problematic because it means taking on the responsibility of speaking for those who do not speak for themselves.

I reviewed a broad body of psychological work about climate anxiety and eco-anxiety (only including academic sources). Although the term 'climate anxiety' is quantitatively more used, and despite of the fact that some authors distinguish between the two terms, in practice the bodies of literature on eco-anxiety and climate anxiety overlap. I limited my research scope to psychology, ignoring sources that address the topic from other scientific disciplines. Psychology is anyway the most prominent science active in this area, and eco-anxiety and climate anxiety are psychological concepts. In my examination of the literature, I was interested in the number of citations to get a rough idea of influential authors. It needs to be noted that the mere parameter of number of citations is problematic for many reasons, for instance in my case it became apparent that quantitative papers are generally more cited, which can be conditioned by the citation logics in quantitative versus qualitative psychology. While I wanted to focus on the influential voices rather than the marginal ones, I also considered including a diversity of approaches rather than just the most cited works.

My preliminary exploration of the field revealed that the topic is a recent one – the academic discussion started slowly in the 2000s – but has been experiencing an ongoing boom in psychological research since, more or less, 2017. The field is rather small and that researchers tend to cite each other and use similar key authors (such as Susan Clayton), regardless of their methodological or theoretical approach. I found that the field is dominated by psychologists using quantitative methods, the most prominent being Susan Clayton from the College of Wooster, US, and her colleagues (for my choice of particular papers, please see below). I then deliberately tried to focus on articles that use qualitative methodological approaches, because I wanted to diversify my selection, rather than focusing solely on the quantitative strand.

5.3.1.2. Case studies

Although my initial idea was to map the field, identify clusters of literature, and proceed in the spirit of cartography of controversies, along the way I came to realise that for me this method did not work so well for its all-encompassing ambition. I was more interested in looking in detail at a smaller number of papers, or cases, than in trying to construct an exhaustive account of the field and all the dynamics it contains. In addition, while I had initially intended to select papers that were representative of particular clusters of literature identified in the mapping procedure, it ultimately worked better for me to see the papers as individual artefacts that do emerge from the disciplinary context but that nevertheless cannot be regarded as representative of any clear-cut clusters. So instead of taking the articles for representations of clusters issued from mapping I began to think of them as cases.

In selecting the articles to be included in my analysis I was primarily guided by their methodological approach. This was an obvious move in relation to quantitative psychology as this approach is quite

unified in terms of both methods and theories and it is easier to consider particular papers written within this paradigm as representative of the whole approach. However, I found the rest (i.e. the whole variety of qualitative literature) to be much more heterogeneous. Therefore, in order to have some diversity in my material but still keep a guiding principle, I focused on the methodological approach and added qualitative studies conducted with psychotherapy patients through interviews, and finally papers that did not produce their own empirical research but were based on discussing literature and the author's own thoughts or experiences. I aimed to have 2-3 papers for each of these three methodological approaches.

5.3.2. Structuring my analysis

Based on my theoretical approach, I was interested in how the emerging concept of eco-anxiety is incorporated into, and shaped by, existing psychological paradigms. Therefore, the research focus was to see how different methodological and theoretical approaches (understood as performative) construct the notion differently, with different assumptions. I have thus structured the Empirical Chapter into three parts, the first one analysing methodological approaches, the second one comparing theoretical approaches, and the third one discussing the interplay between methods, theories and the research object. In each of these three sections I was interested in the performativity of psychology, i.e. how eco-anxiety is enacted in psychology and what kinds of understanding of mental health are built into the psychological notion.

I identified three methodological strands: quantitative psychology, therapy-based psychology working with psychotherapy patients through qualitative interviews, and the approach I called 'reflexive', which does not conduct its own empirical research but proceeds by reviewing the work of others and adding the author's individual perspective. For each of the strands I selected 2-3 pieces, namely:

Quantitative research:

- Clayton, S. (2020) Climate anxiety: Psychological responses to climate change. *Journal of Anxiety Disorders, 74.*
- Clayton, S., Karazsia, B. T. (2020) Development and validation of a measure of climate change anxiety. *Journal of Environmental Psychology, 69.*
- Hogg, T. L., Stanley, S. K., O'Brien, L. V., Wilson, M. S., Watsford, C. R. (2021) The Hogg Eco-Anxiety Scale. Development and validation of a multidimensional scale. *Global Environmental Change, 71*

Therapy-based research:

- Budziszewska, M., Jonsson, S. E. (2021) From Climate Anxiety to Climate Action: An Existential Perspective on Climate Change Concerns Within Psychotherapy. *Journal of Humanistic Psychology*, 1-20.
- Budziszewska, M., Jonsson, S. E. (2022) Talking About Climate Change and Eco-Anxiety in Psychotherapy: A Qualitative Analysis of Patients' Experiences. *Psychotherapy, Vol. 59, No. 4,* 606-615
- Hickman, C. (2020) We need to (find a way to) talk about… Eco-anxiety. *Journal of Social Work Practice, 34:4,* pp. 411-424

Reflexive research:

- Pihkala, P. (2020) Eco-Anxiety and Environmental Education. *Sustainability, 12(23)*
- *Stein, J. E. (2023) Cultivating Belonging. Healing Defensive Anxiety in Times of Collective Trauma.* In Douglas A. Vakoch & Sam Mickey (Eds.) Eco-Anxiety and Pandemic Distress. Psychological Perspectives on Resilience and Interconnectedness. Oxford University Press

My logic in selecting the particular papers was that they should be both representative of their research strand and interesting for my analysis. In the quantitative strand, Susan Clayton's (Clayton, 2020; Clayton & Karazsia, 2020) work is at the forefront so she was an obvious choice. Hogg et al. (2021) is interesting because it is to a certain extent critical of Clayton and Karazsia and suggests an alternative within the quantitative research paradigm. The other two strands are much less burgeoning than quantitative research, so the choice was already quite limited. I selected papers by researchers who have done significant work in the area of eco-anxiety (assessed by the extent of their work on eco-anxiety, their citation scores and their overall presence in the debate) and whose approach is well elaborated in terms of methods and theories so that it serves my analysis.

This way of structuring, however, also created obstacles. Since I began by differentiating methodological approaches and selecting individual articles that were representative of methods, it was subsequently difficult to create similarly clear groupings for the theoretical approaches with the same selection of articles. The boundaries of clusters grouped along methodological lines were breached when focusing on the theoretical approaches in Part II of the Empirical Chapter. On the one hand, my arrangement worked well for the quantitative articles, which are homogeneous in *both* their methodological (quantitative) and theoretical (theory of anxiety) approach. However, for the rest,

methodologies do not overlap with theories – qualitative research working with psychotherapy patients contains divergent theoretical frameworks (e.g. existential psychology as opposed to Jungian concepts) and, on the contrary, certain theoretical backgrounds can be shared by both therapy-based and reflexive research.

A related challenge came from the fact that while quantitative research is dominant, and therapy-based research, although minoritarian, is also well established, I was only able to find a small number of articles that could be fitted into the 'reflexive research'. Nevertheless, it was a fruitful alternative to the previous two so I still wanted to include it. Moreover, there is a certain overlap between the therapy-based and the reflexive approaches. For instance, Hickman (2020) talks about her own experience and feelings, too, or in the therapy-based articles there is also a sense that eco-anxiety is a societal issue.

As I myself study qualitative social science, I am much more used to reading qualitative social scientific articles. I think this had an impact on my empirical sensitivity. I was able to see much more differentiated material among the qualitative studies and also to me there is a huge epistemological gap between quantitative and qualitative psychology. These particular reading and research habits inevitably shape my analysis.

Overall, it should be noted that my selection of documents and my delimitation of scientific approaches does not 'mirror' reality in a natural, self-evident way, but is rather an active ordering work of myself as an analyst. My ordering aims to highlight certain commonalities and differences, whereas there may be other ways of delimiting that would lead to different analytical outcomes. Barad's (2003) concept of 'exteriority within' helped me in my thinking about this. She uses it in relation to the distinction between the social and the scientific, but it is an abstract concept that helps to think about differentiated categories in general:

> "What often appears as separate entities […] with sharp edges does not actually entail a relation of absolute exteriority at all. Like the diffraction patterns illuminating the indefinite nature of boundaries – displaying shadows in 'light' regions and bright spots in 'dark' regions – the relation of the social and the scientific is a relation of 'exteriority within'. This is not a static relationality but a doing – the enactment of boundaries – that always entails constitutive exclusions and therefore requisite questions of accountability." (Barad, 2003, p. 803)

In Barad's view, there will always be aspects of reality that do not conform to deliberately set categories constituted in relation to one another. The figure of space divided into dark and light areas, but with darker spots in the light area and lighter spots in the dark area, suggests the 'exteriority

within' a seemingly homogeneous category. In my case, both the definition of the three approaches and the act of assigning particular articles to these categories was therefore an active research decision, carried out in a particular way for my purposes, but which could also have been done otherwise.

Finally, I needed to define the points of comparison, i.e. the particular questions asked to all the papers. This was guided by my theoretical approach which provides the basic structure – methods, theories, the interplay of the two – where in each of these three areas I was interested in how psychological research actively shapes its object. The particular questions, however, arose mainly from the comparison between the quantitative and the therapy-based approaches, which I did first. It then turned out to be difficult to fit in the reflexive approach along the same axes of comparison.

I wanted not only to juxtapose the different approaches, but also to stage a 'dialogue' between them, to put them in relation with each other and in this way to make them 'speak' (in my analysis) to each other. The comparative approach makes it possible to see the specificity, as well as the limitations, of each element put in relation to the others. However, the challenge for me here was to find a reasonable balance between constructing a 'story', a meaningful analytical thread, on the one hand, and remaining faithful to the material, on the other hand, since the real material did not always easily fit into the questions and categories that I defined.

5.4. Research ethics

Analysing scientific articles has freed me from the potential ethical issues that arise from conducting research with human participants, let alone with marginalised and vulnerable populations that prominent psychological scholars are not. However, my main ethical considerations lie elsewhere. Conducting an STS analysis of psychology necessarily involves speaking from a critical perspective. It seems to me that it is inherent in the act of STS analysis that psychological 'realities' often seem to collapse under my hands. Yet, it is not only in STS research that I have encountered psychology. People around me, including myself, have been cared for by psychologists, psychotherapists and psychiatrists at some point in their lives. While one can endlessly analyse and attempt to 'see through' this peculiar perspective, when one needs to be 'taken care of', one is just grateful that the professionals are there to help. My aim, therefore, cannot be to 'fight' or oppose psychology as such, even though the critical position may seem to do so.

Yet what to do with a critical analysis, then? Here I would like to follow up on Bruno Latour's (2004) essay in which he wittily describes how people who are asked to be subjected to social scientific research either run away or try to diplomatically redirect the social scientist to the department next door. Because the merciless social deconstruction of what people are attached to does not delight them in any way. "Not one of us readers would like to see *our* own most cherished objects treated in this

way. We would recoil in horror at the mere suggestion of having them socially explained" (Ibid., p. 240). According to Latour, social science needs to perform something else – it has to do such a job that people will finally come to say about their 'matters of concern': "Yes, please, touch them, explain them, deploy them" (Ibid., p. 248).

Although this is ambitious, I do not want my analysis to feel like an attack on psychology. Even less should it be read as a social scientific critique of eco-anxiety, which would be cynical and blind. Rather, I hope that the STS perspective would enrich the discussion, enabling people embedded in different perspectives, professional or personal, to see and understand more. This is of course way beyond my thesis, but I think STS work is meaningful when the 'objects' of research, the people affected, become able to say "yes, please, research us", to paraphrase Latour (2004). My aim for my empirical research is not to express the ultimate, singular 'truth', to construct yet another truth claim, but to contribute to the multiplication of voices and options.

5.5. Conclusion

In this Method Chapter, I first introduced my use of the 'document analysis' method (Asdal & Reinertsen, 2022). My empirical research analyses psychological articles published in academic journals, i.e. written documents. I have tried to make my approach to reading and analysing documents transparent. Therein, I implicitly draw on my experiential knowledge acquired during my Bachelor's degree in literature and, more explicitly, on the 'document analysis' method developed by Kristin Asdal and colleagues (Ibid.). This provides me with the methodological toolkit that I mobilised when working with the material. Namely, document analysis supports my focus on genre, style and narrative structure of these documents. I tried to practice the idea of approaching a document as a 'site' where science happens, as well as an actor or action aimed at intervening in its context – the scientific discussion.

In the second part of the chapter, I discussed my comparative method in detail, including selection of material, construction of categories, attribution of the material to the categories and analytical comparison – or creation of a dialogue – between the different clusters of material. I explained that my approach was partly informed by the 'mapping' method (Venturini, 2010), but that in the end I considered the particular scientific papers as 'cases', rather than representatives of the mapped areas. I also described the way in which I structured my analysis. I decided to navigate psychological papers according to their research methods and so I created three categories of research – 'quantitative research', 'therapy-based research' and 'reflexive research' – and selected 2-3 papers to represent each of them. As I note in the chapter, this way of categorising the material is my construction, i.e. it could have been done differently and it has shaped the analysis in a particular way. It was not done without

obstacles as the ‘live’ material does not entirely fit my categories. To structure my analysis, I used sets of questions to guide it. Still, I was faced with the dilemma of wanting to represent my material faithfully on the one hand and to construct a meaningful analysis on the other.

In the last part of my Method Chapter, I write about the ethical issues relevant to my research. I do not see myself as working with vulnerable participants because I consider academic psychologists to be rather strong actors. However, I aim to write sensitively about the topic of eco-anxiety with respect to readers who may experience it themselves. I also think it is important to make clear that my thesis should not be read as a mere critique, inimical to psychology. Rather, I hope to contribute to the work that aims at enabling alternative readings of psychology and alternative understandings of mental health.

6. Empirical Chapter

6.1. Introduction to the Empirical Chapter

My empirical research consists in a comparative analysis of psychological knowledge production about eco-anxiety. In existing psychological research, I have identified three different scientific approaches to eco-anxiety, which are differentiated based on their different research methodologies (see the Method Chapter for the limits of this way of differentiation). The first approach is quantitative, it uses surveys to generate statistical data about eco-anxiety in the population. The second, qualitative approach is based on psychotherapeutic experience of patients suffering from eco-anxiety. The third approach is 'reflexive' in the sense that it does not perform an empirical research on its own, but rather relies on existing literature and/or the author's personal experience to reflect on the issue.

In this Empirical Chapter, I focus on how these three scientific strands approach eco-anxiety differently. The chapter is divided into three parts. In Part I, I ask what methods researchers use and how the different methods assume a different conception of mental health. If researchers consider a certain way of producing knowledge about a mental health issue to be the best, what is their idea of what mental health actually is? In Part II, I look at how the different research strands define eco-anxiety and how these different theoretical frameworks introduce a different conceptualisation of the boundary between the state of mental health and the state of mental pathology. Defining the concept of eco-anxiety implies an assumed idea of what mental pathology is because the concept is inherently related to mental (un)health. What is this idea in the different strands? In Part III, I build on the previous questions to see how the methods and theories then relate to what they see to be the 'real' phenomenon. The methodological choice, as well as the theoretical framework, is linked to a particular vision of what eco-anxiety is and how we can access it, know it and act on it. What is the ontological status that the different research strands assign to eco-anxiety?

6.2. Part I: Methodological approaches

How is eco-anxiety studied? If eco-anxiety is a psychological issue, what do scientists believe is the way to gain knowledge about mental health? How do they practice this knowing? This first part of the Empirical Chapter identifies three different methodological approaches in psychological research on eco-anxiety – what I call 'quantitative research', 'therapy-based research' and 'reflexive research'. The dominating quantitative approach conducts surveys of eco-anxiety in the population with the use of questionnaires. Therapy-based approach explores eco-anxiety qualitatively through the work with

psychotherapy patients. Reflexive research prefers theoretical reflection, which can be carried out, for instance, through a literature review or self-inspection. Each approach is represented here by selected studies, which I treat analytically as particular discursive instances or cases. (See the Method Chapter for a more detailed elaboration on my analytical approach.)

These three strands do not differ merely in terms of their methods. Beneath the method they practice (how they generate knowledge about mental health, and particularly about eco-anxiety) there lies a conception of what good knowledge on mental health should look like and what its purpose is. They also embody different interplays between the researcher(s) and their data, i.e. how the presence of the researcher is taken into account in the research, how the researcher interacts with study participants, what is considered as the source of data on mental health and how these data are extracted and processed into research findings. Ultimately, these approaches enact different underlying conceptualisations of mental health as such. In what follows, I will explore these questions in detail.

Thus, this part is organised along a set of questions: First, asking the question '*How do they generate knowledge'*, I simply describe the concrete ways in which these different approaches proceeded in their research. Second, with the question '*How good and valuable knowledge should look like'*, I move to the underlying normative assumptions about what is considered good psychological knowledge. Third, I explore the ways in which the presence and activity of the researcher is worked with in the question about '*The agency of the researcher'*. Fourth, I compare where these different approaches look for data, how they extract data and how they subsequently work with it, in the question about '*Source, extraction and analysis of data'*. Fifth, by asking the question '*What is mental health'*, I describe how these approaches differ not merely methodologically in a technical sense, but also in the ways the employed methods assume different conceptualisations of mental health as their object of knowing.

6.2.1. How knowledge is made: Different methods

First, let me introduce you to the ways in which the different methodological approaches produce knowledge in practice. The focus here is on what they have concretely done in researching and generating knowledge about eco-anxiety. Whereas quantitative research in environmental psychology designs and uses quantitative questionnaires to collect and analyse data, therapy-based research uses qualitative methodologies. Reflexive research is oriented towards a conceptual outcome, i.e. it chooses methods that allow for theoretical reflection: In one case, it is a self-oriented inquiry, in the other, a comparative work with existing concepts in interdisciplinary research. Later, these practices will be related to their programmatic and normative statements (what good knowledge on mental health should look like).

6.2.1.1. Quantitative research: Measuring eco-anxiety

Quantitative research develops ‘measures’, or ‘scales’, and uses them to study eco-anxiety in the population. These scales take the form of fixed questionnaires that are distributed to a large sample of respondents, which is supposed to be representative of the general population. Participants (a few hundred of online respondents) are asked to give quantified responses. For instance, they are given statements such as “Thinking about climate anxiety makes it difficult for me to concentrate” (Clayton & Karazsia, 2020, p. 4) or asked whether they have been “bothered” by “feeling anxious about the impact of [their] personal behaviours on the earth” (Hogg et al., 2021, p. 9). They are asked to rate these statements on a numerical scale according to the frequency of occurrence, e.g. indicating what happens to them *never – rarely – sometimes – often – almost always* (Clayton & Karazsia, 2020), or within the last two weeks *not at all – several of the days – over half of the days – nearly every day* (Hogg et al., 2021). They are asked not only about eco-anxiety, but also about other realities of their lives, which are then used to calculate correlations and draw conclusions about the relationship between the intensity of eco-anxiety and, for example, the ‘experience of climate change’ (Clayton & Karazsia, 2020). In short, the questionnaire is a tool to *measure* eco-anxiety.

6.2.1.2. Therapy-based research: Qualitative interviews

This strand of research is carried out through qualitative interviews with psychotherapy patients/clients. A smaller number of participants is recruited from among people who deal with eco-anxiety in psychotherapy. Hickman (2020) collected her data from a variety of interviews with both her patients and research participants, while Budziszewska and Jonsson used a particular body of data – interviews recorded with ten specific participants for the purposes of their two studies.

The researchers themselves have a psychotherapeutic background and in their academic work they speak more or less from this perspective: Budziszewska and Jonsson (2021; 2022), on the one hand, keep their research separate from their psychotherapeutic experience, whereas Hickman (2020), on the other hand, “explores eco-anxiety through [a] combination of work” (Ibid., p. 411) – besides her research work, she also draws on her experience as a psychotherapist and workshop facilitator.

This research is based on qualitative social science methodology. The focus here is on the content of individual discourses and experiences of the participants. The aim is to explore “the in-depth subjective experience of a person” (Budziszewska & Jonsson, 2021, p. 8-9). Situating their work as “typical of qualitative approaches” (Ibid., p. 9), Budziszewska and Jonsson explicitly “focused on the experiential claims and concerns of the persons taking part in the study rather than on the external, factual content of the narratives” (Ibid., p. 9). Hickman (2020) places emphasis on the way in which the researcher engages with the research, and makes it productive as part of her knowledge making:

“feeling affected by the voices heard […] is important” (p. 412). Budziszewska and Jonsson (2021) also point out the limitations of their research, which “cannot necessarily be interpreted as the only possible or all-encompassing representation” (p. 10). In short, this strand of research focuses on collecting particular voices of people who have an especially intense experience with eco-anxiety.

6.2.1.3. Reflexive research: Integrative theoretical developments

Unlike the previous two approaches, reflexive research does not conduct empirical studies in order to produce new knowledge about eco-anxiety, but relies instead on theoretical reflection. To emphasise that these scholars do not collect empirical data, but rather reflect on eco-anxiety with the use of literature or their own subjective experience, I labelled this methodological cluster ‘reflexive research’. In the chosen cases, the method is comparative with a focus on concepts from a plurality of disciplines (Pihkala, 2020) or supported by the author’s personal experience in a self-reflexive inquiry (Stein, 2023).

Similar to Hickman (2020), Jan Edl Stein (2023) bases her account on “personal and clinical experiences” (p. 32) gained as a practising psychotherapist. She describes what she has “witnessed” (p. 32) in her “consulting room” (p. 32). However, she focuses on her own, non-professional experience, rather than representing the experience of her clients/patients. She recounts her experiences outside of the professional setting: a wildfire that occurred in her neighbourhood, and the “personal experience” (p. 37) of a Covid-19 infection. She speaks in the first person about what she “noticed within myself” (p. 34) or how she “personally transmuted” (p. 34) her emotions, as well as what she observed in her neighbours. In this way, the descriptions of her own, non-professional experience become part of her argument about eco-anxiety.

Pihkala’s (2020) article does not introduce its own empirical research, but draws on empirical data provided by others in different fields of research. His own work is “based on the literature review and analysis” (p. 2); Pihkala describes his work as “theoretical” (p. 2), using “a philosophical method” (p. 2). This method, he explains, serves to “analyze the various meanings inherent in the use of concepts by scholars from different fields” (p. 3), i.e. it allows for conceptual comparisons across disciplines in Pihkala’s “interdisciplinary research” (p. 3). He points at the problem of conceptual confusion in the research about eco-anxiety – “sometimes scholars use different terms for similar content, and sometimes scholars use the same term but actually mean different things” (p. 3) – which is why his method is beneficial. Thus, he does not contribute by generating empirical data, but rather by comparing existing studies across disciplines and integrating them at the theoretical level.

6.2.2. How good and valuable knowledge should look like

As we have seen, these scientific approaches proceed very differently in their study of eco-anxiety. These different scientific practices are underpinned by different ideas about what constitutes good and valuable knowledge on mental health. In a sense, the ultimate goal of the research on eco-anxiety is the same for all strands, quantitative, therapy-based and reflexive. All simply aim to contribute to a better understanding of the phenomenon. However, they diverge in their conception of the optimal way to do this; in other words, in what good knowledge about eco-anxiety, or about mental health generally, should look like. Specifically, it is often the identification of research gaps that reveals what the researchers see as need for scientific progress. For quantitative research, it is a good questionnaire design and good processing of the quantified data that promise to "facilitate a better understanding" of eco-anxiety (Hogg et al., 2021, p. 9). In therapy-based research, on the other hand, "the research goal is to 'give voice' to a certain experience and interpret it systematically in order to understand it and learn from it" (Budziszewska & Jonsson 2022, p. 608). Reflexive research is concerned with the lack of interdisciplinary dialogue, which is seen as an obstacle to understanding the phenomenon. While quantitative research values quantified empirical data and standardised knowledge production, therapy-based research values the exploration of individual experience. Reflexive research, in turn, aims at conceptual comparisons that would allow for a dialogue across disciplines, because it values the perspectives of different disciplines when brought *together* since more than one field of study is relevant to eco-anxiety. In what follows, I will focus on the passages in which researchers argue why certain missing knowledge is needed and on this basis I identify their underlying ideal of good knowledge about mental health (or, here, about eco-anxiety).

6.2.2.1. Quantitative research: Need for commensurable data

Let me first explore the particular conception of what constitutes 'good' scientific knowledge about mental health in quantitative environmental psychology. In the logic of this kind of psychological research, quantitative data is ascribed a special value. Its existence is primordial for the researchers to be able to make any statements – they always support their claims with scientific evidence from (primarily quantitative) empirical studies. For example, Clayton (2020) argues that climate anxiety can be considered 'real' because Americans reported climate change as a significant source of stress in APA national surveys. Similarly, Clayton and Karazsia (2020) refer to several surveys providing them with numerical data standing for "evidence of negative emotions associated with climate change" (p. 1). The same can be said of Hogg et al. (2021), who refer to studies from different localities to support the statement that "[f]eeling anxious about the state of the planet appears to be universal" (p. 1). On the other hand, the lack of sufficient empirical data is seen as an obstacle to the scientific

understanding of the issue. Clayton 2020, for example, takes a reserved attitude when “we do not yet have data” (p. 3) to draw reliable conclusions.

We have seen in the previous section that this type of psychological research designs and uses so-called ‘scales’, i.e. questionnaires with fixed sets of questions and quantifiable answers that aim to measure a specific phenomenon in the population. This is related to the fact that while data is essential here, not any data is good: Research needs to be methodologically standardised to allow sound comparisons between studies. Scales are designed to be used across studies, thus allowing the collection of standardised, commensurable outcomes. Thus, there is a particular conception of what counts as good and useful knowledge: research needs to be comparable and replicable – in other words, standardised.

The increase in eco-anxiety research is recent and there is no consensus yet on a scale to measure it. Clayton (2020) states that “[r]esearch results to date have been *inconsistent*, possibly due to *variance* in the way in which climate anxiety has been conceptualized and measured” (p. 3, emphasis mine). In a similar vein, Clayton and Karazsia (2020) state that “[m]easuring the reactions to climate change is important. Only with a valid measure can responses be evaluated in context – differences can be examined across samples and across time” (p. 3). There is a need for “consistency in measurement and understanding” (Ibid., p. 3) that would make climate anxiety accessible to scientists, clinicians and policy makers. Hogg et al. (2021) note that while research on eco-anxiety is developing, there is still “limited understanding” (p. 1) and the literature on the topic is “sparse” (p. 2) – and they link this lack of knowledge about eco-anxiety to the small number and unsatisfactory nature of existing measures of the phenomenon.

These authors thus provide a solution to a problem defined in a particular way: the need for standardised knowledge. This kind of knowledge can only be achieved through a generally accepted and widely used scale to measure the phenomenon. The scientific products presented by the authors – their scales – are deemed to be precisely the tool needed in the problem-solution framework they have constructed.

6.2.2.2. Therapy-based research: Missing voices

Similarly, the valuation of data and knowledge in the case of therapy-based research is visible in the way they talk about certain “missing data” (Budziszewska & Jonsson, 2022, p. 608). Budziszewska and Jonsson (2022) refer to a recent review of literature on psychotherapeutic interventions for eco-anxiety, which found that very little of this research uses data from psychotherapy patients. They thus present their work as “the first to analyze experiences of discussing climate change in psychotherapy

from the patients' perspective" (Ibid., p. 612). Moreover, unlike research that is "based on firsthand communications of mental health practitioners" (Ibid., p. 608) (which could partly be said about Hickman's work), they aim for a "systematic" (Ibid., p. 608) analysis of the patients' perspective.

Hickman (2020) points to the lack of specifically children's voices in the research on eco-anxiety, as well as in the broader public discussion of climate change. She raises the issue that most research is conducted with adult participants, and the "research examining the impact of climate change *'on'* children [is] children's voices framed through adult perspectives" (Ibid., p. 413, emphasis original). Moreover, she adds that there has recently been a general "backlash against [children's] voices" (Ibid., p. 413) in the public discourse in reaction to children's climate activism. As a result of this societal atmosphere, people who feel eco-anxious may be afraid to talk about it "for fear of being judged and criticised for 'being unreasonable'" (Ibid., p. 413). Therefore, her endeavour is "to just stay curious about what it feels like for children, to have their distress seen, heard and understood" (ibid., p. 412). In her view, to "protect children" in the climate crisis requires "having an understanding of how disturbing it is" (Ibid., p. 412). Eco-anxiety being a complex state of mind, her article is "an attempt to navigate a complicated conversation" (Ibid., p. 412). Her work should "help us further understand [eco-anxiety] from the perspective of children and young people" (Ibid., p. 411). To conclude, this strand of research is particularly attentive to certain voices that are deemed underrepresented in environmental psychology – i.e., children or adult psychotherapy patients. It is their particular experience that is seen as needed to enhance the scientific understanding of eco-anxiety.

6.2.2.3. Reflexive research: Lack of interdisciplinary dialogue

While Stein's essay (2023) does not explicitly articulate what kind of research is needed, the most telling in this regard is the abstract of the book on eco-anxiety in which her essay is included (Vakoch & Mickey, 2023). The book distances itself from the "dominant research paradigms [that] rely primarily on experimental and observational methodologies that analyze quantitative data" (Vakoch & Mickey, 2023/2022, book abstract[5]), making it a critical response to mainstream psychological research. Instead, there is a willingness to present "international and interdisciplinary perspectives on eco-anxiety" and "to expand beyond mainstream behavioral research approaches to include also rigorous methods from the human sciences", with a focus "on sophisticated traditions of social and cultural psychology in dialogue with other disciplines in the social sciences and humanities".

Pihkala's (2020) approach also aims to promote an interdisciplinary perspective on eco-anxiety. His formulation of the problem is that "there is not yet any united research field about eco-anxiety" (Ibid., p. 2) so "scholars are not necessarily aware of the work that others have done in different areas" (Ibid., p. 2) and there are "various terms for related phenomena" (Ibid., p. 2), which can lead to

5 https://academic.oup.com/book/44465, accessed 29.6. 2024

terminological opacity. In addition, there are “missing or underdeveloped themes in research” (Ibid., p. 11) on eco-anxiety. His article, which reviews studies on eco-anxiety from different disciplines, “makes an effort to facilitate further co-operation between researchers, and participates in building a research field about eco-anxiety and EE [environmental education]” (Ibid., p. 2).

6.2.3. The agency of the researcher

In the previous sections I discussed how the nature of the ideal research outcome varies with the different methodological approaches: it is the production of quantified data, the attention to patients’ voices and integrative conceptual developments that are valued in the respective research strands. In this section I analyse how the researcher is situated in the three approaches, which is then linked to the relationship between the researcher and the research object. In quantitative research – seeking objectivity and replicability – the researcher’s subjectivity is supposed to disappear or be eliminated as much as possible and the researcher approaches the participants only through the medium of the questionnaire. On the contrary, the therapy-based research reflects the situatedness of the researcher and, moreover, makes the presence of the researcher – and their relationship with the participants – productive as an inherent part of data collection and analysis. In the reflexive approach the subjectivity of the author is placed at the centre both as the source of the inputs (‘data’) – either their own experience or their choice of material – and as the subject who determines the way in which they are analysed.

6.2.3.1. Quantitative research: Subjectivity made absent

In the quantitative approach, the subjectivity of the researcher disappears, it is made absent. Although we are told – in demographic terms – who the participants are, the researchers themselves are not represented. Their proceeding is meant to be so rational, and detached from any particular subjectivity that it does not matter who the researcher is. All the steps taken by the researchers are described in a way that aims at all-encompassing transparency – which, of course, presuppose that all the steps are communicatable.

Authors aim to be transparent about how their questionnaire was designed, what the motivation behind the different parts of the questionnaire was and where its items came from. For instance, “we used several methods to generate items. One was extensive reading – not only in the psychological literature described above, but also a variety of blogs addressing emotional responses to climate change” (Clayton & Karazsia, 2020, p. 3). They base their questionnaires on already existing measures; constructing them with already ‘approved’, authoritative measuring devices is another way of detaching the method from the particularity of the authors: “[our] initial measure was modeled on the GAD [Generalised Anxiety Disorder] scale (Spitzer et al., 2006), one of the most widely used

psychological assessment tools" (Hogg et al., 2021, p. 2; similar can be observed in Clayton & Karazsia, 2020).

Following the ideal of transparency and clarity, they also state their initial hypotheses (or the absence thereof): for instance, "[g]iven the lack of research in this area, we took an exploratory approach and did not have specific hypotheses for how these variables would relate to the facets of eco-anxiety" (Hogg et al., 2021, p. 4). Interpretation of results of the survey follows given schemes used in statistics, which is another way to ensure 'correct' and 'objective' process: For instance, "[w]e interpret the strength of all correlations using Cohen's (1988) guidelines" (Ibid., p. 2). To conclude, this strand of research is driven by the ambition of an objective, rational and correct scientific method ensuring accurate outcomes where it is key to detach the research results from local settings or researchers' subjectivities.

6.2.3.2. Therapy-based research: Researcher as a listener

In both cases of the therapy-based research, researchers are reflexive about their presence in the research and the ways in which it is influential. Budziszewska and Jonsson (2021) reflect on their positionality as psychotherapists in relation to their data analysis, as it "influences the way we see and interpret the results" (p. 17). They do not, however, specify this, and in their scientific work they rather stay in the role of researchers than that of psychotherapists: They present the interest in participants' voices as something inherent to this kind of qualitative research, rather than being linked to their therapeutic practice.

Hickman (2020) is more explicit about her presence in the research, which overlaps more with her therapeutic practice. A deliberate part of her scientific (as well as psychotherapeutic) method is being moved: Feeling affected by what the clients/participants say "is part of the work" (Ibid., p. 412) of her as a psychotherapist but also a researcher. This personal way of attending to participants' voices lies at the heart of her epistemic approach to eco-anxiety: "I have been talking for some time with children and young people about how they feel about the climate and bio-diversity crisis [and] this paper explores eco-anxiety *through* [this professional experience]" (Ibid., p. 411, emphasis mine). Her respectful and genuinely curious approach to children is the key part of her epistemology.

The (therapeutic) relationship between her and the eco-anxious child is also fundamental to the transfer of 'data' from the participant to the researcher. For instance, she is explicit about how children were able to talk with her about things that they would otherwise withhold: "They were often clear and unashamed about feeling some anger when talking with me, an emotion that they often tried to hide at home because it caused too many other problems either within the family or at school" (Ibid., p. 420).

The way children talked to her about eco-anxiety was sometimes addressing her personally, as this child's quote illustrates: "No, you just don't get it. You grew up in a world where you expected polar bears to be there forever, I'm growing up knowing that they will be extinct soon, it's different for us, you need to understand that" (Ibid., p. 420, participant's quote). To different extents, the researchers are aware of, and explicit about, their active role in the research. Particularly Hickman (2020) makes her own presence an inherent part of the knowing process as it happens through a communicative situation between her and her patient / research participant. Listening as a researcher is likened here to therapeutic listening – the information coming from both is relevant for Hickman's research.

6.2.3.3. Reflexive research: Subjectivity of the author in the centre

In Stein's (2023) essay, the subjectivity of the author lies in the center, as she draws primarily on her own experience, including her emotional journey: the "experience in eco-anxiety and resilience [that she] witness[ed] first-hand" (Ibid., p. 33), what her own emotional "response" (Ibid., p. 33) was, what she "felt" (Ibid., p. 39). And this is also true for her analysis and conclusions – there is no distinction between her perspective and a supposedly objective perspective on the data, since the 'data' *is* her experience itself, used to fuel the theoretical reflection. Eco-anxiety in her account is not only something she observes in others and thinks about, but also something she experiences herself. In a way, this is also true of Pihkala's (2020) work. Although he does not use his own personal experience, but rather a review of literature, the way in which he relates and compares the particular studies depends on his own perspective as a thinker, since he does not follow an 'objective', pre-fabricated method of doing so.

6.2.4. Source, extraction and analysis of data

These scientific approaches differ not only in their view of the role of the researcher, but also in where they look for their data, how they extract it and how they analyse it. In the case of quantitative research, data is extracted from population samples in a standardised way with the means of the questionnaire. Therapy-based research, in turn, considers the ultimate source of knowledge to be the individual voices of participants themselves, where researchers aim to learn about eco-anxiety *from them* and to systematise and represent this knowledge in the article. Thus, the approach to the research object and its transformation into research data in these two approaches is the opposite: Instead of attending to individual voices, in quantitative research participants' experience is made quantifiable and so they are rendered mutually comparable. Finally, reflexive research neither considers people as commensurable individuals, as the quantitative research does, nor does it focus on therapy patients. This approach sees eco-anxiety a *shared* affect permeating the society, and thus it is to be found in the researchers themselves as well. This leads to two implications. First, researchers do not need a special instrument or methodology to extract it in order to construct knowledge claims as they can reflect on

their own experience through introspection. Second, the shared nature of eco-anxiety makes a plurality of social science disciplines relevant to the research.

6.2.4.1. Quantitative research: Extraction and processing of data

Quantitative research approaches eco-anxiety as an object of measurement. The 'data' – what the participants say – is treated as objectified material to be analysed and explained from the standpoint of expertise coming with pre-existing assumptions about eco-anxiety and disposing with a higher level of knowledge (pre-understanding) than the participants themselves. Here, data is extracted from a larger group of participants with a standardised, quantitative questionnaire and then processed through statistical mechanisms to generate findings in the form of numbers and correlations. For instance, Clayton and Karazsia (2020) first designed the questionnaire based on existing measures and themes found in literature, then recruited participants for each of their two studies, and then conducted "a series of factor analyses" (p. 4) on the data collected, as well as subsequent calculations of correlations between the different factors. Hogg et al. (2021) proceeded in a very similar way.

These researchers never enter in a direct contact with their participants, the contact between them is mediated by the online questionnaire designed by the researchers and completed by the participants. Here, researchers enter the field in which they aim to measure a mental health phenomenon as if it was an external reality, accessible through objective measurement, independently on the researchers and their agency[6]. The subjectivities of participants are quantified – reduced into measurable and comparable 'data', so their particular experiences disappear in a similar way to the subjectivities of researchers. What matters is the 'faithful' *transfer* of data from the field through the research tool and the subsequent processing of that data into research outcomes.

6.2.4.2. Therapy-based research: Individual voice as authoritative source

Therapy-based research sees participants as *authorities* on their own feelings and learns about eco-anxiety *from them*. Each individual voice is seen as a precious, unique *source* of knowledge. For instance, instead of her determining the intensity of a person's eco-anxiety, Hickman (2020) relies on the person's self-assessment: "Children and young people tell me that their anxiety is severe more often than mild" (Ibid., p. 419). When talking about eco-anxiety, she uses participants' discourses and narratives as her main source of information; she represents eco-anxiety as they describe it (Ibid., pp. 419-421). She practices a specific way of treating the participants' voices, which can be described as genuine curiosity that inspires attentive listening. Similarly, Budziszewska and Jonsson (2021, 2022) aim to provide space to patients' perspectives and to *learn from* their experiences. Their qualitative

6 In this way, it reminds me of measurements in physics, such as air pressure – which is however not to say that there is anything straightforward about these measurements either.

method of analysis is "especially suited where the research goal is to 'give voice' to a certain experience and interpret it systematically in order to understand it and learn from it" (2022, p. 608). They deliberately focus "on the subjectivity of experience rather than on external diagnostic categories" (2021, p. 5). In short, the method of this research strand is designed in a way that seeks to include and integrate particular experiences in their complexity and diversity in order to learn about the nature of eco-anxiety from them.

6.2.4.3. Reflexive research: Eco-anxiety as a shared presence

Both studies in this approach differ from the previous approaches in where they locate eco-anxiety, i.e. where they look for it. Stein (2023) makes use of her own experiences (of wildfire and of covid-19 infection) as the source of 'data' or material for reflection. She is therefore at once the subject and the object of her research as she claims to experience eco-anxiety herself and makes this experience productive. In addition, she describes her community's reaction to a wildfire, where they "share a sense of eco-anxiety" (Ibid., p. 34). In her approach, eco-anxiety is not best to be found solely in psychotherapy patients, as it is the case for the therapy-based approach, but in herself and in her neighbourhood, even outside her professional experience. Nor does she need any specific instruments or methodology to 'extract' the data: she simply recounts what has happened to her and how she has related to it. Pihkala (2020) does not generate empirical data directly, but uses "available empirical data" (p. 6) from studies of others to draw comparisons and conclusions for environmental education. His focus is thus on eco-anxiety in the classroom, among students and educators, and he emphasises the question of "support[ing] a constructive encounter of such eco-anxiety" (Ibid., p. 4). The place where he locates it is thus among ordinary students and teachers, i.e. the public. Unlike in quantitative research, however, eco-anxiety is not something whose presence is distributed among people *as individuals*, but rather an affect that is *shared*. Therefore, a variety of social science disciplines are made relevant to the study of eco-anxiety, framed as a public concern.

6.2.5. What is mental health?

An inherent but implicit component of these different methodological approaches is a different conceptualisation of mental health as such. For what scientists assume mental health *is*, inherently connects to how they believe we can know it. In this section, therefore, I draw on my analysis of the methodological approaches in order to spell out the different conceptions of mental health that they assume.

6.2.5.1. Quantitative research: An external phenomenon

For quantitative environmental psychology, mental health is something like air pollution[7]: it is an external phenomenon that occurs in the population and that science can measure and map with its

7 Which is not to suggest that there is anything straightforward about measuring air pollution.

tools. This approach thus also assumes that mental health – or eco-anxiety – manifests itself qualitatively *in the same way* in all people, only with differing intensities. The main question is, then, how to develop the most accurate *measuring device*; a device whose outputs would reflect reality as faithfully as possible. Equipped with such a device, in combination with statistical calculations, the scientist is able to access mental health as an object of knowing.

6.2.5.2. Therapy-based research: As experienced by patients

Therapy-based research approaches eco-anxiety – and, by extension, mental health – as a lived experience, which is most accessible when described by those who experience it intensely, i.e. psychotherapy patients. This makes them the primary source of information for the researcher. Here, eco-anxiety can be experienced by each person in their own unique way and the researcher's task is to listen and be attentive to the multifaceted feelings described by the participants. The researcher can access the object of knowing – mental health or eco-anxiety in particular – through the discourses of participants-patients. They are seen as 'experts' in their experience and the researcher is there to collect their voices, analyse them, draw generalisations and translate them for the wider academic audience.

6.2.5.3. Reflexive research: A collective concern

In the third strand of research, eco-anxiety is perceived as a collective affect shared in communities, and thus relevant in situations where the public is brought together, such as in education (in Pihkala (2020)). Moreover, this perspective implies that in order to study eco-anxiety, the researcher can also turn to themselves through an introspective reflection, as they also have an experience of it (as it is practiced by Stein (2023)). Therefore, this strand of research does not require specialised instruments or methods that would be used within a particular discipline. As seen in Stein's (2023) case, it does not even necessarily require a specifically 'scientific' method. There, mental health can best be explored through interdisciplinary social science research, as it is seen as a societal issue (Pihkala (2020), for instance, brings in insights from pedagogy and other social sciences as well as psychology).

6.2.6. Conclusion to Part I

How do different psychological methodological approaches practice knowledge making on eco-anxiety? In this part of the Empirical Chapter, I started with a particular focus on what researchers concretely do in their studies to access their object of study. While all the three strands of research aim to enhance the understanding of eco-anxiety, they study the phenomenon in very different ways.

In quantitative research the researcher uses a measuring instrument to extract data from the population. There, the particular influence of the researcher, research participants or research setting are meant to

become eliminated, supposedly due to the exactitude of the research method. Therapy-based research values the subjective experience of people with intense eco-anxiety. There, it is the transfer of these unique experiences that matters the most. Researchers are then supposed to attend to particular voices, with the means of a qualitative methodology. Reflexive research is interested in the variety of interdisciplinary perspectives as different social sciences are deemed relevant to the study of eco-anxiety. Self-inspection is also a relevant method there, which places the researcher at the centre. While quantitative research is concerned with measuring the phenomenon in population composed of individuals (with individual levels of a singular, universal eco-anxiety), therapy-based research is most interested in the experiential knowledge of people who are especially sensitive to it. Reflexive research sees eco-anxiety as a shared, collective experience and is thus interested in any voices or data from the public, as well as insights from a variety of social scientific disciplines.

The different methodologies deployed to study eco-anxiety carry implications for particular conceptualisations of mental health: What mental health is supposed to *be* is necessarily contained in the theory of how best to study it. In the first psychological strand, mental health can be said to be an external, measurable object of knowing that manifests itself in a unified and quantifiable way in population. In the second psychological strand, mental health can be known through the individual experiences of patients; it is a lived experience of particularly affected individuals, and the method of the researcher seeking to know it must be designed in a way that allows to consider the unique nature of people's experiences. In the third approach, mental health is seen as a collective experience so that its issues become a societal phenomenon to be studied by different social sciences on the one hand, and a personal, experiential concern to be reflected upon by the researcher herself on the other.

6.3. Part II: Conceptual approaches

In Part I of the Empirical Chapter I have discussed how the different scientific strands use different methodologies to study eco-anxiety, which is related to their differing implicit conceptions of mental health. Part II focuses on how eco-anxiety, as a theoretical construction, is conceived as a mental health issue (pathology in the sense of deviation from the ideal state of mental health). First, I discuss how the different research strands mobilise different theoretical frameworks to construct the notion of eco-anxiety. Second, I consider how these frameworks bring with them different ways of assigning value to eco-anxiety. Third, I link this conceptualisation and valuation of eco-anxiety to particular ways of distinguishing between mental health and mental pathology on the theoretical level.

6.3.1. Theories of anxiety

What theoretical paradigms do researchers use to conceptualise eco-anxiety? In quantitative research it is common to use dominant anxiety theory (as represented in the DSM-5), which is simply applied to

eco-anxiety. In this way, eco-anxiety is normalised as one of anxieties, oriented to the environmental threat, rather than some other anxiety-provoking object. The other two methodologically differentiated approaches (therapy-based and reflexive) are not linked to specific theoretical approaches. They theorise eco-anxiety differently than quantitative research, but the particular theoretical frameworks are not associated with the methodological strands. Budziszewska and Jonsson (2021) apply the theory of 'existential anxiety' to climate anxiety, framing it as one of the core concerns of human life. In this way, existential framework also normalises eco-anxiety – as a form of existential anxiety, it is approached as one of inherent concerns of life. Hickman (2020), on the contrary, does not use any existing theory to address eco-anxiety because she claims that this type of concern is unique and unprecedented.[8] Stein (2023) applies the Jungian conceptual framework to eco-anxiety, where anxiety in general signifies a deep craving for 'belonging'. Pihkala (2020) attempts at the inclusion of different theoretical frameworks.

6.3.1.1. Quantitative approach: Eco-anxiety rooted in anxiety theory

> "Anxiety is not the only negative emotion associated with climate change [...] but it seems to be a particularly significant one in capturing the sense of worry and concern […]. As such, it is worth giving some consideration to the nature of anxiety. Anxiety has been tied to sensitivity to negative outcomes and anticipated goal conflict, leading to active risk assessment and the inhibition of potentially conflictual behaviors […]. It is empirically distinguished from fear, although fear and anxiety often co-occur. According to Corr, it incorporates both automatic, nonconscious responses as well as higher-order, controlled reflection. Anxiety becomes maladaptive when the sensitivity to potential problems – differences between what is expected and what is encountered – is too great, triggering an emotional response and rumination that inhibit resolution of the anxiety." (Clayton, 2020, p. 2)

In line with its preference for 'anxiety' as the most appropriate term to capture the mental state of worry associated with climate change, quantitative research roots its approach in existing anxiety theory, which provides a generalised interpretation of "the nature of anxiety" (Ibid., p. 2) as such. This is the dominant anxiety theory used in contemporary psychology and psychiatry and the prime site to locate it is the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013). DSM-5 distinguishes between fear and anxiety, where anxiety is the anticipation of a future danger. The specific anxiety disorders are differentiated not by the nature of the mental state but by the

8 By implication, the different theoretical frameworks also assign a different status to the environmental crisis and climate change: The quantitative research sees it as *one* among a variety of stressors, the existential framework sees it as one of the *core* human life concerns, and Hickman (2020) sees it as entirely unique and unprecendented.

"types of objects or situations that induce [anxiety]" (Ibid., p. 189). Eco-anxiety is of course not listed in DSM-5 – it is possible that it gets there in the future but at present the concept is too recent. In quantitative research about eco-anxiety, anxiety theory is applied to eco-anxiety. This theoretical grounding implies that eco-anxiety is seen as yet another type of anxiety that operates in the same way as others, just with a different object of concern.

As we see in the excerpt from Clayton (2020), anxiety theory used in quantitative research relates anxiety to the future and "sensitivity to negative outcomes" (Ibid., p. 2). Anxiety can become "maladaptive when the sensitivity to potential problems […] is too great" (Ibid., p. 2). DSM-5 distinguishes "anxiety disorders" as opposed to "developmentally normative fear or anxiety" by their "excessive or persisting" character (APA, 2013, p. 189). The persistence is a matter of duration (six months is taken as the approximate threshold). The excess is a matter of unrealistic response faced to the perceived danger: "[I]ndividuals with anxiety disorders typically overestimate the danger in situations they fear or avoid" (Ibid., p. 189). In eco-anxiety research the notions of adaptive and maladaptive anxiety are applied to eco-anxiety. Later I will discuss how this relates to the valuation of anxiety in quantitative research.

6.3.1.2. Therapy-based research & Reflexive research: Theoretical diversity

Unlike in quantitative research, which is strongly linked to anxiety theory as represented in DSM-5, the other methodological approaches cannot be associated with any single theoretical lens that would dominate them. Neither of them relies on DSM-5 definition of anxiety, but they reach for a range of alternative frameworks. In what follows, I briefly present these theoretical approaches to anxiety and how researchers apply them to eco-anxiety.

6.3.1.2.1. Existential anxiety

Budziszewska and Jonsson (2021) mobilise the framework of existential theory to interpret climate anxiety as a form of 'existential anxiety'. Using this perspective, climate anxiety (existential anxiety) is seen as one of the core existential concerns that are intrinsic to human life. While existential theory formulates general concerns, Budziszewska and Jonsson (2021) link these concerns specifically to climate change. The use of this framework allows them to see anxiety, or more specifically climate anxiety, as "both freeing and distressing" (Ibid., p. 6) as "[e]xistential anxiety is associated with the subjective sense of being fully alive, without being oblivious to the challenging, possibly terrifying side of existence" (Ibid., p. 6). In this way, climate anxiety is also integrated into a traditional framework, it is normalised as *one of* the core existential concerns, which are inherent part of life. Yet the particular framework leads to a very different perspective on climate anxiety than the one chosen

by the quantitative studies in how it impacts the valuation of eco-anxiety, which is a point I will elaborate in the following section (6.3.2.).

6.3.1.2.2. A phenomenon without precedence

Hickman's (2020) approach, on the contrary, is to see eco-anxiety as something truly unique and unprecedented, which makes it impossible to fit the phenomenon into an application of a ready-made theory. In her reasoning, since the contemporary ecological crisis is unprecedented, eco-anxiety is also unprecendented and therefore unique and we need to attend to it in its specificity. Humanity has never before faced a human-driven climate change and environmental crisis of the kind and magnitude we are facing today so we have no truly comparable historical events or stories to draw on. "We have no psychological map or blueprint to help us navigate with, as this has never been faced by humankind before" (Ibid., p. 415). Eco-anxiety, in this framework, is a genuinely unprecedented, new and unique mental and emotional experience.

6.3.1.2.3 Jungian theory

Similar to Hickman (2020), Jan Edl Stein (2023) emphasises the "unknown" (p. 32), "peculiar" (p. 32) character of eco-anxiety. She however mobilises Jungian framework that theorises "dissociation" (p. 35) in the case of unaccepted and unprocessed anxiety. The 'dissociation of self' is then what causes mental troubles. Similar to Hickman (2020), she discusses the variety of emotions experienced by her patients or herself (e.g. 'fear', 'grief', 'deep ontological insecurity'). For her, however, the most important is the deeper 'dissociation of self' related to anxiety, which provokes a recurring "meta-theme: the seeking of a sense of belonging" (Stein, 2023, p. 37):

> "This inner sanctuary craves belonging. It craves a sense of belonging to something larger than the immediate ego. It craves a sense of order and harmony. […] [Patients] long to feel a part of a world vaster than themselves" (Ibid., p. 38).

Once again, this approach integrates eco-anxiety within the framework of an existing theory which helps the researcher to conceptualise it. This time it is the Jungian framework with its concepts of dissociation and belonging.

6.3.1.2.4. Making theoretical plurality visible

For a definition of 'anxiety', Pihkala (2020) draws on a wide array of psychological approaches and suggests that they can all be relevant, that 'anxiety' may in fact oscillate between the different meanings: 'Anxiety' understood as pathology by "many health professionals" (Ibid., p. 5); 'anxiety' as "the specific processes that occur in the mind" (Ibid., p. 5) for "researchers of emotion and neuroscience" (Ibid., p. 5); 'anxiety' as "arising from repressed emotions and experiences" (Ibid., p. 5)

in the psychodynamic tradition, and ‘anxiety’ as related to “fundamental human condition of wrestling with ‘existential anxiety’” (Ibid., p. 5) in existentialist psychology. Moreover, eco-anxiety is not always visible at the first sight. It may, for instance, manifest as eco-depression due to feelings of ‘helplessness’ and ‘powerlessness’ (Ibid., p. 6). He also points to the existence of repressed eco-anxiety, which then manifests as climate denial. He discusses all these different conceptualisations of ‘anxiety’ without arguing for one as the most appropriate – which can be linked to his overall ambition of bringing together the different research perspectives together and constructing a notion enriched by them all. However, he does not really say how these should be combined.

6.3.2. Valuation of eco-anxiety

Assessing eco-anxiety in terms of (un)desirability is a challenge for psychology: We may see eco-anxiety as a helpful driver of societal efforts to mitigate climate change. On the other hand, we may see it as yet another instance of the current ‘anxious times’ in which the population is increasingly suffering from mental health pathologies. Moreover, eco-anxiety can indeed be seen as an appropriate and rational response to the enormous threats posed by climate change. The research approaches enact different ways of valuing eco-anxiety, based on the respective theoretical frameworks (as described in Section 6.3.1). This then implies different definitions of what is problematic about eco-anxiety.

Quantitative research distinguishes between maladaptive and adaptive forms of anxiety and then sees ‘maladaptive’ eco-anxiety as something inherently negative, with the goal of finding effective ways to eliminate it. The problem, here, is when eco-anxiety becomes too intense so that it impairs a persons’ ability to ‘function’. Therapy-based research sees it as ambivalent – it can cause emotional suffering, but it can also be seen as a valuable experience rather than a problem to be fixed. The problem for therapy-based researchers is not the feeling of eco-anxiety, but rather the individual’s inability to develop a positive relationship with this feeling and to bear it. Researchers from both therapy-based and reflexive research strands value eco-anxiety positively as an incentive for an emotional and/or spiritual change. While Stein (2023) uses the Jungian framework to argue that eco-anxiety calls for a deep transformative process (healing) of the person affected, Pihkala (2020) and Budziszewska and Jonsson (2021) expand the healing process to the collective level. Here, the problem is our inability to process eco-anxiety collectively in society rather than individually.

6.3.2.1. Quantitative research: The notion of mal/adaptivity

The grounding of quantitative research in the framework of anxiety theory as represented in the DSM-5 (APA, 2013) shapes its valuative approach to the phenomenon. Anxiety theory introduces the notion of (mal)adaptivity – ‘adaptive’ and ‘maladaptive’ anxiety. The question is whether a particular form of

anxiety has an ‘adaptive function’ – otherwise it is considered pathological. Yet how is this distinction applied to the case of climate change-induced anxiety?

In my reading, scientific notions of adaptive and maladaptive responses used in quantitative research combine two different logics – appropriateness and destructiveness – which are used in an incoherent way, making the notion of (mal)adaptivity inconsistent. On the one hand, talking about (mal)adaptivity touches on the question of what kind or amount of concern is *appropriate* in the face of climate change. Climate change is a real threat and therefore “it is rational to experience some worry” (Clayton 2020, p. 2). This is seen as an appropriate emotional response that does not deserve to be pathologised. On the other hand, their definition of (mal)adaptive response is built on the notion of ‘impaired functioning’. As it is stated in DSM-5’s description of pathological anxiety (generalised anxiety disorder) (APA, 2013): “The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning” (p. 222). In line with this approach, climate anxiety is considered ‘maladaptive’, ‘severe’ and pathological when the amount of worry becomes *destructive* for the individual, in the sense of impacting their social performance: “when it is difficult to control and begins to interfere with a person’s ability to sleep, work, or socialize” (Clayton, 2020, p. 3). In quantitative research, thus, eco-anxiety becomes problematic in its ‘maladaptive’ form, which is defined by impeding ‘normal’ functioning of an individual. The distinction of maladaptive and adaptive eco-anxiety, here, is a question of intensity and frequency, rather than of the nature of the mental state.

6.3.2.2. Therapy-based research & Reflexive research: Alternative valuation

Researchers from the other two scientific strands do not adopt the mal/adaptivity framework and instead develop a different valuation of eco-anxiety. Although some of them see eco-anxiety as both potentially positive and negative, this distinction is not drawn based on the intensity of the feeling. All of them find a positive aspect in eco-anxiety, which they however tackle in different ways. Across methodological and theoretical approaches, they differ in these two questions: Do they see eco-anxiety ambivalent or purely positive? Do they discuss it on the individual level or extend the scope to an interpersonal level? In their valuation of eco-anxiety, I can see the impact of their professional background – Hickman (2020), Budziszewska and Jonsson (2021) and Stein (2023) are psychotherapists and Pikhala (2020) is environmental educator. For these researchers there are different ways in which they define what is problematic about eco-anxiety, but in any case this problem definition is different than that of quantitative research, where the problem is maladaptive eco-anxiety.

6.3.2.2.1. Therapy-based research: Value ambivalence of anxiety

Studies based on research with psychotherapy patients value eco-anxiety differently than the framework of mal/adaptivity: Here, valuation of 'bad' emotions is a fundamental part of the approach. Instead of drawing a line between the good, healthy, appropriate, functional response and the bad, pathological, maladaptive response, as we have seen in quantitative research, therapy-based research sees eco-anxiety as inherently ambivalent – both good and bad.

Hickman (2020) uses the Jungian concept of 'shadow', which allows her to see eco-anxiety as the 'shadow' of 'eco-empathy' (or 'eco-caring'). Put simply, people who experience eco-anxiety do so because they care deeply about the planet – and approached in this way, eco-anxiety is reframed in positive terms: "[This] allows us to talk about connection, relationship, love and understanding and helps move away from any pathologising mental illness framework" (Ibid., p. 416). She found that eco-anxious feelings could then be "appreciated and even welcomed" (Ibid, p. 416) because they allowed people to feel "connected empathetically" (Ibid., p. 417) to the planet they cared so much about.

Similar to Hickman (2020), Budziszewska and Jonsson (2021) are attentive to the ambivalent nature of climate anxiety, but they do so within the framework of existential theory, which interprets climate anxiety as a form of existential anxiety. In existential theory, anxiety is a substantial part of the experience of human life. The existential perspective even values the *painful* feeling: Since the awareness and concern that inspires anxiety requires not to be "oblivious to the challenging, possibly terrifying side of existence" (Ibid., p. 6), the positive aspect of anxiety (implying awareness) is that it "is associated with the subjective sense of being fully alive" (Ibid., p. 6). There is the idea that "[t]he experience of climate anxiety […] may actually be a sign of integrity" (Ibid., p. 15), of having the courage to be *fully aware* of the threat.

There is an "inherent paradox" (Ibid., p. 6) to climate anxiety interpreted as existential anxiety: "it can be both freeing and distressing" (p. 6), "it includes clinical symptoms of anxiety, as well as the sense of exhilaration and liberty" (Ibid., p. 6). This perspective, thus, also contains a sense of an un/healthy form of anxiety: Patients often oscillate between "hope and resignation" (Ibid., p. 12), "meaning and meaninglessness" (Ibid., p. 12). The optimal state is "fluctuations" (Ibid., p. 12) of feelings, "ongoing tension" (Ibid., p. 12) between facing the horror and finding meaning in it.

For Hickman (2020) and Budziszewska and Jonsson (2021), thus, what is problematic is not a strong eco-anxiety as such, but rather a negative relationship of the individual to their eco-anxiety and their

inability to face the feeling. Existential anxiety is inherently intense and ambivalent, and "the ability to tolerate these tensions appears to be crucial" (Ibid., p. 12) for mental health: "[I]f a person cannot find a way to integrate [feelings of existential anxiety], […] they can mutate into sources of profound suffering" (Ibid., p. 5). Unlike people who cope with their anxiety in a healthy way, "[p]ersons in acute stages of climate anxiety no longer mention the tension but focus on experiencing the loss of meaning" (Ibid., p. 12), they do not experience the dual nature of anxiety but only the suffocating part of it.

6.3.2.2.2. Stein: Eco-anxiety as individual transformation

Stein's (2023) use of the Jungian framework leads her to an entirely positive approach to eco-anxiety, where this anxiety is not only unavoidable but also beneficial, an impulse for internal healing of the 'self'. Far from eco-anxiety being a negative experience and in line with the Jungian approach, it presents an opportunity (and necessity) to develop a "sense of belonging" (Ibid., p. 34). This is both "vital to coping with eco-anxiety" (Ibid., p. 34) and stimulated by it as part of the healing process. She thus speaks of the climate crisis in positive terms, inviting us to see

> "the climate change crisis as an initiatory experience that has the power to actually transform us away from unhelpful, defensive reactions to a maturity into presence and healthy engagement. The crisis therefore awakens us into a new level of perception and being in the world" (Ibid., p. 35, emphasis mine).

In this theoretical framework, negative feelings experienced during this transformation are an inherent part of the journey, nothing to be avoided or regretted: "Most initiation processes involve some degree of struggle and/or suffering" (Ibid., p. 35). In the end of the path, one is supposed to reach "a profound sense of belonging [...]. From that belonging, one has a solid sense of one's place and purpose in the interconnected and interdependent web of life" (Ibid., p. 35). In the end, a sense of belonging is also good for our empathy with the planet:

> "The individual who has truly opened up to the world cannot ignore it. […] Scars on the land become scars of the heart. We know that the trees we save save ourselves. We now see the pollutants in the air and oceans as the emotional toxins of our families shadows" (Ibid., p. 40).

Ultimately, this "expanded sense of belonging […] also has the power to dissolve fear" (Ibid., p. 40), it is thus seen as a way of overcoming the anxiety. Here, eco-anxiety is valued positively as an impulse for internal individual transformation.

6.3.2.2.3. Eco-anxiety as collective transformation

Budziszewska and Johnsson (2021) and Pihkala (2020) expand what they mean by 'transformation' from the individual to a wider, collective scope. Like in Stein (2023), for Budziszewska and Johnsson (2021) climate anxiety can have a transformative function. They however connect it with a collective transformation carried out not just individually but in society: "Persons who experience climate anxiety can be seen as signalers" (Ibid., p. 15) to others, their feelings can open up debate about the situation and "emotional sharing" (Ibid., p. 15). "Collective experiences of emotions, including climate anxiety, grief, and worry, have a power to play a transformative role in a community" (Ibid., p. 15).

For Pihkala encountering difficult emotions should be done collectively, in the realm of social institutions and organisational cultures (Ibid., p. 16), whereas "[t]he so-called negative emotions […] are often despised" (Ibid., p. 17) there. In his view, these processes can bring relief: "When recognized and perhaps even named, emotions can then be processed and lived-through" (Ibid., p. 17). Morevoer, he does not rely on a strictly and narrowly defined eco-*anxiety*: There is "not any single set of 'right' ecological emotions" (Ibid., p. 21) that people 'ought' to feel: "The crucial thing is to engage in self-reflection and also to try to understand compassionately the emotions of others" (Ibid., p. 21). Thus for Pihkala (2020), the problem is not eco-anxiety as such, but rather our inability to process it, which requires a collective culture of acceptance.

6.3.3. What constitutes the 'good' state of mind?

In a sense, the construction of the notion of eco-anxiety necessarily relies on an *a priori* assumed distinction between mental pathology and mental health. In other words, it is necessarily linked to a particular conceptualisation of what constitutes the 'good state' in terms of people's mental and emotional life. To answer the question of what the state of anxiety (pathology[9]) is as opposed to the state of health requires a way of conceptualising what 'pathology' as such means. The different theoretical approaches seem to be based on different ways of tackling this issue.

For quantitative research relying on anxiety theory as fixed in DSM-5, being mentally healthy equals not experiencing overly negative emotional and mental states too often, not letting one's concerns interfere with one's daily life. Here, pathology is individual, but the measure of pathology is set externally (what is considered to be the normal functioning is not the individual's definition, but one

9 The researchers of all strands repeatedly emphasise that they do not want to "pathologise" eco-anxiety because they consider climate change to be a real threat and the anxious response to be rational. In my understanding, they mean that they do not want to make eco-anxiety a clinical diagnosis, that it should not be "treated" in the medical sense. But I use the term "pathologise" here in a different way. I mean simply that, nevertheless, they perform a certain distinction of the good state of mental health and the bad state of a disrupted mental health, which is what I mean by "pathology".

set by scientists). On the other hand, the other researchers all start from a critique of the ideal of a perfectly happy life, suggesting rather that disturbing emotions and thoughts are inherent part of human existence. The distinction between mental health and pathology is then, rather, the (in)ability to bear the burden of concerns and to transform them into something meaningful. Here, eco-anxiety is not *per se* a mental health problem. What is problematic is the inability to develop healthy ways of coping with it, inability to live with it and process it. Unlike the other researchers who do not depart beyond the individual level of such a coping, Pihkala (2020) shifts the focus to the collective level through the idea that emotional sharing is necessary for a healthy relation to eco-anxiety.

6.3.3.1. Quantitative research: Mental health as moderation

Quantitative research builds on the notion of 'individual wellbeing' which implies the elimination of negative feelings and mental states. Healthy and unhealthy responses are distinguished by the intensity of 'negative' symptoms, measured by their frequency. Participants are asked to rate how often their state of mind is 'impaired' by the environmental crisis. For instance, participants are asked about ruminative thoughts – e.g. "Thinking about climate change makes it difficult for me to sleep" (Clayton & Karazsia, 2020), the impact on their relationships – e.g. "My friends say I think about climate change too much" (Ibid.), or the frequency of negative emotions – e.g. "Feeling afraid" when thinking about "climate change and other global environmental conditions" (Hogg et al. 2021). Worrying about climate change to a healthy extent thus means not being *excessively* disturbed by it; the difference is quantitative, measured by the frequency of symptoms considered 'negative'. Being mentally healthy means not experiencing these 'negative' states too often. In this conception, mental health means being able to 'function' in the optimal, moderate way – regulating one's concerns so that they do not interfere with daily routines such as sleep, not experiencing overly negative emotions, remaining able to have 'normal' social relations, and so on. I conceptualise this as a notion of mental health as moderation: One's pathology is defined here by one's deviation from the norm, one's experience is pathological if it is too intense, excessive. Pathology is thus located strictly in the individual, but at the same time, it is assessed on the basis of an external norm set by experts.

6.3.3.2 Therapy-based & Reflexive research: Negative emotions as natural

The rest of the studies suggest different conceptualisations of un/healthy state of mind. For all researchers except from those of quantitative research, mental health is *not* assessed on the basis of absence or little intensity of negative emotions. These researchers agree that negative emotions and inherent part of human life – they can not be themselves the markers of pathology.

The starting point of therapy-based studies is a critical attitude towards the current societal "attachment to happiness" (Hickman, 2020, p. 419) where "a fantasy of a life without suffering" (Ibid.,

p. 419) motivates people's negative relationship with distress, in which supposedly 'negative' emotions are seen as something to be eliminated and avoided. Rather, this approach understands deep concerns, such as the concern about climate change, as "a core dimension of human life" (Budziszewska & Jonsson, 2021, p. 5), something inherently present in our experience of existence. Feeling concerned is thus not a sign of not being fully mentally healthy; rather, being aware of and facing the concern is "a token of authenticity and courage" (Ibid., p. 5). In consequence, negative feelings such as "pain and anxiety [are] inevitably linked to the 'givens' […] of existence" (Ibid., p. 5), they are understood as "a natural part of life trajectory" (Ibid., p. 5).

In line with all the researchers discussed in the thesis, Pihkala (2020) claims that "scholars widely agree that it is reasonable to worry about the ecological crisis and climate crisis" (p. 4). In his approach he attempts to integrate different scholarly approaches including that of the quantitative research: He uses the notion of "adaptive and practical potential in anxiety" (Ibid., p. 5) as we already know it from quantitative research: "Eco-anxiety may manifest as paralyzing symptoms, but it may also be a motivating force" (Ibid., p. 8). Here again, the "strong" (Ibid., p. 8) versus "practical" (Ibid., p. 11) anxiety are differentiated based on whether it is 'paralyzing' or 'motivating'. However, he warns that "there are often serious problems in labeling the so-called negative emotions as undesirable and 'bad'" (Ibid., p. 12) because the 'bad' emotions "also belong to normal life" (Ibid., p. 12) and there is a "need to also encounter the difficult emotions" (Ibid., p. 12). In this way, he is closer to therapy-based research and Stein (who is also a practicing therapist and draws on Jung) in their positive or ambivalent valuation of eco-anxiety. For him, the problem is the avoidance of negative or difficult emotions rather than those emotions themselves, which we have also already seen in therapy-based researchers.

6.3.3.3. Therapy-based & Reflexive research: Mental health as ability to process anxiety

Based on this framework which normalises negative emotions, mental health or pathology consist in something else than the experience of negative emotions *per se*. In the existential perspective the fact that facing reality "can also be at times emotionally challenging" (Budziszewska & Jonsson, 2021, p. 5) and "the encounter with existential concerns is often painful" (Ibid., p. 5) is not seen as a problem in itself, but rather as a given. In therapy-based research the problem is rather seen in the fact that "people struggle to relate to the 'disturbance'" (Hickman, 2020, p. 419) in their pursuit of 'happiness'. Disturbing and unbearable feelings "should be faced rather than avoided" (Budziszewska & Jonsson, 2021, p. 5) or denied. From this perspective, the way to deal with 'disturbance' is to face the feeling, even welcome it, listen to it, try to get to know its deep meaning. It is about accepting the complex and

changing feelings of sadness, anger, guilt or grief, including “powerful feelings such as existential terror” (Hickman, 2020, pp. 413-414). Similarly for Stein (2023) whose view is embedded in the Jungian approach, a ‘healthy’ processing of eco-anxiety consists of a deep transformative experience resulting in a ‘sense of belonging’. What is perceived as unhealthy is, rather, the avoidance and denial of eco-anxiety.

Pihkala (2020), too, does not see eco-anxiety *per se* as a symptom of impaired mental health. For him it is a logical reaction to the state of the world. The problem is seen, rather, in people’s inability to process the experience of eco-anxiety, the ability to bear emotions even when they are intense: “both despair and empowerment can be a part of one’s life” (p. 25). He calls it “existential resilience” (Ibid., p. 15): “[C]oping refers to skills of living with eco-anxiety and of alleviating its most debilitating forms” (Ibid., p. 14). Pihkala (2020), however, shifts the problem away from the individual to the collective: In his framework, what is mentally ‘healthy’ is to be able to name one’s emotions, to share them with others – because communication about emotions is a necessary step in the coping process. What we need, then, is “building emotional skills” (Ibid., p. 15), especially “skills of living with uncertainty and ambivalence” (Ibid., p. 15); to develop “emotional literacy” (Ibid., p. 16) and “emotion-positive attitudes” (Ibid., p. 16) and to “channel and control emotional energy” (Ibid., p. 17), not only individually, but especially collectively, in institutions and organisations.

6.3.4. Conclusion to Part II

In Part II of the Empirical Chapter, I analysed how the different theoretical frameworks imply different valuations of eco-anxiety, which is linked to a different conception of what good or bad mental state is (what is mental health as opposed to mental pathology).

In quantitative research, eco-anxiety is normalised as *one of* anxieties and traditional anxiety theory, as represented in the DSM-5, is used to construct the notion. This theoretical framework introduces the notion of mal/adaptivity, where some forms of eco-anxiety become maladaptive – those that are excessively intense and frequent. This approach is underpinned by the conception of mental health as ‘moderation’, i.e. a state in which ‘negative’ feelings are eliminated.

The other methodological strands are not linked to particular theoretical frameworks, but rather there is a plurality of theories they rely on: Jungian framework (Stein, 2023), existential framework (Budziszewska & Jonsson, 2021), but also the refusal to fit eco-anxiety into any traditional theory (Hickman, 2020) and the attempt to integrate different theoretical frameworks (Pihkala, 2020). These researchers, however, all value eco-anxiety in a way that opposes the valuation done in quantitative

research. For them, eco-anxiety is either ambivalent – potentially both a source of overwhelm and suffering *and* a valuable experience (Budziszewska & Jonsson, 2021; Hickman 2020), or even positive – as an impulse to transformation. This transformation can be imagined on the individual (Stein, 2023), but also the collective level (Pihkala, 2020).

Mental health, in these alternative approaches, cannot be assessed based on the frequency or intensity of negative emotions, because these are not only an inherent part of human life, but also they are valued for their productive facets. What is considered as the source of pathology is rather the inability to bear intense feelings. The healthy processing of intense anxiety is mostly conceived on the individual level, but Pihkala (2020) shifts emphasis to the interpersonal character of emotional coping. These consideration thus open the question of whether what is pathological is the individual experience, or rather the collective non-acceptance of it.

6.4. Part III: Ontology and epistemology – method (knowing), theory (notion), phenomenon (reality)

While I discussed in Part I how the different research strands use different methodologies and how this is linked to their conception of mental health, I focused in Part II theories that their approach to eco-anxiety is based on and how it implies different conceptions of mental pathology. In this Part III, I build on the previous parts to see how knowing (epistemology) relates to reality (ontology) in the different research strands. If they study (know) eco-anxiety differently, and if they also theorise what eco-anxiety *is* differently, what is the connection between their theory, their method and the phenomenon they study? To answer this question, I first look at their use of terminology, and how the act of naming a phenomenon plays a role. Second, I ask how they empirically recognise what they have defined as eco-anxiety; i.e. once having phrased the definition to denote the phenomenon, how do they *find* it in the world? Third, I conclude that these two questions taken together imply a different conception of the relationship between reality (the phenomenon), theory (the notion) and knowing (the method). In other words, this speaks to the question of scientific access to mental and emotional processes, which is my fundamental research interest (see Introduction).

6.4.1. Choice of terminology: Terms and the phenomenon

What kind of considerations surround the researcher's choice of terminology? How do they justify 'anxiety' as fitting and why do they prioritise (or not) between 'eco'-anxiety and 'climate' anxiety? What role does the term play in their research?

Quantitative research puts emphasis on an accurate use of scientific terminology; the phenomenon needs to be described by the correct term that captures its nature. The use of the term 'anxiety' stems

from the conviction that it is the most fitting term for the phenomenon being described. The difference in meaning of 'eco'-anxiety and 'climate'-anxiety also plays a significant role: Attention is paid either to anxiety about environmental degradation in its various forms or to anxiety about climate change specifically, which changes the way research questionnaires are formulated. In consequence, the choice of terminology is seen as an important feature of the research – it is a key marker of the article, playing an important role in scientific boundary work and positioning the research within the wider research field.

In therapy-based research, the use of terms is less important and more open. On the one hand, it adopts definitions provided by quantitative research – researchers agree on the basic idea that anxiety is a long-standing worry about future negative and unknown outcomes, which they indeed see as an important part of the emotional response to climate change. They do not, however, limit themselves to 'anxiety' and remain open to other associated emotions, if these are experienced by their study participants. In contrast to quantitative research, the distinction between 'climate anxiety' and 'eco-anxiety' is not considered important here, the two terms may even be used simultaneously or the distinction is simply not considered. In general the term 'eco-anxiety' or 'climate anxiety' are deliberately used more for reasons of practical communicability, as they are widely understood terms, so that researchers can agree with study participants and the wider public on what they are talking about. In short, they do not claim to capture the phenomenon with a perfectly accurate term so they do not consider the terminology to be that important. Rather, they use the notions because of their widespread nature, which allows for a rough, but shared, understanding.

In reflexive research, namely in Pihkala (2020) most explicitly, there is a tendency to theorise the notion of eco-anxiety as *complex* and *interconnected* with other notions, as well as a phenomenon whose symptoms and manifestations may vary, rather than to isolate, purify and fixate it as it is done in quantitative research. He is in fact explicitly critical to the way eco-anxiety is defined by quantitative environmental researchers. In this view, 'eco-anxiety' and 'climate anxiety' are approximate terms. There cannot be any ultimate definition that would fit the phenomenon, rather there are particular ways in which people experience it, which need to be explored and spelled out.

6.4.1.1. Quantitative research: Exact terminology

In quantitative research, behind the choice of terminology lies the question of which term is the most appropriate, the most exact to describe the phenomenon being studied. The idea is to find a term that best captures what the phenomenon really *is*. Therefore, attention is paid to the precise delimitation of central notions that are being used. For instance, Clayton (2020) discusses her choice of the term 'anxiety' over other 'climate emotions', as the most appropriate to express the sense of worry and uncertainty triggered by climate change: In her reasoning, climate change is "uncertain, so anxiety

may be more a more common response than fear" (Ibid., p. 2). Defined as an increased sensitivity to risk, Clayton believes that the term 'anxiety' is the most appropriate because of the lack of certainty and knowledge about climate change and its threatening future consequences. This definition of anxiety is taken from anxiety theory as expressed for instance in the DSM-5 (APA, 2013).

Similarly, 'climate anxiety' and 'eco-anxiety' are seen as distinct concepts, and it is important for researchers to choose the right one and justify their choice. While Clayton and Karazsia (2020) focus on 'climate anxiety', i.e. anxiety specifically triggered by climate change as such, Hogg et al. (2021) prefer the term 'eco-anxiety'. For them, 'eco-anxiety' implies an interconnectedness of "anxieties about climate change and other specific environmental crises" (Ibid., p. 4). In other words, they link mental health problems not only to climate change, but also to "other global environmental conditions" (Ibid., p. 9). By implication, for them climate anxiety is "subsumed within" (Ibid., p. 4) eco-anxiety, rather than being a separate construct.

In consequence, terminology is an important marker of the overall approach of particular researchers and plays a role in scientific boundary work. For instance, by foregrounding 'climate anxiety', Clayton (2020) implicitly argues for the accuracy and relevance of her own research and her Climate Anxiety Scale (C.A.S.) over the work of those who use alternative terms. On the other hand, the conceptual definition of 'eco-anxiety' as a term that subsumes 'climate anxiety' allows Hogg et al. (2021) to claim that their eco-anxiety scale (HEAS-13) is a better instrument than Clayton and Karazsia's (2020) C.A.S. In fact, HEAS-13 can be adapted to measure anxiety about specific environmental problems such as climate change, rendering C.A.S. superfluous. It can, thus, be observed that the choice of terminology not only serves to make the phenomenon under study clearer and more precise, but also to effectively promote one's own research outcomes over those of others in quantitative research.

Importantly, the emphasis on exact terminology is related with the methodology: to construct a universal, fixed questionnaire measuring a particular phenomenon, the notion of the phenomenon has to be stable, shared in the scientific community, and assumed *a priori* – built into the questionnaire.

6.4.1.2. Therapy-based research: Term facilitating communication

In therapy-based research, the exact wording and demarcation or the choice of one term over another is not important. On the one hand, therapy-based articles adopt the terminology of quantitative research. They repeatedly mobilise a widely quoted definition of the term, taken from 2017 APA report (co-authored by Clayton): 'a chronic fear of environmental doom'. Similar to the conception used in quantitative research, eco-anxiety for them "represents mainly indirect and anticipatory effects of climate change" (Budziszewska & Jonsson, 2022, p. 607), i.e. "our emotional response to the threat posed by the climate and biodiversity crisis specifically rather than through 'weather related' events

generally" (Hickman, 2020, p. 414), which is "a projected and anticipated anxiety into the future" (Ibid., p. 414).

On the other hand, therapy-based studies do not insist on a unified terminology where 'anxiety' has a special place and where 'eco-anxiety' and 'climate anxiety' are clearly distinguished, as quantitative research does. For instance, Budziszewska and Jonsson (2022) use both "eco-anxiety" and "climate change-related distress" (p. 608) in their article, without further consideration. Therapy-based studies refer to the common sense, widely used meaning of 'climate anxiety' or 'eco-anxiety' and are more flexible in their use of the terms. Budziszewska and Jonsson (Ibid.), for example, use both "[c]limate anxiety or broader 'eco-anxiety'" (p. 607) without making a strict distinction between the two. Hickman (2020), in turn, does not consider the distinction between eco-anxiety and climate anxiety at all.

In fact, unlike quantitative research, therapy-based research does not claim a correspondence between concepts and phenomena. On the contrary, researchers admit that the term does *not* capture the phenomenon. For Hickman (2020), the term 'anxiety' "cannot fully capture the range of powerful emotions experienced" (p. 415) because emotional responses are "more complex" (p. 414). Yet, they argue for its use because it is at least close to the phenomenon, and because we need a shared term that is widely understood in order to be able to talk about the phenomenon. Budziszewska and Jonsson (2021) prefer to use 'climate anxiety', but note that this is because it is often used by the study participants themselves for whom it is a familiar term used by their psychotherapists, in the media, etc., and the researchers "find it vital to use the language of participants" (p. 4). Similarly, Hickman (2020) agrees that eco-anxiety can serve as a widely known umbrella term that helps to communicate about one's feelings, "a recognisable term allowing us to speak with others of our fears" (pp. 414-415).

6.4.1.3. Reflexive research: Complex and interconnected notion

Pihkala (2020) is similar to therapy-based research in that he deliberately avoids a fixed, narrow definition. He is critical of the widely used definition provided by quantitative environmental psychologists because "this definition may be too narrow and […] it may lead to overly pathologising interpretations" (Ibid., p. 4). Providing a "working definition" (Ibid., p. 4) of eco-anxiety, he argues that the notion of 'anxiety' is appropriate because a) it reflects the "strong dimensions" (Ibid., p. 5) of the feeling, and b) anxiety is "multifaceted" (Ibid., p. 5). Then "eco-anxiety means *considerable distress* that is caused *in a significant degree* by the ecological crisis" (Ibid., p. 4, emphasis mine). The 'considerable distress' differentiates eco-anxiety from "mild worry" (Ibid., p. 4). For him, eco-anxiety may be experienced even though it is not necessarily felt as the most pressing stressor in one's

personal life. In line with therapy-based research, he notes that "[t]he forms of eco-anxiety that a person experiences may change over time" (Ibid., p. 5). Thus, rather than separating (delimiting) 'eco-anxiety' and other phenomena, he emphasises how it can be intertwined with a changing range of emotions. In his perspective, eco-anxiety is "a phenomenon that has many forms" (Ibid., p. 8). He discusses the wide range of emotions and mental states "that are closely connected with eco-anxiety" (Ibid., p. 8) – such as grief, anger or guilt. He once also uses the term "climate sentiment" (Ibid., p. 14) to refer to anything that may be encompassed in this mixture. "What is roughly called eco-anxiety can actually be a combination of various emotions and mental states" (Ibid., p. 17) – the task then is to "understan[d] this complexity" (Ibid., p. 17). He then goes on to recommend that people (in his article, students) explore and try to name their "ecological emotions and varieties of eco-anxiety" (Ibid., p. 23) as they may be both explicitly and implicitly expressed and experienced, rather than trying to fit them into any pre-given category.

He also observes the various terms and meanings used in existing research, noting that scholars in the scientific community "differ in their views about what terms should be used and how" (Ibid., p. 4). He notes that "technically eco-anxiety would be a wide term for any kind of 'ecological anxiety' and climate anxiety would be the climate-change-related part of it, but […] in practice many writers equate eco-anxiety with climate anxiety" (Ibid., p. 6), and accordingly he merges the two terms. He also points to the differing terminologies and meanings of 'eco-anxiety', which can be culturally conditioned:

> "Differences in languages and terminology may cause complications. For example, in Sweden, 'klimatangest', the equivalent of climate anxiety, has been discussed for at least a decade, but the word seems to have a strong connotation of general worry. In many other countries, explicit terminology for eco-anxiety is more recent, and people may have different understandings about what kind of anxiety those terms mean" (Ibid., p. 8).

6.4.2. How do scientists recognise eco-anxiety (pathology)?

I discussed in Part II that different theories employed to conceptualise eco-anxiety are intertwined with different ways of valuing eco-anxiety and of distinguishing between its healthy and unhealthy forms, which is then related to how the research strands conceive of the boundary between mental health and mental pathology as such. Moreover, I presented here the ways in which researchers argue for their use of the very term eco-anxiety (or climate anxiety). I now add to this the conclusions drawn in Part I about methods used to research eco-anxiety to ask the question of how do scientists actually *recognise* eco-anxiety? How do they – with the methods they use – empirically distinguish between healthy and pathological environmental worry? On the one hand, quantitative research recognises pathology by

means of measurement, and what is measured is the amount of supposedly ‘negative’ reactions (emotional, mental and social) compared to what is considered normal.

Therapy-based and reflexive researchers are very different from, and at times explicitly opposed to, quantitative research in terms of how it (struggles to) ‘find’, recognise, eco-anxiety. Therapy-based research identifies the borderline between health and pathology through a subjective self-assessment provided by the participants. The issue in reflexive research is that eco-/climate anxiety can oftentimes be unrecognised even by the person who experiences it – due to mechanisms of denial, repression of emotions and social conditioning of people’s experiencing of emotions and their ability to spell them out. By consequence, it is problematic to rely on what people self-report (in quantified or qualified form). This view is thus explicitly critical about questionnaires that identify eco-anxiety through its symptoms, as these symptoms, too, are socially conditioned and may vary even in an individual over time. These researchers suggest that it first needs to be assured that people’s emotional awareness is collectively developed (in a classroom (Pihkala, 2020), or in psychotherapy (Stein, 2023)).

6.4.2.1. Quantitative research: Pathology measured against normality

How do quantitative researchers recognize eco-anxiety? In other words, what do they do to detect pathology? In quantitative research, eco-anxiety is known with the means of measurement, i.e. an ‘exact’ methodology (Part I). In addition, mental health is defined as moderation (Part II). However, what is a ‘moderate’ (healthy) response and how it differs from a pathological response is translated as what is considered an (emotionally/mentally and socially) ‘normal’ response, i.e. one that is not *excessively* ‘negative’. For example, researchers ask how often participants “find [themselves] crying because of climate change” (Clayton & Karazsia, 2020, p. 4), how often “[their] concerns about climate change make it hard for [them] to have fun with [their] family or friends” (Ibid., p. 4), how often they “feel afraid” (Hogg et al., 2021, p. 5) because of the environmental crisis, how often they are “unable to stop thinking” (Ibid., p. 5) about it, or how often they experience “difficulty working and/or studying” (Ibid., p. 5) because of their concern. In short, in this strand of research, pathology is being identified through measurement, which is based on a notion of normality that is built into the measuring instrument (the questionnaire).

6.4.2.2. Therapy-based research: Pathology as subjective self-assessment

Therapy-based research studies eco-anxiety through the experiences of psychotherapy patients (Part I). Mental health is defined as the ability to bear disturbing feelings, with anxiety seen as potentially both harmful and beneficial (Part II). Now, how do these researchers draw the line between the state of mental health and mental pathology in the case of eco-anxiety? First, because people seek psychotherapeutic help themselves, it is their subjective self-assessment of needing psychotherapy that

categorises them as patients – i.e. as someone suffering from pathology. Second, because this strand of research has a strong emphasis on attending to participants' voices, pathology is also seen as people's subjective experience and it is how they talk about their experience of eco-anxiety that identifies pathology.

What is 'healthy' then corresponds to what the patients experienced as the turning point when they started to feel better. Budziszewska and Jonsson (2022) rely on participants' speech to describe these moments of help, which lead to an alternated relationship with the person's feelings. For instance, one patient said that her therapist's own "ability to cope with" climate change "[gave her] some stability" and "offer[ed] containment for facing existential turmoil" (p. 610). This focus on what the participants themselves say "has helped" (p. 611) them and how they have subsequently felt and how they "experienced […] therapy and recovery" (p. 612) is the only compass in this strand of research that points to the difference between pathology and health. It is the subjective experience of 'feeling better' that indicates the person's enhanced mental health.

6.4.2.3. Reflexive research: Difficulty to recognise eco-anxiety

Reflexive researchers are even more skeptical about the ability of scientists to recognise eco-anxiety because in their view people may experience it even without being aware of it. It is thus impossible for scientists to fully access it in a straightforward way. Pihkala (2020) emphasises the culturally conditioned way in which eco-anxiety is (or not) recognised. He is thus critical of quantitative research's conclusions about which groups of people are more vulnerable to it: "[I]t may well be that the eco-anxieties of other people are more repressed and remain unrecognized due to socio-political factors such as socially constructed silence" (Ibid., p. 7), and "the dynamics of who recognizes eco-anxiety and admits feeling it are complex" (Ibid., p. 7). The recognition of eco-anxiety through particular symptoms is problematic as well: "Any list of possible symptoms or manifestations of eco-anxiety is naturally dependent on the definition of eco-anxiety that the author uses" (Ibid., p. 8). Moreover, for particular people, "[t]he symptoms may vary over time and are often affected by events or news, and general changes in the person's environment" (Ibid., p. 8). He emphasises the social aspect of these changing forms of experience and recognition: "Social dynamics shape experiences and public discussion (or silence) about eco-anxiety in profound ways" (Ibid., p. 8). For example, the expression of emotions can be gendered: "[T]he presumptions that it is mostly women who feel eco-anxiety are challenged here: men may express their related emotions in other ways" (Ibid., p. 10). He also speaks of the lack of 'emotional awareness' and the "wide-spread alexythimia – inability to recognize or name emotions – in contemporary societies" (Ibid., p. 17).

For Stein (2023) the way to ‘find’ eco-anxiety is ‘observation’ and ‘witnessing’ – of her patients, but also of colleagues or neighbours, as well as of herself. In her approach, too, eco-anxiety is not necessarily perceived: “Humans tend to bind anxiety and traumatic threat through psychological defenses, and denial functions as the most culturally implicit response” (Ibid., p. 34). It can only be a blunt “sensation” (Ibid., p. 32), nearly “below our level of perception” (Ibid., p. 32). Importantly, eco-anxiety can be ‘hidden’ under other anxieties and concerns, and is revealed in the course of psychotherapy:

> “In my consulting room […] I have witnessed a gradual but persistent increase over the last 15 years of generalized anxiety. It is often expressed through focus on an inflamed personal issue. As we (therapist/patient) dig deeper, we can contact that nervous edge – ultimately the bedrock of fear – of climate chaos and ecological collapse. Contacting this bedrock of fear can shift a projection onto immediate and personal dynamics to a much broader existential angst so difficult for the human mind to hold” (Ibid., p. 32).

Eco-anxiety, in this conception, is ‘hidden’ precisely because it is hard to bear, making it a much more difficult issue to face than “immediate and personal” (Ibid., p. 32) issues. Eco-anxiety may manifest in a situation such as Covid-19 pandemic or her community’s shared experience of a wildfire in the valley: “[T]he real dangers of fire […] rudely awakened us. We share a sense of eco-anxiety” (Ibid., p. 34).

6.4.3. Relation between the notion and reality

Empirical recognition of eco-anxiety is linked to the question of how it is possible to know what eco-anxiety even is (relation between ontology/reality and epistemology/theory). I discussed in section 6.4.1. that the different strands of research differ in the status they assign to the scientific notion. Quantitative research assumes that the notion captures what the phenomenon really *is*. In therapy-based research, the phenomenon is people’s subjective experience and there is no ambition to theorise it with a perfectly fitting notion; rather, the notion is useful because it allows us to agree roughly on what we are talking about. For the reflexive research, the notion of eco-anxiety is complex, it is interrelated with other notions, and the phenomena captured by it vary. Similarly to therapy-based research, there is no ultimate definition fitting the phenomenon and how people experience it is only accessible in their self-expressions. In section 6.4.2., I analysed how the different research strands recognise the phenomenon empirically. Quantitative research measures pathology against what it defines as the norm. Therapy-based research identifies pathology with subjective, experiential self-assessment of therapy patients. Reflexive research is critical of a straightforward recognition of eco-anxiety – the crucial problem here is that people’s experience, expression and understanding of emotions is socially conditioned and eco-anxiety may be present even in people who are unaware of it.

In what follows, I will argue that these two questions are linked to a specific conception of the relation between understanding (theory) or knowing (epistemology) and the reality (ontology) to which acts of knowing and understanding are directed, which varies throughout the different scientific strands. In other words, it is a different ontological status of eco-anxiety that is held by different research strands.

Quantitative research is based on the idea that we can agree on the phenomenon with the use of the same term, if the term is precisely defined. We can also access it and measure it in a standardised way. Eco-anxiety, in this conception, is supposedly experienced and understood in a coherent, homogeneous way, this understanding is shared, it is a reality that we all access in the same way. Importantly its scientific definition comes *a priori*, it is assumed in the questionnaire not produced in the research process.

For therapy-based research, eco-anxiety is a subjectively lived experience. Therefore, it is not even possible to define it with exactitude, and the term serves as a common denominator of something that we cannot possibly grasp with a notion, but which helps us to get closer to what we are talking about and to share it with others – the emphasis is on practical communicability. A mental health phenomenon such as eco-anxiety is not uniform, it is different for each individual and it cannot be captured by a definition. Researchers can only know it partially and roughly. We can only access it through communication (language), not as such.

For reflexive research, eco-anxiety is difficult to detect empirically because people who experience it cannot be expected to be capable to self-report it (regardless of whether the methodology used is quantitative or qualitative). This approach is similar to therapy-based research, but when it comes to the general population (as opposed to research participants who have explicit eco-anxiety addressed in therapy) researchers' ability to access the phenomenon is even more limited. This research suggests creating situations where people begin to collectively recognise and express their feelings as a possible way of accessing eco-anxiety.

6.4.4. Conclusion to Part III

In Part III I have explored the link between theory and method in the different research strands studying eco-anxiety to see how there are different ways in which these strands conceive and practice the relation between knowing and reality.

First, I have looked at the sense attached to the act of naming the phenomenon. While the quantitative research sees eco-anxiety as a fitting term that captures the nature of the real phenomenon, therapy-based research does not aspire to a perfectly apt term because the reality of mental states is so subjective and elusive that the only way we can share the phenomenon is to find a common language

to talk about it. For researchers from reflexive research, eco-anxiety is an internally complex term and moreover its boundaries cannot be clearly set as it is interrelated with other notions.

Second, I have asked how the different research strands, equipped with the notion, find (recognise) it in reality. This question builds on the theoretical boundary between health and pathology discussed in Part II, in order to see how this boundary is then practically implicated in the methodologies described in Part I. In quantitative research, mental pathology is identified with the means of measurement, it is a certain amount of negative states compared to what is defined as the norm (healthy state). In therapy-based research, researchers can only rely on self-assessment of research participants. Experiencing pathological states here corresponds to the subjective report of feeling bad. Reflexive research is skeptical about the possibility to access the phenomenon empirically – the crucial epistemic obstacle lies in the fact that whether individuals who do experience the pathology are able to recognise and self-report it or not is socially conditioned.

Third, I build on the conclusions of the previous sections to say that they imply a different ontological status that the different research strands assign to eco-anxiety. That is, how they relate their theoretical conceptualisations and methods to the 'real' phenomenon. In quantitative research a properly defined term supposedly allows researchers to agree on the object of research and thus to access and measure it. Eco-anxiety is seen from this perspective as a single, shared and accessible reality. In therapy-based research the phenomenon is a subjectively lived experience, therefore it is not uniform and the definition does not serve to express its nature. What the researchers access is not the 'thing' (eco-anxiety) itself, but the discourses the participants have about it. In reflexive research the capability of the notion to refer to the 'real' phenomenon is very limited. It is not possible to find a definition that would capture a single, general eco-anxiety. The way suggested to reconnect the discourse with the feelings in a shared understanding is through spaces where people learn to get aware of, and communicate about, what they feel.

6.5. Conclusion to the Empirical Chapter

This Empirical Chapter is about how methods and theories used in psychology shape the phenomena under study, which is analysed for the case of eco-anxiety and the research on it performed by three particular strands of research. First (Part I), the methods employed in the study are underpinned by a certain conception of what mental health is and how we can gain knowledge about it. Eco-anxiety is seen as an external object that manifests itself in a quantifiable way, which makes it accessible to measurement as a way of extracting data from population made up of individuals. It is also seen as a subjective experience of patients, where knowledge can be gained by listening to their individual accounts. And it is also seen as a collective phenomenon, a societal issue that needs to be reflected by

interdisciplinary social science research, extending to concern the researchers themselves. Second (Part II), depending on the theoretical framework used to represent the mental health phenomenon, a conception of what is mental health as opposed to mental pathology is assumed. Eco-anxiety, as a pathology, can be seen as a deviation from the moderate, normal way of feeling and acting, an excessively negative experience. The pathology can also be seen as the inability to contain and tolerate negative feelings, as these are an inherent part of our experience. Eco-anxiety can also be conceptualised as an incentive to individual or collective transformation, which therefore deprives it of a pathological character. Third (Part III), the methodological and theoretical approach assumes a particular ontological status of the phenomenon under study. Eco-anxiety can be seen as a single, shared, objective reality accessible to the subject of knowing. It can also be seen as an elusive subjective experience, never accessible otherwise than through the discourses constructed around it. Even more critically, eco-anxiety may not even be accessible to people who experience it and may emerge only through a collective process of learning emotional awareness.

7. Discussion

My fundamental research interest lies in the question of how psychology makes its object – the 'psyche', or emotional and mental states – accessible to scientific inquiry. I investigated this question in the case of eco-anxiety and the nascent psychological field studying it. The theoretical framework (see Theory Chapter) within which I approach it stems from the STS (and new materialist) tradition, which rejects the modern, empiricist understanding of science, in which objects are stable, passive entities, subject to scientific – impartial, exact and objective – investigation and description (e.g. Law, 2004, 2017). Instead, the nature of reality is understood as ever-changing and elusive, and any knowing act as necessarily partial (Barad, 2003; Coole & Frost, 2010). This paradigm motivates my concept of mental processes – the object of psychology – as multifaceted, dynamic and opaque. How can it be known scientifically? STS is rich in theory about how science turns elusive and messy 'nature' into 'discourse' – something to be ordered, recorded and communicated (Prior, 2007; Law, 2004). The crucial component of this process is inscription devices – various material-semiotic tools that capture material 'matter' and produce semantic 'data' from it, rendering their object stable and mobile (Latour & Woolgar, 1987a; Asdal & Hobæk, 2016; Asdal & Jordheim, 2018). In my research, I was interested precisely in how this process is performed in practice in psychological study of eco-anxiety.

Annemarie Mol (1999, 2002) builds on earlier STS insights to theorise how scientific or medical objects emerge through material practices. Since practices vary, objects are multiple. For instance, there are at least three different methods to diagnose anaemia, and Mol (1999) argues that each produces a slightly different – albeit interrelated – anaemias. Following on from her theory, several scholars studied the 'ontological multiplicity' of mental health concepts such as alcoholic liver disease (Law, 2004) or gender dysphoria (de Boer et al., 2023). I build on this scholarly work to explore eco-anxiety as multiple, enacted through several different psychological methods and theories.

The implication of the STS theory of science is that both scientific methods and theories are performative: science not only acts on reality by studying it, but also reproduces particular assumptions that are built into its methodological practices and conceptual paradigms (Law, 2004). These – sometimes implicit – assumptions are what makes science 'social': They stem from the cultural-historical context in which research practices are situated, and they get further reinforced in the process of knowledge production. In order to expose the partial and cultural character of psychological understanding, research and knowledge of eco-anxiety, I focus on tracing these tacit, taken-for-granted mechanisms.

I asked: How do different methods and theories, used in psychological research on eco-anxiety, enact their research object? To answer this question, I based my research on comparison: The existence of a plurality of psychological methods and theories used to study eco-anxiety opened a window for me to make their structures visible by simply comparing them with each other. In practice, I analysed academic psychological articles that I classified into three different methodological strands. For each strand I selected 2–3 pieces. I focused on how their methods, their theories, and the ontological status they assign to eco-anxiety differ.

There are different methods used by social scientists to investigate psychology and mental health research practices: For instance, researchers conducted participant observations in psychological research teams (Jensen, 2019; Peterson, 2016), they studied mental health diagnostic practices (Rhodes, 2000, 2002; de Boer et al., 2023), or inquired the history of psychological methods and theories and how their legacies are being reproduced today (Hogan, 2018; Valasek, 2021; Rampelli, 2022). A valuable critical 'mirror' is provided by lay people and non-Western contexts (e.g. Willey, 2024; Duncan, 2017; Tran, 2016).

My methodological approach consists in challenging the disciplinary 'givens' by staging a dialogue between different methodological and theoretical approaches to a common scientific object – eco-anxiety. I thus allow disciplinary frictions to become visible in my analysis through the discrepancies between approaches, rather than constructing an external critique of scientific practices. Existing social scientific literature on psychology is, however, invaluable to me in that it allows me to see what is *not* questioned within the psychological discourses themselves. In this Discussion Chapter, I thus undertake two moves: On the one hand, I retell the key findings of my empirical research and reconnect them to existing social science discussions about psychology, and on the other hand, I rethink my findings in the light of this literature (see the State of the Art for more detailed accounts of particular studies). My purpose is to question the self-evident manner in which psychological methods and theories are used in the study of eco-anxiety, and in this way to 'do justice' to eco-anxiety by making it more *uncertain*.

My analysis of methodological approaches to psychological study of eco-anxiety speaks to the broad discussion of psychological methodologies. While unfolding both within the discipline (among psychologists themselves) and in social scientific studies of psychology, this debate is concerned with the question of what constitutes the 'good' way to study mental health and how psychologists do it in practice. One of the key axes of contestation lies between the employment of 'exact' (quantitative) and 'humanistic' (qualitative) methodologies (Hogan, 2018; Rüppel & Voigt, 2019). In my empirical field, this presents one of the fundamental frictions, too. I identified and analysed three particular

methodological approaches, arguing that each assumes a specific conception of mental health – what mental health is supposed to be is inherent in what psychologists believe is the best way to study it.

The dominant methodological approach is the study of eco-anxiety with questionnaire-based statistical research. The ideal of knowledge production in this scientific strand lies in standardised methodology (a questionnaire) to produce quantified and commensurable outcomes (data) across research sites. This ideal of exact methodology, consisting of quantified measurements and standardised outcomes, corresponds to what is described in the literature as an ambition to situate psychology within natural sciences (Morawski, 2015) and to justify its authority by the use of 'objective' research methods (Stark, 2018).

My analysis contributes to this discussion by describing the particular conceptualisation of mental health issues (eco-anxiety) that needs to be assumed: For quantitative psychology, mental health issues such as eco-anxiety are supposed to manifest themselves in the same way in everyone with varying intensity, so that it is possible to measure them with a fixed set of criteria. Then, the crucial problem is to develop a good measuring tool – one that accurately records (inscribes) reality. Here, scientists access eco-anxiety in individuals with the medium of a measuring tool – a standardised questionnaire – which enables them to extract quantified and commensurable data.

Quantitative methodologies in psychology, however, became the object of critical scrutiny (both internal and external) related to the 'replication crisis' in science. One of the problems identified in the literature is the homogeneity of mainstream research methods in psychology (experiments and surveys) and insufficient reflection about what these methodological mechanisms in fact do to the scientific object in the process of knowledge production (Downey, 2023). In this context, I was curious to find other – qualitative – methods that are employed in the study of eco-anxiety, albeit much fewer in number. They, indeed, rely on a different set of assumptions about the possibility of accessing people's mental processes.

On the one hand, psychologists interview patients who are dealing with eco-anxiety in psychotherapy. They focus on individuals with especially intense eco-anxiety because they believe that it is through their voices that eco-anxiety can best be approached. Mental health is thus not an object to be directly accessed and measured; rather, it is a lived, subjective experience of particularly sensitive individuals, only accessible for scientists through the participants' discourses. On the other hand, there is niche and heterogeneous research that investigates eco-anxiety through self-inspection and integrative conceptual work. Eco-anxiety, here, is not a matter of particularly vulnerable individuals, but rather a shared, collective issue that is best expressed when it enters the public space (e.g. in educational settings). Importantly, whereas what eco-anxiety *is* presents an open question (to be answered) in qualitative approaches, quantitative research needs to assume it *a priori* in the very construction of the

measuring device (questionnaire). Whereas in qualitative interviews, it is the participants who are the sources of knowledge and understanding, in quantitative measurements the understanding is *a priori* assumed and the field (contact with participants) is entered already with a fixed notion of eco-anxiety.

The points of friction in psychological research about eco-anxiety consist not only in methodological but also conceptual differences, which allows me to reconnect my analysis to the debate about the performativity of psychological theories. To conceptualise eco-anxiety, quantitative research employs anxiety theory derived from the widespread scientific notion of anxiety as represented in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013). The DSM-5 is a central document used in both research and diagnostic practice, determining the clinical symptoms decisive for the presence of a particular mental disorder, such as generalised anxiety disorder (Pickersgill, 2019).

The application of the DSM-5 notion of anxiety to eco-anxiety frames it as *one of* anxieties, which carry differentiation in the object of worry (here, environmental threats), but have structural similarity. It also introduces the distinction between adaptive and maladaptive anxiety, which is the principle by which eco-anxiety is valued (as un/healthy) in quantitative research. Maladaptive eco-anxiety is one that has become excessively intense so that it impedes the individual's ability to 'function', i.e. meet social norms such as working or socialising. In this paradigm, mental pathology is defined by the intensity of 'negative' emotions and states and their detrimental effect on individual's social performance. This definition of pathology is then built into research questionnaires – it determines the measure of eco-anxiety.

Qualitative research employs various theoretical approaches to conceptualise eco-anxiety: existential theory, Jungian framework or attempts to integrate different theories, or even the view that traditional theories of anxiety are not applicable to eco-anxiety due to its unprecedented nature. Throughout these different approaches, however, qualitative research (which is often conducted by scholars with a psychotherapeutic background) value eco-anxiety differently from quantitative researchers. They do not differentiate between maladaptive and adaptive eco-anxiety, but rather see eco-anxiety as ambivalent in itself – as both beneficial and destructive. Some researchers strongly emphasise its positive character as an impulse for personal or collective transformation. In qualitative studies of eco-anxiety, it is not negative emotions, even intense ones, that characterise mental pathology. It is, rather, the person's inability to relate to them and process them (in psychotherapy or collectively as a social endeavour) in a healthy way.

The conceptual differences that stand out of my analysis link to some of the issues discussed in the literature. While Jensen (2016) described conceptual work as a key endeavour of the psychological research team he studied, the importance of active and innovative theorisation of eco-anxiety varies:

While some researchers prefer to apply the established, ready-made notion of ‘anxiety’, others feel the need to develop the notion afresh.

Moreover, psychologists differ in the extent to which they discuss eco-anxiety as a phenomenon located *in individuals*: Although Pihkala (2020) and Stein (2023) have broadened the scope by conceiving it as a shared, collective experience, most researchers – from both quantitative and qualitative camps – study eco-anxiety through individual experiences, while individualisation is also discussed as a fundamental tendency in psychology (e.g. Mills, 2015; Rhodes, 2000). Interestingly, while being individualised, eco-anxiety in quantitative research (in the questionnaires themselves) is defined by the individual’s struggle to meet norms that are *social*, which reflects Rhode’s (2000) interpretation of mental pathology as the individual’s inability to fit into society. In contrast, when the level at which eco-anxiety is considered reaches out to the collective, what is ‘unhealthy’ suddenly is not the individual emotional experience, but rather the societal inability to cope with it collectively (Pihkala, 2020).

Multiplying eco-anxiety opens up ways to question particular expressions of the notion, and my empirical research thus speaks to the contestation of mental health categories and the disruption of what *pathology* means and where the boundary of mental illness/health lies (Wiley, 2024; Das & Venkatesan, 2024; Rüppel Voigt, 2019; Duncan, 2017; Tran, 2016). My argument about the legacy of theories that psychologists reproduce in their construction of the notion of eco-anxiety, its shape, scope and valuation, provides another empirical case of the performativity of scientific mental health categories (Valasek, 2021; Rampelli, 2022; de Boer et al., 2023).

An issue that becomes particularly visible when faced with the background of the literature is the complete lack of reflection in eco-anxiety research on its cultural and political situatedness. All eco-anxiety researchers that I studied work in Western institutions and rely on theories developed in the West, as well as empirical studies conducted with Western participants. This lack of other than Western perspectives does not stem from my narrow selection of material; rather, non-Western perspectives in psychological research about eco-anxiety are extremely rare, nearly nonexistent. Moreover, researchers that I studied do not express their concerns in relation to this lack and they do not reflect on how their perspective is situated and what implications it has for their research. This absence of researchers’ geopolitical positionality constructs eco-anxiety as a universal object and psychological knowledge as global expertise. Such pre-cultural categories (Rhodes, 2000) obfuscate the ways in which they carry Western legacies of power (Valasek, 2021; Duncan, 2017; Tran, 2016).

Finally, I merge my analysis of scientific methods on the one hand, and their theories and concepts on the other, to argue that for different research strands eco-anxiety holds different ontological statuses, i.e. what it is and how it is accessible to scientific inquiry. Quantitative research based on the DSM-5

notion of anxiety assumes that the scientific definition captures the phenomenon as it is. It then builds the measure of it – the questionnaire – into which the definition of eco-anxiety and the difference between healthy and unhealthy eco-anxiety are inscribed. In this research paradigm, what eco-anxiety *is* is derived from psychological theory, and it is supposedly an identical phenomenon, experienced in the same way in all bodies, and thus measurable everywhere with the use of a single, fixed tool.

This mainstream approach corresponds to what Pickersgill (2011) described as the paramount importance of classification systems in science for handling uncertainties in practice (where the central classification system in psychology/psychiatry is the DSM). Mental health, however, is not easily squeezed into formal categories, and in practice it is apparent that there is no coherence and homogeneity (Rhodes, 2000). Still these categories are substantial for science as they allow mental processes to become research objects with stable meanings, enabling the production of standardised data drawn from individual situations (Pickersgill, 2011): Classifications, which rationalise and objectify mental and emotional experiences, are "reconfiguring opaque notions of madness into delineated and legitimate objects of research" (Ibid., p. 73).

Research interviewing psychotherapy patients does not assume that the notion fits precisely with the phenomenon it supposedly designs: Rather, the term serves to communicate about the experience, as it allows for an approximate but shared understanding. Here, eco-anxiety and its pathological manifestations are not accessible to the scientist otherwise than through the discourses of the patients who talk about their subjective experience. Eco-anxiety, in this approach, is not uniform, but rather highly subjective.

The last strand, reflexive research, is sceptical about a unified definition of eco-anxiety, but also about the possibility of identifying it – they understand emotions and mental states as socially conditioned, and they emphasise that people may not even be fully aware of their feelings, let alone able to communicate them. Therefore, regardless of whether the method is quantitative or qualitative, it cannot be taken for granted that scientists would even be able to 'find' eco-anxiety. With its focus on collectivity, this line of thinking suggests creating social situations in which people would learn to know, express and share their eco-anxiety. This approach, represented mainly by Pihkala (2020), is the closest to my own position: There, what eco-anxiety *is* is not assumed, but rather it is presented as a question for collective exploration.

Pickersgill (2011) writes about how dealing with frictions and the unknown – 'uncertainty work' – is a mundane necessity in scientific research about mental health. Despite the naturalising and objectifying 'facts', psy-sciences are haunted by a continuous ontological and epistemological uncertainty – whether their conditions 'really' exist and how to recognise them. I have observed that this uncertainty is hardly pronounced in the psychological papers I studied. Most often, scientists seem rather self-

confident. What I attempt to do in my analysis, however, is to *render eco-anxiety more uncertain* simply by making it apparent that there is more than one scientific approach to it and, thus, that there is nothing straightforward or self-evident about them. Rather than merely 'critiquing' psychology, I aim to pierce its seeming coherence and homogeneity and in this way open up space for alternative understandings and expressions, for contesting the expert authority on people's emotional experiencing.

Due to my narrow empirical and theoretical scope, there are many limitations to my research and ways in which it could have been done otherwise. Firstly, I only looked at the level of scientific publications. I thus never investigated the very process of their production nor their subsequent social life. Secondly, I focused on climate anxiety and eco-anxiety, excluding discussions that happen around other notions (for instance, eco-grief) or 'environmental emotions' in general. Thirdly, my selection of articles and their division into three research strands was generative for my research, but not necessarily representative of the field. In fact, quantitative, DSM-based research is the vast majority of what happens in the field, whereas the qualitative approaches are very niche. I attempted to be transparent about my research choices and the insecurities related to them in the Method Chapter. Fourthly, I only investigated eco-anxiety as enacted in psychological research; however, many other areas deal with eco-anxiety – lay people, educators, patients, psychotherapists, philosophers, artists. Their ways are not present in my research. Finally, and relatedly, I regret that I was not able to include more alternative approaches to the experience of eco-anxiety. After all, my research is motivated by the very aim of weakening the expert authority over it and to support a shared exploration of eco-anxiety, which needs to be non-hierarchical, lay, emancipatory and free in form. Sadly, it was not possible for me to do so in the realm of my master's thesis.

8. Conclusion

Academic genres are strong in strategies for constructing well-ordered, rational, evidence-based arguments, yet seem to me far too underdeveloped when it comes to creating space for what *matters* most to the writer, making explicit the inner, unspoken bonds between her and her work. Perhaps, in this Conclusion, the time is ripe for me to attempt to do so.

I chose to focus on eco-anxiety as the case in question because I felt detached, distanced from it, it did not evoke any sensations in me. I do not even like "nature"; I do not enjoy being in the forest any more since I know what it feels like to have lost it, over and over again. Feeling eco-anxious? Certainly not – eco-numb, rather.

Then I read Jan Edl Stein (2023) recounting her psychotherapy sessions:

> "In my consulting room […] I have witnessed a gradual but persistent increase over the last 15 years of generalized anxiety. It is often expressed through focus on an inflamed personal issue. As we (therapist/patient) dig deeper, we can contact that nervous edge – ultimately the bedrock of fear – of climate chaos and ecological collapse. Contacting this bedrock of fear can shift a projection onto immediate and personal dynamics to a much broader existential angst so difficult for the human mind to hold" (p. 32).

*T*his passage changed the way in which I understand eco-anxiety. Instead of seeing it as a particular, intense emotional state, I think of it rather as a deep insecurity present in all people who are aware of the environmental crisis in which they find themselves, with its uncompromisingly worrying character, watching it unfolding in front of their eyes. "Eco-anxiety is an unknown intruder in our psyche," writes Stein, it can be nothing more than a blunt "sensation, nearly below our level of perception, […] an instinctual concern difficult to place in the context of our everyday lives" (p. 32). Understood in this way, I 'have' eco-anxiety even though I do not "find myself crying because of climate change" and I do not "have nightmares about climate change" more than "rarely" (Clayton & Karazsia, 2020).

Reading about the different ways in which scientists define eco-anxiety, I learned that we should not take the term 'anxiety' in eco-anxiety too literally. After all, as psychotherapists report, the experience of ecological degradation can be an "emotional rollercoaster" (Hickman, 2020, p. 416). Eco-emotional-rollercoaster, or just a weak but piercing, merciless 'eco-distress'. Something we carry in ourselves, everywhere, anytime, what shapes the way we relate to the future and thus to our very lives, relationships or careers.

I compared different psychological methods and theories to argue that there is nothing straightforward, natural or rational about the way scientists talk about eco-anxiety or our emotional experience in general. They may bring interesting insights, but we should not allow them to define how we relate to our own feelings. Eco-anxiety is a shared experience, a collective affect that circulates around, an 'infection' we have all caught, but that may manifest organically in unpredictable ways (Levina, 2022). How it feels in our bodies is a matter of exploration: an exploration that, I believe, must be collective, playful (of undetermined forms of expression), and lay. If we want to meet our eco-anxiety, we need to liberate ourselves from expert categories and search for more autonomous and creative ways to express it on our own. It deprives us of the satisfaction of getting ready-made answers, but what both climate change and the end of expert authority give us is nothing less than life in uncertainty. "Big and painful changes, for sure, which will lead to a world of less certainty. But a world in which the politics of ontology is no longer practiced by stealth" (Law, 2004, p. 139). Or listen to Mol (2002):

> "In stressing ontological multiplicity [Mol's book] lays bare the permanent possibility of alternative configurations. […] Reality used to be a standard to live up to, but given the proliferation of technoscience […] reality moves. It can no longer play the role philosophy cast for it a few centuries ago, the role of something to get in touch with. The role of something to grasp. To hold on to. To be sure about. The crucial philosophical question pertaining to reality was: how can we be sure? Now […] we confront another question: how to live in doubt? It isn't easy. But somehow we must come to terms with the fact that we live in an underdetermined world, where doubt can always be raised. Somehow we must learn to understand how it is that, given this possibility, we can still act." (pp. 164-165)

In a world that moves, where all living beings are quite literally losing ground, those who are truly mad are the ones who pretend that we can go on with our usual life forms and habitual arrangements, that we can live 'off' the Earth (Latour, 2018).

Finally, eco-anxiety is staged as an *unhappy* emotion. But feminist thinker Sarah Ahmed (2010) thinks of happiness as an oppressive category: "Happiness shapes what coheres as a world. […] [H]appiness is used to redescribe social norms as social goods" (p. 2). And more: "[H]appiness is used as a technology or instrument, which allows the reorientation of individual desire toward a common good" (p. 59). Ahmed uses the term 'happiness scripts' to talk about how what is assumed to be the path to happiness ensures social cohesion (harmony); but following a happiness script may well feel rather like death – as if, instead of living, you merely perpetuate a zombie life, one that has already been lived by others.

In Ahmed's words, "[h]appiness involves a way of avoiding what one cannot bear" (p. 64). This connects with the existential approach to eco-anxiety in psychology (Budziszewska & Jonsson, 2021), which sees anxiety as the courage to face reality: "Existential anxiety is associated with the subjective sense of being fully alive, without being oblivious to the challenging, possibly terrifying side of existence" (Ibid., p. 6). This anxiety-provoking awareness is seen as "a token of authenticity and courage" (Ibid., p. 5). However, we need to rethink the 'existence' of existentialism with feminist insights: as embodied, situated and thus necessarily political. Existential anxiety, in this new understanding, is intertwined with oppressive structures – the imperatives of social cohesion – that permeate our experience of life. Facing these realities requires courage and *unhappiness* (or the impossibility of happiness). There is nothing wrong about feeling unhappy (if "happy" means anything at all) when the reality of our lives is to exist in conditions of constitutional injustice, blatant cruelty and banal exploitation.

Ahmed sheds light on how "consciousness of injustice" (p. 61) is "attributed as the cause of unhappiness" (p. 61) – if you do not find satisfaction in feeling 'happy' because the reality around you suddenly reveals itself as unjust and cruel, you become the obstacle to happiness, to collective harmony. Resisting happiness scripts takes its toll: "Happiness might be what keeps you out of trouble only by evoking the unhappiness of getting into trouble. […] Girls who speak up are bold and thankless. […] [W]e can witness the relationship between consciousness of injustice and being attributed as the cause of unhappiness" (p. 60-61). Yet what if "we do not assume that happiness is what is good" (p. 62)? As Ahmed beautifully puts it: "We might want the girls to read the books that *enable them to be overwhelmed with grief*." (p. 62, emphasis mine). Perhaps the task is to find what 'enables us to be overwhelmed' with (eco-)sadness. If happiness is an instrument of narrowing horizons, what may (eco-)sadness do?

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