Objectless sleep experiences.
A phenomenological investigation of a rare group of conscious experiences

Adriana Alcaraz Sánchez

MPhil

Submitted in fulfilment of the requirements for the
Degree of Doctor in Philosophy in Philosophy

School of Humanities
College of Arts

July 2023

Abstract

In this thesis, I investigate a cluster of sleep phenomena that I classify under the name of "objectless sleep experiences". By drawing upon descriptions from Indo-Tibetan philosophical traditions, I examine a subgroup of conscious sleep states characterised by the apparent absence of an object of awareness. Some authors describe these experiences as "objectless" or "contentless" inasmuch as they lack awareness *of* anything; they are states of just consciousness. Here, I consider the construct of objectless sleep awareness to involve a broader range of experiences characterised by the absence of a distinct object of awareness. While they may appear to lack content to the subject, they are not completely devoid of representational content. Despite the growing interest in these states within philosophy of mind, dream and sleep research, there is a significant lack of theoretical work examining this experience. Additionally, most of the descriptions of such a state found in the literature rely highly on anecdotal reports or second-hand sources. This thesis aims to address this gap by presenting the results of two empirical studies that systematically and rigorously collect subjective reports of objectless sleep awareness. Furthermore, I examine current proposals found in the literature characterising a subset of objectless sleep awareness as "lucid". Lastly, I propose a framework to guide future research on objectless sleep experiences, linking them to associated experiences during both sleep and wakefulness. This framework aims to articulate the similarities and differences among various sleep and waking phenomena, including objectless sleep awareness.

Table of Contents

List of tables

List of figures

Preface

"Whether my treatment of mystical states will shed more light or darkness, I do not know, for my own constitution shuts me out from their enjoyment almost entirely, and I can speak of them only at second hand. But though forced to look upon the subject so externally, I will be as objective and receptive as I can, and I think I shall at least succeed in convincing you of the reality of the states in question, and of the paramount importance of their function."

(William James, 1982, The Varieties of Religious Experiences)

For as long as I can remember, I always had very intense and highly detailed dreams. More often than not, I wake up physically tired, feeling the weight of all the actions I have undertaken in my dream world. My mind feels foggy and full of all the narratives I have been through. It feels as if, upon awakening, I am rewinding in a matter of seconds a movie that lasted for hours. I think it was my experience with my own dreams that brought me to be deeply interested in the study of consciousness. I wanted to understand more about what made my waking consciousness distinct from my dreaming consciousness. After all, both of those states seemed quite clear and similar to me, to the extent that sometimes I have questioned myself whether some of the dreams I remember are not in fact memories of real-life events. Sometimes, I have found myself adopting a highly sceptical attitude towards my own conscious states and doubting whether they are indeed reliable—how can I know that I am not dreaming right now? And why, unless I am lucid, I do not recognise my dreaming world as a hallucinatory one?

My own experiences with anxiety and other mental breakdowns also made me extremely interested in understanding further what occurs when ordinary consciousness goes awry. But also, what shall we take from those states? Am I actually discovering something new about myself or the world when I am in a state of depersonalisation? Having experienced what is it to experience yourself from the "outside" brings you to question reality quite a bit.

I came across descriptions of these states of objectless sleep awareness around six years ago, back when I started my MPhil in Philosophy. My research topic was meant to focus on the bodily experience in dreams and how changes in it might bring oneself to become lucid. Yet, finding out about reports of bodiless dreams and other unusual states like the void and clear light dreams made me reconsider my topic of research. Without realising it, I went down this rabbit hole trying to find out what those descriptions were pointing at. Were they just weird sorts of dreams? Or were they more akin to some sort of mystical experiences? Their study appealed to me since these sorts of experiences allow me to study both, sleep experiences but also unusual states of consciousness, all at once.

Working on this thesis was not an easy endeavour. Six months after I set off my PhD research, a global pandemic hit, which brought to a complete stall some of the plans I had organised, including undertaking an experimental study on objectless sleep awareness. The uncertainty of the first months of the pandemic, the first and the second lockdowns, and the inability to share my ideas with others with ease, getting feedback and finding inspiration, also affected my progress, not to say my motivation to keep working and carrying with the research. You do not realise the importance of going for a quiet walk to find inspiration, or how a random encounter with an acquaintance in the corridor of your department can lighten up your mood until you are not allowed to access those things.

While writing these words, I am reaching the end of my PhD research, yet in a way, I feel that I have just started. For me, the work that follows only touches the tip of the iceberg. There is so much more research I wished I have had the time to do, and I finish this thesis with many unanswered questions. I want to see them as leading threads that I can follow in the future, which gives me the necessary motivation to keep researching. In the days in which I lose faith in academia, or I feel lost about my prospects, I look at those questions and I am remembered about why I love to do what I do.

To my old self

Acknowledgements

In the last four years, I have been fortunate enough to be surrounded by a large group of individuals who have contributed to the contents of the present thesis in many ways.

I am grateful for the guidance and support of Fiona Macpherson, my primary supervisor, who was there when I started investigating this topic during my MPhil (in a way, she encouraged me to start looking into this area of study). I still remember when Fiona offered to be my supervisor when I was organising my return to academia after a two-year hiatus, and how she sparkled in me again the interest in resuming my professional career in philosophy and the study of consciousness. I have highly benefited from her feedback and comments and the overall quality of this work would not have been the same hadn't been from her recommendations and directions for improvement.

I am also very grateful to have had Alistair Isaac as my second supervisor at the University of Edinburgh and to have had the opportunity to discuss and share my ideas and work with him. Alistair has been able to direct me towards the bigger picture of my work, and he has also given me countless ideas on how to continue further with it. I was many times impressed by his ability to put into concrete and tangible ways messy ideas I had in my head. It has been a pleasure to engage in philosophical conversations with him, as well as the rest of the Active Mind group and folks at Edinburgh. Although I wasn't based in Edinburgh, I really felt I was part of that community and the discussions held in the Active Mind meetings were of real support and inspiration for my work, especially during the lockdowns.

Amongst all my fellow students, my deepest gratitude goes towards Dario Mortini, who has been a very supportive friend and colleague in all these years and has continued to be even after he left Glasgow. Not only has he provided me with plenty of feedback and comments on my work, but he has also made things easier during the lowest moments of my PhD with memes and his most sincere encouragement.

I'm also fortunate to have been accompanied by Jodie Russell, my partner in crime who agreed to the craziest proposals and with whom I organised several academic events. Of those, our successful conference on mind wandering helped me to pick up an interest in this

topic, and our reading group in Feminist Philosophy of Mind provided me with new tools to examine philosophical work through a different lens.

I also feel extremely lucky to have shared these years alongside the rest of PhD, students and staff at the Philosophy Department. Since my start in the Department six years ago, I have felt part of a big community and, as I tend to often joke about, the Glasgow Philosophy Department is my second home—in fact, except for the lockdowns, I think I have spent more time in there than at my actual home. One of the worst things about finishing the PhD is leaving the Department and its community, but I hope that the connections I have made in there remain for much longer. Amongst my Glasgow fellows, I'd like to share my appreciation for Martin Miragoli, Matthew Kinakin, Laura Fearnley, Eilidh Harrison, and Joaquim Giannotti for having not only helped me with my work but also for having been of support during these years.

Outwith the Glasgow/Edinburgh philosophical community, many other colleagues have also been of important support during these years. In the dream community, I'm very grateful to have met Melanie Rosen and Jennifer Windt, whose work not only has inspired mine but has also provided me with plenty of constructive feedback in earlier versions of the work presented here. I also need to acknowledge the contribution of Thomas Metzinger in the inception of some of the core ideas of my PhD. My thanks to Ema Demšar who assisted me with the most time-consuming section of this PhD and not only helped me to conduct and analyse the phenomenological interviews but also shared her knowledge and expertise with me on qualitative methods. On that front, I would also like to thank Tess Davis who offered plenty of support on the quantitative analysis and shared with me a great deal of knowledge on coding, *R*, and quantitative methods. Equally, I would like to thank Tom Scotto for his assistance with the quantitative analysis. I'm also grateful to the Oslo philosophical community at the Centre for the Philosophy of Science and the Good Attention group for their support, feedback and help during my two-month research visit. Specially thanks to Francesca Secco who is already accompanying me to the next chapter of my career.

My work has also benefited from the feedback and advice of many other people including Graham Doke, Robert Cowan, Cecily Whiteley, Lena Lindström, Teresa Campillo-Ferrer, Gabriela Torres-Platas and Keith Wilson. I have also benefited from ideas and feedback

received from the *Micro-phenomenology* lab meetings, the *Minimal Phenomenal Experience* research group, the audiences at the *Philosophy, Psychology and Neuroscience* seminars, the *Dreams and Memory workshop* and the *Dream x Engineering* series. I should also acknowledge the anonymous reviewers who revised my published work and provided further ideas for its improvement.

There are a bunch of non-academic individuals that I should also thanks for their presence and support thorough these years. My deepest thanks to Carolina Blanquer Molina, for her continuous friendship and for always being there in the most difficult moments. I'd also like to thank Rubén Flores Millat, Aldara Candela Ortega, and Victoria Lavoreiro whose friendship has also kept me sane for all these years. I'm also thankful to my parents who didn't have the privilege to continue in higher education yet made all the could for me to keep up with my studies and encouraged and supported me with my academic choices. *Gracias por todo*.

Calam Pengilly, you know that my highest appreciation and love goes towards you and your constant presence, care, and love thorough all the years. I am extremely grateful to have you alongside me.

I would like to end here by sending my appreciation to that young and scared Adriana. That Adriana who always wanted to be a researcher, to find out more about the secrets of the mind and make her own contributions to the field. That Adriana who, although didn't have the best of her times half of her life, kept fighting for what she wanted against all odds. That Adriana who moved alone to a different country, persevered under the most challenging circumstances, and never gave up. This work is dedicated to her and I'm sure that she would have been very happy to see how far I managed to get.

This PhD was founded by the Scottish Graduate School of Arts and Humanities Doctoral Training Partnership (SGSAH DTP), grant number AH/R0127171/1. This work also received funding from the International Association for the Study of Dreaming (IASD) and the Dreaming Science Foundation (DSF)

Declaration

I declare that, except where explicit reference is made to the contribution of others, this dissertation is the result of my own work.

Some of the work presented here draws from previous research carried out during my MPhil in Philosophy at the University of Glasgow. I have acknowledged this in the relevant sections.

Chapter 3 is an adapted version of the paper "Nothingness is all there is: An Exploration of Objectless Awareness During Sleep" published in *Frontiers in Psychology*. This paper is the product of a research collaboration. I wrote the original and final manuscript, conceived the study design, conducted half of the interviews and produced the qualitative and quantitative analysis. Ema Demšar assisted with the recruitment of participants, conducted the other half of the interviews, effectuated the transcriptions, contributed to the initial thematic analysis, and provided feedback to the original manuscript. Teresa Campillo-Ferrer and Susana Gabriela Torres-Platas conducted the external coding of the categories and provided feedback on the original manuscript.

Chapter 4 is an adapted version of the paper "Is lucid dreamless sleep really lucid?" published in *Review of Philosophy and Psychology*.

This thesis complies with the regulations of the College of Arts at the University of Glasgow, and it comprises around 80,000 words including the main text, references, and appendices and does not exceed the maximum of 100,000 words.

Adriana Alcaraz Sánchez

CHAPTER 1 INTRODUCTION: THEORETICAL BACKGROUND, AIMS, AND METHODS

"...the figures of the judges vanished, as if magically, their flames went out utterly; the blackness of darkness supervened; all sensations appeared swallowed up in a mad rushing descent as of the soul into Hades. Then silence, and stillness, and night were the universe.

I had swooned but still will not say that all of consciousness was lost. What of it there remained I will not attempt to define, or even to describe; yet all was not lost. [...]"

(Edgar Allan Poe, 1942, *The Pendulum and The Pit*)

1.1. Abstract

In this chapter, I introduce the object of enquiry for this thesis: states of objectless sleep awareness. These sorts of conscious states have been extensively described within contemplative traditions such as Tibetan Buddhism and various schools of Vedic thought, including Advaita Vedānta. According to these traditions, consciousness is never lost during sleep, even in *deep* sleep. Moreover, conscious deep sleep is conceived as a state that solely involves consciousness, devoid of the typical object-directedness characteristic of ordinary conscious states. However, such a state is heterogeneously described amongst the original teachings and translated texts key to these philosophical traditions. While the existence of such a state of awareness paves the way for diverse avenues of research into the nature of consciousness, the lack of a common definition for objectless sleep awareness hinders the progress of future research. Similarly, many descriptions of these states rely heavily on anecdotal and second-hand reports, raising questions about the extent to which these accounts truly capture the phenomenology of these experiences or are influenced by the metaphysical commitments within those contemplative traditions. Here I present the methodology I employed in this thesis, which

follows a bottom-up approach centred on a systematic and rigorous examination of the experience itself.

1.2. Deep sleep and pure awareness

In Western philosophy of mind, one prevalent conception of consciousness is that of a state involving intentional content, a state that is about or directed at something. This feature of intentionality seems intuitive: when we think about what is it to be conscious, we think of a state in which we are aware of something. For instance, right now, I am aware of the computer screen before me, my fingers typing on the keyboard, and the music playing through my headphones. I can also shift my attention to notice the dim lighting in the office at this time of the day or certain bodily sensations that I cannot articulate very well. Without delving into the contentious debate surrounding the notion of "intentionality", it appears to us that consciousness is always about a discernible object of awareness that we can identify, to varying degrees of difficulty. This definition of consciousness bears a resemblance to other conceptualisations of consciousness found in the empirical sciences. For instance, in neuroscience and medicine, the term "consciousness" is often used to describe the state of being awake and not in a deep sleep or a coma. We say someone is conscious if they are in a state of arousal (Laureys, 2005). In such states, we are still deemed conscious insofar as we are aware of something. While awake, we are able to relate and be aware of the world surrounding us, something that is not usually attributed to states of sleep, especially, during sound deep sleep. According to most neuroscientists, during deep sleep, we are unconscious (Tononi & Koch, 2008).

Philosophical traditions outside the Western context offer different perspectives on what constitutes consciousness. Some of the accounts posited by non-Western traditions have the potential to challenge some of our current understandings of consciousness in both Western philosophy and cognitive science. In this section, I provide a brief overview of the main positions and debates concerning the nature of "pure consciousness" in Indian and Tibetan Buddhist philosophical traditions and discuss their implications for current research on sleep and waking conscious experiences. I conclude by suggesting pointers for guiding future research.

Philosophers belonging to certain Vedic schools of Indian philosophy, such as Advaita Vedānta, acknowledge the existence of various states of consciousness that differ from those traditionally conceptualised in Western philosophy and neuroscientific research. Alongside waking and dreaming, the Vedas identify two additional states of consciousness: deep sleep and the higher state of consciousness. I will focus on the examination of the state of deep sleep, also known as "dreamless sleep awareness". [1]

Conscious deep sleep is known as *sushupti* (Prasad, 2000; Raveh, 2008; Sharma, 2004) the state of deep sleep (Aiyar, 2000; Deshikachar & Deshikachar, 2003).[2] Contrary to Western conceptualisations of deep sleep as an unconscious state, philosophers of the Advaita Vedānta assert that consciousness is never lost during sleep, including deep sleep. Briefly, their assertion assumes that if upon awakening one can recall having been asleep—one has the distinctive feeling of knowing that one was asleep—some sort of consciousness must have been present for one to have that feeling (Aranya, 1989; Arya, 1986; Bryant, 2009). These authors claim that if there is a recollection of an experience, a prior experience must have occurred. It is important to note that this claim rests on metaphysical assumptions about the nature of consciousness, which I will not be examining in detail here (for an in-depth discussion, see Thompson, 2011).[3] What is crucial to understand is that, according to the Advaitins, there is something *it is like* to be in sushupti. Sushupti is an experiential state that can be subsequently reported. However, sushupti constitutes a distinct conscious state different from waking or dreaming

[1] The Advaitins also conceptualise a higher state of consciousness, turiya, which is said to transcendent any other state of consciousness, including that of deep sleep. While some authors describe the state of deep sleep as involving this state of turiya, deep sleep should be rather conceptualised as almost-turiya (Raveh, 2008). I have delved more on the differences between deep sleep and this forth state of consciousness somewhere else (Alcaraz-Sánchez, 2019).

[2] Classic Vedic texts mention the state of sushupti in the "Mandukya Upanishad" (see translations and commentary by Gambhirananda, 1937; Nikhilananda, 1949; Olivelle, 1998)) and the "Yoga Sutras of Patanjali" (Aranya, 1989; Arya, 1986; Bryant, 2009).

[3] Briefly, this assumption about a faithful report of conscious deep sleep relies on the memory argument (see Garfield, 2006) for a discussion). This argument presupposes that features of my recalled experience are features of my previous experience. Thus, if upon awakening, I have a feeling of having been asleep, is because such a "feeling of being asleep" was active while sleeping.

consciousness since it does not involve any sort of perception or cognition; there is nothing to perceive or cognise. Sushupti is considered a state of non-duality, a "non-dual" state, a state devoid of the self-other structure present in ordinary consciousness (Raveh, 2008). There is no "I" who is aware of "something" (Dunne, 2011; Josipovic, 2019). Instead, there is only awareness or reflexive awareness. According to these authors, all conscious states involve a self-awareness aspect, that which refers to or is for-*itself*. In every act of awareness, one is conscious of an object while simultaneously aware of consciousness itself, the subjective core of conscious experience. In the case of sushupti, only this subjective core remains, which is understood as pure consciousness (see Fort, 1980; Prasad, 2000; Sharma, 2001a).[4]

Similar views regarding the state of deep sleep can be found in other Eastern philosophical traditions, like Tibetan Buddhism. Classical Dzogchen teachings provide instructions for different meditative practices to be exercised in each of the "bardos", transitional states said to occur between waking, dreaming, profound meditation, death, and rebirth (see Evans-Wentz, 1960; Fremantle, 2001). During the dream bardo, the practitioner is meant to recognise the state of dreaming and realise that what is taken as reality is merely an illusion (Padmasambhava & Gyatrul, 2008; Wallace, 2012).[5] The goal is to progress beyond this realisation about the illusory character of dreaming and allow the dream to dissolve or disappear (see Gillespie, 1986; Varela, 1997), leading to a state of deep sleep characterised by pure awareness.

The state of pure awareness during sleep is regarded as "clear light" or "natural light" (Norbu, 1983) since it provides a glimpse into the essence or nature of

---

[4] This feature of self-awareness is also regarded by these authors as the self-luminosity of consciousness (Indich, 1980; Loy, 1988; Rao, 2002). As Faschingputs it, this self-luminosity of consciousness is "nothing other than phenomenality itself" (2008:475)

[5] Note that for Tibetan Buddhism, realising that the dreaming state is an illusion, is meant to prepare one to recognise that waking reality, as it appears to us, is also an illusion. One of the claims by Tibetan Buddhist traditions is that the appearance of conscious experience as structured around a self is an illusion. It appears to us as if conscious experience involves such a distinction between a self and other, when in fact, there is no such a thing as an "ego" or an agent of the experience, but consciousness itself (see Albahari, 2011 for a review of the no-self view in Buddhist traditions).

consciousness (Fremantle, 2001; Lama, 1997; Ponlop, 2006). Like the Advaitins, the Dzogchen regard the state of deep sleep as a state of "bare awareness" (Ponlop, 2006) because it only involves that self-luminosity aspect of the mind, or the self-awareness character of consciousness (Holecek, 2016). In more contemporary texts, references to clear light sleep are found in practices such as Sleep Yoga or Yoga Nidra (Norbu, 1983; Padmasambhava & Gyatrul, 2008; Wangyal, 1998).[6] These meditative practices aim to assist the practitioner in maintaining their awareness during sleep-onset, enabling them to recognise both the dreaming state and the state of sleep, ultimately leading them to encounter the essence of consciousness itself. Consequently, some authors also refer to these practices as "luminosity" sleep (Norbu, 1983).

The notion of deep sleep awareness put forward by these Eastern philosophical traditions has long captured the interest of Western philosophers and inspired them to study the nature of consciousness. If such a state can indeed be realised, one that solely involves consciousness itself, can it provide us further insights into the essence of consciousness? The underlying idea is that this state can shed light on what remains once all sorts of intentional content have been removed. Does it lack any content entirely? Or does it still involve some form of intentional content? Some authors claim that descriptions of states akin to conscious deep sleep support the possibility of purely phenomenal experiences. They contend that the concept of "pure conscious events" (see Forman, 1986, 1990) can be metaphysically conceived if we consider consciousness as an indispensable aspect of experience (J. Shear & Jevning, 2011). For these authors, pure consciousness is the only logically possible candidate when contemplating a conscious state where "everything that can possibly be removed from experience has been removed, while one nevertheless remains awake" (Shear, 2007:700). Similarly, many defend that the possibility of pure consciousness is not only a metaphysical but also an empirical one. Reports of a fundamental state of consciousness that persists when all other

[6] Classic descriptions of such practices are detailed in the Bardo Thödol, widely known as the Tibetan Book of the Dead, which is a compilation of the 8th Century originals "Liberation Through Hearing During the Intermediate State" and "The Profound Dharma of the Natural Liberation through Contemplating the Peaceful and Wrathful" by Tibetan Buddhist master Padmasambhava.

conscious contents have vanished have been documented across different contemplative and religious traditions. According to those authors, the concept of pure awareness is the only way to account for those reports (Griffiths, 1990; J. Shear, 1994; Stace, 1961; Woodhouse, 1990). However, the notion of pure awareness has also been contested.

One common worry arises from the notion of "pure consciousness" itself. What is pure about such a state? Which kind of content does this state allegedly lack? It is one thing to claim that states of pure consciousness are contentless states since they lack distinct contents, such as the awareness of the table in front of me, or the awareness of the blue clear sky outside. Yet, such a state might not be devoid of representational content.[7] As mentioned earlier, the notion of sushupti rests upon the assumption that what remains when all objects of awareness have disappeared is the self-awareness aspect of consciousness. Consequently, one might argue that during a purely conscious state, there is still some content, one just about the mind itself, namely, its luminosity. Thus, one could claim that there is representational content concerning the mind—sushupti involves a self-representational state about the mind (cf. Kriegel, 2009). In a recent paper, Metzinger (2020) explored different ways to conceive the notion of pure consciousness as involving some representational content. According to him, such a state might be better explained as the representation of activation or arousal. Hence, we might contend that pure consciousness is not strictly "pure" in the sense that it still involves some content. Building upon these ideas, in my previous work (Alcaraz-Sánchez, 2019), I considered this apparent purity of pure awareness during sleep and argued that a closer examination of the descriptions found in the literature reveals that they do not consistently refer to a state devoid of all content. In some instances, the descriptions can be interpreted as involving an awareness of the quality of awareness itself, or the phenomenal character of the experience. In other cases, the described state encompasses

[7] Here I use the term "representation" very loosely to indicate conscious content that represents the world in a certain way. Such content can be conceptual or non-conceptual, as well as propositional or non-propositional.

clearly identifiable contents of awareness, such as a sense of spatiotemporal location, being "there", or the experience of sentience or existence. [8]

A second point of concern arises from the alleged reports of pure consciousness. What precisely do these reports indicate? One may argue that while the experiences appear contentless to their subjects, they might still contain some imperceptible content (Shear & Jevning, 2011). Thus, it might not be justified to deduce the existence of pure consciousness solely from these reports. Nevertheless, one could argue that these reports should be taken at face value and that experiences appearing as lacking any content are indeed pointing towards the possibility of pure awareness. Here it is important to distinguish between what the reports actually describe and whether these features constitute the essence of an experience of pure awareness. That is, we need to differentiate between the qualitative features that emerge from those reports and our understanding of the necessary and sufficient conditions for a state to be considered one of pure awareness.[9] This brings us back to the earlier point on how to define a conscious state as purely conscious. Does it lack ordinary content? Or does it lack all contents altogether? Similarly, one might raise concerns about the fact that a state described as non-dual, thus devoid of the self-other structure inherent in ordinary awareness, can be reported. Such a state would lack an "I" for whom the experience occurred. Doubts might arise regarding the existence of autobiographical memories of pure conscious states (see Metzinger, 2019).[10] Nevertheless, one could argue that episodic memories are not

---

[8] On another recent proposal, Thompson (2015) has claimed that this sort of state of pure awareness during deep sleep should be regarded as the mere feeling of sentience or being alive. Under his view, subjectivity presupposes a living body, a bodily-self. Thus, for Thompson this form of pure consciousness would still involve a form of pre-reflective awareness of oneself as a living body (see Henry & Thompson, 2011; Thompson, 2004). I will return to Thompson's account in Chapter 4.

[9] See Shear (2007) for a discussion on the distinction between the empirical reports and the metaphysical claims we might hold about pure consciousness.

[10] According to some authors, like Metzinger, purely contentless states involve the problem of "performative self-contradiction" (Metzinger, 2019). Such experiences are described as lacking any conscious contents, including that about oneself. Yet when we recall alleged states of pure consciousness, these are experienced as something that occurred to us, they are taken to be part of our own autobiographical memory. For Metzinger, this seems to be contradictory, since, in order to introspect an autobiographical memory, some sort of minimal sense of self and agency needs to be active, something that, the experience in question is said to lack.

necessarily always autobiographical or do not necessarily entail the presence of a robust "ego" or self who was aware (see Millière, 2020; Millière & Newen, 2022 for a discussion). If this is the case, a state of pure awareness can still be reported through episodic memories of a past experience, even if that experience did not involve the distinctive feature of a self being aware of something happening to them or any other sort of self-other distinction.

Theoretical accounts of sushupti and the conception of pure awareness are far from unified. However, the mere possibility of experiencing conscious states during deep sleep, particularly a conscious state that *lacks* ordinary objects of awareness, opens up exciting new avenues of research. Apart from the question of what constitutes a state of pure awareness, the state of sushupti, as conceived by Indian and Buddhist philosophical traditions, prompts us to reconsider the standardised taxonomies of sleep experiences in scientific practices (see Thompson, 2015 for a discussion). Traditionally, research on sleep consciousness has been primarily focused on studying dreams as experiences that resemble waking consciousness—experiences of a self in a largely immersive and hallucinated world (see Revonsuo, 2006). Nevertheless, advancements in dream and sleep research, including the discovery that briefer and simpler forms of dreaming can occur during NREM sleep (cf. Noreika et al., 2009), have led researchers to consider a broader range of sleep consciousness. Similarly, there is a substantial body of research on experiences occurring during the sleep-onset transition, such as hypnagogic hallucinations (for a detailed monograph, see Mavromatis, 1987). Yet, simpler and more minimal forms of sleep awareness have received less attention (Windt et al., 2016). Exploring these minimal forms of consciousness during sleep can provide a comprehensive understanding of the spectrum of sleep experiences, encompassing complex and immersive forms of consciousness like dreams, as well as simpler forms of awareness described in the state of sushupti (see Alcaraz-Sánchez, 2019).

Additionally, the investigation of this type of "objectless" sleep consciousness extends beyond the realm of sleep research. States of non-dual awareness and pure consciousness have been extensively described in contemplative traditions, particularly in relation to deep states of meditation (see Dunne, 2011, 2015). These meditative states are often associated with a type of meditation practice influenced by Tibetan Buddhist

teachings labelled as “objectless” or “open-monitoring” by cognitive psychologists (see Lutz et al., 2008). During open-monitoring meditation techniques, like in *Mahamudra*, the aim is to let go of the explicit focus on an object of awareness and instead become aware of the non-intentional aspects of conscious experience (see Thrangu & Johnson, 2004). Non-dual awareness has also been linked to mystical experiences (J. Shear, 1994). Mystical or self-transcendental experiences are described in the literature as conscious episodes in which one feels a sense of insight or revelation of having encountered an essential truth (see James, 1982), or perceiving the essence of reality (see Yaden & Newberg, 2022). These experiences are characterised by a sense of ego-dissolution, a feeling of unity with everything, and a sense of connectedness (see Yaden et al., 2017). Given these features of mystical experiences, some have regarded them as states of pure awareness, states of contentless or objectless awareness (see Wahbeh et al., 2018).

States of pure awareness during sleep have garnered significant attention among contemporary philosophers in the analytic tradition given the implications that their existence might have in our understanding of the nature of consciousness. For instance, Windt (2015) has proposed that instances of pure awareness during sleep can be regarded as the minimal phenomenal experience or the simplest sort of conscious state one can have. Likewise, Metzinger (2020) has initiated a research programme aimed at investigating the features of minimal phenomenal experiences across sleep and waking, with a specific focus on meditative states (see Gamma & Metzinger, 2021). Thus, the study of pure awareness and the potential existence of states of objectless awareness in both sleep and wakefulness offers a promising avenue for furthering our understanding of the nature of consciousness. By examining in more detail this kind of states, we can gain valuable insights into the different ways in which one may be “just conscious”, thereby uncovering what is necessary and sufficient for consciousness to take place. Therefore, we need an integrated research programme that establishes connections between the experience of sushupti and other analogous states during sleep and waking states, advancing our understanding of how objectless sleep awareness may be instantiated across the sleep-wake cycle. This thesis aims to lay the foundation for such a research programme by further examining the possibility of objectless sleep awareness during sleep and showing links with other phenomena across sleep and wakefulness.

1.3. Target of research: Objectless sleep awareness

In this thesis, I show how a combination of a more traditional conceptual analysis and a phenomenologically-based approach can enhance our understanding of the elusive states of objectless sleep awareness. To that aim, I start from the assumption that deep sleep consciousness, as described in contemplative traditions, is not a singular and uniform phenomenon. Instead, I consider different possibilities: i) the descriptions may allude to different sorts of conscious sleep states, ii) the descriptions may allude to different sorts of conscious states lacking an object of awareness, iii) some descriptions may pertain to pure awareness while others may relate to states of minimal awareness during sleep. To explore these possibilities, I employ the construct of "objectless sleep awareness" as a broad term encompassing a group of conscious experiences that lack ordinary contents of awareness. I adopt a phenomenological interpretation of this term, considering states that subjectively *appear* to one as a state in which there was nothing to be aware of, or a state that was not about anything. This definition acknowledges that such states may still possess some form of content, focusing solely on how they are subjectively experienced—namely, as objectless states. My claim is that adopting this notion of objectless sleep experiences as a more flexible term can benefit the study of the state of sushupti and alike. By doing so, we can conduct a more inclusive examination, exploring different possibilities for a state to be objectless. Furthermore, we do not restrict ourselves to including or excluding certain states but rather to consider more broadly what it means to be in an objectless state, even if upon further examination such states might not be *strictly* objectless. Additionally, this approach is bottom-up in nature, as it investigates the experience of objectless awareness during sleep to inform theoretical accounts of such states. Most definitions of sushupti found in the literature rely on metaphysical assumptions about the nature of the mind held by authors in those philosophical traditions and do not always rely on first-person reports. Instead, here I aim to begin with the examination of the experiences themselves.

The study of objectless sleep awareness is important for several reasons. First delving into such sleep states allows us to shed light on the variability of sleep phenomena and prompts us to reassess the adequacy of prevailing perspectives on sleep consciousness within Western scientific frameworks. Second, the study of reports of

objectless sleep awareness can contribute to our understanding of the nature of alleged states of pure awareness. To conduct research on the essence of consciousness by drawing from the experience of objectless sleep awareness, we must first grasp the phenomenon or phenomena under consideration. Access to such descriptions would provide us with further insights into the necessary and sufficient conditions for one to be (minimally) conscious. Third, as mentioned above, the state of pure awareness is not limited to sleep alone. References to states of pure awareness attained during deep meditation and other altered states of consciousness during wakefulness, such as mystical or transcendental experiences, can be found in the literature. A precise understanding of the essence of objectless sleep awareness can determine whether this is a state exclusively sleep-related or whether it can also manifest during wakefulness. Such knowledge can further advance our comprehension of other purported states of pure awareness within different altered states of consciousness.

1.4. Overview of the chapters

The present thesis comprises four chapters that investigate this cluster of objectless sleep experiences from different angles, including empirically-grounded theoretical work as well as phenomenological research using first-person reports. In **Chapter 2, *"Study 1: Exploration of objectless sleep awareness. An online survey",*** I present the results of a study consisting of an online survey asking for details about various sleep phenomena. The aim of this study was twofold. The first was to understand further the phenomenology and genesis of objectless sleep experiences. To that aim, the construct "objectless sleep awareness" was operationalised as a state that would be experienced as (i) an awareness lacking a distinct object following the dissolution of a lucid dream, (ii) an awareness lacking a distinct object that did not follow the dissolution of a lucid dream, or (iii) an awareness of the sleeping state itself in absence of any other mentation. The second aim of the study was to find participants reporting either of those aforementioned experiences to explore in further depth their subjective reports in follow-up interviews.

This first study did not yield many reports of potential cases of objectless sleep awareness; these were rare. Yet the thematic analysis of the reports revealed some common features across the descriptions. Most participants described an experience that,

prima facie, lacked content of awareness and it was said to be about a "void" or "nothingness". For the majority, the experience was said to lack visuals and colour, and it was described as a state of "darkness". However, some participants also alluded to some minimal content during such a state, including dark colours, a spacey quality, or some movement. Other overlapping features across the descriptions included the impression that one had just "become aware", a state that lacked any bodily feelings or sensory experience.

Additionally, this first study also explored a state that, according to some authors, could be associated with the experience of objectless sleep awareness. This associated state is the experience of white dreaming—the feeling, upon awakening, that one had a dream but is unable to recall its content. The experience of white dreaming proved to be very frequent, and the thematic analysis of reports allowed for further exploration of these experiences. The results of the thematic analysis yielded different types of white dreaming reports. Some of those included the partial recall of the content of the dream but also reports of a state of mere knowing, upon awakening, that one had been conscious, or that the current emotions have been caused by a previous experience.

In **Chapter 3** ***"Study II: Exploration of objectless sleep awareness. A phenomenological study",*** I present the results of a second study to study objectless sleep experiences. We carried out phenomenological interviews with selected participants from the first study. This study aimed to examine, in more depth, some of the experiences of objectless sleep awareness, or associated ones, that participants reported in study 1, or other experiences they might have had since then. As in study 1, participants were instructed to think of a time in which they feel they had a sleep experience that lacked contents or objects of awareness. Thus, it was up to the participants to decide what they considered objectless sleep awareness to be. In these interviews, we guided participants through the process of recollection of the selected experience and encouraged them to describe the state as it appeared—we asked them to leave aside any preconceptions or judgements they might have about it.

From the thematic analysis of the interviews, we identified a common state across the reports of 12 of the interviewees, the "Nothingness phase". From the gathered results,

we argued that although those experiences might have been described as a state of 'nothingness', they are by no means conscious states that involve no content whatsoever. Instead, they are experiences of minimal content. We identified six overarching phenomenological dimensions which accounted for the overlapping features of the common state, namely, a state involving a minimal sense of self, non-modal sensations, relatively pleasant emotions, an absence of visual experience, wide and unfocused attention, and an awareness of the state as it unfolded. Moreover, we identified three different ways to enter this "Nothingness phase": (i) following the disappearance of a dream, (ii) after the end of sleep-mentation, and (iii) suddenly after falling asleep without previous recollection of events.

In **Chapter 4,** ***"The notion of lucidity in objectless sleep experiences",*** I investigate a current proposal made by some authors arguing that certain instances of objectless sleep awareness, as described by certain contemplative traditions, are similar to some forms of lucid dreaming. According to these authors, the construct of "lucid dreamless sleep" can be used to capture the phenomenology of an objectless sleep state involving the awareness of our current conscious state in a non-conceptual and non-propositional way (see Thompson, 2015, Windt, 2015b, Windt et al., 2016). I argue that such a construct of lucid dreamless sleep is unclear, and in fact, misleading since the notion of "lucidity", as used in lucid dreaming research, cannot be applied to the case of objectless dreamless sleep. In lucid dreaming research, "lucidity" is used in a technical way to refer to a state where we recognise the hallucinatory character of our current state; we are aware that our current state falls short of perception. However, if objectless sleep awareness, as per certain Eastern philosophical traditions, is meant to be a state that does not involve any sort of perception or cognition, it is not the sort of state in which anything is represented as hallucinatory or not, the technical definition of lucidity cannot be applied.

I argue that a different notion of lucidity needs to be used if we want to properly capture the state of objectless sleep awareness that those contemplative traditions have in mind. I propose a way in which certain instances of objectless sleep awareness can still be conceived as "lucid" by coining the notion of "broader lucidity". This account of lucidity draws from descriptions of certain instances of objectless sleep awareness by

Tibetan Buddhism on the clear light sleep. I claim that broader lucidity would involve a state in which one has the impression of being directly acquainted with the phenomenal character of their experience. In phenomenological terms, such a state would involve a feeling of seeming to be in direct contact with the nature of our current state, or that which makes our state conscious. I argue that such a definition of lucidity gets closer to the definitions of the clear light sleep offered by contemplative traditions as a state involving an awareness of the conscious aspect of consciousness simpliciter. It also considers the descriptions of the clear light sleep, which describe such a state as one allowing the recognition of the "essence" or "nature of consciousness". I argue that my description of broader lucidity captures better what it would be, phenomenologically, to be in such a state.

I end the thesis by putting forward the groundwork for future scientific research on objectless sleep awareness and associated states. In **Chapter 5, "*Situating the experience of objectless sleep awareness. A multidimensional framework of spontaneous states*"**, I present a framework aiming at situating the clear light sleep within other sleep and waking phenomena. This framework is constituted by five phenomenological dimensions which capture the distinctive qualitative features of different spontaneous states across the sleep/waking cycle. The proposed phenomenological dimensions emerge from a detailed examination of the qualitative features of a group of phenomena I call "unusual spontaneous experiences", mental states that are subjectively felt as undeliberated and appearing outside one's cognitive control. Some examples of unusual spontaneous experiences include out-of-body experiences, states of sensory and perceptual deprivation and deep meditative states. From my examination, I spell out some distinctive features of this subgroup of states, such as a high sense of transcendence, the feeling that those experiences bring about the discovery of an essential truth. I then argue that what characterises unusual spontaneous experiences are the distinct scores in each of the proposed phenomenological dimensions. To illustrate this, I compare the phenomenological features of these unusual spontaneous experiences to more ordinary ones, such as mind wandering and dreaming, and I situate the latter within the multidimensional framework.

Additionally, I show how this multidimensional framework could be utilised to advance research on the clear light sleep and I present some pointers for further research. First, I examine how the framework could be of help to describe certain conscious states, such as the clear light sleep. I consider how we could use it to discriminate genuine cases of the clear light sleep from other sorts of objectless sleep experiences, using the particular scores in the phenomenological dimensions as a guide to differentiate one type of state from the other. Second, I propose a way to use the framework to compare and contrast instances of the clear light sleep to other unusual spontaneous experiences in wakefulness, such as deep meditative states. I show how one could argue that these two experiences are qualitatively alike, given their overlapping phenomenological features. Finally, I propose further applications of this framework to the study of consciousness. To that aim, I consider the case of mind blanking, the phenomenon of experiencing a gap in our conscious experience and show how it could be situated in the proposed framework. I argue that if we stick to paradigmatic descriptions of mind blanking, such a state could be considered a true state of full-absorption, a state that lacks awareness of any conscious content whatsoever. I end by motivating the need for further research on the commonalities between mind blanking, deep meditative states, and the clear light sleep to further understand the nature of objectless conscious states.

1.5. A note on methodology: first-person methods, phenomenology and experimental philosophy

Part of the methodology employed in this thesis takes inspiration from first-person methodologies for the scientific study of conscious experience. In contrast to the commonly used third-person methods in experimental research, first-person methods take subjective reports as the primary research data (see Feest, 2014). Subjective reports are not merely seen as a means to enhance the understanding of the research findings, but rather as an indispensable dataset required to *fully* explain conscious experience. First-person methods acknowledge that experience is irreducible and that all conscious experiences include a first-person dimension that must not be disregarded (Varela & Shear, 1999). Moreover, this sort of research method advocates for the study of experience within the experience itself for a complete understanding of conscious

experience. Researchers using first-person methods assert that we can access the qualitative aspects of the experience with the appropriate tools (Lumma & Weger, 2021).

Similar to third-person methods, a wide range of first-person methods are available. The choice of methods depends on our research question and the desired level of explanation regarding a specific phenomenon (see Lumma & Weger, 2021 for a review). In this thesis, I utilise a method belonging to a subgroup of first-person methods known as "phenomenological". Phenomenological research methods are deeply rooted in the phenomenological tradition pioneered by Edmund Husserl (1982). According to Husserl, the investigation of the "lived experience", is based on systematic observation of subjective experience itself. To this end, the phenomenologist is encouraged to engage in non-judgemental observation of their conscious experience, including its intentional structure and qualitative character. This sort of observation is known as the phenomenological reduction or *epoché*, which involves the suspension of preconceptions and beliefs while examining the phenomenal character of our experience. During the examination of their experiences, phenomenologists are meant to redirect their attention to the different aspects of their experience, leaving aside considerations of the meaning behind what appears. Some describe the process of phenomenological reduction as a shift of attention from the content of the experience (the *what*) to the manner in which it is given (the *how*; Petitmengin, 2006). The aim of adopting this attitude of reduction or *epoché* is to recognise the pre-reflective or subpersonal aspects of our experience—in phenomenological terminology, those elements that have not yet entered our conscious awareness (see Gallagher & Zahavi, 2008).

Amongst phenomenological methods in first-person consciousness research, one notable approach is the use of "phenomenological interviews". This sort of interview method draws inspiration from qualitative research methods in psychology and employs semi-structured interviews to gather subjective data from participants. Unlike other mainstream interview techniques, phenomenological interviews are specifically designed to elicit rich and fine-grained reports by guiding the interviewees through the process of phenomenological reduction. The objective is to direct the interviewee's attention to the experience itself with non-inductive questions. Several examples of phenomenological interviews found in current research are the Interpretative

Phenomenological Analysis (Smith, 1995), Phenomenological Psychology (Giorgi, 2009; Giorgi & Giorgi, 2003), and the Micro-phenomenological Interview (Petitmengin, 1999, 2006).[11] Phenomenological interviews are sometimes referred to as *second-person methods* (see Varela & Shear, 1999) because they go beyond simply recording what participants say (first-person data). Instead, they involve the active participation of an interviewer who guides participants through the process of recollection and description of their experiences. By employing this approach, phenomenological interviews facilitate the gathering of detailed reports through the intervention of the interviewer. In **chapter 3**, I provide a more comprehensive account of the interview method I employed, which draws significant inspiration from the micro-phenomenological interview, in the study of objectless sleep experiences.

Phenomenological interviews also depart from more traditional interview techniques in qualitative methods in their approach to analysing the reports collected. The researcher is meant to also maintain a neutral position during the analysis process, allowing the data to inform the theory rather than the other way around. The process of analysis aims to identify the invariant components of the experience—features that appear consistently and that are clearly identifiable. Thus, both during the interview and in the analysis, the aim is to examine the experience as it appears, leaving our preconceptions and judgements aside (see Høffding & Martiny, 2016 for an overview).

It should be emphasised that in phenomenological research, the data obtained is seen as material for analysis and questioning, rather than as direct evidence to confirm a theory or conception. Therefore, the use of phenomenological interviews should not be equated with mere introspection. Phenomenological research involves a rigorous process

[11] One of the main differences between these three techniques of phenomenological interviews is the extent to which the phenomenological reduction is applied to both the interview process and the analysis of the results. For a detailed review of the differences and similarities across those techniques see Petitmengin et al. (2018)

of iteration and examination.[12] Berkovich-Ohana et al. (2020) stress this point by highlighting that data gathered by phenomenological research resembles other scientific methods:

> *"Following other scientific domains, data obtained through phenomenological inquiry is not taken at face value as infallible but examined, interpreted, analysed for invariant structures and generalized in various ways." (p.5)*

Thus, the adoption of the phenomenological approach recognises that the data collected from the interviews serve as a means to explore and develop a conceptual understanding that requires testing. Phenomenological interviews provide an opportunity to gather rich and detailed accounts by guiding participants through the process of phenomenological reduction and by obtaining reports that get as close as possible to the phenomenal character of the experience.

While phenomenological interviews have been utilised in different areas of qualitative research, they have also found application in experimental research. In recent years, the use of phenomenological research in cognitive science has gained a lot of popularity, particularly through the adoption of "neurophenomenological" methods. Neurophenomenology is a research programme originally initiated by Francisco Varela (1996) who defended the used of phenomenological methods for the development of a mature science of consciousness that integrates subjective reports with objective measures. Varela set "neurophenomenology" to bridge the gaps between first-person and third-person methods in the study of conscious experience. The goal of neurophenomenology is to integrate both phenomenological and neurobiological measures into a unified research programme (Berkovich-Ohana et al., 2020). According to Varela, subjective measures should be granted the same significance as objective ones; subjective reports should not be considered secondary or derivative measures used to

[12] It is outside the scope of this chapter to discuss in more detail the differences between first-person methods like phenomenology and introspection, as well as the problem of those methods. For an overview, see Høffding et al. (2021)

complement physiological data, but rather as primary sources that inform our understanding of the mind and its genesis (see Petitmengin & Bitbol, 2017). Varela, as a firm advocate of first-person methods in the study of consciousness, claimed that the study of the experience can only be rigorously pursued if we take experience itself into account. His claim is grounded in the irreducible character of conscious experience, which, in Varela's view, cannot be adequately explained solely by "empirical correlates, nor purely theoretical principles" (Varela, 1996: 330). Instead, conscious experience must be studied within the conscious experience itself, incorporating both the experiential and the physical domain to provide a full account of consciousness (Depraz et al., 2017; Petitmengin & Bitbol, 2017).[13]

In neurophenomenological research, phenomenological interviews, in combination with third-person methods such as neuroimaging or EEG, have been widely applied to investigate the genesis of a wide range of phenomena. A seminal study by Lutz et al. (2002), employed a neurophenomenological approach to examine the influence of subjective parameters in the experience of a 3D perceptual illusion in an experimental setting. In this novel study, Lutz and colleagues guided the interpretation of EEG data collected during the training trials to classify participants' performance into different phenomenologically based clusters. The findings helped elucidate differences in EEG data which were attributed to fluctuations in attention, spontaneous thoughts or decision strategies during the experimental task. Other notable neurophenomenological studies include those by Petitmengin (2005) and Petitmengin et al. (2006) who developed a phenomenological interview method that could match the temporal resolution between subjective reports and brain measures to understand the genesis of epileptic experiences (see Le Van Quyen & Petitmengin, 2002). Other recent studies have explored the so-called experience of "selflessness", or the experience of lacking a self, reported in certain

[13] Note that the Varela's endeavour with the neurophenomenological programme was more ambitious and it was set as a method to remediate the "hard problem of consciousness" (Chalmers, 1996). According to Varela, phenomenology reveals that the gap between physical processes and subjective experience only appears when we attempt to explain conscious experience solely through objective measures, such as those of the physical domain. Thus, neurophenomenology adopts a non-reductionist approach to the scientific study of consciousness.

meditation practices as well as a result of the ingestion of psychedelics. Nave et al. (2021) explored the dissolution of their self-boundaries (boundaries between oneself and the world) in expert meditation practitioners. In a follow-up study, they correlated the subjective reports with distinctive patterns of brain activation (see Trautwein et al., 2023). Lindström and colleagues (2022, 2023) conducted in-depth phenomenological interviews to investigate the experience of selflessness, adding nuance to previous theoretical research by highlighting the heterogeneous nature of selflessness experiences and their disruptions across different aspects of the sense of self. This growing body of research shows the potential of phenomenological interviews to provide a more nuanced understanding of the qualitative aspects of conscious experience, including elusive and rare experiences that are challenging to study using traditional experimental settings. Moreover, it illustrates how the adoption of neurophenomenological methods can further the links between first and third-person data which is particularly relevant for researchers seeking to identify the neural correlates of consciousness (see Koch et al., 2016).

Outside the phenomenological tradition, the use of first-person methods in the study of consciousness is not widely embraced within mainstream analytic philosophy. Similarly, the use of empirical research methods to address philosophical questions is uncommon. However, a growing number of authors in the analytic tradition have subscribed to the emerging movement of "experimental philosophy" (Knobe, 2012; Knobe & Nichols, 2008a, 2008b). Experimental philosophy is considered by some as a subdiscipline in philosophy, but it can also be viewed as an alternative approach to *do philosophy* that departs from traditional conceptual analysis. Instead of relying solely on logical reasoning conducted from the armchair and tested through counterexamples and thought experiments, experimental philosophers aim to address philosophical questions using methods from the empirical sciences. Thus, the focal point of investigation for experimental philosophers tends to differ slightly from that of traditional armchair philosophy. For instance, a traditional epistemologist might investigate the nature of the concept of "knowledge" by spelling out the necessary and sufficient conditions for ascribing a state of knowing. They are looking for those conditions that can exhaustively explain all possible cases of "knowledge". Conversely, the experimental philosopher may be more interested in understanding what factors lead individuals to employ the concept of "knowledge"—under what circumstances someone would consider a state to

be a state of "knowledge". In essence, the experimental philosopher aims to uncover the *mechanisms* that influence an individual's beliefs regarding what constitutes knowledge. As put by Knobe (2012), one of the goals of experimental philosophy is to "discover deep and important truths about the workings of the human mind" (p. 540). The aim is to deepen our understanding of how people conceptualise the actual world, as well as hypothetical scenarios.

Proponents of experimental philosophy, much like other armchair philosophers, base their philosophical questions on intuitions. Returning to the previous example on the notion of "knowledge", the experimental philosopher may aim to identify the pre-theoretical intuitions that lead someone to consider a certain hypothetical scenario as either knowledge or mere belief (see Weinberg et al., 2016) for a study examining this research question). However, unlike traditional armchair philosophy, the experimental philosopher collects intuitions from non-philosophers for subsequent examination through empirical methods. Advocates of experimental philosophy argue that this methodology for conducting conceptual analysis can uncover facts about subjects and concepts that have traditionally relied solely on philosophers' intuitions (Stich & Tobia, 2016). They contend that addressing philosophical questions by attending only philosophers' intuitions can be biased and limited to the perspectives of a particular group. Thus, by conducting a systematic and rigorous collection and examination of a broader range of intuitions, the experimental philosophy programme seeks to provide a more nuanced understanding of how certain concepts are utilised to spell out in enough detail patterns that can then contribute to further philosophical inquiry (see Kobe & Nichols, 2008a,b).

Notwithstanding the predominant emphasis on generating intuitions in experimental philosophy, there is no reason to believe that this should be the sole means of advancing this research programme. As Andow highlights (2016), if we adhere to the manifesto of experimental philosophy proposed by Knobe and Nichols (2008a), the primary focus of investigation lies in studying "how human beings actually happen to be" (p.3). Thus, it does not seem to be warranted to restrict experimental philosophy to the study of intuitions alone. I suggest that experimental philosophy could also incorporate and be complemented by first-person methods. Not only would such an

approach shed light on the constituents of such a state, but it could also provide insights into its dynamics and generation. As Varela and Shear (1999) put it: “The proof of the pudding is not in a priori arguments, but in actually pointing to explicit examples of practical knowledge, in case studies” (p.3). The implementation of first-person methods can be of added value, particularly when our research focuses on the nature of the phenomenal experience itself.

Although qualitative research methods, including phenomenological methods, are not widely used in current experimental philosophical projects (see Andow, 2016), I contend that they hold significant potential. The most common method in experimental philosophy is the use of structured surveys (Moss, 2017), and some studies also involve the collection of neuroimaging data (Greene et al., 2001). However, these methods often fall short of providing a comprehensive understanding of experience. Tools such as structured questionnaires and surveys do not allow participants to provide detailed accounts of their experience (see Moss, 2017 for a discussion). Depending on our research question and the level of explanation we aim to offer, some of those methods may prove to be limiting. If our goal is to deepen insights into the factors influencing participants’ intuitions regarding a hypothetical scenario or to understand the variability across participants from different cultures, the use of structured surveys can be enough. Yet, if our goal is to understand the mechanisms that bring those participants to hold certain intuitions, structured questionnaires might be very limiting. To overcome these limitations and delve into a more nuanced exploration, we should turn to first-person research methods. For instance, by including phenomenological interviews in our experimental philosophy research project, we can gather richer accounts from participants’ experiences to understand the underlying reasons for their beliefs. Similarly, the use of first-person methods is crucial for a full understanding of the qualitative aspects of the experience. Thus, these sorts of methods would be the most appropriate to explore in detail the phenomenological blueprints of specific experiences.

In this thesis, I combine the use of phenomenological research methods, as well as more traditional forms of semi-structured questionnaires, to the study of objectless sleep awareness. The objective is to deploy those methods to further the understanding of the phenomenological features of such experiences, experiences that, as I mentioned

earlier, have been overlooked in empirical research. I explain in more detail the methods used in **Chapters 2** and **3**. Moreover, in the spirit of the new movement of experimental philosophy, I lead my philosophical analysis with methods from the empirical sciences, including first-person methods. I inform the rest of the thesis from the data obtained in the two empirical studies conducted, using the subjective reports as a means to inform my theoretical framework. Thus, contrary to other more phenomenological approaches, I integrate the results of my methodological research with more mainstream approaches in the analytic tradition. I do this in an attempt to reconcile both types of methodologies: the more empirical and bottom-up research conducted by phenomenologists with the use of first-person data and the more a priori and conceptual research by mainstream analytic philosophers.

A brief note to the reader before proceeding. This thesis was originally composed as a collection of four self-contained papers, some of which have undergone publication (for additional information, refer to the *Declaration* section). While considerable efforts have been made to adapt and revise these papers into a cohesive whole, due to their original standalone nature, some degree of repetition may persist across certain sections.

CHAPTER 2 STUDY I: EXPLORATION OF OBJECTLESS SLEEP AWARENESS. AN ONLINE SURVEY

2.1. Abstract

This chapter presents the results of the first study of the research project '*Objectless sleep experiences'* aimed at exploring the phenomenological blueprints of conscious sleep states that lack a distinct object of awareness. A total of 573 responses were collected from an online survey that asked about the incidence, frequency, and phenomenology of a range of sleep phenomena. The survey's results provide a better understanding of the variety of sleep experiences by yielding preliminary insights into the phenomenology of objectless sleep experiences. Additionally, the results show that putative instances of objectless awareness during sleep are rare.

From the thematic analysis, reports of objectless sleep experiences were characterised as a state of "void", "emptiness", or simply an awareness of the sleeping state. Moreover, two sorts of temporal dynamics of this sort of experience were distinguished from the reports. In one, states of objectless sleep awareness were said to follow the dissolution of a dream scene. On the other, such a state was said to arise spontaneously during sleep without recall of what preceded it. Furthermore, the results provide preliminary insights into the phenomenology of certain waking experiences that some have regarded as potentially related to instances of objectless sleep awareness. Such experiences include the phenomenon of white dreaming, the feeling of knowing, upon awakening, that one had a dream but was unable to recall its content.

2.2. Introduction

As I highlighted in Chapter 1, experiences of objectless sleep awareness such as sushupti or the clear light sleep have recently received growing attention for the study of the nature of consciousness. Some authors have argued that such states could be candidates for the simplest form of conscious experience one can have, or the "minimal phenomenal experience" (Metzinger, 2020; Windt, 2015b). At large, different objectless sleep states have also received significant interest in dream and sleep research as a means to better

understand the range of sleep experiences and to develop new taxonomies and classifications of sleep phenomena (Alcaraz-Sanchez, 2021; Thompson, 2014, 2015a; Windt, 2015b, 2021; Windt et al., 2016). However, empirical research on objectless sleep experiences is scarce and the notion of "pure awareness" or "objectless awareness" is ill-defined and there is no consensus on what it involves. If this is a state that lacks a distinct object of awareness, is it completely objectless or contentless, or does it still involve some sort of minimal content? This issue is the subject of ongoing debate in the philosophy of mind and the metaphysical basis of contentless awareness are widely disputed. Similarly, despite the descriptions of objectless conscious sleep found in contemplative traditions, the phenomenological blueprints of such an experience are still unclear. First, most descriptions usually rely on anecdotal reports and are rarely based on first-hand experiences. Second, these descriptions tend to be provided by individuals embedded in a specific belief system (Alexander 1990; Mason et al. 1990; 1997; Travis 1994; Travis and Pearson 2000; Mason and Orme-Johnson 2010). Third, due to its nature, an experience that is said to be 'objectless' and lacks a subject-object distinction is extremely difficult to report and to characterise, and thus, presents great challenges for how it could be studied empirically (Alcaraz-Sanchez, 2021).

The research project '*Objectless sleep experiences'* seeks to fill this research gap by gathering new data and first-person reports on 'objectless" or 'contentless" forms of sleep consciousness. The project's main objective is to examine the phenomenological blueprints of states experienced as objectless to gain a deeper understanding of what it is like to be in such a state. This project involved two research studies. The first one, focus of this chapter, consisted in an online survey that asked participants about different forms of sleep phenomena they might have experienced within the last month, including forms of awareness that could be taken to be 'objectless' or 'contentless' (lacking a clear content of awareness). The second study involved follow-up interviews with participants shortlisted from the first study (see **Chapter 3**).

2.3. Methods and procedure

2.3.1. Research questions, challenges, and aims

The main aim of this first study was to further understand the phenomenology of so-called states of objectless sleep awareness during sleep as described in the literature. As such, the study focused on examining the following questions:

- If one were to experience objectless sleep awareness during sleep, what would this state be like?
- Do these descriptions align with those found in previous literature?
- How common is this state? Can it be easily found in a convenient sample?
- When does such a state occur during sleep?
- Are those who experience or have experienced objectless sleep awareness engaged in meditative or lucid dreaming practices?

Given the difficulties of not having an accepted definition of the targeted phenomenon, it was decided that the study should explore the different ways in which such a phenomenon is said to be instantiated following the descriptions found in the literature. As such, the following experiences were targeted:

- The awareness of a state following the dissolution of a dream
- A state of just awareness during sleep

In addition, to widen the chances to find reports of objectless sleep awareness, additional associated experiences, as suggested in the literature, were also explored. These included:

- Awareness of the process of falling sleep or waking up without another object of awareness
- A feeling of knowing that one was conscious while sleeping upon awakening in the absence of dreaming

It should be noted again that further theoretical research should investigate whether all these targeted experiences are instances of *objectless* awareness. Given the exploratory

character of the study, it remains an open question whether the notion of "objectless sleep awareness" should be limited to conscious states that lack an object of awareness and content altogether (I will return to this point in §2.6). For the purposes of the study, the construct "objectless sleep awareness" was operationalised to include instances of sleep awareness that are subjectively described as lacking a *distinct* or clear object of awareness.

2.3.2. Online survey

The measurement tool was an online survey which consisted of a series of questions about sleep experiences. The survey asked a total of 57 multiple-choice and open-ended questions divided into four blocs:

- **Bloc 1:** Sleep-onset awareness
- **Bloc 2**: Dream recall and awareness
- **Bloc 3:** Awareness of sleep
- **Bloc 4:** Demographics, lifestyle, and health

Bloc 1 included questions regarding awareness of falling asleep and waking up and questions about the different sorts of phenomena that might have been experienced. **Bloc 2** investigated dream recall, frequency, and type of dream experiences, including lucid dreaming and other dreams with minimal or absent content. Additionally, Bloc 2 included questions about the frequency and phenomenology of white dreaming. **Bloc 3** investigated the awareness of sleeping in the absence of dreaming, including its frequency and phenomenology. Finally, **Bloc 4** consisted of demographical questions (age, gender, country of residence, and language), beliefs and lifestyle questions (religion, meditation practice, drug and alcohol consumption, dream interest), and health questions (medication intake, physical and mental conditions) (see **Appendix I** for all survey questions).

Upon answering the survey, participants were prompted with different questions based on the answers provided. For instance, those respondents that did not report recalling their dreams within the last month were not asked about their dream

experiences, yet they were asked about other instances of sleep consciousness (see **Appendix II** for the survey's flow diagram).

The survey also included the Sleep Condition Indicator questionnaire (Espie et al., 2014) to evaluate the sleep quality of the respondents.

2.3.3. Markers

The examination of the targeted experiences was carried out with the aid of a group of pre-established "markers" isolated from the literature on objectless states of awareness during sleep, including those mentions to the "clear light" sleep or "void dreams" (see **Table 1**). Two groups of markers were established: a) those indicating a putative case of objectless awareness, and b) those proposed as pointing towards associated experiences. Given the more speculative nature of the latter, they were treated as "weaker" markers since they might not always involve instances of objectless awareness.

A) Putative cases of objectless awareness

The strong markers comprise descriptions that bear resemblances with a state of objectless sleep awareness as described in secondary sources from Tibetan Buddhist texts, primary sources of transcendental meditation practices, and some types of lucid dreaming (see **Table 1**). The markers were coded in descriptions that described the following experiences:

- **Marker 1:** A state of awareness following the dissolution of a lucid dream. Importantly, Marker 1 only considers those descriptions alluding to a prolonged state of awareness after the dissolution of the dream environment, a state that does not involve a distinct object of awareness. Thus, Marker 1 does not include descriptions mentioning that one woke up after the disappearance of the dream or those without mentions of what was it like to be in *the state that followed* the dissolution.
- **Marker 2:** A state similar to that described by Marker 1 but that was not preceded by the dissolution of a lucid dream.

- **Marker 3:** A state similar to Marker 2 but that is described as consisting of an awareness of the sleeping state or the fact that one is asleep**.**

It should be noted that none of the strong markers were coded for reports involving distinct objects of awareness such as linguistic-related thoughts about one's state, distinct or clear bodily sensations, or explicit perception of one's surroundings (including sounds or visuals). Moreover, to obtain the widest range of reports, participants were not cued with the distinctive features of objectless sleep awareness mentioned in the literature. Instead, the survey's questions described the targeted state in a neutral manner and avoided using terms like "pure awareness", "void", or "clear light dreams".

B) Associated states

The weak markers classified those descriptions that mentioned phenomena that have been suggested as associated states to objectless sleep awareness:

- **Marker 4**: An awareness of falling asleep that did not involve hypnagogic imagery like brief or static visual imaginings, clear allusions to the perception of one's surroundings, or distinct bodily perception.
- **Marker 5:** A similar state of awareness to that of Marker 4 but that occurred while waking up.
- **Marker 6:** The experience of white dreaming. Specifically, this marker refers to those reports alluding to the inability to recall anything about one's sleep experience other than the fact that one was merely aware at some point during their sleep. Thus, Marker 6 does not include reports mentioning that one remembered the content (or some fragments) or their dream upon awakening and that they later forgot about it, or reports that mention that later, during the day, one was able to remember the contents of their dreams.

Marker	*Targeted experience*	*Examples found in the literature*	*Survey's questions*
M1	An episode of awareness that followed the dissolution of a lucid dream.	**Dzogchen tradition**: Descriptions of a state achieved during sleep that allows one to realise the "true nature" or "essence" of our mind. A state regarded as "pure awareness" (see Fremantle, 2001; Padmasambhava & Gyatrul, 2008; Ponlop, 2006). **Practices of Yoga Nidra and Sleep Yoga:** Descriptions alluding to the active disappearance of the dream environment to reach a state of "pure awareness(Norbu, 1983; Wangyal, 1998). **Lucid dreaming literature**: Mentions to a state of awareness following the disappearance of the dream environment. Found under different names: "Imageless lucid dreams" (Magallón, 1987), "Minimal perceptual environments" (LaBerge and DeGracia, 2000), "Clear light dreams" (Johnson, 2020) or "void dreams" (Johnson, 2014).	*Q5.2 What did happen when you realised that you were dreaming?* (Specifically, the open answers to the option 'Other' were examined) *Q6.4 Could you describe briefly your experience? (In that particular instance—* In reference to Q6*, "In the last month, were you ever conscious while dreaming but there was an absence of visuals? (e.g. you had a lucid dream that lacked visual experience or you saw your dream scenery dissolving".*
M2	An episode of awareness during sleep that lacked self-other distinction, cognition and perception that did not follow the dissolution of a lucid dream.	**Advaita Vedānta**: Mentions of a state of "pure awareness" during sleep, which is said to lack any sort of cognition of perception (Evans-Wentz, 1960; Olivelle, 1998; Prasad, 2000; Sharma, 2001) and that is not said to follow the dissolution of a dream.	Q6.4 (See above) Q8.4 Could you describe briefly your experience? (In that particular instance—In reference to Q8, "*In the last month, were you ever aware that you were sleeping, but not dreaming?*"
M3	An episode of awareness during sleep that lacked self-other distinction, cognition that does not necessarily follow the dissolution of a lucid dream and that is regarded as the awareness of the sleeping state.	Same literature as for Marker 2	Q8.4 (See above)

Marker	Description	Examples from the literature	Survey's questions
M4	An awareness of falling asleep without a distinct object of awareness including instances of perceptual or cognitive experience like imagery, bodily sensations, or thoughts.	**Practices of Yoga Nidra and Sleep Yoga:** Descriptions of these practices tend to focus on the maintenance of awareness during sleep-onset to reach a state of pure awareness (Wangyal, 1998).	*Q1.1 Complete the following sentence by thinking of a particular time in which you were aware of falling asleep, (more than one might apply, but think of one particular time), "I realised I was not asleep yet because…"* (Specifically, the open answers to the option 'Other' were examined)
M5	An awareness of waking up without a distinct object of awareness including instances of perceptual or cognitive experience like imagery, bodily sensations, or thoughts.	**Transition from sleep to wake**: Some authors have suggested that the instructions detailed in the practice of Yoga Nidra can also be carried out during the hypnopompic state (Raduga, 2021).	*Q2.1 Complete the following sentence by thinking of a particular time in which you were aware of waking up, (more than one might apply, but think of one particular time) "I realised I was not asleep anymore because…"* (Specifically, the open answers to the option 'Other' were examined)
M6	A feeling of knowing that one was conscious while sleeping upon awakening that does not include mentions of a dream experience or the fact that one has forgotten the content of their dream experience (which they previously remembered)	**White dreaming**: Some authors have suggested that certain instances of white dreaming might be linked to episodes of objectless sleep awareness (see Windt, 2015b; Windt et al., 2016).	*Q4.3.1 If you think you had a dream but you didn't recall the actual dream experience, what brought you to think so? Could you describe it?* *Q7.1 Could you think of a particular time in which you experience this? How could you better describe the experience you had?* —In reference to Q7, *"What would describe best (on average, in the last month) your experience upon awakening?"*) (Specifically, the open answers to the option 'Other' were examined)

Table 1. The markers and their mentions in the literature. The table includes a description of the sort of experience targeted by the markers ("Description"), details of some representative sources in

the literature where such experiences are mentioned (“Examples from the literature”), and the questions in the survey targeting the markers (“Survey’s questions”).

2.3.4. Participants and instructions

Participants were recruited via social media, websites and forums specialised in lucid dreaming practices and Yoga Nidra, word of mouth, and the research participant’s pool from the University of Glasgow. The call for participants looked for volunteers wanting to answer questions about their current sleep experiences. Although the call mentioned the interest in studying states of “objectless awareness” during sleep, it also stressed that any person, regardless of their experience with such a state, could participate.

The study was approved by the Ethics Committee of the College of Arts at the University of Glasgow. All participants agreed to take part in the research by reading and accepting the consent form displayed at the beginning of the survey which was posted on the web-based platform *Qualtrics*. Participants were instructed to think of a particular experience had within the last month when answering the survey’s questions, and they were also encouraged to answer the survey after their night’s sleep to aid recollection. Participants were able to choose between an English or Spanish version of the survey.

A total of 638 participants responded to the survey. However, the analysis only considered the responses of 573 participants who responded to at least Blocs 1, 2, and 3 of the survey.

2.3.5. Analysis

The sample's (573) responses were analysed using descriptive statistics and measures of statistical independence with the statistical program R (R Core Team, 2021) The open-ended responses were qualitatively analysed by a process of thematic analysis (see Braun & Clarke, 2021). Each report was coded by attributing a category that described it best, abstracting categories at different levels of analysis, from fine-grained individual reports to relations between reports. The goal of the thematic analysis was to derive "first-order" or "higher-order" categories that could classify the major subset with similar features for subsequent quantitative analysis.

2.4. Results

2.4.1. Summary of demographics

The total sample comprised 573 participants (17-85 years old, $\bar{x}$ = 29.61), with most identifying as female (67.73%). Most participants were UK residents (59.42%) and native English speakers (64.79%). The majority reported not having a physical (83.51%) or a mental condition (68.20%), and most participants obtained a low score on the Sleep Condition Indicator scale (79.02%, ≤ 16) indicating that they did not have problems with their sleep (Espie et al., 2014).

Alcohol consumption was reported by most participants (65.89%), with 37.19% indicating consumption of less than 4 units per week. Recreational drug use was denied by most participants (69.5%). Similarly, most participants did not practice any religion or spiritual activity (69.46%), nor were they currently engaged in any form of meditation practice (65.60%). Despite a relatively high mean self-reported degree of interest in dreams (72 out of 100), few participants reported membership in dream communities such as online forums or groups for discussing dreams (13.61%). Among those who did, the majority participated in specialised online forums in an active or passive capacity (62.5%).

The complete demographic and lifestyle information (as well as a full summary of the descriptive analysis for all the survey's answers can be found in **Appendix III, Table 1)**.

2.4.2. Incidence of markers

The examination of potential instances of dreamless sleep awareness was made by observing the incidence of the markers, as detailed in §2.3.

Of the total survey respondents, 27.33% (158 participants) had at least one marker. Of those with markers, the weak ones (M4, M5, and M6) were the most frequent (79.72%), contra 18.35% with at least one strong (29 participants in total with either M1, M2, or M3). However, when compared to the total participants, only 5.02% had at least

one of the strong markers, and 22.32% had at least one of the weak ones, in contra to 72.66% without any marker (see **Fig.1**).

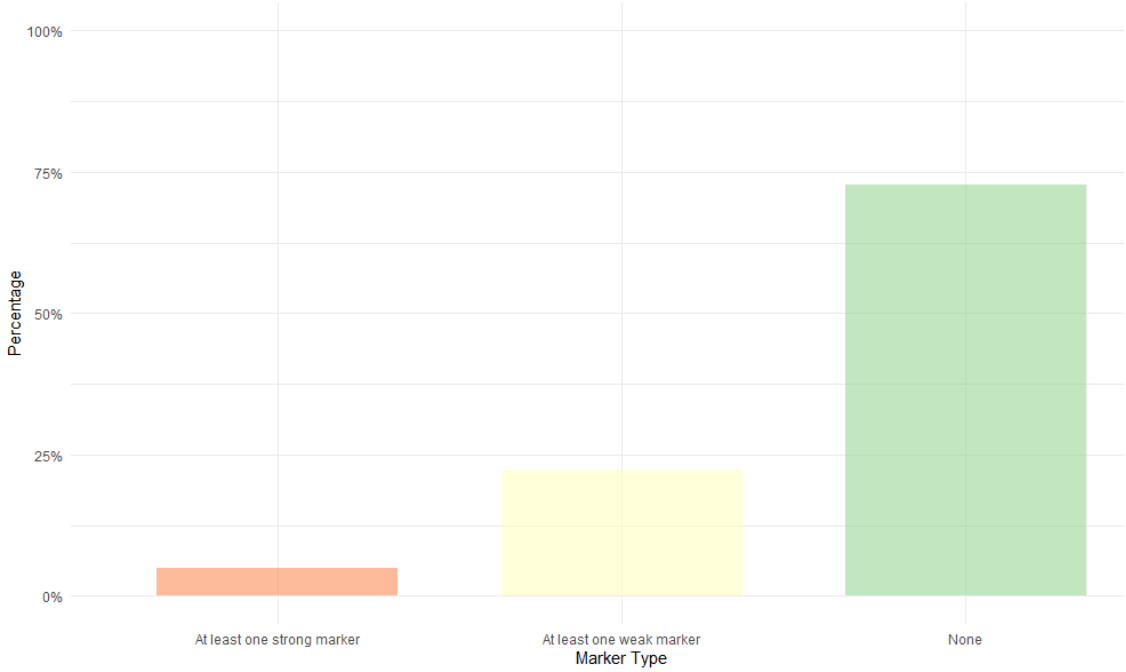


Figure 1. Percentages for Marker Type. The chart illustrates the breakdown of participants with Strong and Weak markers and with none of the markers.

2.4.2.1. Strong markers: Markers 1, 2, and 3.

M1 appeared in 8 reports (1.34% of total respondents) resulting from open answers to Q5.2 and Q6.4. The thematic analysis of these reports classified them under the category of "Dissolution/Void" (see **Table 2** for examples). On one hand, all the reports described how the dreamscape “faded” or “fell away” (#110, #120), “dissolved” (#145, #172, #176), “disappeared” (#454), “collapsed” (#159) or simply stopped (#194). On the other hand, the reports alluded to the state that followed the dissolution as one that lacked any object or content. This state was described as a “complete void” (#110), “nothing” (#194, #454), with “no colour at all”, including black or grey (#145), or simply as “darkness” (#454). For one participant, the state that followed the dissolution was a state in which they were “surrounded in totally” by themselves (#172).

	M1: Awareness of a state following the dissolution of a dream (Theme: "Void")	**Second-order Theme**
#110	"Whenever I know I'm in a dream **the dreams completely fade away**. It's almost as if I take a step back and can watch them from any viewpoint. Then **I fade away into colours and eventually a complete void […]"**	Awareness of a void following the dream fading away
#120	"Though there are variations of this experience the instance that seems most relevant and easy to recall is of **a dream progressing into an experience with minimal content**. What this is like to me is the dream character's gaze can settle on an object (in the example in mind, someone else's eyes) and **the surrounding environment falls away**. The state is then **not a normal dream and has a spacey quality, but there can be some awareness**. **A sense of time in this state is very difficult to describe**"	Awareness of a state of minimal content with spacey quality following dream dissolution
#145	"During a lucid dream, I flew high up into the sky above the clouds when **the dreamscape started to dissolve**. I was aware, had no body and no sensorial experiences. The "**space**" around me had **no colour at all**, not even black or grey. […]"	Awareness of a space with no colour following the dreamscape dissolving
#172	The dream dissolved **into itself** and "I" was surrounded in totality by "myself" and there **was no separation between the two.** The imagery was that of **profound hyper-pixelated light**—like prisms reflecting billions of suns. The experience is beyond anything I can describe […].	Awareness of a state lacking a sense of self-other distinction with an awareness of a hyper-pixelated light

Table 2. Quotes for Marker 1. The table presents extracts from some of the representative reports with Marker 1 provided to Q5.2 and 6.4.

Some reports also described further elements of this state, a state that was described as involving "some minimal content" and with a "spacey quality" (#120), which was "grey" (#176), "dark" and "made of tiny movements" (#454), or that it involved some "hypnagogic pictures" (#145). One participant described it as involving a "profound hyper-pixelated light" (#172). Four participants alluded to the fact that they were "aware" during this episode (#120, #145), with one participant emphasising that this was a state of "being of complete awareness" (#110), and another mentioning that in this state they tried to "hold (their) consciousness there for as long as possible" (#172). Four participants also commented on the bodily awareness or lack thereof during this state. For two participants, there was a feeling of "floating" during this state (#176) or feeling their body "light, small and transparent" (#454). For the other two, this state lacked

sensorial experience and they said to lack a body (#145, #194). One participant also commented about the fact that this state allowed them to do what they wanted, like replaying images or memories (#110). Finally, one participant mentioned that a sense of time was "difficult to describe" in such a state (#120).

Marker 2 (**M2**) was identified in 12 participants (2.01% of all respondents) in relation to the open answers to Q6.4 and Q8.2. Reports with M2 described a state lacking content like M1 but without a preceding dissolution of the dreamscape and were classified under the theme "Emptiness" (see **Table 3** for examples). The most frequent ways to describe this state were as one that lacked "visuals", "visual experience", (#83, #102, #159), "no images" (#200) a state also described as "blackness" (#83, #453), "dark" or "darkness" (#177, #297) and as "empty" (#177) or "nothingness" (#83). For two participants, this state appeared in the early state of the night, and they remember "sinking deeper into nothingness" (#83) or "floating upward" to a state without visuals or sounds (#102). Another two also mentioned "drift(ing) through black nothingness" (#453), or "hovering into open space" (#448) but did not specify when this occurred.

For the other two participants, the state occurred within a dream, yet in a different manner than for reports with M1. For instance, one participant described how this state occurred after "chos(ing) to fall asleep in a lucid dream", contrary to other occasions where this has occurred after "a lucid dream collapses" (#159), and another reached this state by entering a space in their dream (#173). The other eight participants did not mention when this state occurred during the night. As with M1, five participants also alluded to their awareness in this state as "only awareness" (#83, #102) "just being there" (#173), "basic awareness" (#187) or "feeling alive" (#200). Two reports described further elements in this state. One participant described the awareness of a "pink-violet" room, which on other occasions they have experienced as "dark-blue or even white" (#126). Another participant said to be aware of a "white/clear light" (#159). Finally, two participants mentioned sensations of peace, bliss, and calm while in this state (#126, #173).

	***M2**: Awareness of emptiness during sleep; (**Theme**: "Emptiness")*	***Second-order Theme***
#83	"I felt as if I was **sinking deeper into nothingness**. There was **no visual input**, yet I got to **a room filled with blackness**. It **was no visual experience**, rather a conceptual one. I couldn't step inside but knew that only my awareness would remain"	Awareness of sinking into nothingness
#102	Short early stage in the night, aware and **felt the sensation of floating upward**, but without a body, just a feeling, accompanied by joy. **No visuals, no sounds, just awareness** […]	Awareness of a state without visuals or sounds, accompanied by a floating sensation
#159	[…] it didn't originate from a lucid collapse it originated from me choosing to fall asleep in a lucid dream and **I was in a white/clear light with no visuals or senses.**	Awareness of a white/clear light without visuals after falling asleep in a dream
#177	"**Empty** space. **Dark**, but could see a bubble of a dream to the right […] My consciousness was **in between in an empty area**"	Awareness of an empty area

Table 3. Quotes for Marker 2. The table shows extracts of some representative reports of Marker 2 provided to Q6.4 and 8.2.

Marker 3 (M3) was found in 11 participants (1.84% of the total). As in the case of M2, M3 referred to reports to Q8.2. However, the thematic analysis distinguished a group of reports alluding to a feeling of knowing that one was sleeping without further perceptual experience, categorised as "Awareness of sleeping state" (See **Table 4** for examples). While most participants described knowing that they were sleeping, one participant said that they knew they were not dreaming nor awake (#290). Another participant also mentioned that they "randomly felt like (they) were awake", but also "knew (that their) body was asleep" (#385). Two participants, in addition to knowing that they were sleeping, also described how this state did not involve any sensorial experience (#145, #238). Another one described this state as the dream "simulation […] falling apart" (#254). Two participants also described it as involving a peaceful, calm, quiet feeling, or feeling good (#145, #409), yet another one described feeling anxious and knowing they were "tossing and turning" (#629).

	M3: *Awareness of the sleeping state in the absence of further content or with minimal content.* ***Theme****: "Awareness of sleeping state"*	***Second-order Theme***
#145	During the night I **became suddenly aware that I was sleeping**. There was no trigger event for that, **I just became aware**. I had no body or any sensorial experiences. **The space around me was completely dark**. It was very peaceful, calm and quiet, I enjoyed it a lot. This went on for a few minutes, then I slept normally again.	Becoming aware that one is sleeping and that one is just aware
#238	"I **was aware of the state of being asleep** but **did not experience anything sensory**. Kind of like if you are being driven in the backseat of a very nice car on a smooth road with your eyes closed. Awareness of being in the car, but nothing else really"	Becoming aware of sleeping with no sensorial experience
#385	"During the night**, I randomly felt like I was awake, but I knew my body was asleep.** I figured I was light sleeping as I had no control over my body"	Knowing that they are sleeping by feeling the body asleep
#267	It rather feels **as if the simulation is falling apart**. Reality starts leaking into the dream itself, storytelling loses its consistence, the story does not take itself that seriously anymore. It's not literal, but metaphorically speaking it's as if bright holes are punched into all the different parts of this experience until eventually **you consciousness realises "Wait, I'm actually sleeping**".	Awareness that they are sleeping

Table 4. Quotes for Marker 3. Table with extracts of some representative reports of Marker 3 provided to Q8.4.

2.4.2.2. Weak markers: Markers 4, 5, and 6

Marker 4 (M4) was present in 7 reports (1.17% of the total participants) for questions Q1.1 and Q1.2. Reports to M4 were grouped in the thematic analysis under the theme "Threshold of dreaming" (see **Table 5** for some examples). These reports described an awareness of the transition from wakefulness to sleep, alluding to the recognition of a threshold state between waking and sleeping, a state of "almost dreaming" (#16) but also a state of being "half awake" (#283).

M4: *Awareness of falling asleep in the absence of further content or with minimal content;* ***Theme:*** *"Threshold of dreaming"*		***Second-order Theme***
#16	"Sometimes I'll have "**almost dreams**" where it's not quite a dream but my internal dialogue just goes on autopilot—I'm still awake and aware but it's like the **halfway point between awake and a dream**"	Awareness of the threshold of dreaming
#283	"I recognised the particular character of the experience of **being half-awake**, but soon to be asleep, which I experience almost every night as I'm falling asleep"	Awareness of the state of being "half-awake"

Table 5. Quotes for Marker 4. The table shows some reports of Marker 4 provided to Q1.1.

Marker 5 (M5) was present in 11 participants (1.84% of the total) answering the open answers to Q2.1. These reports were classified under the theme of "Transition" (see **Table 6)** in the thematic analysis and described an episode of being "aware" or "lucid" (#37) in the transition from sleep to waking. Other reports also mentioned the fact of recognising they were to wake up (#189, #296, #350).

M5: *Awareness of waking up in the absence of further content or with minimal content;* ***Theme****: "Transition"*		***Second-order Theme***
#189	"I am **completely aware of waking up** I sometimes hear a click or feel as if I am rising slightly**"**	Awareness of waking up
#450	#450: "I recognize hypnagogic states usually because visually speaking, **everything is black**, **I'm removed from the immersive visual experience of the dream world**, yet the scenario is still happening at a verbal level, through hearing conversations, but often, it's just hearing my own muddled thought process still reacting to that dream, and it begins to increasingly make less sense. **So, the lack of it making sense makes me progressively aware and slowly fade into wakefulness**."	Awareness of the hypnagogic state and transition into wakefulness

Table 6. Quotes for Marker 5. The table shows some reports of Marker 5 provided to Q2.1.

Marker 6 (M6) was found in a total of 127 participants (21.30%) who provided reports to questions Q4.2 and Q7.2. The thematic analysis identified six overall themes (first-order themes): "Feeling of knowing", "Emotional state", "Partial recall", "Dream set", "Waking up", and "Mixed recall". Only the first two themes were regarded as indicating

the presence of M6. The other themes were excluded for containing explicit mentions of the dream narrative such as mentions of the fact that one's memory of the dream vanished quickly after awakening, the fact that the dream (or some fragments) were remembered later during the day, the feeling of having been in a dreamworld but unable to recall the particulars, not being sure whether the experience had was a dreamed or imaged experience, or remembering only having awaken suddenly (see **Table 7**).

ID	*Representative report*	*Second-order Theme*	*First-Order Theme*
#447	"When I awoke from the dream, **it was all still in my head, clear as a bel**l; so, for a moment I knew I was just dreaming, and I remembered its content... then, **a second later, it was just gone**, irretrievable."	Quickly forgetting	Partial recall
#130	"I **can remember snippets or "feelings**" from the dream but can't recall the content of the dream. Sometimes the content comes to me, and it makes sense, for example, if somebody in particular is on my mind for no reason, or I feel like I have strong positive or negative feeling towards them for no obvious reason, it is likely I dreamt about them. **I am sometimes able to recall the dream and can remember "snippets" of interacting with them in a dream**."	Vaguely remember	Partial recall
#54	"**I know I was in a different landscape** and interacting with other people, animals, and things but I cannot grasp onto any particular detail in order to remember. Or, I am startled awake, know I was in a dream but everything about it disappears suddenly. I know I have been active in a dream. It's like a poor memory, I know an event took place, but I cannot recall the details to formulate the story."	Feeling of having been in a dream	Dream set
#186	"I knew that I had been **'in another world'** that felt real while I had the experience."	Feeling of having been somewhere	Dream set
#55	"When I was recalling what I dreamed, I realized that's something I thought about the other day in terms of buying a new car and visualizing myself doing so, but I didn't dream about it."	N/A	Confusing with imagination

Table 7. Reports of white dreaming. The table presents some representative reports from the themes extracted from questions Q4.2 and Q7.2 that were not coded as containing M6.

Both “Feeling of knowing” and “Emotional state” did not include explicit mentions of the content of the dream experience other than the fact that one took those states of white dreaming to be the result of a dream and thus, were coded as containing M6 (see Table 8 for examples).

On the one hand, the theme “Feeling of knowing” classified reports describing a feeling of knowing, upon awakening, that one had a conscious experience during sleep yet was unable to remember its content. Within this theme, various third-order themes were isolated, including “Feeling of the tip of the tongue”, “Feeling of déjà vu”, and “Feeling of knowing”. Reports alluding to a feeling of the tip-of-the-tongue or TOT described a similar sensation to that of having forgotten a name but feeling that one “knows it” (#95). Other reports alluded to the so-called feeling of “déjà vu”, the feeling that certain elements of one’s current experience have been dreamt (#552). Finally, others alluded to the fact of having experienced a dream but were unable to recall what it was (#454).

On the other hand, the theme “Emotional state” classified reports merely describing the presence of a particular emotional tone upon awakening. Some participants attributed that emotional state to the emotions had during their dream experience, yet again, without being able to report what they dreamt about (#124). Others were not sure about what triggered those emotions other than something that happened during their sleep (#629).

M6: *Feeling of knowing one had an experience upon waking up; Themes: "Feeling of knowing" and "Emotional state"*		*Third-order thematic analysis*	*Second-order thematic analysis*
#571	I knew that something happened, but it **was the same feeling as having a word on the tip of your tongue** - you know something happened but what that something was won't click until a stimulus in real life appears.	Feeling of the tip-of-the-tongue	Feeling of knowing
#552	**It's kind of like déjà vu**, something happens during the day and I feel like I've already seen it happen. I think I remember seeing it in a dream but I'm unsure	Feeling of déjà vu	Feeling of knowing
#17	I would wake up from the dream having the feeling as If I had been dreaming, however, I was just unable to pinpoint exactly what the dream was about.	Feeling of knowing	Feeling of knowing
#124	"**I woke up startled**, a bit panicked and in deep unease/sadness **and realized that those feelings must have been from what I was dreaming** because they were too intense to have arisen from the seconds I was awake by that point: I hadn't had time to actually think of anything consciously"	Relating negative emotions upon waking up to an unrecalled dream experience	Emotional state
#629	I know **I dreamt something because I felt it,** but I don't know what it was other than that **it was unpleasant** and left me with an **uncomfortable** feeling.	Relating negative emotions upon waking up to an unrecalled dream experience	Emotional state

Table 8. Quotes for Marker 6. The table shows some reports to Q4.2 from which M6 was isolated.

2.5. Associations between strong markers and other variables

An additional exploratory analysis investigated the potential relationship between putative cases of objectless sleep awareness or associated experiences and other variables. In the literature, most anecdotal reports of this sort of awareness come from expert meditators and lucid dreamers. As such, it was explored whether experience with meditation or lucid dreaming would be associated with having one of the strong markers.

Of the survey's respondents, 34.93% of them said they practice meditation, with Mindfulness-style meditation as the most frequent practice (44.01%). Of those who said to meditate, most said to engage in meditation every day (37.5%), with a duration of meditation practice of between 15-30min (41.75%). The mean of meditation practice was of 6.11 years (range= 0-30, SD=7.9). A contingency table revealed that a similar percentage of participants with and without meditation experience had at least one of the strong markers (See **Table 9**). A chi-square test of independence was run between responses to Q20 (Practices meditation/Does not practice) and the presence of a strong marker and absence of any. The chi-square did not yield a significant association between those two variables (χ^2= 3.48, df=1, p= 0.06201).[14]

Meditation practice	*No Markers %*	*Strong Markers %*
Practices meditation	29.86(126)	48.28 (14)
Does not practice meditation	70.14 (296)	51.72 (15)

Table 9. Percentage of participants with strong markers or absence of any marker and engagement in meditation practice. The values in brackets show the total amount of participants in each group.

Contrary to the case of meditation experience, most survey respondents said they have experienced a lucid dream in the last month (40.3% of the total). From the contingency table (see **Table 10**), it was revealed that indeed, there was a strong association between lucid dreaming experience and the presence of strong markers since almost all participants with at least one of the strong markers were lucid dreamers (96.15%). Most participants said they experienced lucid dreaming either less than five times a week or

[14] The Chi-square (χ^2) test of independence evaluates whether the distributions between two categorical variables (in this case, experience with meditation practices and one of the markers for objectless sleep awareness) differ from one another. The p-value of χ^2 indicates the probability of getting similar counts as to those observed in the contingency table (**Table 9**) assuming the two variables are not related. When p-value is bigger or equal to 0.05 (α, or the level of statistical significance), we say that there is not enough evidence to conclude that there is an association between both variables.

very rarely, once or twice a month, with both groups yielding a percentage of 36% participants each (see **Table 11**). Most participants with strong markers and lucid dreaming experience said they did not engage in lucid dreaming induction techniques (69.23%; see **Table 12**).

Experience with lucid dreaming	Strong Markers %	No Markers %
Was aware of dreaming	96.15 (25)	60.16 (154)
Was not aware of dreaming	-	26.17 (67)
Unsure whether was aware of dreaming	3.85 (1)	13.67 (35)

Table 10. Percentage of participants with each type of marker or absence thereof and experience with lucid dreaming. The values in brackets show the total amount of participants in each condition.

Frequency lucid dreaming experiences	Strong Markers %
Every day	8 (2)
>5 times a week	20 (5)
<5 times a week	36 (9)
Very rarely (once or twice within the month)	36 (9)

Table 11. Percentage of participants with strong markers and frequency of lucid dreaming experiences. The values in brackets show the total amount of participants in each condition.

Engagement in lucid dreaming induction techniques	Strong Markers %
Follows lucid dreaming induction techniques	23.08 (3)
Does not follow lucid dreaming induction techniques	69.23 (9)
Unsure whether they follow lucid dreaming induction techniques	7.69 (1)

Table 12. **Percentage of participants with strong markers engaging in lucid dreaming induction techniques.** The values in brackets show the total amount of participants in each condition.

Additionally, it was explored whether there was an association between the consumption of psychedelics and the presence of strong markers. This exploration was done following recent suggestions in the literature which propose similarities between certain psychedelic-induced experiences and episodes of objectless sleep awareness reported by contemplative traditions (see Millière et al., 2018 for a review) In the present sample, a very small number of participants reported regularly taking psychedelics (3.87% of the total, see Table 1, **Appendix III**), and most participants taking drugs regularly did not have any of the markers (see **Table 13**). Of those with strong markers, only a small number said they took psychedelics regularly (30%).

Type of drug taken	Strong Markers %	None %
Anaesthetics (Ketamine)	-	11.49 (10)
Cannabis	40 (4)	47.13 (41)
Entactogens (MDMA/ecstasy)	10 (1)	12.64 (11)
Opiates (Heroin, morphine, codeine, opium)	-	-
Psychedelics (Magic mushrooms, LSD, mescaline, DMT, salvia)	30 (3)	12.64 (11)
Stimulants (Metamphetamine, speed, cocaine)	-	13.79 (12)
Other (Ayahuasca)	10 (1)	1.15 (1)
None	10 (1)	1.15 (1)

Table 13. Percentage of participants with each type of marker or absence thereof and breakdown of recreational drugs consumption regularly. The values in brackets show the total amount of participants in each condition.

2.6. Discussion

2.6.1. Summary

This study explores various sleep experiences through quantitative and qualitative analysis of an online survey. The analysis was based on predetermined markers identified from the literature on objectless awareness during sleep. Two types of markers were distinguished: "strong" markers, which referred to sleep experiences lacking distinct perceptual or bodily sensations and propositional or imagistic content, and "weak" markers, proposed as associated experiences to objectless awareness. The qualitative features identified from the strong markers alluded to a state lacking content during sleep, a state described as void, nothingness, or darkness by the participants. Although the proportion of participants with strong markers was low, the results provide insights into the character of potential experiences of objectless awareness and suggest avenues for further research. Moreover, the study also provided details about the features of

associated experiences to objectless sleep awareness, including awareness during sleep-onset and reports of white dreaming. In particular, a high number of reports with weak markers pointed towards the feeling, upon waking up, that one was conscious during sleep, yet unable to remember the content of such a conscious state. Finally, an exploratory analysis examined potential associations between objectless sleep awareness and other variables. The statistical analysis did not reveal an association between meditation practice and the experience of objectless sleep awareness. Descriptive statistics indicated a link between lucid dreaming experience and objectless sleep awareness.

2.6.2. Are the strong markers pointing at instances of objectless sleep awareness?

After examining the reports that were coded as containing the "strong markers", one might wonder to what extent all those reports do in fact refer to states of objectless sleep awareness. Here, following other proposals in the literature, the construct "objectless sleep awareness" was operationalised as a conscious state during sleep that lacked a "distinct" object of awareness. Thus, the targeted state did not involve any typical sleep mentation such as hypnagogic imagery, sleep thinking, or complex imagery like that involved in typical dreaming (see Windt et al., 2016). Yet, this state did not necessarily lack content altogether. As such, some might find contentious the fact that this sort of state is described as "objectless" since it may involve a minimal content of awareness (see Woods et al., 2020 for a discussion). However, it is beyond the scope of this chapter to investigate what constitutes a proper objectless conscious state. Instead, the present discussion considers whether the reports with strong markers refer to a qualitatively similar state, or whether different states are being described.

One the one hand, one might be sceptical about the fact that all these reports refer to a similar state, and thus, that they all belong to the family of "objectless sleep experiences". Some points of concern can be raised from the qualitative features of the reports and their mismatch with experiences of objectless awareness. First, while most reports with M1 and M2 described a state of void or nothingness, some others explicitly mentioned the awareness of some minimal content, including the perception of very

simple visual experiences (like lights, and colours) or some bodily sensations like floating or movement. Similarly, reports coded with M3, while generally, they seemed to be only about an awareness of the fact that one is sleeping and not dreaming, they also alluded to the awareness of one's body or bed. As such, one could argue that awareness that one is sleeping, even if instantiated as a mere feeling of knowing that one is asleep without further reflective thoughts, should not count as a case of objectless awareness. On this reading, we might want to say that only those instances lacking all sorts of conscious content are putative cases of objectless sleep awareness. Nevertheless, further research should consider whether objectless sleep awareness could still involve meta-awareness (such as the awareness of one being in such a state), or whether true forms of objectless awareness should not involve any form of higher or second-order awareness.

Relatedly, one can argue that some of the reports are about dream experiences that lacked visuals or complex perceptual experiences (see Alcaraz-Sanchez, 2021). Thus, these reports are not about objectless sleep experiences. Windt (2015) has suggested that what distinguishes minimal forms of dreaming from other dreamless sleep experiences, including experiences like the clear light sleep, is a minimal sense of spatiotemporal location —the feeling of being 'here' and 'now'. Thus, sleep experiences that involve such spatiotemporal feelings should be regarded as dreams, even if they are of a minimal sort. From the results of the follow-up interviews (see **Chapter 3**), it appears that, sometimes, the experience of the 'void' following the dissolution of the dream scenery involves a minimal sense of location. Inasmuch as there is a minimal sense of 'being somewhere', even if this does not involve the experience of being in a physical space, that would count for one to have a minimal feeling of being located somewhere.

On the other hand, one might argue that the reports of M1, M2, and M3 do indeed point towards a qualitatively similar state. Under this interpretation, the reports allude to different experiences that can be situated within a spectrum of "objectless sleep experiences". In this spectrum of experiences, some of them may be closer to the prototypical example of the clear light sleep, as described by certain contemplative traditions, whereas others, may be more resemblant to cases of minimal dreaming. Yet, insofar as they are all described as states that subjectively appear as "objectless", we can still classify them as objectless sleep experiences. This alternative interpretation offers a

more inclusive view of what constitutes a state of objectless sleep awareness. It includes cases that subjectively appear as objectless, and thus, is not restricted to only consider cases that are technically regarded as objectless, that is, states that lack representational content *altogether*.

This second interpretation can find support from the results. First, the thematic analysis for M1 and M2 yielded very similar themes, including those describing a state of "void", "nothingness" or "emptiness" which lacked imagistic content, but was described as "blackness" or "darkness" by most of the participants. In this sense, although this state was described as lacking visual experience by the participants, the descriptions seem to allude to a state that lacked imagery (i.e. hypnagogic hallucinations or more complex dream experiences), not the lack of visual perception altogether. Some participants alluded to some minimal visual experiences such as the perception of the absence of colour or some small images or movement. Second, both groups of reports characterised this state as one of "complete awareness", "only awareness", or "basic awareness". Most reports described the lack of sensorial experience, although some reports mentioned bodily feelings such as floating or feeling one's body light. The only differences between the two groups of reports lie in the fact that reports of M1 described a state arising after the dissolution of a lucid dream, while for M2 most participants said they did not know when this state occurred within the night. This assumption seems to be confirmed by the ad-hoc exploration carried out in follow-up interviews with selected participants (see **Chapter 3**).

A qualitative analysis of the follow-up interviews revealed a similar state with overlapping features which followed the dissolution of the dream environment, during sleep-onset transition or sporadically during the night. Finally, the follow-up interviews also unveiled some features that were not manifested in the survey's answers. For instance, these reports also alluded to the feeling of knowing that one is sleeping or not dreaming. Note that this feature was one of the main themes coded for M3. Thus, the strong markers seem to point towards a state of awareness during sleep that was characterised as a state of "nothingness" or "void" that did not involve complex perceptual or sensorial experience, that could be achieved following the dissolution of the dream environment, via the awareness of sleep-onset transition, or sporadically

during the night, and that involved a sense of "just awareness" or "just knowing that one is not awake, but just sleeping".

Note that no stronger conclusions can be drawn from the results presented in this study due to the low number of reports describing seemingly instances of objectless awareness during sleep. These two interpretations about the markers and whether they are indeed potential instances of objectless sleep experiences should be subjected to further research. Here I merely present points for guiding future theoretical and empirical work.

2.6.3. Is white dreaming related to experiences of objectless sleep awareness?

Whilst the weak markers were intended to be explorative, the high frequency of M6 (related to white dreaming), allows for a further exploration of recent proposals found in the literature. The distinctive feeling of knowing that one had a dream yet unable to recall the specific contents of it is known as "white dreaming" (Lewis et al., 1966) and has traditionally been attributed to a failure of encoding or memory retrieval (Cohen, 1974; Siclari et al., 2017). However, some authors have proposed that a subset of white dreaming could be linked to instances of objectless sleep awareness (see Windt, 2015b; Windt et al., 2016). The rationale is that one has a feeling of knowing that one was conscious and unable to recall the content of such conscious experiences because the experience in question was one without content. Thus, white dreaming reports are faithful reports of the actual experience of conscious sleep. If this were the case, at least some reports with M6 would be about an experience of a state of just awareness during sleep and not about a dream experience. Some speculations can be drawn from the reports gathered and the thematic analysis conducted.

The reports for Q4.2 and Q7.2 described different experiences that participants identified as instances of white dreaming. A group of reports mentioned partial recall of the dream content. In these cases, participants said that they remembered the content of their dream upon awakening, yet they quickly forgot or recalled it later during the day. Another set of reports did not explicitly mention the content of the dream experience, yet

participants attributed this feeling of knowing to a dream experience. These reports referred to sensations similar to the tip-of-the-tongue experiences or feelings of déjà vu. If we stick to Windt and colleagues' proposal, this latter group of experiences could be interpreted as arising from a state of just knowing, while asleep, that one was conscious. Nevertheless, even the reports of white dreaming that, prima facie, do not involve any partial recall of the content of the sleep experience, could be subjected to an alternative explanation.

For instance, research on the tip-of-the-tongue phenomenon considers these kinds of experiences as instances of non-declarative or procedural knowledge—instances of knowing that do not involve conceptual or linguistic-like thought (Beran et al., 2012). Proüst (2010) claims that the tip-of-the-tongue feeling (TOT) involves a "feeling of knowing that P" yet in a non-conceptual way; one does not have access to the content of P in a propositional way, but the content of such state is still represented non-conceptually by means of the "feeling of knowing". In other words, experiences like TOT indicate the feeling that one knows, but not *what* one knows (Dokic, 2012). For instance, one might know that the capital of Peru is Lima, yet upon questioned, one is not able to recall this fact and experience a TOT feeling. It is like the city's name "Peru" is somewhere there in one's mind, but one cannot access it. According to Koriat, this TOT feeling arises from a problem of performance (Koriat, 2000; 306); we fail to recall the content of our memory. This explanation about the genesis of TOT can be applied to the case of white dreams reports, especially those described as TOT experiences, as some participants in the survey reported. Building on the existing literature, a subset of white dreams could be instances of non-procedural knowledge where one does know the content, but it is represented in a non-conceptual manner. These would be instances of forgotten dreams.[15]

[15] It should be noted that Windt and colleagues do not rule out that some white dreams are forgotten dreams, in fact, they only suggest that *a subset* of white dreams might be cases of objectless sleep awareness. Here, I merely point out the fact that the reports of white dreams gathered in the survey could be subject to similar explanations.

Similarly, some authors have proposed explanations for certain experiences like TOT by considering them to be the result of forgotten dreams. One such experience is that of déjà vu, the uncanny sense of familiarity with our ongoing experience attributed to a past lived experience (Brown, 2004). In certain cases, one might feel that the present experience has occurred in a dream, leading to the feeling of "déjà rêvé" (Schredl et al., 2017). The positive correlation between déjà rêvé experiences and higher dream recall suggests that at least some of those experiences might indeed be attributed to forgotten dreams (ibid). However, other research on déjà rêvé has found that these feelings are not always necessarily linked to instances of episodic-memory and might instead point to memory errors (Curot et al., 2018). Consequently, a speculative claim at this stage is that some white dreams might not stem from conscious sleep experiences, but rather they result from cognitive illusions (Roediger, 1996), creating a sensation of having had a conscious experience that never occurred. Thus, we should adopt a more pluralistic perspective on white dreaming (see Windt, 2021). Some of these experiences may be indeed the outcome of forgotten dreams, while others might be instances of objectless sleep awareness. Further research should carefully consider the qualitative differences among white dreaming reports to establish different types of reports based on shared phenomenological characteristics. Subsequently, these different types of white dream reports could be linked to distinct neural correlates, following a similar experimental design to that employed by Siclari and colleagues (2017).

2.6.4. Are there any facilitating factors for experiencing objectless sleep awareness?

Most descriptions of a state of awareness during sleep characterised as lacking a clear object of awareness are found in classic texts from contemplative traditions such as that of the Dzogchen in Tibetan Buddhism. Moreover, these descriptions are found in texts that describe certain types of meditation practices, such as that of dream yoga or Yoga Nidra, which aid the practitioner to reach a state of pure awareness during sleep (see Norbu, 1983; Wangyal, 1998). Thus, we would expect individuals engaged in this sort of practice to be more prone to have experienced such a state of objectless awareness in their sleep, as some studies have indicated (Gamma & Metzinger, 2021; Mason et al., 1997). However, in our current sample, most participants said not to engage in

meditation, less so in the sort of meditation practices that have been linked to the experience of objectless sleep awareness (see, **Appendix III, Table 1**). Moreover, the exploratory analysis conducted comparing meditation practice and the presence of strong markers did not yield a positive association between both variables. In fact, of the participants with strong markers, there was a similar percentage for those practising meditation and those who did not. As such, it seems that the experience of objectless sleep awareness is not exclusive to those engaged in regular meditation practice. Speculation at this point is that certain meditation methods themselves do not *induce* a state of objectless awareness but provide the practitioner with better capacities for introspection and attention for recognising the appearance of those of states (Baird et al., 2014; Kornfield, 1979; Lutz et al., 2008; Shapiro et al., 2006). Nevertheless, some future studies focusing on yoga Nidra practitioners should examine whether this sort of practice holds the potential to trigger states of objectless awareness.[16]

Outside contemplative practices, anecdotal reports of a state of objectless sleep awareness are also mentioned in the literature on lucid dreaming in reference to the experiences of "clear light", "void" or "imageless lucid" dreams (Gillespie, 1991, 2002; Green, 1968). A such, we would then expect individuals that have experienced this sort of dreams to also report instances of objectless sleep awareness. The results revealed that, except for one participant, all of those with strong markers were lucid dreamers. There is then a strong correlation between lucid dreaming and the presence of objectless sleep awareness. However, does this mean that lucid dreaming practice can induce states of objectless awareness? First, a high proportion of participants who were lucid dreamers did not have any of the strong markers. Second, most participants who were lucid dreamers and have at least one of the markers said they did not follow any lucid dreaming induction technique. Thus, the results show that, while there is an association between lucid dreaming experiences and the experience of objectless sleep awareness, the practice

[16] It should be strongly stressed that we did not find a strong association between the markers and meditation practice in *our* sample. Moreover, the sample was mostly comprised by participants that reported not having meditation experience.

of lucid dreaming, and its experience, might not always lead to a state of objectless sleep awareness. As in the case with meditation practitioners, future studies should focus on examining whether certain lucid dreaming techniques, such as those aiding towards the attainment of "void-like" dreams, can induce this sort of state of objectless awareness. Moreover, it should be further examined whether lucidity is indeed required for experiencing objectless sleep awareness, and if so, whether this should be akin to the sort of lucidity described in lucid dreams (see **Chapter 4**). As I pointed out in §2.6.2., we should consider to what extent the sort of experiences described in "void" or "imageless lucid" dreams are instances of dreaming or something else.

Finally, it was also explored whether the frequent consumption of certain recreational drugs could be associated with the experience of contentless sleep awareness. In the literature, we can find descriptions of selfless, or ego-dissolution experiences induced by certain psychedelics like psilocybin, LSD, and ayahuasca (Letheby & Gerrans, 2017; Millière, 2017; Millière et al., 2018; Timmermann et al., 2019) which hold some resemblance with the sort of phenomenological profile described by instances of objectless sleep awareness. Those reports allude to a similar state of consciousness that lacks the self-other structure of ordinary consciousness and mention the dissolution of boundaries between oneself and the world, the loss of self-awareness and the loss of bodily ownership (see Millière, 2017). Recent research has pointed out the similar phenomenological features across psychedelic states, meditative states, and other states that might induce a sense of "selflessness", the experience that a certain experience lacked a "self" (see Millière et al., 2018). Yet, in the present sample, very few participants said to take recreational drugs regularly, and even fewer said to consume any form of psychedelic drug. Moreover, due to the Ethics protocol in place, participants were not asked further about their drug intake, including dosage and their experiences following intake, and thus, is not possible to explore further the association between variables. Further research should explore in more detail whether individuals who have also experienced any sort of drug-induced ego-dissolution experience are also more prone to experience states of contentless awareness during sleep. Additionally, future research should investigate possible phenomenal differences across contentless awareness during psychedelic states and objectless sleep awareness.

2.6.5. Limitations and shortcomings

Whilst this first stage of the research study '*Objectless sleep experiences*' provided in-depth data about the incidence and variability of different sleep experiences, there are several limitations that should be considered. First, we should consider whether the instruments of choice were adequate to examine the targeted phenomenon. This first stage of the research study involved an online survey that took quantitative and qualitative measurements of participants' answers. The quantitative measurements, that is, the multiple-choice questions of the questionnaire, allowed for the collection of data from participants that otherwise would not have participated—it allowed for participants to reflect on experiences they might not know how to describe. As such, the quantitative measurements allowed us to reach a wider spectrum of participants. The qualitative measurements consisted of the thematic analysis of the open-ended questions prompted in the survey (see **§2.3.5**). This way of assessing the results of the open-ended answers allowed for the construction of common themes that appeared across the reports. However, the downside of the quantitative measures in the survey is that they do not allow for a fine-grained analysis of the experiences reported to understand in-depth the phenomenology of those experiences. For this reason, we conducted follow-up interviews with selected participants for a more detailed investigation of the different aspects constituting an apparent experience of objectless sleep awareness (see **Chapter 3**). Thus, we need to consider the relation between the breadth and depth of subjective reports and how each measurement tool might increase one while downsizing the other (Solomonova & Wei, 2016 for a discussion). In the case of quantitative tools like surveys, we might cover a wide range of experiences and subjects, but the reports gathered might not be as detailed as those collected by phenomenological interviews.

Second, we should consider the research protocols followed in the study. Ideally, in any research on sleep experiences, one would want to reduce the time lag between the experience and the report provided (Windt, 2013). In the present case, not only was the study not carried out in an experimental setting such as a sleep lab where we could properly assess whether participants were sleeping and in which sleep stage they were before the reported experience, but the experiences reported might not necessarily have happened immediately before participants answered the online survey. Participants

answered the survey at their convenience and the only requirement was that they thought of an experience happening within the last month to encourage recollection of a recent experience. The time lag of the experience seems especially important for investigating experiences that lack content and are more difficult to describe since we might wonder how faithful the memory recall is if the experience took place long ago. Whilst, to date, there is no research on how reports of such experiences of minimal content during sleep could involve some (unintentional) fabricated elements, or not be faithful to the actual experience, research on dream experiences indicates that whilst generally, the content of dream reports is reliable, it does involve a small proportion of fabricated elements in some contexts (Beaulieu-Prévost & Zadra, 2015), yet this is comparable to autobiographical waking memories (Horton, 2011). However, one of the problems of conducting experimentally this sort of sleep research on very ineffable and rare phenomena, is that the targeted phenomena might not be captured during the experimental trials. Thus, the most convenient solution would be to find participants that report this sort of experience frequently, and ideally, that can induce them under their will. As such, future research should explore whether certain meditative or lucid dreaming practices, as detailed in the previous two sub-sections, could trigger this sort of state to widen the chances to capture these very elusive phenomena in a sleep lab.

2.7. Conclusion

This chapter presents the results of a study that investigated the experience of awareness during sleep that lacked an ordinary object of awareness. The study isolated three markers, called strong markers that described instances of this experience. These markers included the awareness of a state of void following the dissolution of a dream (Marker 1), the awareness of nothingness or void while asleep (Marker 2), and the awareness of the fact that one is dreaming in the absence of further content of awareness or with minimal content (Marker 3). Additionally, an explorative analysis also unveiled the high incidence of reports of “white dreaming” that merely involved the experience of a particular emotional state attributed to one's sleep experience or a feeling upon awakening that one was conscious while asleep. Although the proportion of participants reporting experiences resembling forms of "objectless" awareness during sleep was small, the study's results provided a basis for exploring sleep experiences that depart from

ordinary dreaming, including those with minimal content. Additionally, the results set the groundwork for future research on the relationship between minimal forms of sleep experience and engagement in meditation or lucid dreaming practices.

CHAPTER 3 STUDY II: EXPLORATION OF OBJECTLESS SLEEP AWARENESS. A PHENOMENOLOGICAL STUDY

3.1. Abstract

Recent years have seen a heightened focus on the study of minimal forms of awareness during sleep to advance the study of consciousness and understand what makes a state conscious. This focus draws on an increased interest in anecdotal descriptions made by classic Indian and Buddhist philosophical traditions about unusual forms of awareness during sleep. For instance, in the so-called state of witnessing-sleep or luminosity sleep, one is said to reach a state that goes beyond ordinary dreaming and abides in a state of just awareness, a state in which one is not aware of anything else other than one's own awareness. Moreover, for these traditions, this state is taken to be the essence or background of consciousness. Reports of such a state open the door to exciting new lines of research in the study of consciousness, such as the inquiry into the so-called objectless awareness during sleep—states of awareness that lack an ordinary object of awareness. In this two-staged research project, we attempted to find the phenomenological blueprints of such forms of awareness during sleep in 18 participants by conducting phenomenological interviews, informed by a novel tool in qualitative research, the micro-phenomenological interview (MPI) method. Following a phenomenological analysis, we isolated a similar phase across 12 reported experiences labelled as "nothingness phase" since it described what participants took to be an experience of "nothingness". This common phase was characterised by a minimal sense of self—a bodiless self, yet experienced as being "somewhere"—, the presence of non-modal sensations, relatively pleasant emotions, an absence of visual experience, wide and unfocused attention, and an awareness of the state as it unfolded.[17]

[17] This chapter is an adapted version of the paper "Nothingness is all there is: An Exploration of Objectless Awareness During Sleep" published in *Frontiers in Psychology*. For the purposes of flow of this thesis and to avoid unnecessary repetitions, I have deleted the original introductory section of the paper, which provided a survey and overview of the state of the clear light sleep. I have re-adapted the passages of the

3.2. Methods

3.2.1. Research questions

This second study aimed at shedding light on different instantiations of objectless awareness during sleep, defined here as an awareness that lacks a distinct object of awareness, by investigating systematically the phenomenology of these experiences. The goal was to explore sleep experiences subjectively identified as experiences that lack a distinct object or content of awareness, regardless of whether such experiences should properly be regarded as 'objectless', or whether this is the sort of state alluded to by Indo-Tibetan philosophical traditions as 'witnessing-sleep' or 'clear light sleep'. Moreover, our study left aside any considerations as to whether such an experience is the most minimal possible form of experience, or if it should be taken to be the essence of consciousness. As such, some of the research questions poised to be answered were: which sort of sleep experience do people take to be 'objectless'? What are the potential markers, similarities, and descriptions of these candidate 'objectless' experiences?

3.2.2. Participants

The participants for this second study were selected from the '*Objectless sleep experiences online survey*' (see **Chapter 2**), which asked participants to answer a series of open-ended and multiple-choice questions exploring their sleep experiences, including sleep onset awareness, dream awareness, and sleep awareness lacking any other mentation. From those participants wishing to participate in the second stage of the research, we shortlisted those describing an instance of objectless awareness during sleep

---

introduction concerning the research project "Objectless sleep experiences" and placed them in Chapter 2 to facilitate the narrative.

had within the last month and that was well-remembered. For the selection process, we considered descriptions of the following sort of experiences [18]

- An awareness following the dream environment disappearing or dissolving
- An awareness had whilst sleeping in the absence of any other perception or cognition
- An awareness of the process of falling asleep or waking up without another object of awareness
- A feeling of knowing that one was conscious while sleeping upon awakening without relating it to a dream experience

We shortlisted a total of 38 participants who meet the selection criteria (from 573 answering the survey), and of those, we selected 18 who were interviewed in a total of 21 interview sessions (total 34.19h, μ=1.62h, SD= 0.81h). From the reports provided, we selected those describing experiences that matched or approximated the definition of the targeted state of objectless awareness as indicated above. Here, we will refer to 'participants' as the individuals whose experiences were selected for this chapter (n=12, μ= 36.5, 7 male, 5 female).

All participants signed an informed consent form to partake in the interview, and the study was approved by the Ethics Committee of the College of Arts at the University of Glasgow.

3.2.3. Interview procedure and protocol

The interviews were carried out by a research assistant and myself in 1:1 sessions via Zoom and lasted an average of 1.5h. We adopted an interview protocol inspired by the micro-phenomenological interview (MPI) technique by (Petitmengin 1999; 2006) to

[18] See Chapter 2 for a detailed account on the rationale behind the experiences selected as potential cases of objectless sleep experiences and associated states.

gather fine-grained subjective reports. The MPI technique guides the interviewee through the recollection process and helps them to focus on their subjective feelings or the phenomenal character of the experience. The aim is to invite interviewers to move away from preconceptions and judgments about their experience, and instead, to focus on how they felt.[19] Moreover, this method aids the interviewee to uncover unnoticed aspects of their experience, which otherwise would have been difficult to assess, or what in the phenomenological jargon is regarded as pre-reflective consciousness (for a full account of the MPI protocol see Petitmengin 2006, Petitmengin et al., 2018). In the interview sessions, we began exploring the entirety of the selected episode. We then zoomed in to those phases that were of most interest for our research question, focusing both on how the experience unfolded to an apparent state of 'objectlessness' and the specific experiential structures involved (see **Appendix IV** for examples of some interview questions and short excerpts from the interviews). This process was done while guiding the interviewee to come back to the original experience as it appeared in a particular time and place. We invited each interviewee to focus on the subjective character of the experience—what was it like for them to be in such a state at the time it occurred.

The interview sessions consisted of two parts. First, participants were asked to perform a short mental task consisting of mentally spelling a given word. Afterwards, they were briefly interviewed about this experience of spelling. Second, they were interviewed about a recent experience of what they took to be a specific instance of objectless awareness during sleep. For both reports provided (about the experience of spelling the word and about their sleep experience), participants were asked to rate the degree of completeness and accuracy of their reporting, the vividness of the recalled experience while they were being interviewed, as well as the extent to which they felt they might have invented or fabricated some elements of the description, and the ease (or difficulty) of articulating the experience in the interview. This self-assessment of their report aimed at providing us with some markers on the reliability of their reports, as well

[19] Such a process is based on the phenomenological reduction or *epoché* as proposed by Husserl (see Chapter 1)

as to allow participants to reflect on how good the recall of the experience was during the interview.

3.2.4. Qualitative analysis

We undertook a phenomenological analysis of the interviews verbatim using a combination of tools by the MPI method (Petitmengin et al., 2018; Valenzuela-Moguillansky & Vásquez-Rosati 2019), grounded theory (Charmaz, 2006; Thornberg & Charmaz, 2014), and thematic analysis (Braun & Clarke, 2021b). The analysis procedure consisted of the following steps:

1. **Initial examination and data preparation:** Together with a research assistant we undertook an initial examination of the interviews and identified patterns, structures, and research questions that emerged from them. I selected those sections of the verbatim relevant for the analysis; comments, judgements or evaluations made by the participants were removed, following the micro-phenomenological analysis approach (Petitmengin, 2006; Petitmengin et al., 2018). [20]

2. **Thematic and categorical analysis:** We started by identifying patterns in each of the interviews that described how the experience unfolded over time (diachronic structure; see Petitmengin, 2006; Petitmengin et al., 2018). These patterns were compared across the reports selected in several reiterations to identify similar diachronic structures as well as for isolating an experiential episode resemblant to our targeted experience of objectless

[20] Following the phenomenological reduction, these elements are taken not to be about how the experience unfolded, but instead, to be about how the experience was interpreted by participants. Thus, these should not be considered in the analysis of the experiences themselves. Only certain comments by the participants, for instance, those that might provide cues about the dynamics of the experience (i.e. when did they occur), were considered in the analysis for contextual purposes. Similarly, descriptions of other similar experiences to the one target of the interview, were also considered in the analysis in order to clarify certain comparisons between qualitative dimensions (i.e. comparison between which features those objectless sleep states lacked contra other non-objectless sleep states)

awareness during sleep. From this commonly isolated phase, we identified different dimensions that emerged from the descriptions by considering the distinctive aspects of the phase described (synchronic structure). These dimensions were converted into categories through a process of thematic analysis by grouping those dimensions that could be classified under the same theme (Charmaz, 2006; Valenzuela Moguillansky & Vásquez-Rosati, 2019) Thus, each theme clustered similar descriptions by assigning a 'label' that could give meaning to those descriptions and aimed at leaving outside any previous preconceptions or theoretical accounts that the researchers might have had—the 'labels' are intended to work as placeholders to group together a set of descriptions.

The resulting categories were classified into three levels: first, second, and third-level categories (or lower and higher-level categories). Given their level of abstraction, the first-level and second-level categories only considered those dimensions that were common for most participants, while the third-level categories specified categories that might have been present for only one participant. Thus, most abstract categories are not meant to comprise an exhaustive categorization.

3. **External analysis:** Two external researchers carried out another round of coding of the phenomenal descriptions by assigning a pre-established code (consisting of a category and sub-category). The external researchers were provided with a list and full descriptions of the categories and sub-categories isolated in the thematic analysis (see **Appendix V**). This process was assessed through an intercoder agreement score (detailed in §3.2.5).

4. **Final analysis and redefinition of categories:** Finally, I revised the external coding, examined those categories that lead to higher disagreement amongst coders, and redefined or eliminated categories if necessary.

3.2.5. Quantitative analysis

We conducted two explorative quantitative analyses to inform the adequacy of the interview protocol and the phenomenological analysis. For the first, during the interview sessions, we asked participants to provide a self-rating of the degree of vividness, completeness, articulation, and accuracy of the recollection of the experience ('0' meaning very low and '10' very high), as well as the extent to which they felt they might have invented or fabricated some of the elements of the description ('0' meaning none and '10' meaning all). Participants self-rated both, the recollection of the experience of spelling and the potential experience of objectless sleep, explored respectively in the first and second part of the interview sessions. We calculated the means for the scores provided for each dimension and each condition (see §3.2.3).

For the second explorative analysis, we run Fleiss' Kappa to determine the degree of agreement between the three coders (the two external researchers and myself) on our classification of the different categories isolated in the thematic analysis.[21] We also run Fleiss' Kappa for each combination of categories and subcategories to explore which categories had a higher intercoder agreement across coders for the phase of interest in the analysis (see §3.2.2).

The exploration of the self-ratings and the intercoder agreement was done using the open-access R studio for statistical computing (R Core Team, 2021).

[21] Fleiss' Kappa is a statistical test used to evaluate the level of agreement between two or more raters. This statistic is used to evaluate the ratings of independent raters in categorical variables with the same categories.

3.3. Results

3.3.1. Phenomenological analysis

3.3.1.1. Diachronic structure

From the first step of the thematic analysis, we identified a common experiential phase across participants labelled as the 'nothingness phase' and identified three different 'diachronic structures' across the reports (see **Fig.2**).

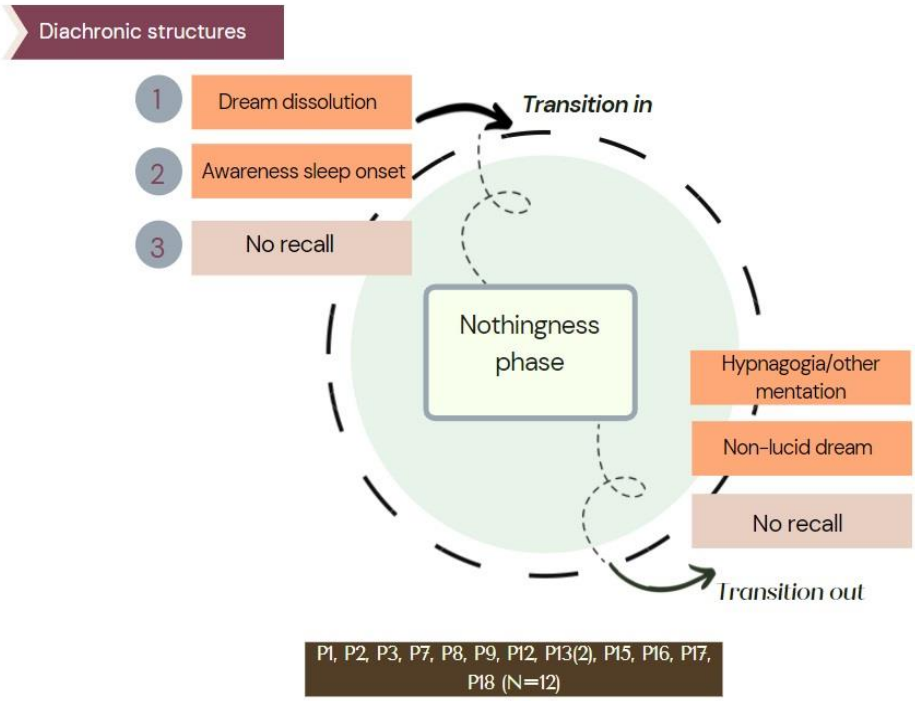


Figure 2. Common experiential phase. This common phase emerged from the examination of the different diachronic sub-phases described by each participant. We isolated an experiential state that emerged from the overlapping features described in the diachronic structure of the reports. We coined this experiential state "nothingness phase" and we carried out further analysis of this phase.

I. Diachronic structure 1: State of void following dream dissolution

For participants matching this structure (P1, P2, P15, P18), the targeted episode preceded a lucid dream in which they felt very immersed, with a sense of being able to control the unfolding events. The lucid dream description was merely used during the interview to aid the recollection process and was not fully explored. This first structure was

characterised by the dream scenery dissolving and completely disappearing. For three of the participants, the dissolution was triggered by something they actively did in the dream, such as adopting a meditation posture (P2), jumping in the air (P15), or shouting at another dream character (P18). Except for P2, who actively sought to dissolve the dream, the other two did not consciously intend this to happen. P1 described how the dissolution was also unintended, in this case, following an explosion in their dream.

The 'nothingness phase' following the dream's dissolution unfolded differently for each participant (see **Fig.3**). P1, P15, and P18 reported moving to a phase in which, whilst remaining aware, they said to lack any bodily sensations or imagery. For P2, the dissolution unfolded to an episode where they said to have lost a sense of being 'themselves' in the experience, yet they identified themselves with a 'light'. After the 'nothingness phase', both P1 and P18 mentioned moving to a different non-lucid dream. P1 described how a "blue light" came and "shake(d) them up" and, suddenly, they were transported to a new dream scenery. P18 actively sought to "recover" their dream scenery by looking for an element that was present in their previous lucid dream. P2 and P15 said not to remember what came after.

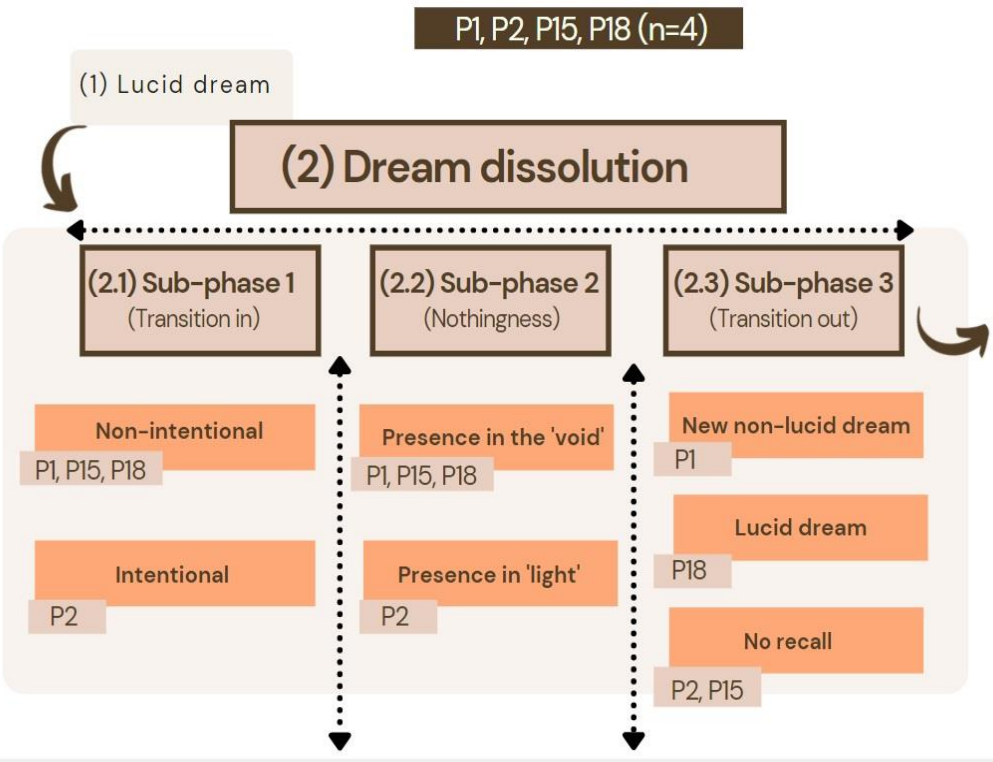


Figure 3. Diachronic structure 1. This diachronic structure was characterised by the experience of the dissolution of a lucid dream preceding the sub-phase 'nothingness' in participants P1, P2, P15 and P18 (n=4). This sub-phase can be reached intentionally or non-intentionally**.**

II. Diachronic structure 2: State of nothingness following sleep onset awareness

For five participants (P7, P8, P9, P16, P17), the 'nothingness phase' did not follow a dream's disappearance, but instead occurred after a period of awareness during the process of falling asleep. For P16 there was a distinctive bodily feeling while falling asleep, as well as some brief non-lucid dream imagery which resulted in a state where they felt as being "bathing in light". For the other four, there was a realisation of thoughts stopping (P7), the lack of bodily feelings (P9, P17), or the lack of any feelings at all (P8), after engaging in some form of relaxation technique while falling asleep. What followed was a phase characterised as the "void" (P8, P9, P17), "nothingness" (P7, P9), or "only light" (P16). This 'nothingness phase' terminated in a more heterogeneous manner than diachronic structure 1 (see **Fig. 4**). Both P7 and P8 said to become aware again of their thoughts, whilst P7 transitioned to a state in which they felt their body distorted accompanied by a feeling of being in bed. P8 reported that during this episode of being in the "void", they realised to be having the sort of experience they wanted to discuss in their upcoming interview, and slowly recovered their bodily sensations, including a feeling of being in bed. Both P9 and P16 transitioned to a different phase, in which they chose to actively visualise imagery. P9 took the opportunity to execute what they regarded as "experiments" to see whether they could send "their energy" to a relative of theirs by imagining this energy travelling from the location of their sleeping body to a relative's home. P16 visualised a series of colours and geometric forms hoovering above their head, followed by an increasing awareness of their bodily sensations. P17, who reported experiencing the "void" frequently, described not being able to remember what happened after the "void" phase but mentioned other instances in the past in which they took advantage of this experience to initiate a lucid dream under their will.

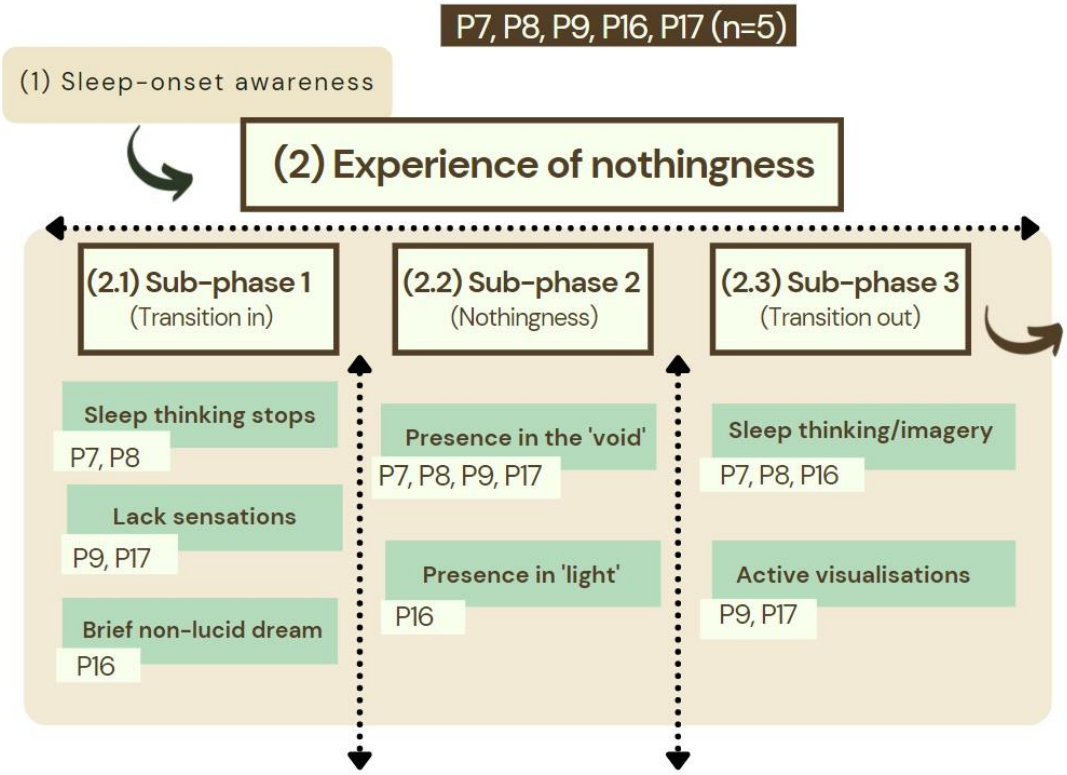


Figure 4. Diachronic structure 2. This diachronic structure was characterised by a transition into the void or nothingness without a preceding lucid dream dissolution in participants P7, P8, P9, P16 and P17 (n=5). Instead, for these participants there was an awareness of their sleep onset and perception of brief hypnagogic/dreaming imagery, noticing their thoughts stopping, or the absence of bodily sensations.

III. Diachronic structure 3: Sudden awareness of the state of nothingness, no previous memory

For the remaining three participants (P3, P12, P13), there was no recall of what preceded the 'nothingness phase'. Instead, they said to have just "bec[o]me aware" of "nothing" while sleeping. In the case of P3, they remembered undertaking a relaxation technique while falling asleep, paying attention to their bodily feelings but were not able to recall what happened afterwards. All they remembered was that, suddenly, there was a "tapping" which was not felt as a bodily sensation, but it "felt like the tapping itself felt itself", an experience they said lacked an "explicit sense of self". P12 said that on other nights they have been aware of transitioning from what they called the "black spot" to this 'nothingness phase'. However, in the case of the reported experience, they said to

have just become aware of a "dark spot" taking over the experience, without recollection of what came before. Then, they transitioned into a non-lucid dream. P13 described the 'nothingness phase' as a "very intense state", where the sound was all that there was, after which they became aware of their breath and were able to engage in a meditative practice.

3.3.1.2. Synchronic categories

This section introduces the different experiential dimensions isolated only for the phase of the report labelled as the 'nothingness phase' (see **Appendix V** for a full list of dimensions across the selected reports).

i. Sense of self

One of the most salient features of the common 'nothingness phase' across the 12 participants was the numerous descriptions alluding to how participants felt 'themselves' within the experience or how they took the experience to be their own. Since varied aspects of the experience of a sense of self were described, we isolated four sub-categories: **'1A-Bodily ownership', '1B-Spatial Self-location', '1C-Perspective',** and **'1D-Agency and Attitude.'** Each sub-category was, in turn, broken down into third-level categories (see Table 14). Whilst these categories aim to describe the distinctive features of each description, they are not mutually exclusive, and one single description can pertain to more than one second and third-level category.

I. Sense of self	
1A. Bodily ownership	2- Weak embodiment/lack form: P13, P15, P18 (n=3) 3- Distorted: P16 (n=1) 4- Minimal identification: P1, P2, P13, P7, P8, P9, P12, P17 (n=8)
1B. Spatial self-location	1- Physical: P7 (n=1) 3- Indeterminate: P1, P9, P12, P15, P18 (n=5) 4- Minimal: P8, P13, P17 (n=3) 5- No clear boundaries: P8, P16 (n=2) 6- Absent: P2, P3 (n=2)

1C. Perspective	1- Regular: P12, P18 (n=2) 2- Fluctuating: P2, P18 (n=2) 3- Minimal: P7, P8, P15 P16, P17 (n=5) 4- Absent: P3 (n=1) None: P1, P9 (n=2)
1D. Agency and attitude	1- Active: P1, P7, P13, P18 (n=4) 2- Receptive: P1, P7, P12, P15 (n=4) 3- Lost control: P7, P9, P13, P17, P18 (n=5) None: P2, P3, P8, P16 (n=4)

Table 14. Second and third-level categories for "*Sense of self*". The first column of the table shows the 2nd order categories for the higher-order category of "Sense of self" and the second column shows the 3rd order ones. The table also indicates which participants have each of the 3rd order categories. The ordinal number for each 3rd level category refers to the number given in the coding list during the thematic analysis undertaken across all the phases of the reported experiences (see **Appendix V**).

The first one, '**1A-Bodily ownership'**, grouped mentions that alluded to the sense of having or owning a body, or the lack thereof. This sub-category included descriptions without clear mentions of a body or body parts, but also those that involved the awareness of owning a body without explicit bodily sensations. For instance, three participants described what we labelled as '*Weak embodiment'*, a sense of feeling embodied in their experience without strong bodily feelings (P13, P15, P18). P16 described a '*Distorted*' bodily awareness, such as feeling their body as a cloud of energy. Moreover, this sub-category also included descriptions that lacked even this minimal sense of bodily ownership yet involved some sort of self-identification with an aspect of the experience. In these cases, while participants did not feel contained within some sort of bodily boundaries, or perceived their own body, there was a sense in which they felt their experience as their own, either while the experience was unfolding or afterwards. We classified these descriptions under the third-order category '*Minimal identification*'. Four participants described a sensation of bodiless awareness, involving feeling that they lacked a body (P7, P9, P17), including a "sensation of nothingness" (P1). The other three participants self-identified themselves as "a sphere of light" (P2), a "speck of light" (P12), or "the void" (P8). Finally, P3 reported lacking a "sense of ego" during the experience—they described lacking any sense of themselves being within it.

Nevertheless, they reported an awareness of a 'tapping' or 'pulsing' that occurred in this phase, and it was just afterwards, during the report, that they took this to be their own experience (See Table 15 for illustrative examples).

1A. Bodily ownership	
4 - Minimal Identification	
A sensation	So, **this sensation of nothing** was letting me know that **I was still in a dream**, because I made the comparison to, I can't feel any of my limbs. So, **I know that I'm not just in bed right now with my eyes closed.** Because none of my body's there. So, the sensation of nothing was actually letting me know that **I was still in** the dream. (P1:26)
Bodiless awareness	And then, and then all of a sudden, **there was just nothing** I couldn't, **I've gone from, from my body**, I guess. And I've had other bodies before and this, **this felt very, very, very different** where I didn't like **there was no dream body no dream scene**. No, no ANYTHING. It's almost like seems like a form about a body. But it almost seems like you're, you're caught between, caught between somewhere where you're trying to get in and the physical, you're, you're somewhere else. […] And so, so I was able to feel that I guess. (P9:18)
A sphere of light	[…] I **no longer have an idea of a body** a dream body at that point (P2:37) And then **I [emphasis] became or was this just like this little ball of light**, […]. So like I knew **that the sphere of light was ME**, but also like the light that was around the sphere was me, […] (P2:36) Once I become the sphere, you're asking if I have any body perception? I don't have any at that point [...] (P2:47) […] having a dream body is just completely gone. […] (P2:48).

Table 15. Illustrative examples of the sub-category '*Minimal identification'*. The table provides illustrative examples of the sub-category "Minimal identification" pertaining to the sense of "Bodily Ownership", a 2nd order category of the "Sense of Self". Note that for each report we have indicated the participant and the description's number in the report.

The second sub-category '**1B-Spatial self-location**,' referred to the sense of being somewhere within the experience, or to how one feels one's location in the environment—the feeling of being located 'somewhere'. In many cases (5/12), participants described having a feeling of being "in the nothingness" or being somewhere within the nothingness, yet with an '*Indeterminate*' location (P1, P9, P12, P15, P18). We isolated the category '*Physical'* for those descriptions involving a sense of spatiotemporal location similar to that experienced during wakefulness. For instance, P7 described the experience of being in a room, which they took to be part of their dream

experience and felt the distance between them and the walls. We also distinguished between '*Minimal'* spatial location and '*No clear boundaries'*. The former was constituted by descriptions involving merely the feeling of "being there" without references to a spatial location, including a location somewhere in the nothingness (P8, P13, P17). The latter classified descriptions mentioning a self who has become part of the whole experience (P8, P12, P16). Finally, two participants reported lacking any sense of being located within the experience whatsoever (P2, P3) (see Table 16 for illustrative examples of each sub-category).

1B. Spatial self-location	
1- Physical	I suddenly felt like **I was in this BUILDING**, like a factory (P7/1, 40). For once, I can FEEL [the space]. I could feel the DISTANCE from my awareness in there, to the walls and the door, and so on. And yes... there are different points that make up this space. […] (P7:47-48)
3- Indeterminate	So, **I'm still the same as I was before**. Except there is no relation to other things around me. So, I didn't as the scenery disappeared. I didn't feel like I somehow move or anything. Just, **I was in the same location**? (P15:51)
4- Minimal	It's like, there's no beginning there's no end, there's not like a locational type of thing (P17:22) But I'm IN, […] It's because it's just infinite (P17:23) I... just **I'm just there**. (P17:20)
5- No clear boundaries	It's more like **I was the void**. […] (P8:44) It's just total darkness. And you…, **there's very little difference between you and what's around you**. […] (P12:30)
6- Absent	But in that experience, **there was not even a sort of sense of me being a, a person** or anything like, you know, for…for me to say like, here's an outside and here's an inside, it was just this sort of tapping (P3:12)

Table 16. Illustrative examples for the sub-categories for "Spatial Self-Location". The table includes some quotes exemplifying each sub-category of the 2nd-order category "Spatial Self-Location", pertaining to the higher-order category of "Sense of Self".

The third sub-category, '**1C-Perspective'**, intended to characterise the subjective point of view during the experience, or the egocentric point of origin of the experience. Some of the descriptions included in the sub-category '**1B-Self-location**' were also included here since those also mentioned the egocentric perspective of their experience. Two participants described a first-person perspective similar to that had during wakefulness, such as an 'I' observing or perceiving the experience (P12, P18), classified as '*Regular'*.

The other two also had a similar sense of first-person perspective, yet their descriptions alluded to a '*Fluctuating'* point of view; they could 'see' themselves from the outside (P18), or they could see in multiple directions (P2). However, the most prominent third-level category was that involving a '*Minimal'* sense of subjective perspective—a way in which the experience felt like happening from their point of view without this point or position being explicit. Two participants described it as being "inside" the experience, or as being "part of" the experience (P16, P17). The other two described a non-ordinary visual experience, in which they could rather feel (instead of seeing) the presence of shapes or movements (P7, P15), or as seeing blank (P8) (see Table 17 for examples). Finally, as in '1B-Spatial self-location', the experience of P3 did not involve any sense of subjective viewpoint and they did not recognise themselves as being part of it while the experience was taking place.

1C. Perspective	
3 - Minimal	
Point of view as part of the experience	*(I: Is there a point of view that you are you present IN this light or are you looking AT that light....?)* No, **I'm present IN that light** (P16: 9) Yeah, it was really like a bath in this energy and light. (P16:45) […] Yeah, having a BATH inside of this light (P16:48) [...] **I'm INSIDE the experience** [...] (P16:28, edited) **Imagine like, just BEING in the point of view of just like being in those colours** […] But **I'm IN, I'm in the point of view** of like, anywhere I go, […] I'm not like able to like TURN this environment or like OBSERVE it from like different points of view[..] I'm seeing and just like **IN**, **immersed IN** these colours. (P17: 23)
Not ordinary 'seeing'	It's like, if, in one, you're looking at a movie screen that has nothing on it. And in other, someone turns out, light […] Yeah, **it's kind of like seeing white in front of me**. That's not exactly what's going on. But that's the closest I can get to describing it (P8: 61-65)

Table 17. Illustrative examples for the sub-category "Minimal". The table provides examples of quotes referring to a '*Minimal'* sort of first-person perspective of point of view and the different ways in which it was instantiated.

1D. Agency and Attitude	
[…]. And that all went away and just disappeared. […] (P1, 22) And I could always wake myself up at any point in time if I wanted to. **I could. But I didn't want to** (P1:25) And then **I just remained there**. And I just tried to keep my awareness and my lucidity with clear intent to not let it go... […] (P1:10)	P1 describes how the dream scenery disappeared, and that they knew they could wake up, but they didn't, they accepted this state (*2- Receptive*). Then, they tried to actively keep their awareness during this state (*1- Active*).
I had the intention before that... **I wanted to** EXPLORE this state and to go as deep into it as I can. And this still remained... (P7:73) […] **I couldn't do that; something was stopping me then**. (P7-1, 52) […] There was **something holding me back**. And so, there was like an invisible barrier, but I couldn't get through […] (P7:76) Yes, at some point, **I noticed that I just can't go there now**. And so, I thought, Okay. […] (P7: 89)	P7 mentions how their intention was always to go 'deeper' into the state and explore it (*1-Active*), yet when they tried, something was holding them back (*3-Lost control*), but they end up accepting it (*2-Receptive*).
[…] the main thing that remains and that has been kind of prevailing since I became lucid is **this determination of maintaining awareness**. […] (P18:33) […] [The lucidity] remains and I think it's because **I'm very determined to maintain lucidit**y and not to, I don't want to like get IMMERSED in the dream, I want to stay aware […] (P18:60) And at the same time, it's a bit strange, because **I cannot really like control it completely**. […]. (P18:50)	P18 also mentioned having had the intention to maintain the awareness, and that this determination was kept thorough the experience (*1-Active*), however, in a sense, they couldn't completely control it (*3-Lost control*).

Table 18. Sub-categories for '1D-Agency and Attitude'. The table presents examples of quotes by participants P1, P7, and P18 alluding to different sorts of "Agency and Attitude" within the same description. The table presents the examples of quotes with a brief description of different sub-categories that we isolated for each of them, sub-categories belonging to the second-order dimension "1D-Agency and Attitude" pertaining to "Sense of Self".

The final sub-category, '**1D-Agency and attitude'**, grouped descriptions referring to a sense of agency, the sense that one is the agent who generates or initiates action. We also included descriptions that were not so explicit about feeling oneself as being in control of the actions taking place in the experience, but merely as the subjective experience of having an intention. We isolated three different ways in which the sense of agency was instantiated. The first is an '*Active'* sense of self involving an agent taking control by

either trying to keep their lucidity or awareness of their experience (P1, P18), by actively engaging in exploring further their experience, or by manipulating their attention under their will (P7, P13). The second was a '*Receptive'* agency involving some degree of lost control and an agent accepting this fact (P1, P7, P15). Other participants said to have just adopted an attitude of not doing anything, of just observing or staying with the experience (P12, P16). Finally, some of those participants also described how at times they felt to have '*Lost control'* and could not proceed with their intentions, either by not being able to go "deeper" to explore this state (P7), by feeling they could not move (P9, P18), or by unintentionally transitioning to a different phase (P13, P17). Note that in some cases these different sub-categories isolated can refer to the same experience and the same participant—an experience could have been described as having '*Lost control'* yet having a '*Receptive'* attitude towards it (see Table 18 for details).

ii. Sensations

There were different sorts of sensations reported during this episode of the experience. To explore the differences between them, we grouped the sensations reported into three different groups: '**2A-Bodily sensations', '2B-Kinaesthetic sensations',** and **'2C-Non-modal sensations'.** The first two sub-categories are sensations that occurred within different sensorial modalities (including touch and proprioception). We distinguished between those sensations that explicitly mentioned contact within the body as '*Bodily sensations*' from those that might involve the body, yet not direct contact with it as '*Kinaesthetic sensations'*. Regarding the former, during the 'nothingness phase,' we only found mentions of a lack of bodily feelings, mentioned by four participants (P1, P8, P9, P12). It was only during the other phases of the report that we found mentions of '**2A-Bodily Sensations'**, including a feeling of one's body, or a body part, or feelings of touch. As for '**2B-Kinaesthetic sensations'**, most participants did not mention any in their descriptions during the 'nothingness phase' and only some reported having a sense of their body position (P15, P18), or a sense of being floating or suspended in the air (P1, P18) (see Table 19).

II. **Sensations**	
2A-Bodily sensations	4- Absent: P1, P8, P9, P12 (n=4)
2B-Kinaesthetic sensations	1-Position: P15, P18 (n=2) 3- Floating/hanging or suspending in the air: P1, P18 (n=2) 4- Release tension: P17 (n=1) 5- A force/barrier: P7 (n=1) 6- Absent: P1 (n=1) None: P2, P3, P8, P12, P13, P16 (n=6)
2C-Non-modal sensations	1- Modality-like: P3, P7, P13, P15, P16 (n=5) 2- As having material properties: P7, P15 (n=2) 3- As lacking anything: P1, P9, P17 (n=3) None: P1, P2, P8, P12 (in a different phase)

Table 19. Second and third order categories for the "Sensations". The ordinal number for each 3rd-level category (second column) corresponds to the number given in the coding for the thematic analysis (see **Appendix V**).

The most frequent sort of sensations described during the 'nothingness phase' were those that participants said they did not pertain to a sensorial modality or '**2C-Non-modal sensations'**. For instance, many participants (5/12) alluded to a feeling that could be said to be modal, yet it was not felt by any of their senses, and so we classified them as '*Modality-like'*. Some descriptions mentioned sensations that were tactile-like yet did not involve contact with their body (P3, P16). Others mentioned an auditory-like sensation, such as a sound with no source (P13, P15). One participant described them as vision-like sensations, different from ordinary seeing (P7). We also included in these sub-categories descriptions of sensations that were difficult to categorise and that, in some cases, had an esoteric-like tone. These include descriptions by P7 and P15 about "the nothingness" as if having some physical or material properties, such as "the nothingness" or "darkness" "leaking from the door" (P7) or the "tiny movements" forming the nothingness (P15). In contrast, P1, P9 and P17 described this state as merely "feeling nothing" (See Table 20 for illustrative examples of '**2C-Non-modal sensations'**)

2C. Non modal sensations	
1 - Modality-like	
Tactile-like: Whilst P3 described what could be taken as a tactile or bodily sensation in their chest, in different parts of their report they stressed how not only do they lack any bodily sense during the experience, but also a sense of 'a self', so all there was it was just this tapping or pulsing.	I'm feeling **this sort of sensation in the chest** with no sense of, of MYSELF feeling (P3: 4) […] **it was just a sort of bare Morse code**, code like **pulsing at the chest**. […] (P3:,9) It wasn't like, **as if someone were tapping the... my chest**, you know what I mean? It wasn't at the surface of my chest. **It was INSIDE the chest**. (P3: 11) So if I were to translate it in terms of like, audio information, it'd be something like ta-ta-ta-ta-ta, ta-ta-ta-ta-ta-ta, ta-ta-ta-ta-ta-ta-ta, ta-ta-ta-ta-ta-ta-ta... Now, of course, **I'm not HEARING anything**. […]. It was just this sort of like, **a tactile sense in that rhythm**. (P3:10)
Sound-like: Both P13 and P15 described a sound that overtook the experience. P13 described the sound as being part of the experience, as a sound, they could feel, yet not hear as such. P15 described that after the dream scenery disappear, they were some 'tiny motor movements', which they describe by referring to the sort of buzzing or noise that the TV does when the signal is out.	[…] **the sound like had- like an EMBODIED experience of it...**(P13:34) I could, I guess **like FEEL the sound** if that makes sense. […] (P13:35) […] And the sound was the overwhelming part of it. And it was like an all-encompassing sound. So not like a dream of like a bird chirping, but just like the **STATE IS THE SOUND**. (P13: 9) **Like the television screen**! You know when it goes bad. It's similar to that. But smaller and less irritating than the TV screen. You know, they're and they could have the "shshsh", but a lot quieter (P15:49)
2- As having material properties	
Something is there	[…] I could already feel it before that **there is very thick darkness inside that room** behind the door, it kinda came leaking out of the door (P7: 42) It was like I was feeling it through the door. (P7:55) […] But, am... That there, it's not only DARKNESS, it's that **there ISN'T anything, it's NOTHINGNESS**. And so, I felt **this kind of VOID in there**. (P7/1), 57) [the nothingness] felt very ABSOLUTE... and... somewhat EXPANDING […] (P7: 59) it **feels very, very MIGHTY**. […] (P7:70)

A sense that can be seen; it could also be coded as a visual-like modality	*(I: And so is there a feeling that you are that there is a space that is dark? And doesn't have anything visual in it? Or is there a feeling that you are in nothingness?)* P: Hm!! **I think definitely didn't have the feeling of emptiness. I still had a feeling of something being there**. Me being there. And also the tiny movements... existing, you know, it was the fact that I perceived them was the opposite of they're just being nothing. No, it was something. [...]. **I think that tiny movements, was there something as opposed to nothing** (P15:47) Yes. **I see the tiny movements**. So, like, the tiny movements are, in a way, the fact of fading and disappearing. But at the same time, it's something that I somehow see, I, or maybe, let's say, perceive, **because as I see it, it doesn't really have like a shape or a colour**. But it's still something that moves, something that is happening (P15:33, earlier quote from a different phase)
3- As lacking anything	
But then once [the senses] disappeared, **I had nothing**. And I was just floating in nothingness (P1:3) And that just **feels like total nothingness**. **Like just emptiness**. (P1:33) Because the only sensation that you have, if you could even call this sensation **would be this sensation of nothing** (P1:26)	

Table 20. Illustrative examples for the sub-categories for "Non-modal sensations". The table present illustrative quotes referring to the different third-level categories for the 2nd-order category '2C-Non-modal sensations'.

iii. Visual experience

Another prominent feature of the 'nothingness phase' was the absence of any visual imagery. For all participants, the transition into this episode ended with the absence of complex visual imagery (understood as visual perception or imagery like ordinary visual experience during wakefulness). We explored this in more detail and classified the descriptions of their visual experience as '*Loss of imagery'* and *'Absence'*.

The sub-category **'***Loss of Imagery'* referred to descriptions from participants mentioning that, in a way, they were able to perceive, yet there was not anything to be seen. P1 described this as "blackness" and P18 as lacking colour or light, whilst P12 described it as "darker than being in a dark room". P8 described the absence of anything

"as white", since there was nothing there, including black. The other three participants seemed to describe this state as involving some sort of perception of light, flashes, or colours (P2, P16, P15, P17), yet it was difficult to gather from their descriptions to what extent this was experienced as an ordinary visual experience. For instance, P2 mentioned "look(ing)" at a "sphere of light", which they self-identified with. P15 described it as the experience of being with the eyes closed and perceiving some "little flashes" or "holes". P16 also described the presence of a light, which changed colour, but like P2, they took themselves to be "in" this light. Finally, whilst P17 mentioned 'seeing' "spirals, colours, and shapes", they also mentioned they were in "the void", a state of 'blackness' in which they could not see anything.

3. Visual experience	
(3) Loss of imagery (n=8)	
Absence of imagery; blackness	Everything is…is **black** (P1:11) […] like, actually being in a **dark room** in which there is... **absence of light** (P12:18) It's just kind of **colourless** and **lightless** (P18:3)
Absence of imagery; whiteness	There's just **white**, […] For lack of anything else, I mean, **it's not black**. (P8:61-65)
Absence of imagery: light	[…] it's almost like I was LOOKING at the **sphere of light** too (P2:45) [The light] has no source, **it's everywhere** (P16: 8)
Absence of imagery; flashes/colours	[…] it looks like **white against a colour**. So, I guess they're like a little, they could be holes. But I rather describe them as **little flashes**. (P15:49) […] almost as like this water is being shaken up. And **like the colours** of the ink are just being like, shifted around and going around each other and moving all which way. […] (P17:23)
(4) *Absence:* P3, P7, P9, P17 (n=3)	
And I could tell the difference between, like, you know, having my eyes closed, and just not being aware of any kind of visual information […] There **was NO sense of vision** (P3:8) **Not like seeing** with my EYES (P7:43) And, and you had, you **had no sensory perceptions**, and you had NOTHING. (P9:15) just **SEEING isn't**, isn't **a thing there** (P17:28)	

Table 21. Illustrative examples for the sub-categories for the dimension "Visual experience". The table presents the third-order categories that emerged from the dimension "Visual Experience" and provide some illustrative examples.

The sub-category '*Absence*' includes three other descriptions emphasising not only the lack of imagery but the lack of any sense of vision. For instance, P3 contrasted this state of nothingness to another experience they characterised as a "dream lacking visuals", a dream in which they were not seeing anything. P7, P9, as well as P17 who mentioned the presence of "colours and shapes", described this experience as not ordinary 'seeing'. Finally, P13 did not allude to any visual experience during this state (see Table 21 for illustrative quotes).

iv. Emotion

The category '**Emotion'** aimed at isolating descriptions that contained mentions of the '*Presence'* or '*Absence'* of an emotional tone of the experience. Originally, this category was further broken down into 'affective valence'—the subjective attribution to the experience or different aspects of the experience made by the participants—but eliminated afterwards given its very few mentions. Six participants described the state of nothingness as accompanied by good sensations such as "feeling good" or "refreshed" (P9), "happy" (P16, P17), "glad" (P18), or "relaxed" (P12). The other two described the state as "contentment" (P1) or "acceptance" (P15), which was accompanied by a "slight sense" of "disappointment" for having lost the dream scenery. The other three mentioned the absence of any feelings or emotions. P2 reported not remembering having had any feelings, whereas P8 described how a relaxing and "narcotic feeling" they previously had when transitioning into the void was lost. P3 described their feelings as "flat", as lacking emotion. Finally, P13 did not allude to any emotional sensations, either their presence or absence.

v. Attention

The category '**Attention'** grouped the different ways participants were aware of any object or content of awareness, that is, the sort of attention had towards their conscious experience. We distinguished amongst: '*Focused*', '*Dynamic'*, '*Resting/Vague*' and '*Wide, unfocused*'. As in the case of 'Agency', these sub-categories are not mutually exclusive, and oftentimes the descriptions could be characterised as involving more than one. Except for P1, all other participants described the type of attention had during the

'nothingness phase'. The most common type, mentioned by 6 participants, was what we classified as *'Wide, unfocused'* attention. This subcategory illustrates how the 'nothingness phase' merely involved an awareness, yet "nothing to be aware of" (P8). This was described by some participants as the absence of thoughts or feelings (P2) or as nothing to pay attention to (P13, P17), a state of "just being conscious" (P3) or "feeling ultra-aware" (P9). This wide attention was slightly different from what we characterised as *'Resting/vague'*, attention still involving a distinct object of attention—such as attending to a specific feature of the experience—yet experienced as "implicit" by the participants. For instance, P15 said knowing the "tiny movements" were still there even if they were not paying "explicit attention" to them. This type of attention was also distinctive from that characterised as *'Focused'* which alluded to the distinct awareness of one's own thoughts or feelings, described as "self-reflective" by P13 and P15. Finally, P7 described how they were aware of having changed their focus of attention and how this fluctuated thorough the experience (see Table 22 for details).

4. Attention	
Focused	Like, there's more, I guess, like, like, **self-reflective thinking there**. Not as much about like, like me as a person, but just as thinking that's happening. (P13:39)
Focused; Resting/vague	So, I... **had these thoughts**. They were a realization that the scenery was disappearing. They were a direct response to what I was saying. They were in Slovenian. "Quickly try to remember something else. Where can you go?" (P15:56-57) I don't remember right now, particularly focusing on the tiny movements as such in that moment. I know there were there. They were constantly part of the experience. But **I wasn't explicitly focusing on them**. I was somehow letting myself... Ha! **Observing**. So, observing. But observing is not like, just looking and focusing on them. Observing is looking at wanting to give something to it, to give it meaning, to figure out what it is. **Just looking would be just letting into the visual perception**, I guess. (P15:80)
Dynamic	I felt that, that **my awareness is everywhere** inside this room, but it's not always in all places, but it changes. (Mhm.) Like **it's here and there and moves around**. (P7:36) […] [the transition] is like going into different directions of, am... of possibilities that are in my awareness somewhere. The experience of this factory setting was the main place of my experience, then... there would come up some thoughts while being there. And if I just ... if I then went with these thoughts, I

	would do somewhere else. (P7:51) when the door opened, I was JUST with my awareness somewhere else. (P7:53)
Wide, unfocused	because you kind of go from awake to **all of a sudden... AWARE** (P9:30-31) Am... In that state, it's just...just like, yeah**, just pure consciousness** where you're there and at first, I just relaxed in... and just relaxed in it (P9:12) No, there's nothing... **there would be like really NOTHING to pay attention to**, I guess. **Unless you can count, like being attentive to nothing** (P13-2:30)

Table 22. Sub-categories for the dimension of "Attention". The table provides the third-order categories that emerged from the dimension of "Attention" and provides illustrative examples for each.

vi. Awareness of the state

Finally, the category '**Awareness of the state'** aimed at capturing what the participants took the overall experience to be. We classified mentions of knowing that one was: 1) sleeping or in bed, 2) dreaming, 3) in a state of awareness. For most participants (8/12), there was an awareness of being aware, or an awareness of their awareness, a sense in which they knew that they were conscious (P2, P3, P7, P8, P12, P13, P17). In some cases, the descriptions mentioning the awareness of the state also alluded to their experience of a 'self', such as a sense in which they knew they were in the experience, or that they were in there (see 'Sense of Self'). Similarly, other descriptions in this sub-category were also coded as '*Wide, unfocused*' in the category of 'Attention', described as the sort of awareness involving attention that does not have a distinctive object of awareness. Other participants explicitly mentioned how they took this 'nothingness phase' to be a dream experience, and so, they knew they were dreaming (P1, P18, P15). Finally, the other two (P7, P13), said they knew they were in bed or sleeping, yet this knowledge was in the background, they did not "think about it".

> *"Okay, so it's not that you consciously knew 'Oh, I am asleep'. It's more that I need to do this otherwise I would wake up" (P13:28, emphasis added)*

Overall synchronic categories

The phenomenological analysis for the 'nothingness phase' resulted in the isolation of 6 first-level or higher-order categories. From those, the most representative third and

second-level categories, which were present in more than half of the participants, were '*Minimal identification'*, '*Loss of imagery'*, '*Presence of emotions'* and '*Knowing they are aware'* (see Table 23 for a detailed summary).

1st level category	2nd level category	3rd level category	Mentions/total
Sense of self	Bodily ownership	Minimal identification	8/12
	Spatial self-location	Indeterminate	5/12
	Perspective	Minimal	5/12
	Agency	Lost control	5/12
Sensations	Non-modal sensations	Modality-like	5/12
Visual experience	Loss of imagery	-	8/12
Emotions	Presence emotions	-	7/12
Attention	Wide attention, no focus	-	6/12
Awareness of the state	Knowing they are aware	-	8/12

Table 23. Primary first-level categories isolated and most frequent second and third-order ones. The table presents a summary of all the 1st-level categories isolated from the phenomenological analysis and the most frequent second, and in some cases, 3rd-level categories that were most frequent for each. The table also includes a column with the number of participants for which each dimension was coded (Mentions/total).

3.3.2. Explorative quantitative analyses

3.3.2.1. Individual self-ratings

The calculation of means for the self-ratings carried out by the participants about the degree of vividness, completeness, articulation, and accuracy of the recollection of the experiences reported in the interview (during the spelling exercise and the potential experience of objectless dreamless sleep) revealed similar ratings between the different dimensions of the recollection for the experiences in the first part and second part of the interview session (see **Appendix VI**). The overall mean for 'vividness' and 'recollection' was quite high, while the overall mean for 'articulation' was slightly lower than the rest.

For ‘invention’ the overall means were quite low, but for this dimension, the score was inversed (0= no invention; 10= a lot if invention).

3.3.2.2. Intercoder agreement

Fleiss’ Kappa was run to determine the degree of agreement between the three coders (the two external researchers, and myself) on our classification of the different categories isolated in the thematic analysis. By accounting for those descriptions that alluded to more than one code (or a subset of category and subcategory), a total of 220 classifications were considered for the statistical analysis. Fleiss’ Kappa (K=0.481) indicated a moderate level of agreement amongst the three coders (Fleiss et al., 2003). We performed further analysis to investigate the level of agreement between different coders, finding a good coefficient between Coder 1 (external researcher) and myself (K=0.627), and lower but still moderate between Coder 2 (external researcher) and myself (K= 0.458). The analysis showed a fair agreement between both external researchers (K= 0.357) (see **Appendix VII**).

Finally, another Fleiss’ Kappa analysis revealed the categories and subcategories with a higher intercoder agreement across coders for the ‘nothingness phase’. ‘*Emotion: Absence’* had a very good Kappa coefficient (over 0.8). We also found a good coefficient (between 0.6-0.79) for: ‘*Agency; Active’,* ‘*Agency; Receptive*”, “*Bodily sensations; Absence’*, ‘*Non-modal sensations: Modality-like’*, and ‘Awareness of the state; *Knowing they are sleeping and that they are in bed’*.

3.4. Discussion

This second phase of the research study ‘*Objectless sleep experiences’* offers one of the most detailed and extensive phenomenological characterisations to date of conscious experiences during sleep described as lacking a distinct object of awareness. From the phenomenological interviews conducted, we selected the reports from 12 participants describing what they took to be an experience of ‘nothingness’ while sleeping. This episode followed either the awareness of the disappearance of a dream, the ending of their sleep-mentation, or was experienced suddenly after falling asleep without previous

recollection of events (see §3.3.1.1). Our analysis yielded the emergence of 6 experiential categories with their corresponding second and third-level categories which shed light on the phenomenological blueprints of such a state. The present results add to previous research investigating the phenomenology of such an experience (see Alcaraz-Sanchez, 2021). In this last section, we discuss the main findings by relating them to previous empirical and theoretical research in the area, highlight the shortcomings of the study and introduce some pointers as to where to proceed with future research.

3.4.1. Alterations on self-awareness

One of the most prominent features of the state of nothingness described by the participants was the disruption of their self-awareness, understood here as one's self-perception within the experience. In the literature, the phenomenology of sensations referring to how conscious experience feels subjectively as one's own is widely known under the term 'sense of self'. However, this notion is also heterogeneously defined in the literature, ranging from the subjective feeling of 'I' or 'mineness' (see Zahavi, 2005), to the feeling of 'being someone' (Blanke & Metzinger, 2008; Metzinger, 2003a), or the feeling of being the subject of the experience (see Gallagher, 2000), to mention some. Similarly, the descriptions made by our participants alluded to different dimensions of this 'sense of self' distinguished in the literature (Millière, 2020), which were recognised in the clustering process during our phenomenological analysis. The analysis revealed that, whilst all participants described a self-awareness different to that had during ordinary wakefulness, involving in most cases an experience lacking any bodily sensations or bodily experience, with the exception of two participants, most of them experienced themselves within the experience—there was a way in which they felt to be in the experience, even if they said to lack the experience of a body or bodily sensations. Here, we explore the most frequent sub-category for self-awareness or sense of self: 'Minimal identification' to describe 'Bodily ownership'.

Following some accounts in the literature, the sense of bodily ownership can include an experience without explicit mentions of the body, or body parts (see De Vignemont, 2013). Similarly, some other accounts also understand that one could feel their experience as their own, even if their experience does not involve an explicit sense

of being contained within certain bodily boundaries or perceive one's body as one's own (see Gallagher, 2017). Given this understanding of bodily ownership and its relationship with the sense of feeling oneself as the subject of the experience, we might want to consider the sub-category 'Minimal identification' as involving an experience in which one feels oneself as the subject of the experience or had a minimal sense of being in the experience. Such an account could explain the presence of a minimal sense of self as the experience of being someone, or subjectivity, even in those reports that described a lack of an explicit bodily sense or were said to be 'bodiless'. In the literature, the existence of these so-called *bodiless* states, or states that do not involve the phenomenology of bodily ownership, suggests that self-awareness does not always necessitate the experience of oneself within a body (Millière, 2020). For instance, research on self-awareness during '*bodiless dreams*' (Occhionero et al. 2005; Cicogna & Bosinelli 2001; LaBerge & DeGracia 2000), dreams in which the dreamer says to exist as a 'disembodied entity', suggests the existence of a minimal sense of self in the absence of bodily awareness:

> *"I was inside a gigantic photocopying machine. I knew I was inside, as an abstract entity, as a mind, I was the machine, so I couldn't see myself." (Cicogna & Bosinelli 2001, 32, emphasis added)*

In this brief report, the dreamer says to not perceive themselves in a regular way; nevertheless, they are able to feel they are in the experience, instantiated by a sense of self-location ("I was inside…"), but also, to self-identify with something ("as an abstract entity", "I was the machine"). Similarly, participants like P2 said to "no longer [had] an idea of a dream body", yet still had a sense of minimal self-identification within the experience, in this case, having been a "sphere of light":

> *"...when I was the sphere of light, it was that there was no sense of... of self, like there was just, it was just the sphere of light. So, it was, it was almost like, how do I explain that, but... it was maybe, a different... a different me, just not the me that I think about when I'm awake." (P2:41; emphasis added)*

Such reports seem to talk in favour of authors understanding the experience of bodily ownership as not amounting to bodily sensations (De Vignemont, 2013), however, we should consider further whether reports of this kind do in fact involve a minimal sense

of bodily ownership given by this minimal self-identification with something (i.e. being the "machine", or "a sphere of light"). Similar reports are found in individuals experiencing 'asomatic' out-of-body experiences (Metzinger, 2013, p. 4) which are described as disembodied experiences in which one feels as being a "ball of light", or a "point in space" (Alvarado, 2000, 186), but also a "gaseous ball" (Rabeyron & Caussie 2016) or as their body having been "melted" (see LaBerge, 1985). Other descriptions provided seemed to account for certain bodily ownership given by other elements of the experience, such as the sensations had. Some descriptions were more explicit than others, like P13 mentioning a bodily feeling given by an "inner sound".

> *"[…] And it was like an all-encompassing sound. So, not like a dream of like a bird chirping, but just like the STATE IS THE SOUND (P13:9) Yeah because the sound like had like an EMBODIED experience of it...(P13:34) I could, I guess like FEEL the sound if that makes sense. […] That was part of the experience of the sound. So, I think before the sound, I wasn't thinking about the bodily sensations." (P13:11, emphasis added)*

Finally, there is the case of P3, who reported a lack of sense of 'ego' during this episode and described a sense of 'tapping' or 'pulsing' as the only thing present during the experience.

> *"There was not even a sort of sense of me being a, a person or anything like, you know, for…for me to say like, here's an outside and here's an inside, it was just this sort of tapping." (P3:12, emphasis added)*

Nevertheless, while P3 were not aware of themselves being aware of the tapping (i.e. an awareness of the tapping as something that was happening to them), they remember having been aware of the tapping happening:

> *"But I was definitely CONSCIOUS. I was definitely, there was some consciousness there, there was some sense that this tapping was happening. It was just that, that sense was very bare bones (P3:26, emphasis added)."*

One might wonder to what extent this was a truly selfless experience—an experience that lacked a sense of self whatsoever—or if there was still a minimal sense of self involved. For P3, it was just after the experience ended that the 'tapping' was assigned as something that occurred to them, yet while the experience was unfolding there was an awareness of such tapping happening. Research on bodiless experiences during self-boundary dissolution in meditation could shed light on this sort of experience in which one lacks a sense of ego, yet one is conscious of their experience as it unfolds. For instance, Ataria (2015) presents the following example of a meditator engaging in formal practice describing how they shift from being aware of the sound of an ice-cream truck entering their ear to becoming aware of just the sound:

> *"And then I observed that the object itself, the fact that it was an ice-cream truck, disappeared. The next thing was the location. First the object itself disappeared, the so-called ice-cream truck. Then the location, in other words, distance, disappeared, and I began to focus on the sounds that entered my ear. And there was a sense that it was no longer in the ear, but it was in the mind, that it was ... the hearing consciousness ... arising in the mind. At that point there was no location; I would say that the location was inside of me, and there was no object. There was a very small object inside my mind ... It was pure sound—pure sound that was not associated in any way to a thing. (M. K.)" (Ataria, 2015: 1134)*

From reports like the previous one, Ataria has suggested that the sense of bodily ownership can be given by the sensations experienced, such as the sound reported in the previous report—the sensation defines the boundary between myself and the rest (Ataria, 2015:1133). Similarly, other researchers have suggested that the sense of bodily ownership is not confined within one's body and that a minimal sense of self can remain in the absence of bodily ownership (Ataria, Dor-Ziderman, and Berkovich-Ohana 2015; Ataria 2015; Nave et al. 2021).

3.4.2. Lack of sensory perception

Another striking feature of the 'nothingness phase' was the absence of any visual perception. However, from some of the descriptions provided, we might wonder whether there was in fact a total absence of visual experience. On one side, some participants

described this state as one that lacked a sense of vision altogether. P3 compared this state of nothingness to a dream in which they could not see anything, mentioning how different it felt to lacking vision at all. On the contrary, some other participants did provide descriptions of what seemed to involve some visual perception. For instance, P15 compared it to having one's eyes closed and said to perceive "tiny movements" or "little flashes", which at times were described as involving visual experience. Similarly, others described the perception of "light" or a "source of light" (P2 and P16).

From those different reports describing the absence of visual experience, we can make different speculations. One is to suggest that at least some participants were indeed having some visual experience, and thus, what they were perceiving was the lack of any visual percepts. In a way, there was an experience of 'absence', such as when one is in a completely dark room, or with the eyes closed. Results from sensory and perceptual deprivation research can offer some insights into the phenomenology of perceiving lack of visual stimuli. Several studies show how prolonged periods of sensorial deprivation can give place to simple hallucinations, such as dots, patterns, and lights (see Lloyd et al., 2012; Merabet et al., 2004) as well as more complex hallucinations (see Heron, 1965; Heron et al., 1956; Zubek et al., 1961). Similar reports are made during states that only lack visual experience, but not perception altogether. For instance, some meditators provide reports of the so-called 'meditation-induced light experiences' (Lindahl et al., 2014, 2017), the perception of lights whilst engaging in meditation with the eyes closed. From these findings, we could take the perception of simple visual precepts such as the "tiny movements" described by P15 or the more overwhelming "bath of light" by P16 as instances of hallucinatory experiences.

Another alternate reading that could be made, is that the objects perceived (including lights, or flashes) are indeed veridical percepts. For instance, (Mavromatis, 1987) has suggested that experiences of lights or patterns had in environments with sensorial deprivation could be taken to be of retinal nature. Similarly, we could speculate that some descriptions allude to the perception of external stimuli. It is important to note that since our study was not carried out in an experimental environment, we are not able to determine in which sleep stage participants were (or whether they were sleeping at all). Moreover, even while sleeping we are not totally occluded from processing external

stimuli and some sleep stages allow more perceptual processing than others. There is also research indicating a connection between the presence of altered states of consciousness during sleep, such as pre-lucid dreams (Tyson et al., 1984) sleep onset hallucinations (Takeuchi et al., 1994), sleep paralysis and false awakenings (Mainieri et al., 2020), and higher levels of alpha activity, which in turn has been linked to more external sensory perception (Tyson et al., 1984; Darracq et al. 2018; Conduit et al., 1997). Thus, we could speculate that during the state described by our participants, there was some integration of external stimuli which could have given place to some of the characteristic 'Non-modal sensations' reported, such as those involving what could be considered esoteric or mystical-like elements like "feeling the nothingness" or a "felt inner sound" (elements that could be taken to go above or beyond the realm of 'reality' or what is possible in the natural world). Further comparison between the phenomenology of sensations had during episodes of objectless awareness during sleep and other altered states of consciousness paired with their electrophysiology could help us to understand better the role that processing of external stimulation might be playing in those states.

Finally, regarding the relationship between the lack of sensory perception and those descriptions grouped under the sub-category of 'non-modal', we could also interpret those descriptions as alluding to certain sensations that cannot be accounted as pertaining to a particular sensorial modality. In the micro-phenomenological literature, sensations that are not about a sensorial modality have been regarded as 'transmodal feelings' and characterised as "fuzzy feelings which do not fall within a particular sensorial modality" but that have properties that are "transposable from one sense to another" (Petitmengin & Lachaux, 2013, p. 3), such as "temperature, texture, intensity, rhythm and movement" (Petitmengin, 2007). Thus, we could speculate that a subset of those descriptions talking about "tiny movements" or "feeling the nothingness", refer to the way in which this phase of 'nothingness' was perceived: these elements in those descriptions regarded as 'non-modal' are merely placeholders for describing one's experience.

3.4.3. Awareness of one's awareness

Lastly, we shall consider the feature of the state of nothingness as a state in which one is aware in the absence of an object of awareness. This description itself seems at first contradictory since *awareness* is usually taken to be *of* or *about* something and does not seem intuitive to say that one can be aware without anything to be aware of. When asking participants to report a sleep experience they took be objectless, they described a state in which there was either nothing to be seen (visually), felt (bodily perception), or no mental activity (thoughts). As P8 describes:

> *"I am aware not in the traditional sense. Traditional sense would have to involve some thing you can relate to, right? Time or thought. You know, you're definitely crossing into esoteric thought here where... there is... you're there, there's an awareness. But there's nothing to be aware of... (P8:65, emphasis added)"*

In the Dzogchen tradition in Tibetan Buddhism, such states of awareness are understood as states of non-dual awareness or non-duality; a state of awareness that lacks the subject/object structure of ordinary wakefulness (see Dune 2011:262). Nevertheless, states of non-dual awareness are taken to be states of consciousness, states in which we are merely aware in virtue of their reflexivity; they have the property of "referring to themselves" (Williams, 2000). For some authors, states of non-dual awareness are states that do not necessitate second-order representations to be conscious (either a representation of itself or something else as an object; see Josipovic, 2019). As such, states of non-dual awareness are understood as states of intransitive consciousness, states in which one is conscious in virtue of having access to the phenomenal character of their experience. [22]

[22] Such a view of non-dual awareness is supported by reflexive theories of consciousness (or self-illumination theories), which hold that when we are aware, we are necessarily pre-reflectively or tacitly aware of our own awareness (see MacKenzie, 2008 for a discussion). Reflexivist views on consciousness are found in certain schools of Indian, Chinese and Tibetan Buddhist philosophy, but are also defended by the phenomenological tradition (see Thompson 2011). Note that it is a contentious point of debate in

Nevertheless, upon further exploration of the interviews, we can identify some 'objects' of awareness even if the descriptions provided seem to involve a different sort of awareness to that had during ordinary wakefulness. For instance, as we showed in the previous subsections, there was a way in which one was aware of lacking vision during the 'nothingness phase' (there was an awareness of the absence of imagery), or that one was aware of the absence of bodily sensations (which in some cases, were accompanied with different sort of non-modality-based sensations). Similarly, some participants also described the presence of some thinking, yet they did not take this to be an instance of an awareness of one's thoughts. This could be because they were aware of the process of thinking itself (the fact that they were in a state of thinking), yet they were not aware of the exact *content* of those thoughts. What those descriptions aimed at describing is how it felt to be aware of one's own awareness, and whether that included an object of awareness other than their own awareness. In the micro-phenomenological literature, the notion 'attentional disposition' is used to describe this process of self-reflection about one's subjective experience—the way in which one becomes aware of one's own experience (Petitmengin & Bitbol, 2009).

Some other participants, in particular, those classified in Diachronic Structure 1 (see §3.1), took a slightly different meaning of what 'being aware' meant. In this case, they related it to the experience of 'lucidity', similar to that had during lucid dreaming—they were aware of the fact they were in a dream, yet one that lacks dream scenery:

> *"Because there it was the only thing that was left, like in the scenery disappeared, but my lucidity, the knowledge of being in a dream, didn't. (P15:69,70). I connect this to the fact that I knew that I was dreaming. So, in this mode disappeared in the moment we described earlier with the doubt, but then it was there all along. So, this is I could say instead of this mode, just being lucid (P15:68)"*

---

analytic philosophy of mind as to whether such states would involve second-order representations, and whether such states should not be better understood as self-representational (see Kriegel, 2019 for a discussion)

Further theoretical work should investigate whether we should distinguish between an awareness of one's own awareness, the awareness that one is dreaming, and the awareness of a dream that lacks visual experience, or whether all those experiences should be accounted under the term 'lucidity' (see **Chapter 4**). A good starting point would be relating phenomenological descriptions from this 'nothingness phase' to those found during 'open-monitoring' meditative practices, a style of meditation aiming at dropping attention towards any object of awareness and, instead, sustaining attention to the experience itself (Dunne 2015; Lutz, Dunne, and Davidson 2012; Lutz et al. 2008). Examples of meditation in this style are the *Shamata* and *Mahamudra* meditation (see Dunne, 2011) which are regarded as 'objectless meditations' by some authors (Lutz et al. 2012), as well as *Samādhi*, which has also been related to the attainment of 'objectless' states (see Millière et al., 2018 for a discussion). Moreover, some empirical research on case studies of expert meditators showing a state of 'content-free' awareness indicates a similar experience of awareness to that of our participants (Winter et al., 2020). Other recent empirical research has also investigated systematically the relationship between experience with different meditation practices and the experience of 'pure awareness' or 'minimal phenomenal experience' and the different features characterising such a state (see Gamma & Metzinger 2021; Metzinger 2021)

3.4.4. Strengths, shortcomings, and future directions

The phenomenological interviews conducted in this study yielded extensive and fine-grained reports of experiences that were taken as involving the awareness of 'nothing' or an awareness lacking a distinctive object of awareness by the participants. The interviews facilitated the exploration of dimensions and aspects of the experience that were previously unnoticed by the participants but, also, facilitated the gathering of descriptions that could have been difficult to obtain otherwise without guidance, given its ineffable character. Previous research has stressed the importance of how asking participants about specific aspects of their dream might impact the reports gathered (Nielsen, 2010). For instance, some studies have shown an increase in reportable emotional content during dreams after changing the scales used to self-assess emotions (Merrit et al., 1994). Similarly, other researchers have claimed that the lack of reports on experiences with minimal content during sleep might be hampered by the sort of questions prompted to

participants when awakening (see Thompson, 2015). There is also the issue of how training in particular methods or experience practising introspection might affect the quality of reports. Several studies provide evidence on how meditation practitioners, which usually have more experience in attending to the qualitative character of their inner experience, provide more accurate objective introspective reports than no meditators (see Fox et al., 2012; Sze et al., 2010). Other authors have also suggested training participants in different techniques to increase the granularity of reports (see Windt, 2013 and Solomonova et al., 2014 for a discussion). This practice of collaborating with research participants to obtain better subjective reports has been used in the 'neurophenomenological' framework to facilitate the comparison between first-person and third-person data (see Lutz & Thompson, 2003). The micro-phenomenological approach takes this principle of training participants into the method to facilitate the exploration of aspects of the experience that otherwise would have been unnoticed (see Petitmengin, 2016). In the present study, the micro-phenomenology inspired interview protocol helped participants to further their recollection by focusing on a particular experience had in a specific space and time, moving them away from generalisations and judgments about it. Thus, we would expect that further systematic studies using micro-phenomenological tools to result in the gathering of additional first-person reports on objectless experiences, either during sleep or during other conscious states.

Nevertheless, it should be noted that, in most cases, the interview process did not lead to a totally evocated state, as detailed under the MPI guidance (cf.Petitmengin 2006). There is a question as to whether this poorer evocation was due to the nature of the experience we are targeting, an experience occurring during sleep which is meant to be about 'nothing', or because there was a significant lag between the original experience and the interview session. Further experimental research on this phenomenon should be conducted in a sleep lab where not only participants can be interviewed just after awakening, but an adequate assessment of their sleep can be made. Moreover, conducting this sort of research in an experimental setting will help by shortening the temporal lag between experience and report (see Windt, 2013) and thus, meet the gold standard of dream research of facilitating reports that are as close to the experience as possible. Although this might prove challenging, given the rarity and spontaneity of these sorts of experiences, future studies should investigate whether possible forms of objectless

awareness like the one described here can be trained or be induced, like lucid dreaming (Aspy, 2020; Blanchette-Carrière et al., 2020; Sparrow et al., 2018; Voss et al., 2014).

The interview protocol took onboard one of the main tenets of the MPI method, which is to conduct 'content-free' questions—questions that do not aim to influence the interviewee's answers. It is standard practice with the MPI method to not ask triggering questions about elements that the researcher wants to investigate (unless the participant has previously mentioned those). However, as with any other qualitative research tool, the influence of the researcher's previous conceptions or judgments cannot be totally avoided. Thus, not only the researcher can influence the answers by asking leading questions, but it can also occur more implicitly by participants themselves assuming that certain responses are expected or encouraged. For instance, one of our participants described how during their experience in "the void" they realised this was the sort of experience we were after. Similarly, those participants having previously experienced the targeted phenomenon might have chosen to talk about a distinctive instance of such phenomenon by focusing on the most striking or dramatic features. In psychological research, there is a debate as to what extent this behaviour change is indeed a phenomenon and whether it impacts the research results (McCambridge et al., 2012). Participants are also influenced by their previous preconceptions and beliefs which might affect the answers provided. Most participants were acquainted with the sort of experience we were investigating, either because they had experienced it before or had learned about it. As we presented in the introduction, this sort of awareness in the absence of any distinct object of awareness during sleep is considered by several contemplative traditions as one of the ultimate states one can reach in meditation, and thus, is taken by many as proof that one is a very skilled practitioner. Such considerations can be found under practices such as Yoga Nidra or luminosity yoga which guide practitioners to reach a state of 'clear light', a state usually considered in Tibetan teachings as one of the highest states of awareness (Mason et al., 1997; Travis, 2014). As such, participants embedded in this sort of practice might have been influenced by their expectations about the experience, and thus, we might question whether their reports are about what they felt during the state or what they took the state to be (see the issue of '*Embodied theory contamination*' in Metzinger, 2019). Whilst in qualitative research we cannot completely remove participants' preconceptions and judgements about the experience reported, we

attempted to overcome this challenge by exploring in-depth their phenomenology, thus guiding participants out from descriptions that might contain judgements and evaluations of their experience and inviting them to explore the subjective character of the experience. Similarly, we should also acknowledge the difficulties and challenges of the participants to properly articulate their reports. Given that the targeted experience was frequently described as ineffable, most participants found it difficult to describe its elements. Whilst the self-ratings provided by the participants about the recollection process were merely intended to be illustrative, they were also useful to encourage participants to reflect to what extent they may have invented some of the elements on their reports (i.e. they were fabricated during the recollection, but were not part of the original experience), or how complete their recollection was (i.e. some aspects of the original experience were missing). The lower overall means in the dimension of 'articulation' was due to lower scores provided by two participants who explained the difficulty of providing experiential reports in their second language, and thus, it does not necessarily mean that all participants found it difficult to describe their experiences.

Finally, there is the question about the suitability of the selected analysis method. To accomplish a more robust categorisation of the dimensions isolated during the phenomenological analysis, we carried out a categorisation process of the reports. Moreover, two external researchers who were not involved in the acquisition and preparation of data, nor the first steps of the analysis, coded the reports analysed by assigning them a category from the categories isolated by a research assistant and myself. However, the resulting scores from the intercoder agreement were not very high, showing that in most cases, the external researchers would have coded the descriptions differently, either by classifying them with a different category, or by naming the category differently This resulted in the modification of some categories and the re-assignation of some descriptions to the most appropriate category for the final results presented here.

The low score obtained in the intercoder agreement calls into question the rigour of the categorisation process undertaken in the analysis of the results. For instance, dream researchers utilising validated scales for examining content analysis (see Hall & Van de Castle, 1967) advocate for high scores in intercoder agreement for the validation of the results (see Schredl et al., 2004). However, some studies have pointed out the significant

differences between self and external ratings of dream reports (i.e. between self-ratings undertaken by the participants and ratings carried out by external judges) and how judges tend to underrate some elements of the reports (see Sikka et al., 2014). Similarly, this problem occurs in studies like ours undertaking phenomenological analysis. Given that the categorisation process results from a bottom-up process, from the analysis of the reports to the creation of categories, the resulting categories tend to be in a high level of abstraction. Moreover, these categories are oftentimes context-sensitive, and as such, some dimensions (i.e. 'Sense of self') might be very difficult for an external researcher to properly classify without further background involvement in the interview process. As we showed in §3.1.2, whilst some participants might have mentioned that their experience was 'bodiless' or 'selfless', other descriptions by the same participant provided further details on the different aspects of their self-experience. Thus, there is an extent to which the categories isolated are given meaning through engagement in the understanding of participant's answers, which requires a certain level of interpretation by the coder (Krippendorff, 2004).

In our present study, the external coders were not given the entire interview, but only a summary and selected excerpts of the transcripts. Thus, this might have impacted the agreement between the different raters on the most appropriate category for each description. Similarly, the aim of the thematic analysis, was to find categories that could describe the common elements between the different reports. Thus, some categories might not work that well at a fine-level (i.e. an individual description), but be more suitable on a more abstract level (i.e. a collection of similar descriptions). Nevertheless, we consider that the external coding was a beneficial step in our analysis process, which identified categories that needed revision and adjustment, but also those that seemed to work quite well and that should then be accounted for in future research.

Moving forward, we should consider the level of granularity that we want to obtain from the phenomenological categories isolated in the thematic analysis. For instance, if we wanted to create more robust categories with the aim to construct validated scales involving such categories, a larger sample would be needed.

3.5. Conclusion

This chapter presented the results of the second study comprising the research project '*Objectless sleep experiences*' which aimed at investigating possible instances of awareness had during sleep in the absence of a distinct object of awareness. To that end, we carried out 21 extensive phenomenological interviews describing an occurrence of what participants took to be a sort of 'objectless state' during sleep. From the phenomenological analysis, we distinguished a common phase across 12 of those participants that we coined 'nothingness phase'. Moreover, the analysis yielded the emergence of 6 experiential categories with their corresponding second and third-level categories characterising the described phase of nothingness as lacking an explicit bodily awareness, yet with a minimal sense of ownership within the experience, as well as a minimal sense of first-person perspective and the feeling of being in an indeterminate location. This phase was also characterised by the presence of a sense of agency, with an agent that in most cases reported a lack of control of the situation. There were also frequent descriptions of modality-like sensations, such as feeling 'sound' or visual percepts in the absence of either hearing or vision. Most participants also described the presence of positive or fairly positive emotions. While initially, participants reported having experienced a state in which there was nothing to be aware other than the fact that they were aware, our interview protocol unveiled different aspects of such a state involving some contents of awareness. The results presented here add valuable data on how we should characterise states of awareness that are said to be objectless —instances in which one says to be aware of nothing.

CHAPTER 4 THE NOTION OF LUCIDITY IN OBJECTLESS SLEEP EXPERIENCES

4.1. Abstract

Recently, the construct '*lucid dreamless sleep'* has been proposed to explain the state of 'clear light' described by Tibetan Buddhist traditions, a special state of consciousness during deep sleep in which we are told to recognise the nature or essence of our mind (Padmasambhava & Gyatrul, 2008; Ponlop, 2006; Wangyal, 1998). To explain the sort of awareness experienced during this state, some authors have appealed to the sort of lucidity acquired during lucid dreaming and suggested a link between both phenomena (Thompson, 2014, 2015; Windt, 2015b; Windt et al., 2016). Whilst these authors appeal to a non-conceptually mediated form of lucidity, which does not consist of reflective awareness and propositional thought, the question as to whether the state of clear light should be considered a lucid state similar to lucid dreaming still arises. I argue that the concept of 'lucidity' used to describe this sort of state is imprecise and that two theoretical notions of lucidity should be distinguished. The first one, which I call the *technical notion*, requires the recognition of the hallucinatory character of my current experience. The second, the *broader notion*, involves the seeming recognition of being directly acquainted with the phenomenal character of my experience. I spell out these two notions of lucidity and argue that only the latter could apply to the state of clear light sleep.[23]

4.2. Introduction

While the notion of lucidity might be described in a pre-theoretical sense to allude to a state in which one has rediscovered something forgotten or has gained a certain truth, there is a specific sense in which the notion is used *technically* to describe certain

[23] Note that this chapter is an adapted version of the original paper "*Is lucid dreamless sleep really lucid?*" published in Review of Philosophy and Psychology. Sections §4.2 and §4.5.1 have been modified and some passages have been moved to Chapter 1 to avoid repetitions and facilitate the narrative of the thesis.

conscious states. A paradigm case of the application of the technical notion of lucidity is that found in the realm of dream and sleep research to describe a particular sort of dream; that in which one realises that one is dreaming while dreaming, commonly known as 'lucid dreaming' (henceforth, LD). Such a notion draws upon certain intuitions about what lucidity is. In the case of dreaming, lucidity is a state in which one realises that what one took to be reality, or the wakeful world, is indeed a dream. Although this notion of lucidity is used in a technical way to provide a theoretical explanandum of a certain phenomenon, there are different ways in which lucidity is accounted for in the literature of dreaming. In turn, those understandings affect how the notion of lucidity, in a technical way, is applied to other conscious states outside dreaming. An example of this is '*lucid dreamless sleep'*, a construct that has recently acquired increased attention in the study of the nature of consciousness (see Thompson, 2014; 2015; Windt, 2015b; Windt et al. 2016). This construct has been proposed to describe the states of the clear light sleep as described by the Dzogchen tradition in Tibetan Buddhism (see Chapter 1).

Remember from Chapter 1 that the clear light sleep is described by Tibetan Buddhist authors as a state of "luminosity" (Fremantle, 2001; Ponlop, 2006) or "clarity" (Rinpoche, 2002); a state where we are said to perceive things clearly and recognise the "true" or "fundamental" nature of the mind (Lama, 1997; Ponlop, 2006). During this state, one is able to recognise the qualitative character of the experience, which is taken as an essential and intrinsic aspect of consciousness (MacKenzie, 2007:41).[24] Thus, there is a sense in which the clear light is understood as a state of phenomenal awareness, inasmuch as there is something it is like to be in such a state (cf. Nikhilananda, 1949; Thompson, 2014, 2015). While one is not able to engage in reflective thought while in it, one can be aware of the qualitative aspect of such a state and report it afterwards. Some authors have attempted to explain the sort of awareness present during the so-called state

[24] Note that several Tibetan Buddhist traditions assert that all conscious experiences involve a self-awareness aspect; according to those traditions, conscious states involve a form of pre-reflective self-awareness, which is referred to as the "self-awareness" or "self-luminosity" aspect of consciousness (see McKenzie, 2007 for a discussion). According to these traditions, self-awareness is a non-dual state that lacks the subject/object structure of ordinary awareness (see Kellner, 2010; Williams, 1998). I will comment this further in §4.1.

of ‘clear light sleep’ by relating it to LD awareness. Evan Thompson (2015) illustrates the link between LD and the clear light sleep in the following way:

> *“Whereas lucid dreaming consists in knowing that you’re dreaming, lucid dreamless sleep is said to consist in being able to witness the state of dreamless sleep and recall its phenomenal clarity upon waking up" (p.15, stress added)*

While Thompson suggests a link between both phenomena, LD and lucid dreamless sleep, he also notes that the sort of lucidity in the latter does not involve the kind of reflective or higher-order thought traditionally ascribed to LD. Instead, lucid dreamless sleep involves what he regards as “non-conceptual meta-awareness” (2015:1)—a state of meta-awareness that does not involve conceptually mediated representations. Windt (2015b) follows Thompson in conceiving the sort of lucidity occurring during the clear light sleep as a form of “non-conceptually mediated” insight (p.20), or what she takes to be a state involving the feeling of knowing about the nature of one’s ongoing conscious experience (ibid). Both authors also acknowledge that not all instances of awareness during the clear light sleep are instances of lucidity. For instance, Windt suggests how a simpler state of non-lucid awareness could be had, involving a sense of pure temporality or “now” (Windt, 2015b). Moreover, these authors describe both non-lucid and lucid cases of the clear light sleep as instances of phenomena they refer to as ‘*dreamless sleep’*—sleep experiences that should not be regarded as dreaming inasmuch as they do not involve the experience of a self in a dreamt or simulated world (see Windt et al., 2016).

Notwithstanding the extensive conceptual and theoretical work undertaken by Thompson and Windt, there is a way in which the construct of ‘lucid dreamless sleep’ is misleading and requires further clarification. If such a state is considered dream-*less* and, thus, is not meant to be a state of perception similar to dreaming, can such a state still be conceived as ‘lucid’ in the technical sense of the word used in LD, even if regarded as ‘non-conceptual’? Is this the sort of state that can be lucid in this technical sense? And if not, could the state of lucidity reached during the clear light sleep be considered ‘lucid’ in a different sense? If so, what sense would that be?

In this chapter, I claim that the construct of 'lucid dreamless sleep' is imprecise and that further theoretical examination of the notion of lucidity is needed. I start by spelling out the different notions of lucidity used in dream research, and the problems they face. I then put forward a technical account of lucidity aimed at describing a state of minimal lucidity. According to this view, a state of lucidity, in a technical and strict sense, is a state in which one recognises that one's experience falls short of perception. I then examine how the technical notion of lucidity fits within other similar states, both during dreaming and during wakefulness. Finally, I show how a broader theoretical account of lucidity should be applied if we want to conceptualise dreamless sleep as 'lucid'. I propose that a state should be considered 'broadly lucid' if it involves the seeming recognition that one is directly acquainted with the phenomenal character of the experience.

4.3. What makes a dream state lucid?

4.3.1. Views on lucidity in lucid dreaming research

Since the inception of the term 'lucid dreaming' by Van Eeden (1913), LDs are described as those dreams in which one knows that one is dreaming (Gillespie, 1983; Green, 1968; LaBerge, 1985). However, in the literature, we find slightly different characterisations as to what this 'knowing that one is dreaming' amounts to. Classical views of this phenomenon portray dream lucidity as a state of reflective awareness, or reflective thought, a state where the dreamer reflects on their current experience and concludes they are dreaming (Gackenbach & LaBerge, 1988; Green, 1968; LaBerge et al., 1981; Tart, 1979; Van Eeden, 1913). In this respect, classical views of lucidity emphasise how LD involves a state of 'clarity' or a clear mind closer to that of ordinary wakefulness (LaBerge, 1980; Tholey, 1988). Some classical views go further and claim that dream lucidity also involves a phenomenal shift in the experience, phenomenologically regarded as 'hyperreal'(Brooks & Vogelsong, 1999; LaBerge, 1985; Metzinger, 2003, 2009). LD is then conceived as an all-pervading experience different from any ordinary waking state (Tart, 1979, 1984). Other classical accounts of lucidity have focused on studying the behaviour associated with the acquisition of lucidity: the capacity for controlling one's dreamt and/or physical body. Such an approach, usually accepted in experimental research, was initiated with Stephen LaBerge's eye-signalling method for

LD.[25] For these accounts, lucidity is taken as an operationalised notion that can be tested experimentally with lucid dreamers volitionally performing certain actions in their dreams.

While classical views of lucidity highlight some of the distinctive features of LD, contemporary empirical research indicates that such descriptions of LD only account for certain instances of lucidity and leave many more cases out. First, a wide body of research on dream metacognition shows how the capacity for self-reflectiveness is not exclusive to LD. Non-lucid dreamers can also think and reflect on the dream events as well as execute rational thought (Bosinelli, 1995; Cicogna & Bosinelli, 2001; Kahan, 1994; Kahan & LaBerge, 1996, 2011). From the evidence presented in these studies, many authors claim that reflective thought while dreaming is not a dichotomous phenomenon and moves along a continuum, as it does during waking states (Kahan & LaBerge, 2011; Mallett et al., 2021). Second, LD rarely involves a subject who can fully realise the implications of their dream being a dream, as some classical views claim (Tholey, 1988). Lucidity lapses are frequent and common in LDs, and thus, the dreamer does not always seem to acknowledge the consequences of their experience being virtually generated (Windt & Voss, 2018). Moreover, lucidity may be only gained towards certain aspects of the dream but not others. For instance, the dreamer might still take some elements of the dream as real, like regarding a dream character to be a real person or believing that actions in the dream can impact the waking world (Barrett, 1992; LaBerge & DeGracia, 2000).[26] Third, most LDs do not involve a phenomenal shift such as the experience of the dream as unreal and when they do it is quite rare (see Voss et al., 2013). Thus, the

[25] LaBerge developed a pioneering experimental method to assess dream lucidity in real time consisting in asking participants to carry out a distinctive pattern of eye movements when dreaming and realising they are dreaming. Those distinctive eye patterns can be observed on the EEG and allow researchers to conduct empirical validations of dream lucidity (LaBerge, 1980, 1985; LaBerge et al., 1981). Recently, such eye-signalling method has also allowed researchers to carry out a two-way communication channel in which the researcher 'communicates' with the lucid dreamer in-real time (see Konkoly et al., 2020).

[26] Windt and Voss (2018) point out how lucidity lapses are not exclusive from LD, but that they also appear in contexts enhancing the feeling of presence—feeling of being there—, such as virtual reality settings and threating situations (p.400) According to these authors, lucidity can then co-exist with naïve-realistic beliefs about our experience (see also Windt, 2015a:436).

need for a phenomenal shift for a dream to be considered lucid might be unnecessary—one might become lucid in a dream without experiencing their dream phenomenally differently.[27] Finally, the operationalised definition of LD dreaming in the realm of experimental research seems to only cover certain sorts of LD, namely, those in which the dreamer can control their dreams. However, empirical research reveals the rarity of full-fledged forms of LD, including those involving dream control (Stumbrys et al., 2014). As such, considering only LDs as dreams involving control over dream events, or execution of certain pre-established actions (as instructed by LaBerge's eye-signalling method), might only cover a subset of LD (see Horton, 2020 for a discussion).[28] Besides, the capacity for controlling one's dream is a multi-faceted skill which does not only involve executing actions under one's own will, but also certain components of self-determination, planning, and intention (see Dresler et al., 2014). While some components of behaviour and action control are most prominent during LD, they are not exclusive from LD and some of those components are also observable to a lower extent during non-LD (Kahan et al., 1997; Kozmová & Wolman, 2006).

Given these limitations of classical views of LD to only explain certain LDs, more researchers are shifting towards graded views of lucidity, claiming that dream lucidity is not an all-or-nothing phenomenon, but a graded one (Mallett et al., 2021; Noreika et al., 2010; Stumbrys et al., 2014; Windt, 2015a). Graded accounts of lucidity aim at considering the full lucidity spectrum and the variability of lucidity across different LDs. An example of a graded view is that put forward by Windt and Metzinger (2007) who distinguish between full-fledged forms of lucidity and what they regard as 'weaker' ones.

---

[27] Some research points towards the fact that the onset of lucidity might be experienced as having a particular phenomenal character (Barrett, 1992; Mallett et al., 2021), however, there is not enough data to conclude that dream lucidity is always experienced as involving a phenomenal shift, and that this is a necessary condition for LD.

[28] Similarly, such an approach might also deem as LD certain dreams that might not involve lucidity in the technical sense of the word. For instance, some classic LD reports highlight the fact that the dreamer might be able to carry out the desired dream task, yet still deeming the dream environment as reality (see Worsley, 1984). Moreover, some research has pointed out to the fact that the pre-established eye-signal might sometimes not even be carried out during sleep but during REM to wakefulness transition (see Mota-Rolim, 2020 for a discussion).

According to these authors, the sort of lucidity portrayed by classical views as a state of reflective thought usually refers to a strong form of lucidity, or what they coin "Cognitive" or "C-Lucidity" (p.222)—the capacity to form and apply certain concepts to our current mental state. However, as some empirical research indicates, lucidity in dreaming is not always experienced as a state of higher-order awareness, such as the awareness of the content of our state as that of being in a dream state. To explain those cases, these authors appeal to subsymbolic and nonconceptual representations occurring at a subpersonal level—our current conscious state is represented as that of a dream, yet we lack conceptual awareness of our experience as that of a dream (Windt, 2015a:428). According to Windt and Metzinger, in some LDs, the dream is experienced *as a dream*, yet in a non-propositional and non-conceptual way (Windt and Metzinger, 2007:222). They regard these cases as instances of "Attentional" or "A-lucidity" and deem them as forms of "weaker lucidity" (ibid). Other authors like Noreika et al. (2010) also distinguish amongst different types of lucidity, such as "Emotional" or "E-lucidity" (p.41)—dreams where the dreamer's emotional response is appropriate to what would be expected if they knew they were dreaming (i.e. I do not become scared if I run into a tiger in a dream). More recently, Windt (2015b) has suggested that 'weaker' forms of lucidity (or A-lucidity) could be related to the sort of non-conceptual awareness present in epistemic feelings or noetic feelings (Dokic, 2012; Koriat, 2000), like the tip-of-the-tongue feeling or feelings of knowing. I will later delve into this view but for now, the main point here is that, according to Windt, weaker forms of lucidity might be instances in which one has a feeling of knowing that one is dreaming without involving further propositional thought about our current experience (see Windt, 2015a: 432).[29]

[29] Windt has related the sort of awareness occurring during A-lucid or weakly lucid dreams to the notion of "non propositional" or "procedural" metacognition (Proüst, 2007; 2014). According to a growing number of theorists, metacognition does not always require re-representation of our mental states, and thus, it should not be exclusively understood in terms of second-order state (or reflective awareness). Theorists holding such a framework argue that subpersonal processes can also monitor cognition (Beran et al., 2012) and thus, we can explain metacognition without appealing to propositional knowledge. Proponents of the existence of procedural metacognition argue that we can know something in virtue of knowing-how or having procedural knowledge (Fridland, 2015:713). While is a contentious topic of debate whether procedural metacognition should be regarded as 'meta'-cognition, here I remain neutral about it.

This shift towards graded views of lucidity has highlighted the variability of lucidity in dreaming which does not always involve a subject with a full recovery of their cognitive capacities or who can fully realise the non-veracity of some elements of their experience. Insofar as the subject is in a state that yields true justified belief about their current state as one of dreaming (to a lesser or higher degree, they know that they are dreaming), most current dream researchers would regard their experience as lucid. This will be the case regardless of the dreamer having full conceptual awareness of this fact or a mere feeling of knowing that this is the case (as proposed by Windt and Metzinger). However, some further clarifications as to what that feeling of knowing that one is dreaming amounts to are needed to frame which sort of dreams should be considered minimally lucid. I will examine some of the problems arising from a graded view of lucidity, especially when used to distinguish between pre-lucid states or dreams that might lead to lucidity and minimally lucid dreams.

4.3.2. Disambiguating between pre-lucidity, weak lucidity, and minimal lucidity in dreaming

The notion of 'pre-lucidity' is often used in the dream literature to describe dreams in which the dreamer shows some signs of knowing that their experience is a dream yet fails to classify it as a dream—we might say that the dreamer *fails* to become lucid. These signs include wondering or asking oneself if one is dreaming (Green, 1968), observing the bizarreness or incongruities of one's experience (Mallett et al., 2021; Sparrow et al., 2013, 2018), or recognising some but not all dream elements as unreal (Barrett, 1992; Moss, 1986); all without actually recognising the dream as a dream. However, there is an equivocal sense in which the notion of pre-lucidity has sometimes been used in the literature, thus, leading to the conflation of pre-lucidity with weak or simple forms of lucidity. As the term indicates, pre-lucidity is a state that *precedes* lucidity, not a state that should count as lucidity.

The conflation between pre-lucidity and weakly lucid states can be seen in various examples found in the literature. For instance, Windt and Metzinger (2007) illustrate a case of weak lucidity (or A-Lucidity) by quoting a dream where the dreamer becomes lucid in virtue of gaining an awareness of an unreal or odd quality of the experience; in

the example provided, that the colours perceived in the dream are like no other experienced before (see LaBerge & Rheingold, 1990 in Windt and Metzinger, 2007:223). Yet it is not clear from the analysis provided by these authors whether the state described is one of (weak) lucidity at all or just an *enabling condition* that brings about lucidity. If we stick to Windt and Metzinger's account of weak lucidity, a weakly lucid dream is one in which the dreamer can represent in a non-conceptual manner (or subsymbolically) their state as that of a dream state. There is a non-propositional way of knowing that one is dreaming. However, Windt and Metzinger regard the dreamer of the previous example as lucid inasmuch as they become self-aware of the qualitative aspect of their experience, in this case, that the colours they are experiencing are like no other colours ever experienced before. While this fact might be an enabling condition for the dreamer to become lucid, it does not seem that this self-awareness alone can explain lucidity. Moreover, Windt and Metzinger also refer to weak lucidity states as 'pre-lucid states' (p.222) raising the question as to whether pre-lucidity should be then considered as a state that *precedes* lucidity, as a form of lucidity, or as something else.[30]

The problem of disambiguating what should count as "weakly lucid" or "pre-lucid" (i.e. enabling lucidity) is also found in other characterisations of LD as a state of 'insight' or 'metacognitive insight'(see Baird et al., 2019; Filevich et al., 2015; Voss et al., 2013; Voss & Hobson, 2015; Windt & Voss, 2018). Some researchers describe LD as "insight into the fact that one is currently dreaming" (Voss & Hobson, 2015:5). However, 'insight' is an ill-defined notion and is not always clear what it refers to. As in the case of 'knowing that one is dreaming' put forward by classic views of LD to describe dream lucidity, different authors understand what this 'insight' amounts to in varied ways. Kühle (2015) offers an extensive conceptual analysis of this notion and argues that insight can be read in two ways. It can refer to a state of self-knowledge about the fact that one is dreaming, such as a state in which I have knowledge of the content of my state

[30] Similarly, Noreika et al. (2010) also talk of "lucidity types" (p.41) when coining what they consider as "pre-lucid" or a "weaker" sort of lucidity, like *Attentional*, *Behavioural*, and *Emotional* lucidity types (*A*, *B* and *E-lucidity* respectively). Nevertheless, they assert that only C or Cognitive lucidity should be considered as actually lucid (ibid).

of awareness (i.e. a state of second-order awareness such as the 'knowledge that *p*'). However, it can be read as a state of self-awareness about dreaming which Kühle describes as an instance of knowledge-how, procedural knowledge, or experiential insight (p.7); there is no propositional thought such as "this is a dream" that I am aware of, yet I am aware of my ongoing state as that of a dream. In this case, what makes me aware of the dream state *as a dream* is my awareness of the subjective character of my experience—according to Kühle, there is reflexive awareness of our current state as one of dreaming given in the phenomenal character of our experience.[31] While Kühle teases apart the different ways in which the notions of insight can be portrayed, it still raises similar questions as to whether awareness of the phenomenal character of my experience as a dreamlike one would count as a case of weak lucidity or just as an enabling condition for lucidity, and thus, a pre-lucid state.

The previous characterisations of how insight about the nature of our current state as one of dreaming can be brought about seem to demand a further explanation as to how lucidity exactly takes place. It seems that merely gaining awareness of the content of the phenomenal character of our experience—even if the content of it is about an experience that seems odd, unreal, or dreamlike—is not enough for a state to be considered lucid. Such an awareness might be merely an enabling condition for becoming lucid. Windt (2015b) also discusses this issue by presenting a case falling within the borders between pre-lucidity and weak lucidity. In the example introduced by Windt, one might have certain feelings of knowing, for instance, feeling that one knows a dream character or that one knows that one's dream apartment is different from the real one (p.429). Windt describes those feelings of knowing as epistemic or noetic feelings—feelings that represent our current cognitive state in a non-conceptual and non-propositional manner (see Proüst, 2014). According to Windt, those feelings point towards a non-conceptual

[31] This way of understanding 'insight' and thus, LD, is also portrayed by some authors under the notion of 'pre-reflective self-awareness'. For instance, Windt claims that certain forms of lucidity do not involve "conceptual mediated insight" and instead should be understood as forms of pre-reflective awareness (2015b:26). Other authors also refer to it as a form of "non-propositional meta-awareness" (see Dunne et al., 2019) described as the experience of a certain phenomenal feeling during a dream. These authors use a notion of pre-reflectiveness similar to that used by the phenomenological tradition, understood as the self-awareness given in the experience (see Zahavi, 2005).

representation of my current state as a state of dreaming—I know in a non-conceptual way that I am dreaming. Following on her account of lucidity put forward with Metzinger, Windt describes such an example as an instance of *weak* or A-lucidity. However, as Windt notes, not any sort of noetic feeling would do to regard this example as an instance of (weak) lucidity; lucidity will not be brought about by merely having a sense of familiarity with some elements of the dream, but those noetic feelings should "spread to the process of dreaming itself, thus enabling the dreamer to hit on the right explanation of this strange feeling, namely, that all of this is a dream" (p.431). From this remark by Windt, it seems that the condition for a noetic feeling to trigger a state of weak lucidity is a bit more demanding—a state of weak lucidity is not a state in which I merely have self-knowledge about the phenomenal character of my experience, in this case, realising about a feeling of familiarity within my experience, but my current state needs to be represented as one of dreaming (or a virtually generated one). I will comment on this further later.

In the next subsection, I put forward a technical account of lucidity aiming at capturing what exactly makes a state minimally lucid by drawing from the different views of lucidity in the literature and by addressing some of the problems that those views face.

4.3.3. The technical account of lucidity

While graded views of lucidity do consider the full lucidity spectrum, contra classic views only focusing on the top extreme of lucidity, graded views are not often able to properly spell out the necessary conditions for a dream to be considered lucid, and thus, what distinguishes non-lucidity from pre-lucidity and minimal lucidity. Here, I put forward a technical account of lucidity that accepts lucidity as a graded phenomenon but also, an account considering the minimal requirements for a state to be lucid. Following on the descriptions found in the literature, I argue that a lucid state is one in which I *recognise the hallucinatory character* of my experience, a distinctive feature that is found only during episodes of lucidity, regardless of the degree of lucidity.

Different views of lucid dreaming seem to point to a representational state in which our current state is represented as a hallucinatory one, or a state lacking perception.[32] For instance, classical views of lucidity only consider cases in which this representation involves conceptually meditated content—the dream is considered lucid insofar as one correctly categorises their current experience as a 'dream'. Graded views of lucidity depart from this by arguing that the concept 'dream' can be applied afterwards, and thus, does not specify the content of the current experience—one can be lucid in a dream yet lack the concept 'dream' or fail to apply that concept at that moment. In this respect, graded views consider cases of non-conceptual awareness and argue that a state can be lucid if it represents our current state as a dream state (or as a state that is hallucinatory), yet this representation is not conceptually mediated—I do not need to possess the concepts that canonically specify the content of my mental state. Thus, we could take a state of non-conceptual awareness to be lucid in the strict sense if the state described is one in which my current state (or a property of my current state) is represented as simulational or as lacking perception. It yields a justified true belief, although it might not be until we wake up that we apply the concept of 'dreaming' to that state. We know that we are dreaming in a non-conceptual way, which could be described as merely having a feeling of knowing that we are dreaming (as opposed to having a state of propositional knowledge about that fact).

From the different definitions of LD found in the literature, I propose a unified account of minimal lucidity which attempts to assess all the different cases of lucidity. For that, I claim that lucidity, in a technical sense, should be regarded as a state in which I recognise the hallucinatory nature of my current perceptual state. For a dream to be minimally lucid, I must realise that what I took to be reality is indeed a simulation or a

[32] Note that here I stick to the use of the term 'perception' as a successful term—a state in which my phenomenal experience matches the experience of a worldly object (a 'real' object) under the right conditions. My experience is a veridical one. Thus, I will deem states falling short of perception or lacking perception as non-veridical states; states in which I lack perceptual contact with the world. I will take such states as involving a simulative experience. Also note that, technically, non-veridical states can be cases of hallucination or illusions (see §4.4).

hallucinatory experience, and thus, that I am not currently in perceptual contact with the world.[33] This proposal is not a new one and relies on claims already made in the literature. Several authors assert that the realisation of the hallucinatory character of the current experience by the dreamer is one of the key features of dream lucidity (Noreika et al., 2010; Revonsuo, 2006; Voss & Hobson, 2015; Windt & Metzinger, 2007).[34] Such a feature seems to be crucial for becoming lucid and is maintained across different degrees of dream lucidity, as found by Voss et al. (2013). From all the above, lucidity, in the technical sense should be described as the following:

> **Technical notion of lucidity:** A state involving the representation of our entire current state as *one that lacks perceptual contact with the world*, or as state that falls short of perception. That is, there is the recognition of the state as a hallucinatory one.

[33] Here I follow a simulational account of dreaming which characterises dreams to be simulational experiences of a self in a hallucinated world (cf. Revonsuo, 2006; Windt, 2010, 2015b). It should be noted that other rival views about the ontology of dreaming exist, such as the imagination theory of dreams (Ichikawa, 2008, 2009) or the pluralist account (Rosen, 2018). For the purposes of this chapter, I am focusing on taking an account of dreaming that considers its phenomenal character, in particular, the phenomenological profile of LDs as recognised hallucinations (or pseudo-hallucinations if you wish). In any case, rival views on the ontology of dreams as imaginative experiences should not pose a problem on the technical account of lucidity outlined here; if dreams are conceived as imaginative experiences, LDs, under that view, would still involve a state in which I represent my current experience as not consisting of perceptual contact with the world. The same will apply if we regard some dream experiences as illusory. More on this in §4.4

[34] Windt and Metzinger (2007) go a step further and argue that the perfect or full recognition of the virtual character of one's own experience can only be achieved during LD. According to these authors, perfectly fully-fledged lucid dreams allow the dreamer to recognise the fact that one's experience is a hallucination, or a virtually generated world might trigger a sense of depersonalisation in virtue of realising that everything, including oneself, is a hallucination (p.224). However, when asserting this, these authors have in mind the experience of full-lucidity, not minimal lucid states. Following their view, full-fledged lucidity involves a phenomenal shift in our experience such as the experience of my conscious state as a simulation. As such, their view does not allow for the possibility of what Metzinger coins "lucid waking", the experience of full-fledged lucidity during waking states (cf. Metzinger, 2003:542). As per their view, full-fledged lucidity could only be had during psychiatric conditions or mystical experiences (ibid). Note again that here I only address what a minimally lucid state, on the bottom end of the lucidity spectrum, would be like.

Moreover, given the different degrees of lucidity characterised in the literature, we can regard the technical notion of lucidity more strongly or weakly, thus, giving place to different sorts of lucid states:

> **Strong lucidity**: A state involving conceptual awareness and categorisation or classification of the entire state as a hallucinatory state.
>
> **Weak lucidity**: A state that does not require conceptual awareness, yet it does involve non-conceptually representing the entire state as a hallucinatory state.

In the technical sense, a strong LD is a dream in which one categorises and classifies one's own state of awareness as that of a dream. In that sense, lucidity might involve linguistic or propositional thought, yet does not need to. Note that here I am only considering those cases of lucidity that are at the bottom end of the spectrum and leave out more full-fledged cases of lucidity which might involve explicit awareness of the content of one's conscious state, reflective thought, or dream control. To a weaker degree, we find LDs where the dreamer still represents their current experience as that of a dream, yet in a non-conceptual manner at a subsymbolic level.[35] The dreamer might possess the concept of 'dream' which might apply upon waking up. The difference in the 'weaker' case is that the concept of 'dream' does not specify the content of the dreamer's current state of awareness. In a weaker sense, a LD might merely involve a feeling of knowing that one is dreaming. Nevertheless, is crucial to point out that regardless of

[35] Here I stick to a reading of 'non-conceptual' endorsed by many theorists who take graded views of lucidity as referring to mental states that represent the world in a certain way yet do not require the bearer of those states to possess the concepts that specify the contents of such state (Bermúdez, 1995). Thus, nonconceptual content is usually understood as a sort of content that eludes linguistic expression and that explains the existence of tacit knowledge, like that involved in grammar or skill learning (Cussins, 1992), but also to explain the sort of representational content involved in perception (Bermúdez, 1995; Peacocke, 2001). While some authors do account for the existence of non-conceptual content as a sort of low-level of subpersonal information processing in which some aspect of another representation or a representational property is represented (see Bermúdez, 2001, 2007; Proüst, 2007; Shea, 2014), it is a contentious point of debate in analytic philosophy whether non-conceptual content exists at all, or whether such content should be considered as representational (see Toribio, 2007 for a discussion).

taking lucidity to a stronger or weaker degree, under the technical account, such a state would only be lucid if it involves a specific sort of content: that of a state that does not consist of perceptual contact with the world. Thus, in the case of LD, the specific content of my conscious state is that of realising that my current experience is simulational (or hallucinatory).

By counting with such a unified account of what minimal lucidity amounts to, we can distinguish better between pre-lucid and minimally lucid states. Under the account I present here, pre-LDs are regarded as *a class* of non-lucid dreams and thus, should not be accounted as LDs, even in a 'weak sense'. Pre-LDs might sometimes precede lucidity, hence their name, but insofar as they do not represent our current state as that of a dream (or a hallucination), and thus, do not yield awareness of our current state as that of a dream, they are not lucid, not even in the weaker sense. Pre-LDs might involve a representation of *some* aspects of my experience as hallucinatory, thus leading me to have some feelings of unreality or oddness about my experience which might prompt me to question whether this is a dream without concluding that it is, as Green originally described (1968). Similarly, I might realise that my current phenomenal state has a distinctive feeling, like in the report of the dreamer describing seeing colours as they never have seen before (LaBerge & Rheingold, 1990). In this respect, one might have self-knowledge about their current state of awareness, as some research in non-LD metacognition shows (cf. Kahan, 1994). Yet what matters and what distinguishes pre-lucidity from weaker lucidity is that in a lucid dream my whole perceptual experience is represented as that of a state of dreaming, while in a pre-lucid one, *only some elements* are represented as hallucinatory. For a state to be lucid in the technical sense, the content of the state needs to be one in which the *whole* state is represented as a state that falls short of perception.

Such a technical account of lucidity can also explain the case of noetic feelings characterising what Windt and Metzinger describe as A-lucidity or weak lucidity. As introduced in §4.3, Windt (2015b) suggests that for a state to be lucid, certain feelings of knowing, like the feeling of familiarity, should not be restricted to certain contents of my dream experience (i.e. recognising someone or something as familiar), but enable me to recognise that my experience is a dream (p.431). Here I take this suggestion made by

Windt and argue that, in fact, it is this recognition of the hallucinatory nature of my state which enables me to provide the right explanation for my feeling of familiarity; the fact that all this is a dream. Merely having self-knowledge about the phenomenal character of my experience, namely, realising about my feeling of familiarity, will not do—the feeling of familiarity alone cannot be counted as an instance of lucidity, only as a case of pre-lucidity if it leads to the recognition of the hallucinatory character of my experience. For a noetic feeling to count as a case of minimal lucidity, such a feeling should be brought about in virtue of representing my current state as a state falling short of perception (in a conceptual or non-conceptual way).

4.4. The technical account in states outside dreaming

After having considered the technical notion of lucidity used in dream research, fleshed out the different ways in which it can be understood, and proposed a unified account, I show how this notion of lucidity can also be applied to other states outside dreaming. Since, after all, the question that I raised in this article is whether the sort of conscious sleep experiences described by Tibetan Buddhist traditions could be regarded as being lucid in this respect, we ought to see whether the technical account of lucidity can be applied to mental states other than dreaming.

Remember that the technical account of lucidity refers to states in which our current state is represented as one that lacks perceptual contact with the world, or a state that falls short of perception. Described in this more generalist way, without being specific about the case of dreaming, this definition applies to other conscious states, like instances of recognising simple visual hallucinations or illusions in non-pathological cases. Think of the first time you were told about a particular visual illusion (or try a new one by yourself). If we take the Hermann-Herring grid as an example, when looking at the grid we usually experience (more or less intensely) black dots appearing and disappearing at the intersection points. The onset of lucidity comes when we are told that the black dots are not actually drawn in the picture, but that they are afterimages. We have a sudden realisation that we were wrong—that which we were taking to be ‘seeing’ is not indeed a real percept but a hallucination; or, in this case, a form of illusion if you wish (see Macpherson & Batty, 2016). In those cases, the episode of lucidity might be

very brief but meets the same conditions for the technical account of lucidity outlined above; there is a recognition in a conceptual or non-conceptual way of the hallucinatory character of our current experience.[36] We find more immersive examples in virtual reality (VR) environments. When wearing the head-mounted display, and especially if it is our first time in VR or a new environment, we feel fully immersed in the VR scenery.[37] Yet, while in VR, we (implicitly) know that we are not indeed at a mountain's peak or under the sea but that we are in fact standing on our living room floor and that what we are taking as being in front of us is a computer-generated image. In those cases of illusions, hallucinations, and VR, what we are lucid about is that we *correctly* characterise our perceptual experience as illusory or hallucinatory; we know that what we take to be perceiving does not exist but is just simulated perception.

Thus far, I have argued that the distinctive feature of lucidity is that of recognising the hallucinatory nature of our ongoing experience. Nonetheless, it should be noted that this is a *strict way* of interpreting this technical notion of lucidity; it only considers cases where I rightly recognise my current experience as one that falls short of perception. However, a more *liberal* reading of this notion can be taken to include cases in which I either realise that *my past* experience fell short of perception (which at that time taken was not taken to be a hallucination), I correctly realise that I am right now in a non-hallucinatory state—I am in *a state of perception*— or both. I suggest the case of

---

[36] Note that this definition of lucidity would somehow depart from some graded views asserting that lucidity, explained as the (conceptual) realisation of the hallucinatory character of our experience can only be had during dreams and other altered states of consciousness but not during wakefulness. For instance, according to Windt and Metzinger (2007), full-blown lucidity, understood as the realisation that I am currently in a state of no perception, cannot be brought about during wakefulness—I cannot fully realise that my wakeful experience is a simulation created by my brain, and thus, regard my current perceptual state as simulation. Thus, these authors reject the idea of a state of "lucid waking" (p.212). Nonetheless, such a claim involves a strong view of what lucidity is and only considers the top extreme of the lucidity spectrum as conceived by classic views: a state of reflective and conceptual thought that might involve a phenomenal shift in our experience.

[37] In the literature of VR this illusory perceptual experience is known as the 'place illusion'— the experience of the VR environment as real, including a sense of immersion or 'being there' in the VR environment, even though we know that the environment is a simulation (Slater, 2009). VR experiences can be very realistic and even have similar emotional effects as real ones (Slater & Sanchez-Vives, 2016).

'insightful psychosis' to illustrate this alternate reading of the technical account. Sometimes, psychotic patients spontaneously, or after therapy, gain an understanding of the nature of their hallucinatory experiences; they acknowledge them as being hallucinations (Voss et al., 2018). A tentative suggestion is that what these patients realise is that their current experience is one of perception; that they are indeed perceiving something and were previously mistaken. This suggestion would fit nicely with preliminary research pointing at similar mechanisms playing a role in the acquisition of lucidity between psychotic patients and LD (ibid). Furthermore, considering the shared phenomenological features between lucidity in psychotic patients and lucidity in LD, some researchers are promoting the potentiality of LD therapy to treat psychotic patients (Dresler et al., 2015). Given this possible connection between the sort of lucidity in dreaming and other pathological cases, it could be beneficial to take the technical notion of lucidity in a more liberal sense to include cases where lucidity is gained by virtue of recognising reality *as reality* and acknowledging that we had previously been in a hallucinatory or altered state of consciousness. This approach would not only facilitate the investigation of the phenomenal features of lucidity across different conscious states but would also shed light on the different degrees of lucidity one can have, and the different ways it can be instantiated.

Moreover, a liberal reading of the technical notion of lucidity might also shed light on certain cases of LD where explaining lucidity in a strict sense might not work. For instance, consider cases of double awareness of one's dreamt body and physical body described by some lucid dreamers. In one of the earliest reports using the term dream lucidity, Van Eeden (1913) describes a LD in which he could observe the sensations on the chest in his dreaming body and the sensations on his back in his physical body resting in the bed. Thus, there is a way in which Van Eeden realises that his current experience has both hallucinatory and perceptual features (i.e. the dreamt body and the physical body). Similar cases are reported by lucid dreamers taking part in experimental research that uses light cues as an induction method for lucidity (Carr et al., 2020). In those cases, lucid dreamers realise the external cues and recognise them as veridical (they realise them as veridical percepts), but at the same time, they realise that other features of their current mental state do not amount to perceptual experience (and thus, that they are LD). By teasing out the technical notion of lucidity in the strict and liberal sense, we are able

to account for those cases in which one is *strictly* lucid about certain aspects of the experience and *liberally* lucid for others.[38]

Finally, there is another alternate reading of the technical notion of lucidity that can be made to account for other phenomena that share some phenomenological features of lucidity, yet they are not usually considered lucid states since they do not yield justified true belief about our current state. This is the case of false awakenings (FAs); dreams involving a false belief that we have just awakened and that our previous experience was a dream. In the literature, FAs are taken as cases of non-lucidity (Buzzi, 2011)—after all, we do not realise that we are indeed dreaming. Nevertheless, FAs have some distinctive features that remind us of full-fledged forms of LD since they are described as being an experience of "striking realism" (Green & McCreery, 1994), as "real as wakefulness" (Buzzi, 2011:122). FAs are experienced in such a realistic way that some individuals, even after properly awakening, still take FAs to be instances of actual awakenings, or worry whether they have finally awakened at all (ibid, p.114). Moreover, FAs can occur several times in a row, and some report 'waking up' many times in a FA, every time being convinced of having finally woken up (ibid). By sticking to the technical account of lucidity, we can regard FAs as cases of *false lucidity*. As lucid states read in the *liberal* sense, cases of false lucidity involve a representation of our state as that of perception. However, contrary to states of strict or liberal lucidity, false lucid states yield a false belief about the fact that I am actually perceiving something.

Some of the benefits of regarding states like FAs as instances of false lucidity is that we could strengthen the link between the similar phenomenological features of such states and LDs (Buzzi, 2011; Zink & Pietrowsky, 2015). In this respect, we can piggyback the sort of experience had during FAs to that of pre-lucidity outlined in the previous section. During FAs, the dreamer wonders whether they are dreaming, yet they

[38] Thanks to an anonymous reviewer for the *Review of Philosophy and Psychology* for raising this point.

erroneously conclude that they are awake.[39] In a way then, these sorts of experiences provide the dreamer with self-awareness of their current state, yet they are not lucid in the technical sense insofar as they do not yield awareness of the whole state as a hallucinatory state. Other altered states of consciousness also provide examples of false lucidity, such as mystical or religious experiences (James, 1982; Stace, 1960). Some mystics subjectively describe those states as revelatory experiences involving an "intellectual illumination" about having understood something new (see the report by Bucke, 1901 in James 1982:385). Others regard their mystical experiences as being in *direct* contact with a deity or unreal entity (Forman, 1997). For some mystics, mystical experiences are regarded as cases of perception, "states of insights into the depths of truth" (James, 1982:367). As with false awakenings, the mystic is convinced about knowing what the nature of their state is, yet they categorise it wrongly.[40] By broadening our understanding of lucidity to include cases of false lucidity we could examine more carefully the onset of lucidity and investigate whether there is something special about having a true or false belief about the nature of our current state or whether this is not a required condition for experiencing lucidity in the technical sense.

4.5. Towards a broader account of lucidity

4.5.1. Lucid dreamless sleep and the clear light sleep

Thus far, I have argued that what makes a state to be minimally lucid, in a technical sense and taking a strict reading of the notion, is the fact that our current state of awareness is represented as a state that falls short of perception or lacks perceptual contact with the world. I have examined how such a notion could be applied to other conscious states

[39] Sparrow et al. (2018) also take instances of FAs as cases of pre-lucidity.

[40] A similar case can be found in out-of-body experiences (OBEs). During those, the individual experience themselves as having left one's own body, usually in a crystal-clear manner (see Metzinger, 2009: 133). Some have suggested that OBEs might be a case of misinterpreted dreams—we dream that we are leaving our bodies (see Windt, 2015a: 485). While further research about the ontology of OBEs during sleep is needed, a wide body of research has previously highlighted the link between the sort of lucidity had during OBEs and LDs (Blackmore, 1988; Green, 1968; Levitan & Zimbardo, 1999).

outside dreaming and the different readings that could be made of it to account for similar states. In this last section, I examine a recent proposal that characterises the phenomenon of the clear light sleep as a state of 'lucidity' similar to that had during LD. I apply the technical notion of lucidity and show the problems arising from understanding such a state as "lucid" in the technical sense. I then consider an alternative reading and how a more relaxed notion of lucidity could be applied to such a state.

Recall from Chapter 1 that for certain Tibetan Buddhist lineages, such as that of the Dzogchen, the clear light sleep is an aspirational state of consciousness that can be attained through proficient meditative practices. Such practices can be followed while awake, but also during sleep, as detailed by the practice of 'the bardo of sleep' (Padmasambhava & Gyatrul; Ponlop, 2006). This practice aims to cultivate a sort of awareness that allows one to reach a state of "luminosity" or "clarity" (Fremantle, 2001), a state where one recognises the "nature of the mind" (Dalai Lama, 1996; Ponlop, 2006:86)—one recognises the essence of the mind. What's more, according to the Dzogchen, such a state is conceptualised as a state of pure awareness or "bare awareness" (Ponlop, 2006:13; Wangyal, 1998). It is important to note that these descriptions of the clear light sleep rely on metaphysical claims about the mind by Tibetan Buddhism and not on phenomenological or first-person reports offered from such a state.[41] Moreover, it should also be stressed that the aspirational state of clear light is heterogeneously described in the literature. It is a question for further research whether such descriptions are, in fact, talking about the same state, that of a state of pure awareness conceptualised by the Dzogchen tradition or are indeed talking about different states. I will come back to such a worry in the last subsection. For now, I will focus on examining the state of the clear light sleep characterised as a state of non-duality, a state that lacks the subject-other distinction of ordinary conscious states and that is said to be *objectless*—it is said to lack

[41] Thanks to an anonymous reviewer for the *Review of Philosophy and Psychology* for pointing this out. According to Tibetan Buddhist doctrines, we live in a state of ignorance about reality since what we usually perceive are mere appearances and we do not apprehend reality as it is, such as the perception of a 'self' who perceives 'something' (see Fremantle, 2001 for a discussion).

an object-directed awareness inasmuch as it lacks a distinctive object of awareness from the mind itself (cf. Alcaraz-Sánchez, 2021; Alcaraz-Sánchez et al., 2022).

While certain descriptions of the clear light sleep allude to a state of lucidity or clarity in which one recognises the essence of the nature of consciousness, here it is important to note that Tibetan Buddhist traditions do not understand this state as involving any sort of second or higher-order awareness (i.e. a state that takes a distinct first-order state as its intentional object). Instead, many authors endorse a reflexive account of consciousness and defend that what makes a state conscious is an aspect of consciousness that refers to itself, or self-awareness—in short, every conscious state is conscious of itself (see MacKenzie, 2007).[42] According to authors supporting this account, when we are conscious, we are pre-reflectively (or reflexively) self-aware of our current conscious state in virtue of being phenomenally conscious; the self-awareness is said to be given in the phenomenal character of the experience. Thus, these traditions support the existence of a state in which the only thing that remains is this self-awareness aspect of consciousness, that which is intrinsic and essential to consciousness.

Following this view on the reflexivity of consciousness portrayed by Buddhist traditions, the state of luminosity or clarity achieved during deep sleep should be attributed to the apprehension of the qualitative character of the experience—the what-is-it-likeness of the experience (Nagel, 1974). Under this reading, a luminous state is a state of awareness of the subjective character of experience; what is experienced is the quality of consciousness itself (Fasching, 2008; Ram-Prasad, 2007; Thompson, 2014). It seems that the most natural way to understand such a state would then be to conceptualise it as a state of *phenomenal consciousness*—a state in which there is something it is like to be in that state. However, Thompson (2015) has pointed out how this approach will not do justice to the descriptions made by Buddhist traditions that consider cognitive

[42] It is worth noting how this view is reminiscent of other more contemporary philosophical traditions, such as the phenomenological tradition in Western philosophy. Proponents of this tradition hold that consciousness is characterised by an essential aspect that is for-itself (Sartre, 1956). See Kriegel (2003, 2004), Kriegel & Zahavi (2015) and Zahavi (2005) for contemporary accounts supporting this view.

access to the content of our phenomenal experience during the clear light sleep (p.11).[43] As such, he has attempted to explain this sort of awareness during the clear light sleep as a state of "non-conceptual meta-awareness" (2015:1) and suggested a possible link with the state of LD, thus coining the term "lucid dreamless sleep" (Thompson, 2014). Windt (2015b) has also proposed that during the clear light sleep what remains is a "feeling of just having become aware of the nature of one's ongoing state" (p.20) and pointed out its possible connections to LD. While the proposal by Thompson and Windt seems to be quite modest—that certain instances of the clear light sleep could be explained as a similar sort of awareness had during certain sorts of LD—their construct of "lucid dreamless sleep" and the adoption of it in recent literature is imprecise and unclear. Here, and in the following section, I examine the different ways to interpret it, and its different implications.

Given the suggestion by Thompson and Windt the state of lucid dreamless sleep could be related to that of lucid dreaming, the most intuitive way to understand this new construct is to interpret it by applying the notion of lucidity used in lucid dreaming research. That is, to apply the technical notion of lucidity. Remember that, in the technical sense, lucidity can be understood in a stronger or weaker sense. Thompson and Windt say is the latter meaning the one they are considering, a state of "non-conceptual lucidity" or "weak lucidity". I argued that we could grant a state of non-conceptual awareness to be lucid if it still involves the representation of my current state as one that falls short of perception (or as one of veridical perception if we take a more liberal sense of the notion). While it is a contentious point of debate whether such a state should be in fact a state of non-conceptual awareness, I noted that what is important when conceiving states of weak lucidity (in technical terms) is to consider the content of such a state: that of representing the hallucinatory character of my state. We could then agree with

[43] It is beyond the scope of this chapter to offer an exhaustive analysis about the ontology of the clear light sleep as per Buddhist traditions, and how we should indeed be interpreting those descriptions. However, for the purposes here of examining how such a state could be taken to be a state of lucidity (in the technical sense) I will stick to Thompson's account. Further research should spell out more carefully the different readings that can be made of the descriptions of clear light found in the literature and its metaphysical consequences.

Thompson and Windt and regard the state of "lucid dreamless sleep" as lucid in this weaker sense of the technical notion of lucidity. However, by applying the technical notion of lucidity to lucid dreamless sleep, we would then be describing a state that involves representing our current state as falling short of perception, even if we grant that such representation could be done in a non-conceptual manner, as Thompson and Windt defend.

Although this approach of applying the technical notion of lucidity to lucid dreamless sleep might seem the most straightforward one, given the suggested link between this state and the state of dream lucidity, such an approach would then raise the question as to whether the state of clear light sleep, as described by Tibetan Buddhist traditions, is the sort of state that can be regarded as lucid in this technical sense. If, according to Tibetan Buddhist traditions, the state of the clear light sleep is indeed a state of pure awareness, a state in which I am not cognising or perceiving anything, it does not seem to be the sort of state in which anything is represented as hallucinatory or not, or as falling short of perception, and thus, the technical notion of lucidity cannot be applied in this case. Similarly, from the descriptions provided by Thompson and Windt of the state of lucid dreamless sleep, it does not seem either that this is the sort of notion of lucidity they have in mind, and thus, it calls into question the suggestion that the sort of lucidity during dreamless sleep should be akin to that had during lucid dreaming. Considering this, we have two alternatives. We can either cease using the technical notion of the term 'lucidity' to describe the clear light sleep, since it does not seem to be the right sort of state to be lucid (either because there is nothing to be represented as hallucinatory or because there is nothing that can be represented at all) or abandon the technical account of lucidity and find a more relaxed one. For the remainder of the chapter, I will focus on the latter and offer a positive account aiming at overcoming this problem.

4.5.2. The broader account of lucidity

I propose a broader sense in which a state can be understood as lucid, drawing from the most paradigmatic descriptions offered by the Tibetan Buddhist literature of the state of the clear light instead of the notion of lucidity used in LD research. According to these traditions, the aspirational state sought while engaging in clear light sleep practices is a

state in which one realises the true nature of the mind. As I mentioned, such descriptions rely on metaphysical claims made by Tibetan Buddhist traditions about the mind, namely, the fact that one encounters the essence of consciousness in such a state. Here, I leave aside how such a state should be considered in metaphysical terms, and instead, focus on how it might be like phenomenologically:

> **Broader lucidity:** A state involving the seeming recognition that one is directly acquainted with one's phenomenal character of one's experience.

This broader account of lucidity is meant to be an alternative notion of lucidity that can be used to explain cases that cannot be covered or are difficult to explain using the technical account exposed earlier. For instance, in the case of dreaming, the broader account might prove to be useful to distinguish between pre-lucidity and minimal lucidity. In a pre-LD, I might have a feeling that I am dreaming, yet not represent the hallucinatory character of my current state, and thus, not be lucid in the technical (and strict) sense. However, I can be said to be lucid in the *broader sense*, if such a state involves the feeling of seeming to be acquainted with the nature of my current state; to realise what makes my state distinctive and to be the sort of state it is (as accounted by Tibetan Buddhist traditions). By counting with these two notions of lucidity, we could make sense of limit cases that are difficult to discriminate as "weakly lucid" or "pre-lucid" as the example of realising that one is experiencing colours as one has never done before, as illustrated by Windt and Metzinger (see §4.3). Regarding the latter example, we could say that the dreamer was not technically (minimally) lucid since the state was not one representing the current experience as hallucinatory. Yet, we could say that the dreamer was lucid in a *broader sense* since they seemed to be in direct contact with the nature of their current state, namely, the distinctive phenomenal character of their experience.[44]

[44] Notwithstanding the benefits of the broader account, it should be stressed that such an account cannot accommodate certain states of lucidity, for which we would still want to keep the technical notion, such as cases of full-fledged lucidity.

Similarly, we can apply this broader notion of lucidity to some instances of the clear light sleep, or "lucid dreamless sleep" as referred to by some authors. Recall that such a state of clear light is conceived by Dzogchen teachings as a state of non-dual awareness, a state in which one is merely conscious of consciousness-as-such; one is said to be in a state of pure awareness. Nevertheless, according to traditional descriptions of the clear light sleep, such a state does not involve any sort of object-directed or second-order awareness, but instead, it should be described as a state of pre-reflexive self-awareness. Thus, according to these traditional descriptions of the clear light sleep, such a state involves an awareness of the qualitative aspect of consciousness *simpliciter*; an awareness of the phenomenal character of the experience of 'just awareness'. Thus, we could say that the clear light sleep might be broadly lucid if it involves the phenomenology of seeming to be in direct contact with the nature of one's experience, the distinct phenomenal character of such a state.

I argue that such an account of broad lucidity illustrates better what Thompson and Windt seem to have in mind when describing the state of lucid dreamless sleep. Moreover, such an account would fit in nicely with Windt's recent proposal regarding the state of "lucid dreamless sleep" as a state of "phenomenal knowing" (2015a:20), a state involving "the feeling of just having become aware of the nature of one's ongoing state" (ibid). For Windt and Thompson, the state of "lucid dreamless sleep" is a conscious state involving the noetic feeling of knowing that one is aware—our current conscious state is represented non-conceptually as a state of consciousness or phenomenal consciousness. They take this state to lack any sort of propositional thought, yet they still conceive it as involving certain intentional content, that of representing the state as a state of awareness (see Thompson, 2015; Windt, 2015b).[45] While this state might appear as resembling the sort of lucidity experienced during LD, it is a different one since it does

[45] One might take this to be a state in which one knows (non-conceptually) that one is dreamlessly sleeping; that is, the nature of one's state is that of being in a state of dreamless sleep. However, if we want to be faithful to the descriptions of the clear light sleep made by the Dzogchen tradition as a state in which one is merely aware of the phenomenal character of such a state; a state in which there is only awareness of the pre-reflective character of consciousness.

not represent our current state of awareness as being a state that lacks perceptual contact with the world. Instead, such a state might be represented as *a state that otherwise lacks content* (a state of just awareness), or if we take the metaphysical claim of Tibetan Buddhism at face value, might be a state in which nothing is represented at all.[46]

4.5.3. Imageless lucid dreaming and experiences of the void

In the previous sub-section, I have shown how the state of the clear light, as understood by certain Tibetan Buddhist lineages like Dzogchen, should not be regarded as a state of lucidity in the technical sense of the word since this would instead portray a conscious state involving a representation of the hallucinatory character of my current state. In order words, such a state would involve representing my current state as one that falls short of perception. As I showed throughout §2, this account of lucidity considers the technical definition of lucidity in LD research and points out what is distinctive of this state. However, if we want to be faithful to the Tibetan Buddhist descriptions of the clear light sleep, it seems that such a state cannot be characterised as 'lucid' in that technical sense. The sort of state at stake seems to be one that merely involves the representation of a state of 'pure awareness', a state that otherwise lacks content, or if we are strict about the meaning of 'pure awareness', we are then conceiving a state that does not represent anything at all. Either way, it seems that the technical notion of lucidity cannot be applied in this case, and thus, the construct of "lucid dreamless sleep" should either be dropped or used in reference to the broader sense of lucidity I presented earlier. Notwithstanding this alternate approach, one could argue that there is still a way in which the state of the clear light could be understood as lucid in the technical sense. In this last sub-section, I consider this possibility and its implications.

As previously mentioned, the state of clear light is heterogeneously described in different Tibetan Buddhist texts and their translations which might lead us to question to

[46] Note that further research should investigate whether a state of pure awareness is in fact a state that lacks content altogether, including representational content, or whether it still involves some representational content. For a detailed discussion, see Metzinger (2020)

what extent those descriptions are indeed talking about the same phenomenon. An example of it are the descriptions of the attainment of clear light via the dissolution of the dream environment mentioned in practices of "dream yoga" or "yoga Nidra" (Holecek, 2016; Norbu, 1983; Saraswati, 1984; Wallace, 2012). The teaching of those practices describes the achievement of the state of clear light by actively making the dream environment disappear while in a LD (Chang, 1963; Evans-Wentz, 1960; Wallace, 2012). Other teachings also mention the possibility of reaching the clear light while falling asleep and remaining on the threshold of dreaming (Wangyal,1998).[47] If taken at face value, those descriptions would be pointing at a state of clear light, a state of pure awareness achieved after the dissolution of the dream or before the appearance of the dream. Anecdotal phenomenological descriptions of this state can be found in the Tibetan Buddhist literature but also amongst LD practitioners, usually under the name of 'void' experiences or 'clear light dreams' (Johnson, 2020; Magallón, 1987).

Here I claim that such states of 'void' or 'clear light dreams' could be understood as per the technical notion of lucidity if such states are regarded as perceptual states; states of void lacking a dream environment. This claim would be supported by recent phenomenological reports of those experiences collected by empirical work (see Alcaraz-Sánchez, 2021 and **Chapters 2** and **3**). Those reports point to an experience that in some cases seems to involve a certain 'distinct' object of awareness, like the awareness of one's location in the 'void' or one's self-experience in such a state (ibid). These reports also seem to match with previous descriptions of the experience of the 'void' in the LD literature which describe such states as involving a minimal sense of self-other distinction like a very minimal perception of spatiotemporality (see Johnson, 2020). This is the case of what is usually referred to as "imageless lucid dreams" or "minimal perceptual environments" (Gillespie, 2002; LaBerge & DeGracia, 2000; Magallón, 1987), sleep experiences that lack imaginative or visual experience, yet they still involve some sort of perceptual experience. By understanding those experiences as perceptual, we could

[47] Padmasambhava presents a technique for reaching this state through the dream state (see Padmasambhava & Gyatrul, 2008; Chapter 4).

regard them as lucid in the technical sense and say that one was lucid in the void insofar as one was aware of the hallucinatory character of their experience (or one was aware that their experience was one of perception if we consider a liberal reading as outlined in §4.4). However, the consequence of regarding such states as involving a minimal sort of perceptual experience is that such states would then be conceived as a sort of dream, and thus, not as a sort of dream-*less* sleep experience (as described by Windt et al., 2016). Some authors have suggested that these experiences of the 'void' or 'clear light dreams' could indeed be understood as minimal forms of dreaming insofar as they involve a minimal sense of immersion and self-other distinction (Windt 2015b:16), as well as a minimal sense of spatial location (see Alcaraz-Sánchez, 2021:21-22). Therefore, we would need to conduct further research to conclude whether the experience of clear light, as described by Tibetan Buddhist traditions, refers indeed to a minimal sort of dreaming. Note that the use of the technical notion of lucidity to describe those states of the void could only be considered if we conclude that such states are a sort of minimal dreaming, and thus, perceptual experiences. If, on the contrary, we conclude that such states are not a type of minimal dreaming, or are indeed dreamless sleep experiences, we could only consider them as 'lucid' as per the broader notion introduced in §4.2, states in which I know about the nature of my current conscious state in virtue of seeming to be in direct contact with the phenomenal character of my experience.

4.6. Conclusion

This chapter examined the suggestion made by some contemporary authors that the state of the clear light sleep, as described by Tibetan Buddhist traditions, could be understood as 'lucid' in a similar sense to the state of lucid dreaming (see Thompson, 2014;2015; Windt, 2015b; Windt et al., 2016). To that aim, I put forward a unified *technical account* of lucidity aiming at capturing what makes a state minimally lucid. I proposed that a minimally lucid state is that which represents our current state as a state that falls short of perception—it represents the hallucinatory nature of our state. I showed the motivation for such a technical account by applying it to other states outside dreaming, and by teasing apart the different readings that can be made of it (*stricter, liberal* and *false lucidity*, as well as stronger and weaker lucidity). I argued that none of these readings can be applied to the state of the clear light sleep since this is not the right sort of state

that can be represented as lacking perception, and thus, a more relaxed notion of lucidity is needed. I finished by suggesting the notion of *broader lucidity*, which regards lucidity as the seeming realisation that one is in direct contact with the phenomenal character of the experience. I argued that, in this broader sense, we could take the clear light sleep as lucid if it is conceived as a state involving the representation of my current state as that of just awareness. Moreover, I also examined how the so-called state of the clear light could be regarded as lucid in the technical sense if it is instead regarded as a state of dreaming, and thus, a perceptual state. Overall, I provided a more fine-grained analysis of the construct of "lucid dreamless sleep" than that found in the literature, and the many ways in which the state of clear light sleep, as described by Tibetan Buddhist traditions, can be conceived. Further empirical and conceptual work is required for understanding better the different ways in which lucidity during dreamless sleep can be instantiated and how such states could be linked to other sorts of sleep phenomena, such as dreaming, lucid dreaming, or even other forms of sleep consciousness.

CHAPTER 5 SITUATING OBJECTLESS SLEEP EXPERIENCES. A MULTIDIMENSIONAL FRAMEWORK OF SPONTANEOUS STATES

5.1. Abstract

In this chapter, I build upon current work on the continuity between sleep and wakeful phenomena by setting the grounds for a multidimensional framework of spontaneous experiences, mental states that feel undeliberated and as appearing outside one's cognitive control. To this aim, I focus on a subset of uncommon spontaneous experiences that have received less attention in the literature. I refer to this group as "unusual spontaneous experiences", spontaneous mental states that are subjectively regarded as altered states of consciousness. I spell out important features that characterise this type of experience and distinguish them from more common spontaneous experiences, like mind wandering and dreaming. I propose five phenomenological dimensions intended to situate these rare forms of spontaneous experiences within a broader spectrum of phenomena including: "*Self-revelation", "Embodiment", "Temporal Passage", "Absorption",* and *"Richness of the Experience"*. Lastly, I show a further application of the multidimensional framework in guiding future scientific practice on a sleep phenomenon target of recent interest for the study of the nature of consciousness: the clear light sleep.

5.2. Introduction

To what extent do experiences during sleep and wakefulness share common phenomenology? The dominating view in sleep research has been for a long time that sleep and waking are distinct and dichotomous global states. However, recent years have seen an increase in researchers advocating for the dissolution of the arbitrary boundaries between both states by proposing a phenomenological continuum across the sleep-wake cycle (see Windt, 2021 for a review). A new wave of sleep research indicates that the borders between sleep and wakefulness are blurrier than traditionally thought, both at electrophysiological and behavioural levels. For instance, research on "local sleep"—regarded as the presence of sleep-like slow-wave activity (SWA) in localised brain areas during wakefulness (Huber et al., 2004)—has disputed the idea that SWA is the hallmark

of NREM sleep. Other research has also revealed how SWA can occur during different sleep stages and in different brain regions (Andrillon et al., 2011; Nir et al., 2011). During wakefulness, the presence of SWA has been linked to sleep-like functions, such as lower attention processing (Andrillon et al., 2019; Huber et al., 2004) and sleepiness (D'Ambrosio et al., 2019). Similarly, some researchers have associated the presence of SWA with conscious experience. In different studies, Siclari and colleagues found that the presence of SWA prior to awakenings led to a decrease in conscious reports (Siclari et al., 2017; Siclari & Tononi, 2017).

A prominent example of the strong links between waking and sleep phenomena is the research on mind wandering and dreaming. In a seminal paper, Christoff and colleagues (2016) put forward a framework aimed at situating mind wandering and dreaming along a continuum of "spontaneous thought experiences", mental states they consider to be weakly constrained by cognitive control and affective and sensory salience (p.719). This framework is based on experimental research that shows overlapping neural mechanisms between mind wandering and dreaming, like the default mode network (DMN; Christoff et al., 2009; Domhoff, 2011; Ioannides et al., 2009; Nir & Tononi, 2010) . It also integrates conceptual work that puts forward the idea that dreaming should be seen as an intensified form of mind wandering (Domhoff, 2018; Domhoff & Fox, 2015; Fox et al., 2013). According to Christoff et al., different kinds of spontaneous thought are distinguished by the degree to which deliberate and automatic mechanisms are involved. For instance, mind wandering exhibits higher cognitive control compared to dreaming (Christoff et al., 2018). Despite the potential of the dynamic framework to highlight the shared phenomenological features of states across the sleep-wake cycle, certain phenomena have been overlooked. Windt (2021) has pointed out these limitations and has drawn attention to the narrow focus of the dynamic framework of spontaneous thought on *immersive* forms of sleep experiences. As Windt emphasises, this framework

has neglected "dreamless sleep experiences", conscious sleep experiences that are not immersive enough to be classified as dreams (Windt et al., 2016).[48]

In this chapter, I set the groundwork for a multidimensional phenomenological framework of spontaneous experiences. The purpose of the framework is to situate a group of spontaneous phenomena across the sleep-wake cycle that have received limited attention in the existing literature. Particularly, I focus on examining experiences such as out-of-body experiences, sleep paralysis, void dreams and experiences, states of sensory deprivation, and meditative, mystical and hypnotic states. The goal of this framework is to emphasise the links between these forms of spontaneous experiences and more typical ones like mind wandering and dreaming. Moreover, I investigate how this framework can be applied to the ongoing debate surrounding the nature of a particular type of spontaneous experience, the clear light sleep. This experience, extensively described in contemplative traditions like Tibetan Buddhism, has been regarded as a state of pure awareness devoid of distinct conscious content. According to some, such an experience is an instance of pure awareness, or consciousness-as-such (Padmasambhava & Gyatrul, 2008; Ponlop, 2006). Due to its distinctive features, the state of the clear light has recently been targeted by some researchers as a potential instance of the minimal phenomenal experience, the simplest form of conscious experience one can have (Metzinger, 2020; Windt, 2015b). As such, the clear light sleep state holds the potential to advance our understanding of the nature of consciousness. However, despite prevalent descriptions in contemplative traditions about this state, there is still a notable lack of research and consensus about how to characterise the clear light sleep, especially in analytic philosophy and cognitive science. Here, I use the state of the clear light sleep to show the explanatory value of the proposed multidimensional framework. I show how this

[48] Windt and colleagues (2016) subscribe to a simulation view of dreaming that conceives dreams as highly immersive experiences of a self in a hallucinated world while dreaming. According to these authors, sleep experiences that are not subjectively experienced as immersive, that is, they do not even involve a minimal sense of spatiotemporal location in a largely hallucinated world, should be regarded as "dream-*less*". These authors include as examples of dreamless sleep experiences bodily sensations, sleep thinking, and brief hallucinatory experiences like hypnagogia. Additionally, Windt et al. also consider the sort of objectless sleep experiences described by Indian contemplative traditions in their classification of "dreamless sleep".

framework can provide a more accurate description of a phenomenon that has not been captured otherwise in the literature.

5.3. What are spontaneous experiences?

Before I delve into examining a variety of spontaneous experiences across the sleep-wake cycle, I shall clarify what I mean here by "spontaneous experiences".

The paradigmatic example of a spontaneous mental state is that of mind wandering. For instance, while writing this chapter, my mind may drift away, and I may think about what I am going to have for dinner tonight. Such a thought appears independently from my task at hand (writing this chapter), and it seems to appear undeliberated and outside my control; it was not a thought I intended to have. Most mainstream definitions in the psychological literature on mind wandering describe this phenomenon as "self-generated" thought, a type of thought that arises independently of "sensory stimuli and ongoing tasks" (Callard et al., 2013; Smallwood & Schooler, 2015). Yet some authors have pointed out the problems of limiting the definition of mind wandering, or spontaneous thoughts, to mental states that are not task-related, as well as not resulting from concurrent environmental constraints (see Christoff et al., 2016). This group of authors contend that spontaneous thoughts may still be constrained, to an extent, by cognitive control and ongoing tasks. In some cases, spontaneous thoughts may arise from stimulus-associated thoughts (Seli et al., 2018) as well as from previous beliefs, desires, or goals of their experiencer (Irving, 2016). Thus, spontaneous thoughts might still have certain overlapping features with goal-directed thoughts, making the distinction between the two types of thoughts less sharp (Girn et al., 2020). Therefore, we might want to adopt a definition of spontaneous thoughts that is less limiting and constrictive.

Here I remain neutral about how spontaneous thoughts should be adequately conceptualised in a technical way. My focus of interest in this chapter is to examine a group of experiences that appear to one *as if* they were spontaneously generated. That is, the spontaneity of thoughts is *a phenomenological feature* of this type of thought. I follow recent work by Windt and Voss (2018) who also adopt a looser definition of spontaneous thoughts that aims to be more inclusive and focus on how such experiences

appear to someone. According to these authors, the "spontaneity" of spontaneous thought should be seen as a *subjective* feature: spontaneous thoughts appear to their experiencer as "internally caused or self-determined" even if, sometimes, they are not (p. 389). Thus, they might still arise from previous intentions or be subject to cognitive control, what matters is how those types of thoughts are subjectively experienced. I stick to this phenomenological approach to the study of spontaneous thoughts, as suggested by Windt and Voss, with the aim to develop a bottom-up approach to examine this sort of phenomena—an approach that starts by examining the phenomenal character of seemingly spontaneous thoughts. Thus, I focus on examining how such a phenomenon appears in the natural world: how spontaneous thoughts are subjectively felt. Thus, my working definition of spontaneous thoughts is one about mental states across the sleep-wake cycle that *appear as* not being the result of the direct influence of specific internal or external inputs (i.e. as a response to one or others intentions or as a result of environmental demands) and as being uncontrolled or undeliberated.

Additionally, following a recent proposal by Windt (2021), my examination here is not limited to "thoughts", but "mental events" or "mental phenomena" at large. Windt argues that limiting the examination of spontaneous experiences to "thoughts" can lead us to overlook certain phenomena depending on the reading we take of the notion "thoughts". For instance, in a narrow sense, thoughts are considered mental events characterised by linguistic content (p.5), a feature that, as she says, is not always distinctive of all spontaneous experiences. Under this narrow reading, we might consider the kind of linguistic thoughts we have within a dream, but not dreams themselves as an experience phenomenologically different to propositional thought.[49] Windt advocates for an inclusive framework of spontaneous thoughts and experiences by stressing the inclusion of other forms of mental events other than thinking. I will use the term "spontaneous experiences" to include a wider variety of mental phenomena, not limited to thoughts.

[49] See Windt and Voss (2018) for a detailed discussion.

5.4. Spontaneous experiences across the sleep-waking cycle

As I mentioned in the introduction, my aim here is to examine a variety of phenomena that have received less attention in the current literature on spontaneous experiences. In this section, I examine a subgroup of phenomena that, in addition to being experienced as uncontrolled and undeliberated, are also experienced as altered states of consciousness; they subjectively feel distinct from ordinary consciousness. Moreover, they are often described as ineffable, with a lack of linguistic access to them. Finally, they are characterised by involving a type of content that is not typically linguistic or imagistic; occasionally, they might involve simple forms of visual experience. I refer to this subgroup of spontaneous experiences as "unusual experiences" inasmuch as they possess a phenomenology that is considered *unusual* by their experiencer, and because they are rare and uncommon. I begin by providing some examples of unusual experiences across the sleep-wake cycle. Then, in §5.5, I outline the distinctive features that characterise this group of experiences. Note that, for reasons of space, the list of examples is not exhaustive—we might think of other phenomena with matching features.

5.4.1. Unusual spontaneous experiences during sleep

During the sleep-onset transition, as well as the transition into dreaming, a wide range of experiences take place, not all of them characterised by the sort of hallucinatory imagery distinctive from dreaming. A rare phenomenon that sometimes occurs during sleep-onset is sleep paralysis, a state characterised by muscular atonia, but with awareness of one's actual surroundings (Solomonova, 2017). Some research shows that the brain state characterising sleep paralysis involves features of both REM sleep and wakefulness (Mainieri et al., 2021). While most common forms of sleep paralysis involve audiovisual imagery at sleep onset, or the feeling of a "presence" in the room or on top of one's body (Cheyne et al., 1999), some others only involve somatosensorial content. This sort of sleep paralysis is characterised by vestibulo-motor mentation such as the feeling of flying, acceleration, floating, and movement (Cheyne & Girard, 2009), as well as spinning, rising, lifting, and falling (Cheyne et al., 1999). Some of these unusual somatosensorial sensations during sleep paralysis have been linked to another sort of rare form of spontaneous experience, out-of-body experiences (OBEs), oftentimes preceded

by sensations of vibration, humming, or rotation (McCreery & Claridge, 1996). OBEs are described as the experience of one's own point of view in a different location to that of one's physical body (Rabeyron & Caussie, 2016) and they usually involve the experience of seeing oneself "outside" one's own body (Twemlow et al., 1982). A wide body of research has highlighted how experiences like OBEs during sleep can be induced experimentally with a full-body version of the rubber-hand illusion (Blanke & Metzinger, 2008; Ehrsson, 2007) which induces the feeling of being located at a different point in space to that of one's body.

Another sort of spontaneous sleep experience is the experience of the void while dreaming (Gillespie, 1986, 2002; Johnson, 2014). In the lucid dreaming literature, this state has been described as occurring in between different dreams, an "undifferentiated area" that follows the dissolution of a dream (Magallón, 1987:3). We can also find mentions of an experience of a space "outside" the dream landscape, after flying, spinning, or passing through walls in a dream (Green, 1968). LaBerge and DeGracia (2000) refer to this phenomenon as "minimal perceptual environments" and regard them as a type of lucid dream characterised by kinaesthetic sensations (i.e. movement) and the perception of "darkness" or "void". While the experience of the void is characterised as being devoid of imagery (Gillespie, 2002) some authors describe the presence of "abstract imagery", "geometrical forms" (Bogzaran, 1991, 2003), or the experience of snow-like percepts like the ones appearing when the TV signal is out (Hurd, 2008). Mentions of this state of the void can also be found in descriptions of the practice of "dream yoga" or "yoga Nidra" (Holecek, 2016; Norbu, 1983; Saraswati, 1984; Wallace, 2012), a sort of meditative practice with roots in Tibetan Buddhist traditions aimed at reaching a state of pure awareness during sleep (Chang, 1963; Evans-Wentz, 1960; Gillespie, 1986; Varela, 1997).

5.4.2. Unusual spontaneous experiences during wakefulness

Unusual spontaneous experiences can also be found during wakefulness. One example comes from those experiences arising from sensory-deprived environments or REST states (Restricted Environmental Sensory Therapy States). REST states are triggered as a result of exposure to an environment with homogeneous and unstructured visual and

auditory stimulation, like that in the Ganzfeld experiment. The set-up for this experiment consists in making participants wear a pair of coloured goggles (usually made of halved ping-pong balls) that create the perception of a homogenous colour whilst listening to white noise (T. T. Schmidt & Prein, 2019). Other recent experimental setups trigger more "immersive" Ganzfeld environments with "whole-body perceptual deprivation" chambers (Ben-Soussan et al., 2019; Glicksohn et al., 2017). A common effect after short exposure to the Ganzfeld is a change in visual perception. Subjects exposed to colourless Ganzfeld report how the whiteness of the visual field becomes "foggy" or "cloudy" (Wackermann et al., 2008). After long exposure to a REST environment or under certain experimental conditions, subjects also report auditory hallucinations, such as voices, or sounds (Wackermann et al., 2001). The appearance of hypnagogic-like visual experiences is also common, starting with brief, isolated, and hallucinatory percepts like lights, dots, and geometric patterns (Lloyd et al., 2012; Merabet et al., 2004; Wackermann et al., 2001; Zubek, 1964; Zubek et al., 1961), as well the appearance of "vivid colours" and shapes (Suedfeld et al., 2018). Those visual hallucinations might become more complex and well-formed after long exposure to the Ganzfeld, progressing to more dream-like hallucinations (Heron, 1965; Heron et al., 1956; Hochberg et al., 1951; Suedfeld & Borrie, 1978; Wackermann et al., 2008; Zubek, 1964). While REST states are usually triggered experimentally, research has found that certain natural conditions can also recreate them as well as their effects, like starring at a completely cloudless blue sky, during a full-white blizzard or hiking in high-altitudes or desert landscapes (Wakerman et al., 2008).

Another example of an unusual spontaneous state during wakefulness is that occurring during certain types of meditative states. This state can be reached through meditative practices aimed at instructing the practitioner to shift their attention inwardly, with the ultimate goal of attending to the quality of awareness itself (Lutz et al., 2008, 2012). For instance, during "Focused attention" meditation practices, like mindfulness (Dunne, 2015; Lutz et al., 2008), meditators are instructed to observe how certain objects appear in one's conscious state, such as passing thoughts or one's breathing, thus reaching a state characterised by passive attention to one's mental state. Deeper meditative states are said to be reached through more advanced meditative practices, such as *Mahamudra* and *Samatha* meditations. These sorts of meditative practices are

classified as "open-monitoring" or '*objectless* meditation' practices (Lutz et al., 2008, 2012) since they aim at reaching a state of awareness where one is merely aware, without taking explicit notice of the contents of one's awareness (including the awareness of our conscious state itself).[50] As in the case of REST, certain meditative states can also trigger hypnagogic-like experiences. This is the case of the so-called "meditation-induced light experiences" reported by expert meditators involving the perception of dots, lights, and simple imagery during deep meditative states (Lindahl et al., 2014, 2017).

Finally, I also consider two other more unusual spontaneous experiences. One is the "mystical experience", a state described as the feeling of perceiving an "ultimate" or "unseen" reality (James, 1982; Wahbeh et al., 2018). Mystical experiences can arise from different situations. Whilst a lot of attention has been paid to mystical experiences resulting from engagement in religious or spiritual practices (see James, 1982), they do not always arise from those sorts of practices (Yaden et al., 2017). Mystical experiences have also been widely linked to states of deep meditation (Bronkhorst, 2017). Another unusual spontaneous state is that of the hypnotic state. This state is described as a process of suggestion carried out by a hypnotist guiding an individual to turn their attention inwards (Barnier & Nash, 2012; Kihlstrom, 2012). Hypnotic states can be deeper or shallower and give rise to different sorts of conscious content, ranging from more linguistic to kinaesthetic or somatosensorial (Cardeña, 2005). As with hypnagogia and REST states, hypnotic states might also involve the appearance of spontaneous imagery that might become more complex and vivid (ibid).

5.5. A phenomenological framework of spontaneous experiences

I present the groundwork for a multidimensional framework that situates unusual forms of spontaneous experiences with other more ordinary ones appearing across the sleep-wake cycle, like mind wandering and dreaming. This framework aims to develop a

[50] Other types of advanced meditative practices that are also said to lead to a similar state of objectless awareness are those of Transcendental Meditation and Stillness Meditation. For a detailed review of the similarities and differences across those practices, see Woods et al. (2020, 2022)

taxonomy that can be used for scientific practice to guide research on a variety of spontaneous experiences. Here, I limit the scope of this multidimensional framework to explain the distinctiveness of a group of unusual spontaneous experiences and the qualitative features that situate them apart from more ordinary forms of spontaneous experiences.

This framework draws inspiration from Windt's (2021) examination of the qualitative differences among subtypes of spontaneous experiences to include more rare forms of sleep phenomena. Windt focuses on examining the format of the conscious content of spontaneous experiences (quasi-linguistic, propositional, or imagistic) and their structure (immersive or non-immersive). Here, I build upon Windt's research by examining the more distinctive elements that make unusual spontaneous experiences stand out from ordinary ones and I spell out additional dimensions aiming at capturing those elements. This task involves a process of natural grouping by considering the phenomenological categories that emerge from real-world examples—examining subjective descriptions of unusual and ordinary spontaneous experiences found in the empirical literature. The scope of each category, that is, the range of degrees considered for each category, is determined by the distinctive qualitative features of the unusual and ordinary spontaneous states examined in this chapter. Thus, this proposed framework is primarily descriptive: it means to capture what sets unusual spontaneous states apart and contrast them with ordinary ones. Its purpose is to establish concrete and empirical markers that accurately describe the phenomenology reported in subjective accounts of these experiences. In the future, the range of dimensions could be extended to encompass a broader spectrum of phenomenological differences. Additionally, as research unfolds, further dimensions can be introduced. Furthermore, this proposed descriptive framework has the potential to evolve into a predictive framework that establishes links between similar phenomenological features across spontaneous experiences and their underlying mechanisms. I tentatively explore potential correlations among some of these phenomenological dimensions.

Furthermore, note that this framework can be applied to any other sort of conscious experience, including non-spontaneous ones. The dimensions I spell out only serve the purpose to capture what makes this group of unusual spontaneous experiences

especial, namely, their distinctive placement in the regions limiting those dimensions. Yet, the phenomenological dimensions I propose are not exclusive to spontaneous experiences: other mental states can also be described using those dimensions.

5.5.1. Self-revelation: from insightfulness to transcendence

The first dimension I propose is that of self-revelation or the subjective feeling that a certain state can bring about a feeling of insight into our minds, the world, or ourselves.

On the higher end of this dimension, we find a subset of unusual spontaneous experiences classified in the literature as "transcendent experiences" (see Fig. 5). Transcendent experiences are said to involve the feeling of having gained some new knowledge about the world, such as discovering something essential about our conscious experience and is said to be a distinct feature of mystical experiences (Gifford-May & Thompson, 1994). In this case, there is a feeling that a certain conscious state is a higher state of consciousness, a state that goes over and beyond any other sort of conscious state. The feeling of transcendence is also characteristic of the deep meditative state of *Samādhi* (Yamashiro, 2015) meaning "transcendence" (Wahbeh et al., 2018, p.20).[51] Different contemplative traditions regard the state of *Samādhi* as a state that does not involve a distinct object of awareness, including thoughts, emotions, or sensations, but only awareness itself (Shear, 1983, 2004). Moreover, certain authors regard this state as a "higher state" of awareness that transcends ordinary experience (Maharishi, 1972; Travis, 1994; Travis & Pearson, 2000). Other unusual spontaneous experiences also involve this feeling of transcendence. For instance, episodes of sleep paralysis and OBEs are sometimes regarded as having "spiritual" features (Hufford, 2005). For individuals with recurrent isolated sleep paralysis (RISP), there seems to be a conviction that those experiences have been generated supernaturally (Terrillon & Marques-Bonham, 2001).

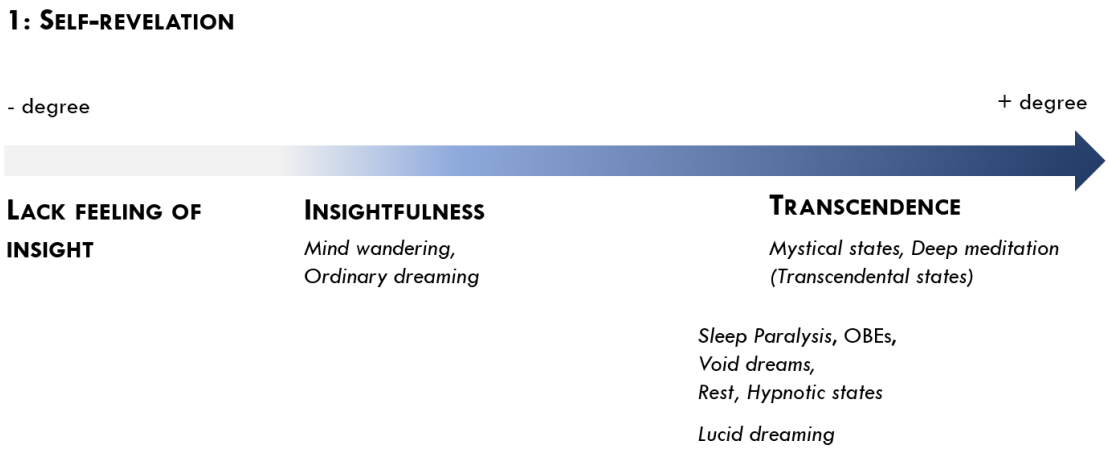
[51] Note that *Samādhi* is also understood as a state of tranquil or peaceful awareness, an absorptive and contentless state. For a review of how this term is used in different Indo-Tibetan traditions see (Wahbeh et al., 2018).

Similarly, OBEs and other sleep paralysis experiences are also sometimes taken to be the result of "psychic activity" (Rabeyron & Caussie, 2016) or "supernormal consciousness" (Crokall 1964 in Alvarado, 2012). Under certain conditions, reports of Ganzfeld experiences describe a state that provides one with revelations about the world or the perception of unreal things or beings (Arzy et al., 2005; Brugger et al., 1999). Reports of hypnotic states also allude to a state of being "one with everything" or "in a different reality" (Cardeña, 2005), as well as "having acquired greater insight or meaning" (Ludwig & Levine, 1965).

In addition to the unusual spontaneous experiences that I have examined, we might also want to include in the upper end of the spectrum of "*Self-Revelation*" some instances of lucid dreaming. According to some authors, at least some instances of lucid dreaming can be considered transcendental states themselves (Walsh & Vaughan, 1992). For instance, some intense forms of lucid dreaming are reported to involve a phenomenal shift in one's experience involving a feeling of "hyperreality" (Brooks & Vogelsong, 1999; LaBerge, 1985; Tart, 1979, 1984). This phenomenal shift is said to be due to the realisation that one's experience is self-generated (Metzinger, 2003, 2009), which in turn, might prompt one to reflect on the nature of waking reality (Walsh & Vaughan, 1992). Some studies have also revealed how lucid dreams might be a gateway to experience transcendental states such as the experience of the "divine" (Bogzaran, 1991) or the "ultimate reality" (Esser, 2014). Recently, Stumbrys (2018) has also highlighted the correlation between lucid dreaming expertise and higher scores in some dimensions of the Mysticism Scale (Hood, 1975), a psychometric scale used to assess the experience of mystical states (Stace, 1961). Previous work from Stumbrys and Erlacher (2016) highlighted how some people follow lucid dreaming practices with the aim to have spiritual-like experiences. However, one might wonder to what extent some of the experiences described are indeed a type of lucid dreaming experience or should instead

be regarded as a "dreamless sleep experience" akin to those mentioned by contemplative traditions (Mota-Rolim et al., 2020; Stumbrys, 2018).[52]

On a lower degree, this dimension of "*Self-Revelation*" can appear as a mere feeling of insight, the feeling that a certain mental state provides us with new knowledge. Certain instances of mind wandering are characterised by involving such a feeling. Some research shows that some episodes of mind wandering are regarded as insightful and meaningful the more self-generated and undeliberated they appear (Morewedge et al., 2014). Thus, there is a way in which conscious states regarded as the result of factors outside our control are deemed as bringing about some new knowledge about ourselves. Other spontaneous experiences involving a low degree of "*Self-Revelation*" are ordinary dreams, which are largely subjectively felt as experiences occurring outside our cognitive control. Morewedge and Norton (2009) found that participants across different cultures regarded their dreams as important sources of information since they were felt as spontaneously generated. In some cases, the specific plot of a dream was also reported to influence the participant's waking experience by shaping their affection towards others or the sort of decisions they took during the day.



[52] See §4.5.3 for a more detailed discussion on this point.

Figure 5. The dimension of "*Self-Revelation*" and its instantiation in different spontaneous experiences. The figure depicts a simplified example showing how some spontaneous experiences, including "unusual" ones are placed within the dimension of "*Self-Revelation*". On the upper end (right), we find "transcendent experiences" as those characterised by a strong feeling of having gained some new knowledge such as having a conscious state that goes above and beyond any other conscious state. On the bottom end (left), we find more ordinary experiences characterised by a certain sense of "insightfulness" or the feeling that those experiences provide us with some knowledge about ourselves or the world inasmuch as they appear to us as spontaneous.

5.5.2. Embodiment: From strong embodiment to selfless awareness

The second dimension I propose is that of the sense of embodiment or bodily ownership. Note that such a sense has been widely characterised in the literature, and that different authors have contested what such a sense should involve. Here, I use this dimension to capture the experience of having or owning a body (Martin, 1995). Thus, such a dimension contemplates the possibility that a sense of bodily ownership can occur without explicit mentions to the body (see De Vignemont, 2013), or without a sense of being contained within certain bodily boundaries (see Gallagher, 2017). Similarly, I also consider the possibility that this sense of embodiment might appear in a pre-reflective manner, involving the experience of the body as "experiencing" or "body-as-subject" (Legrand, 2006, p.97).

Most unusual spontaneous experiences are characterised by a very low sense of embodiment, to the extent of involving the experience of lacking any body. For instance, sustained exposure to Ganzfeld environments, particularly to immersive ones, has been found to induce a disruption of the sense of bodily boundaries, such as the dissolution of physical boundaries between oneself and the surroundings, leading to the experience of oneself as "one" with the environment (Ben-Soussan et al., 2019). Mystical experiences are also usually characterised by a disruption of the sense of self which involves the breakdown of the physical boundaries between self and other (Stace, 1961). As in the case of REST states, mystical experiences gained through meditation have been reported to trigger a disappearance of one's bodily-self (Ataria, 2015; Nave et al., 2021). Deep

hypnotic states are also described as involving the dissociation of one's own body from the environment (Cardeña, 2005)

Other unusual spontaneous experiences are characterised by a disrupted sense of embodiment. For instance, we can find reports of deep meditation involving the experience of a disrupted sense of bodily-self, such as feeling oneself smaller or bigger, or some body parts as being of a different size than usual (Maij & Elk, 2018). OBEs usually also involve a distorted sense of bodily-perception, including the feeling of "leaving" one's body or the transformation of one's body into a "sphere", "cloud" (Twemlow et al., 1982), or "ball" (Rabeyron & Caussie, 2016), as well as the experience of one's body melting (LaBerge, 1985). Similarly, in the experience of void in dreams, dreamers also describe the awareness of oneself as involving merely a "dot of consciousness" (Johnson, 2014), or a "speck of light" (Alcaraz-Sánchez et al., 2022).

Some ordinary spontaneous experiences have been characterised as involving a very strong sense of embodiment. This is the case of dreaming. According to some authors, it is this strong sense of embodiment that differentiates instances of mind wandering from dreaming. Dreams are regarded as "embodied forms" of mind wandering (Domhoff, 2018;Domhoff & Fox, 2015:344). However, dreams do not always involve a strong sense of embodiment, and different instances of dreaming can be situated across this dimension. For instance, Windt (2015a) claims that most dreams only involve a feeling of occupying a certain space and lack an explicit sense of bodily-awareness or body schema, and as such, should be regarded as cases of "a weak phenomenal embodiment". There is a variability in the degree of sense of embodiment in dreams, which could be nicely illustrated by this "*Embodiment*" dimension (See Fig. 6). In some cases, we find instances of strong embodiment in dreams, like those described by certain lucid dreamers who say to feel both their dream body and physical body while dreaming (see Van Eeden, 1913). Weaker forms of embodiment are displayed in more typical dreams, involving a sense of inhabiting the dream landscape without explicit awareness of the body. Even weaker forms of embodiment are portrayed in the so-called "bodiless dreams" (Cicogna & Bosinelli, 2001; LaBerge & DeGracia, 2000; Occhionero et al., 2005), dreams that lack a robust bodily-awareness, such as the awareness of a dream-

body, yet involving some sense of bodily-ownership or embodiment within the experience.[53]

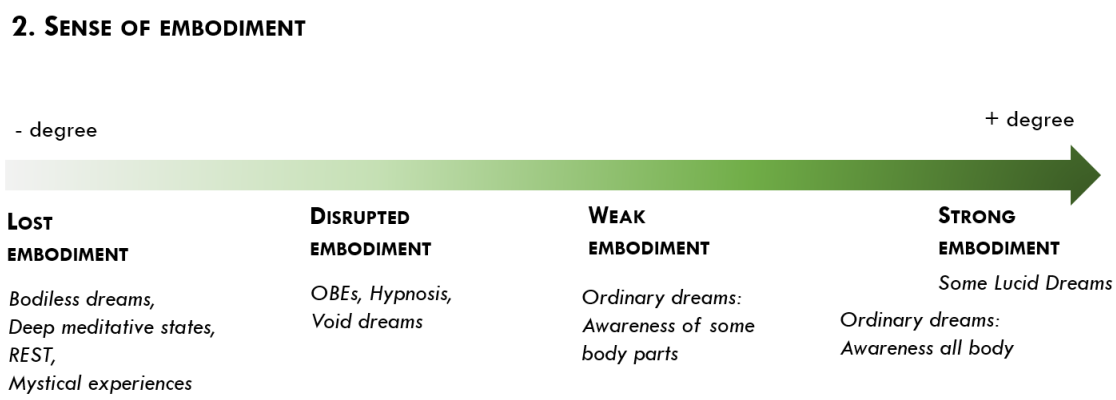


Figure 6. The dimension of "*Embodiment*" and its instantiation in different spontaneous experiences. The figure depicts prototypical examples of certain spontaneous experiences and their placement along the dimension of "*Embodiment*". On the lower end, we should situate unusual spontaneous experiences characterised by the lack of any bodily sense, such as bodiless dreams, deep meditative states, REST, and mystical experiences. A bit further along the spectrum, we would situate those experiences which are said to involve a disrupted bodily sense, such as OBEs, certain hypnotic states and void dreams. On the upper end, we should situate instances of dreaming where the dreamer can feel both their physical and dreaming body, as reported in some lucid dreams. Along that extreme, we would also find instances of ordinary dreaming were the dreamer feels embodied in their own dreaming body. In the centre, we would place more typical forms of dreaming involving a weaker form of embodiment, as well as certain bodiless dreams, which might still involve the feeling of certain body parts.

[53] While a consensus in the definition of "dreaming" is still required, if we adopt a simulational view of dreaming, we should further consider whether a minimal sense of embodiment, one involving a sense of "presence", would be enough to establish a sense of spatiotemporal situatedness and consequently classify experiences of void as a type of dreaming (see Alcaraz-Sanchez, 2021 for a discussion and Chapters 1 and 2). Some instances may involve a strong sense of self within a hallucinated world, as in typical dreams, while others may entail the experience of a disembodied entity positioned in space without a further reference frame of a physical-like world.

5.5.3. Temporal Passage: matching, disrupted, and apparent timelessness

A third proposed dimension accounts for the subjective experience of the passage of time. Various authors have proposed that the subjective experience of time is constituted by the feeling of nowness or the specious present (James, 1980; Varela, 1999), and the experience of duration, or flow of time (Wittmann, 2009; Wittmann & Schmidt, 2014). One distinctive feature characterising many unusual spontaneous experiences is the absence of this second constitutive feature of a subjective sense of duration (see **Fig. 7**). As a result, most unusual spontaneous experiences appear as "timeless", or conscious episodes lacking the experience of time (Ataria et al., 2015; Costines et al., 2021; Winter et al., 2020). Reports of timeless experiences are typical in long exposures to immersive Ganzfeld-like environments (Glicksohn et al., 2017) as well as deep meditative states (Ataria et al., 2015). Some other reports mention an experience that seemed to fall "outside time" (Droit-Volet & Dambrun, 2019), with the feeling that time has "stopped" (Marshall, 2005) or characterised as lacking a sense of passing time (Stace, 1961). However, it should be noted that technically some of those experiences are not completely "timeless". They might still involve a certain perception of time. For instance, some phenomenological reports from REST states allude to feelings of "expanded time" and the perception of a more "refined time perception" (Glicksohn et al., 2017:7; Wittmann & Schmidt, 2014). In these cases, we might wonder whether those experiences would still properly be accounted as being "timeless" or instead, to involve just a feeling of "nowness" or present time, which in turn, brings one to perceive them as expanding in time.[54] Thus, we might say that even the sense of passing time as the specious present might be affected during these experiences.

[54] A similar point has been made by Windt (2015b) who argues that even the most minimal conscious state involves the experience of "nowness" or pure subjective temporality. Her argument is based on an assertion made by authors within the phenomenological tradition who maintain that every conscious experience is constituted by a minimal sense of "presence" or specious present.

Some authors have correlated the experience of "timelessness" with attention to one's body. According to these authors, we have a sense of "embodied time" (Droit-Volet, 2014; Droit-Volet & Gil, 2009; Wittmann, 2014) which is modulated by interoception and bodily signals (see Droit-Volet et al., 2020; Wittmann, 2014, 2015 for a discussion). In the case of certain meditation practices, like mindfulness, the practitioner is instructed to pay especial attention to their body, which in turn, might lead to a better sense of embodied time (see Wittman & Schmidt, 2014). Preliminary research on experimentally induced out-of-body experiences seems to support this notion. A distorted sense of bodily ownership is reported to lead to overestimations of the passage of time (Droit-Volet et al., 2020), which favours the idea of the need for certain bodily-awareness of one's own body for an accurate perception of the passage of time. Similarly, other authors have also suggested that the lack of bodily self-awareness during states of deep meditation might be the reason why those experiences are perceived as timeless or as involving a disrupted passage of time (Winter et al., 2020).

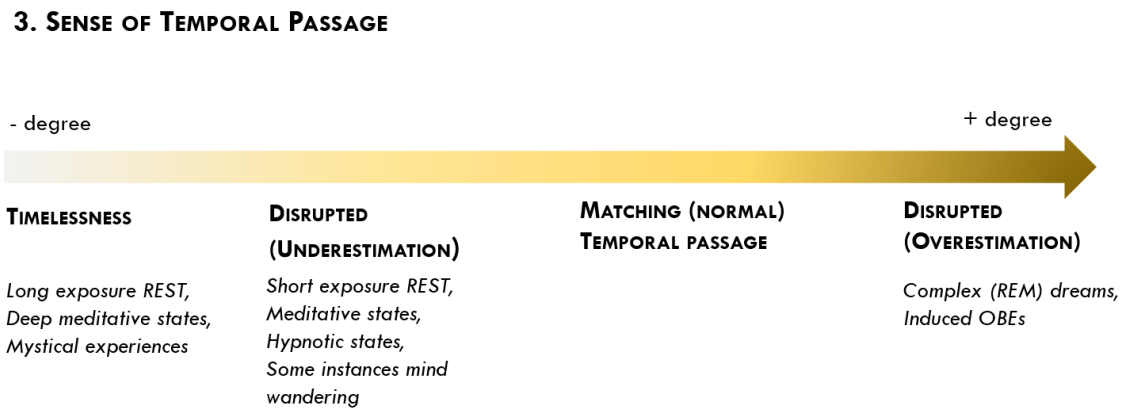


Figure 7. The dimension of "*Temporal Passage*" and its instantiation in different spontaneous experiences. This simplified diagram shows how unusual spontaneous experiences are characterised by a disrupted sense of the subjective passage of time. On the lower extreme (lower degree) we find certain phenomena such as REST, deep meditative states, and mystical experiences, which are commonly described as "timeless" or lacking any experience of time. I noted that some of those might indeed be accounted as cases lacking any perception of time altogether, whether others might involve a mere feeling of "nowness" or present time, which in some cases, might be perceived as extended. Other unusual spontaneous states like short exposure REST, common meditative, and hypnotic states and some instances of mind wandering have been described as involving an underestimation of the

flow of time; the passage of time feels shorter than it is. On the other extreme of the spectrum (higher degree), we find examples of some complex dreams, induced OBEs, and some hypnotic states which have been reported to involve an overestimation of the passage of time; the passage of time feels longer than actually is.

Finally, we find other phenomena in which the passage of time is experienced as disrupted. In certain cases, these unusual spontaneous experiences lead to an underestimation of time, like the time spent in the REST environment (Wackermann et al., 2001), meditating (Droit-Volet & Dambrun, 2019; Wittmann, 2015), or in a hypnotic session (Bowers, 1979; Naish, 2007). This contraction of the passage of time is also experienced during certain episodes of mind wandering. Terhune and colleagues (2014, 2017) found that participants reported an underestimation of the time interval it took for a stimulus to appear when they were distracted by their spontaneous thoughts. These authors proposed that this decline in temporal discrimination is due to perceptual decoupling during mind wandering; our attention is away from our task and is dissociated from perceptual input, giving place to attenuation of sensory processing which leads to impaired temporal discrimination (see Terhune et al., 2017). This proposal could explain time underestimation in REST, meditative, and hypnotic states; in those cases, our attention is directed inwards, away from external stimuli which might act as a reference point to correctly judge the passage of time. Dream researchers have also found differences in time perception across different sleep stages. For instance, Noreika and colleagues (2010) found preliminary evidence that complex REM dreams appear to last longer than static and brief NREM dreams. Therefore, we should investigate further how the complexity or richness of a certain spontaneous experience modulates the perception of the passage of time (see §5.5.5). This feature would explain why spontaneous states perceived as involving minimal content of awareness are accompanied by the feeling that the experience lasted less time than it actually did.

5.5.4. Absorption: from diffused attention to obliviousness

A fourth dimension accounts for the extent to which one's attention is fully absorbed or directed to an activity or certain mental objects to the point where one's attention is not directed elsewhere. Note that here I employ a very loose meaning of "mental object" to

include a variety of things. This notion includes mental objects that refer to distinct mind-independent things, like a table or a mug. It also includes other objects with mind-related referents, like thoughts, beliefs, and propositions, as well as non-intentional states, like moods, feelings, or emotions. Similarly, by conscious objects, I include anything that can be considered the referent of a mental state, such as the qualitative aspects of our conscious state or the phenomenal character of the experience. This dimension considers the level to which our attention is fixated on any of those objects, regardless of whether the referent is something internal or external to one's mind.

At the upper end of this dimension, we find a cluster of states coined "absorption" or "flow" states in the literature. States of absorption involve a state of deep engrossment in a task or activity, to the extent that one becomes oblivious to their surroundings (Csikszentmihalyi, 1990). The depth of absorption can vary, with extreme cases of absorption or *deep absorption* (Mohr, 2018) at the very top. [55] States of deep absorption are characterised by such focused attention that leads to a loss of self-consciousness (Csikszentmihalyi & Nakamura, 2018; James, 1982). Paradigmatic cases of deep absorption are found in meditation practices involving a shift in attention from the contents of one's mental state to the quality of the mental state itself, like that reached in *Mahamudra* or *Shamata* meditation (Dunne, 2015). Deep meditative states have also been associated with mystical experiences (Bronkhorst, 2017). States of deep absorption involve a particular type of attention fixated on the qualitative features of conscious experience itself, resulting in the experience of pure awareness or consciousness-as-such (Forman, 1990).

[55] Mohr (2018) argues in favour of different depths or levels of "flow" which might be dependent on different cognitive systems. For instance, she distinguishes between the paradigmatic case of "flow" states discussed in the literature, such as those achieved during sport activities (see Dietrich & Audifffren, 2018), and those described under certain Buddhist contemplative traditions. According to Mohr (2018), the later involve states of deep absorption leading to the experience of an altered state of consciousness (see Bronkhorst, 2017).

Another distinctive example of a state of deep absorption occurs during a type of REST state triggered by natural environments. Such a state known as "long-eye" tend to occur in individuals undertaking long expeditions in South Polar regions exposed to natural Ganzfeld environments, such as snowstorms, fog, and constant darkness or light (Suedfeld et al., 2018). This state of long-eye is described as a form of mental blanking (Rohrer, 1961) lacking awareness of the surroundings, as well as an absence of any other forms of mentation like imagery or thoughts (Suedfeld et al., 2018:557). Prolonged episodes of long-eye might lead to another state known as the "fugue state", which is described as a state of minimal or near-absent awareness (Mullin, 1960). Individuals experiencing this state report not having any recollection from the time they left the research station until their return (Barabasz et al., 1983). States of deep absorption are also reported during sleep. For instance, individuals reporting "void experiences" describe a state devoid of complex forms of self-consciousness and characterised by a sole focus on the phenomenal character of consciousness itself (see Alcaraz-Sanchez, 2021 and **Chapters 2** and **3**).

The term "absorption" is also employed in empirical research as a psychological construct to account for the *ability* to become absorbed (Tellegen & Atkinson, 1974). High levels of absorption as a trait have been associated with the occurrence of OBEs (see Alvarado, 2000 for a review). Consequently, we would expect that individuals having OBEs would also experience absorption, or a state of engrossment in a task or mental activity. Some studies suggest that individuals who experience OBEs tend to lose awareness of their surroundings while engaged in highly focused activities (see Alvarado et al., 1999). This trait of absorption has also been linked to deep hypnotic states (Lynn et al., 2012), described as states of attention to the present moment (de Pisapia & Penazzi, 2022). Furthermore, empirical studies have correlated hypnotic depth, degree of absorption, and changes in global connectivity (Cardeña, 2005). Deeper hypnotic states lead to heightened absorption, involving an "inhibition or reduction in the peripheral range of one's experience" (Rainville & Price, 2003:112). Thus, states of deep absorption entail sustained attention focused on very few objects of awareness, resulting in a "loss of touch" with the environment (Cardeña, 2005), which could account for the experience of pure awareness or a sense of unity with everything (ibid:48) involved in those sorts of states.

Traditionally, the ability to become absorbed has been associated with states of fantasying, like daydreaming (Wilson & Barber, 1981). Absorption has long been described as the "tendency to become deeply engrossed in sensory or imaginative experiences" (Lifshitz et al., 2019:2) and the disposition to fully engage to "one's representational resources, including perception, imagination, and ideation (Tellegen & Atkinson, 1974:268). Recently, a new body of research has introduced the construct of "maladaptive daydreaming" (Somer, 2002) to describe an extreme form of daydreaming in which individuals deliberately engage in extended periods of active imagining and fantasising, often as a substitute for real-life interaction, forming a kind of "parallel life" (Somer et al., 2016). Maladaptive daydreaming has been associated with other comorbid conditions, such as obsessive-compulsive behaviour (Soffer-Dudek & Somer, 2018). Reports of maladaptive daydreaming are also characterised by decoupling from external stimuli, with higher scores on the absorption scale (Bigelsen et al., 2016), and increased fantasy proneness (Somer et al., 2016; Wilson & Barber, 1981).[56] According to some, is this disposition to remain intensely focused on one's fantasies despite any distractions that characterises states of dissociative absorption like excessive daydreaming (Soffer-Dudek, 2019:54). Although these forms of intensified daydreaming can be characterised as states of absorption due to the strong fixation on the content of the imaginative act, resulting in a disregard for other internal or external stimuli, they appear subjectively different from the earlier mentioned states of deep absorption in that they do not seem to lead to a state of pure awareness or non-dual awareness.

States of high absorption involve such focused and fixated attention on a particular conscious object that set them apart from other more ordinary forms of spontaneous experiences like mind wandering and more common forms of daydreaming. The definition of mind wandering remains a contentious topic of debate, but one of the most widely accepted definitions regards it as a spontaneous state decoupled from

[56] The experience of intensified forms of daydreaming, like maladaptive daydreaming, has been linked to dissociative experiences. Individuals experiencing maladaptive daydreaming tend to score higher in the Dissociative Experiences Scale (Somer, 2002), which might explain their subjective disconnection from reality.

external input and weakly constrained from cognitive monitoring (see Christoff et al., 2016). Some authors emphasise the dynamic nature of mind wandering, the drifting from one thought to another as a distinguishing feature. For example, Irving (2016) proposes defining mind wandering as "unguided thought" to capture this aspect of attention during mind wandering, where thoughts move from one topic to another. According to Irving, mind wandering should be viewed as a state of "dispersion," distinct from absorption, where one is completely engrossed in a single idea (ibid). Under Irving's view, mind wandering and absorption are two phenomenologically distinct states. Yet, given the similarities between mind wandering, ordinary daydreaming and more intense forms of daydreaming, a tentative proposal is that those states move along a continuum, and those the differences between those states are not qualitative, but a matter of degrees: they differ in their degree of absorption. We could then position typical forms of mind wandering towards the lower end of this dimension of "*Absorption*". By examining the level of absorption instantiated in these experiences, we can gain a better understanding of their different phenomenology. Similarly, this dimension can be of use to relate more absorptive forms of daydreaming, like that occurring in maladaptive daydreaming, with episodes of deep absorption. In both cases, we might want to say that the experiences at stake involve a high level of absorption, yet only those experiences that involve a fully focused attention to a particular conscious content to the point of oblivion from any other object of awareness could be positioned to the extreme end of "Full Absorption" (See **Fig. 8**).

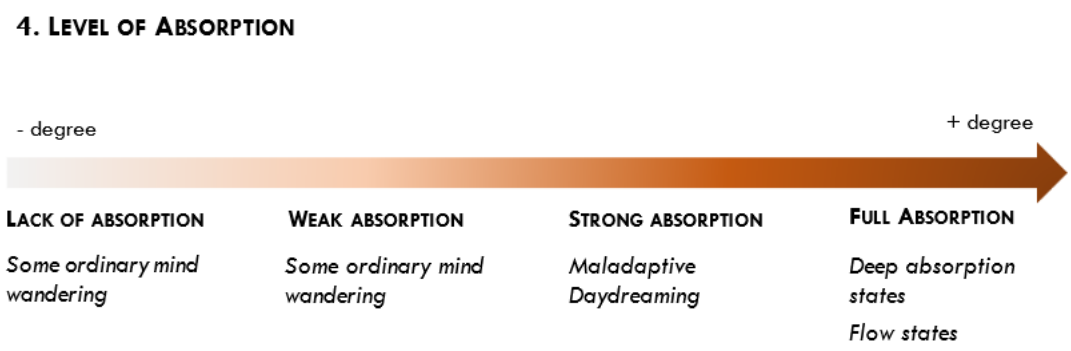


Figure 8. The dimension of "*Absorption*" and its instantiation in different spontaneous experiences. On the high end, we find paradigmatic cases of states of deep

absorption. These states are described in the literature as involving such a degree of sustained attention focused on a particular object that leads to such a state of oblivion of any other content that is experienced as a state of pure awareness, or just consciousness. On the lower end, we find ordinary states of mind wandering, which are also described as states of decoupling from external information and attention to one's inner mental state. However, episodes of mind wandering involve a more dynamic sort of attention, alternating with different objects of awareness, which distinguishes it from states of absorption. In some cases, episodes of mind wandering characterised by predominant imaginative and more immersive content, like daydreaming, can be placed higher in this dimension. Particularly, states of excessive daydreaming, like maladaptive daydreaming, would be placed closer towards the end of "full absorption".

5.5.5. Richness of the experience: from complex to minimal content

Finally, we should consider how complex or rich each experience is *subjectively* regarded. Note again that the dimensions that I am proposing here are phenomenological dimensions, and thus, we should consider how such an experience *appears* to us.

One of the distinctive traits of unusual spontaneous states is that they involve a sort of conscious content that appears as "degraded" or "minimal" if compared to ordinary conscious experiences. For instance, some instances of sleep paralysis and OBEs are described as the perception of simple visual patterns, cloud formations or bright-coloured lights (McCreery & Claridge, 1996), or involving purely kinaesthetic sensations (Cheyne et al., 1999). This feature of degraded content is also characteristic of the experience of void in dreams, with descriptions alluding to kinaesthetic feelings of "floating" or "moving" in space, without further bodily-awareness (Alcaraz-Sanchez, 2021; Alcaraz-Sánchez et al., 2022). Void dreams also involve the experience of ineffable sensations such as the perception of "darkness" or "void" (LaBerge & DeGracia, 2000) or the awareness of "nothingness" (Alcaraz-Sánchez et al., 2022). In some cases, these sorts of "void" experiences during sleep are reported as lacking content of awareness (Ponlop, 2006). Similar reports are also found in deep hypnagogic states involving an awareness of "total nothing", "great darkness", and a sense of "void" (Cardeña, 2005). Long exposures to the Ganzfeld can also lead to an experience known

as “blankout” (Cohen, 1957, 1958), described as a complete lack of the sense of vision and the inability to tell whether one has their eyes closed or open (Wackermann et al., 2008). Finally, certain deep meditative states, like *Samādhi*, are regarded as lacking an object of awareness, including thoughts, emotions, or sensations, and only involving awareness of the pure phenomenal aspect of the mind (J. Shear, 1983, 2004). Certain sorts of mystical states are also conceived as instances of pure conscious events and are said to lack intentional content (Forman, 1988).

The subjective complexity of the experience depends on several factors. One is the type of representational format of the conscious content (i.e. propositional, imagistic, sensorial…). In the case of unusual spontaneous experiences, they tend to lack quasi-linguistic or propositional content. I suggest that is this lack of propositional content that seems to set them apart from other more traditional forms of spontaneous experiences like mind wandering, which are usually regarded as involving propositional content (Smallwood & Schooler, 2015). Similarly, certain more ordinary experiences also tend to be characterised by conceptually-meditated content, which is often regarded as more complex than non-conceptual forms of content. Nevertheless, we should consider that while episodes of mind wandering tend to be characterised by involving propositional or conceptual content, this is not always the case. Episodes of mind wandering can be instantiated in different representational formats, including quasi-visual and imagistic content (see Stawarczyk et al., 2013). Thus, empirical research on mind wandering should provide clear instructions to research participants so we can capture a wider range of mind wandering episodes, including those more sensorial or imagistic ones (see Windt, 2021 for a discussion). By doing so, we could examine in more detail whether different types of representational content lead to phenomenological differences: whether there is an association between the type of representation and the felt complexity of the content. It could be that some experiences of mind wandering are more akin to unusual spontaneous states, involving a sort of conscious experience that is subjectively regarded as more “minimal” or simple.

Another factor influencing the assessment of the complexity or richness of an experience is the representational level of the content available. It is a contentious point of debate whether consciousness comes in degrees, or whether instead, it should be

considered and all-or-nothing phenomenon. Recently, some authors have argued against the idea of "degrees of consciousness" by proposing that what distinguishes different conscious states is the level of information processing available in each state and the level of complexity of the content (Bayne et al., 2016; Kouider et al., 2010). For instance, during a certain state of awareness, we might only be able to access the lower-level features representing that state (i.e. its colour or shape), while others might allow access to higher levels of representations (i.e. meaning or concepts). Thus, the level of information processing taking place would impact the way a conscious experience is qualitatively regarded as more or less vivid, rich, or detailed (Fazekas & Overgaard, 2016; Jonkisz et al., 2017), bringing one to deem that experience as more or less complex. I propose that the level of information processing available would help us to further understand experiences of apparent selflessness or timelessness. As I discussed above, there seems to be an association between the degree of "*Absorption*", "*Embodiment*" and "*Temporal Passage*". In the case of experiences of deep absorption, there is such a high degree of perceptual decoupling that it only provides access to very low-level features of our experience, in this case, those pertaining to a minimal sense of embodiment or present time. This might explain why those states are experienced as such focused and fixated forms of absorption.

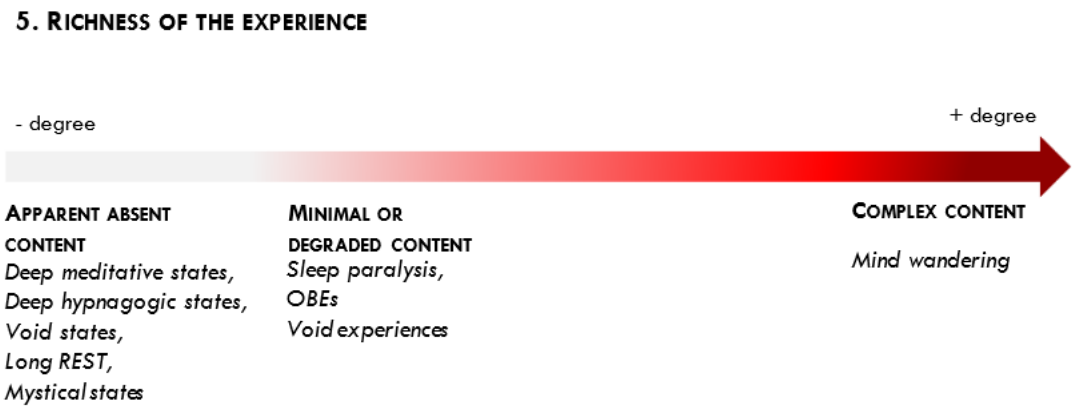


Figure 9. The dimension of "*Richness of the Experience*" and its instantiation in different spontaneous experiences. The diagram shows how we could situate paradigmatic cases of different spontaneous experiences within the spectrum of "*Richness of the Experience*". At the lower end, we expect to find unusual spontaneous states subjectively experienced as lacking conscious content, states that are

said to be about nothing or to be a state of pure awareness. Further up the spectrum, we would expect to find other experiences that are still subjectively regarded as less rich and complex and tend to be described as involving some minimal contents of awareness. On the upper end, we would expect to find states that are said to be felt as more complex and richer, such as mind wandering. Nevertheless, note that this is a very simplistic illustration of how such states should be situated. As I discussed, the degree of richness of the experience allows for further fine-grained distinctions, which can be affected by the type of representational content or the level of information-processing taking place.

5.6. A further application of the phenomenological framework of spontaneous experiences

Thus far, I have examined a subgroup of sleep and wakeful experiences, referred to as unusual spontaneous experiences, and I have situated them within a framework of spontaneous states. I have argued that inasmuch as those states involve the subjective feeling that they are internally generated and undeliberated—they are not constrained or determined by external or internal constraints—they can be regarded as a sort of spontaneous experience. Moreover, I have identified common features that characterise these experiences which I have shown to overlap to varying degrees with other spontaneous states. Building on these distinctive features, I have set the grounds for a phenomenological framework that situates different spontaneous states as regions within a multidimensional state space. In this final section, my goal is to show the empirical value of the proposed framework. To that aim, I will illustrate how this framework can be applied to the experience of the clear light sleep, as described in Tibetan Buddhism. By doing so, I aim to guide future research on this particular phenomenon and its relationship to other conscious states.

As discussed in Chapter 1, despite existing efforts in the literature to explain the ontology of the clear light sleep, further conceptual and empirical work is required. First, canonical descriptions of the clear light sleep are varied and heterogeneous, raising questions about whether a single phenomenon is being described or if instead a group of distinct phenomena is involved (see Introduction and Chapter 4 for a discussion). Second, most of the descriptions available rely on anecdotal and second-hand descriptions rather than first-hand. Third, some of these descriptions incorporate metaphysical claims about the nature of the mind rather than offering phenomenological descriptions of such a state.

Therefore, there is a need to clarify the nature of the state of clear light sleep through rigorous phenomenological investigation. Some work has been undertaken to explore the phenomenological features of such a state. Initial findings indicate different ways in which a sleep experience is characterised as one of "nothingness" by their experiencer, ranging from a very minimal sense of self-identification with an aspect of the experience, to a bare feeling of being aware that does not involve a robust subject of the experience (see Alcaraz-Sánchez, 2021; and Chapters 2 and 3). Throughout this thesis, I have emphasised the need for developing an integrated research programme to studying the clear light sleep and other forms of objectless sleep experiences. Here, I provide suggestions on how my multidimensional phenomenological framework could be applied to advance this endeavour.

First, the multidimensional framework can be used to distinguish genuine instances of the clear light sleep from other forms of minimal awareness during sleep. In previous chapters, I have raised the question of whether descriptions of the clear light sleep in the literature refer to a distinct state of pure awareness during sleep or whether they describe a variety of states, including awareness of the qualitative aspects of our mind, or the awareness of minimal forms of content (see Alcaraz Sánchez, 2019 for a review). One way to address this question empirically is by examining the placement of the clear light sleep within the framework. If the clear light sleep is indeed a distinct state of objectless sleep awareness, we would expect it to exhibit distinctive scores across all the proposed dimensions.

For instance, to investigate whether qualitative reports of objectless sleep awareness are indicative of a state of pure awareness or clear light sleep, we can examine the relevant phenomenological features of these reports and assign them different values for each dimension of the framework. Let us consider some subjective reports gathered in the "*Objectless Sleep Experiences*" research project as an illustration (see Chapters 2 and 3). Some reports alluded to an awareness of a state of nothingness during sleep, characterised by the absence of an "ego" or a "self", and in most cases, a lack of bodily awareness. These reports would score very low on the "*Embodiment*" dimension, aligning with the scores associated with paradigmatic cases of the clear light sleep. If those reports also exhibit similar scores on the other phenomenological dimensions of

the framework as to those attributed to the clear light sleep, we would conclude that these two reports refer to experiences that are phenomenologically the same. Further conceptual work should examine whether they point towards the *same* sort of state.

Nevertheless, as I emphasised in chapter 3, even those reports that appeared to suggest a complete lack of embodiment and were described by participants as "selfless", upon closer examination, we could identify some more elements of the sense of self present. For instance, some reports hinted at a certain degree of self-identification with an aspect of the experience, which raises questions about whether they truly lacked any sense of embodiment altogether or whether a very minimal one still remained. Consequently, these reports would receive a different score on the "*Embodiment*" dimension, thus setting them apart from reports of the clear light sleep. The question of what constitutes a genuine state of selflessness is a contentious point of debate. Some authors argue that all conscious experiences, even those that are allegedly described as "selfless", are characterised by a minimal sense of bodily ownership, understood as the pre-reflective self-awareness of one's body. There's a sense in which the sense of embodiment is experienced as a merely subjective "lived body"(Thompson, 2007). In the case of objectless sleep experiences, some have argued that these might not be completely lacking a phenomenal sense of embodiment but involve a minimal sense of embodiment such as a bare feeling of "sentience" or "being alive" (Thompson, 2015b). Thus, we could expect reports of non-dual awareness, like those during the clear light sleep, to involve some sort of minimal sense of self-identification with the experience. Similarly, others have argued that in so-called selfless experiences, some aspects of the sense of self may persist, which would explain why some features, such as a sense of minimal identification with the experience, are present (see Lindström et al., 2022; Millière, 2021 for a discussion). It is beyond the scope of this chapter to further examine what an experience scoring on the lowest point on the dimension of "*Embodiment*" would look like. My intention here is to offer pointers for guiding future empirical research comparing different reports of objectless sleep awareness, and how we can determine whether they represent genuine instances of the clear light sleep. Ultimately, such a decision would not solely rely on their placement within the multidimensional framework but would also depend on how we theoretically define the clear light sleep and its constituent features.

Second, the proposed framework can also be employed to compare the clear light sleep with other experiences during wakefulness, such as the other unusual spontaneous states examined here. If we take the canonical reports of the clear light sleep at face value, we expect it to be a very similar experience to states of deep meditation like *Samādhi*. Remember from Chapter 1 that within *Mahamudra* and Dzogchen's teachings, the clear light sleep is conceived as a self-luminous or self-illuminating state (Fremantle, 2001), a state where we are intrinsically aware of the qualitative aspect of consciousness. In the clear light sleep, there is nothing to be aware of except the phenomenal character of the experience. Tibetan Buddhist authors refer to such a state as a recognition of the essence of consciousness—that very quality that makes a state conscious. Thus, there is a way in which experiencing the clear light sleep leads to a state of "transcendence" inasmuch as it brings about the feeling of having gained an essential truth, in this case, about the nature of consciousness (see the notion of "broader lucidity" in **Chapter 4**). This feeling of transcendence bears resemblance to mystical experiences and states of deep meditation, implying that the clear light sleep is likely to score highly on the dimension of "*Self-Revelation*".

Similarly, traditional descriptions mention that the clear light sleep lacks awareness of one's environment or any other experiential features. Yet, there is still sustained and focused attention on the self-awareness aspect of consciousness (Fasching, 2008; Fremantle, 2001; Ram-Prasad, 2007; Thompson, 2014). Earlier I described how this attention to the non-intentional features of the experience, that is, a state of mere reflexive awareness, also characterised deep meditative states like *Samādhi*. Thus, in both cases, we would expect those experiences to score high in the dimension of "*Absorption*". Moreover, As I noted earlier, some authors have argued that this capacity of focusing to certain aspects of the experience, characteristic of states of deep absorption, tends to lead to the disappearance of objects of awareness, including those associated with one's sense of self, giving rise to an apparent "selfless" experience (Berkovich-Ohana & Wittmann, 2017; Wittmann, 2015). Similar suggestions have been made regarding states of deep absorption and the experience of "timelessness" (Glicksohn, 2001). Higher degrees of absorption are believed to be linked to objectless or contentless states, where the amount of information processing concerning different aspects of conscious experience decreases. This explains why states involving awareness

of awareness itself appear to the experiencer as objectless or contentless awareness. Therefore, both *Samādhi* and the clear light sleep would also score low on the "*Temporal passage*" and "*Complexity of content*" dimensions.

If both reports of *Samādhi* and the clear light sleep were to receive identical scores in the framework, we would conclude that both states are phenomenologically the same (see **Fig. 10**). Alternatively, it could be that even though both states score similarly across all the dimensions in the framework, individuals still describe them as qualitatively distinct. In that case, we should explore whether there might be additional phenomenological dimensions that are missing in the framework: dimensions that account for a relevant property of one of those states. As previously mentioned, the framework can be extended and modified in light of future research. Thus, furthering examining the reports of two experiences that score similarly in the framework yet are reported to be qualitatively different would be a good way to proceed.

Figure 10. Hypothetical comparison of different meditative states and the clear light sleep. The graph depicts a hypothetical scenario comparing two different meditative states with a prototypical

instance of the clear light sleep. The Meditative State 1 (orange) would be a state reached through a "Focused Attention" practice, like mindfulness, involving an awareness of certain elements of the experience, like one's breath or bodily feelings. We would expect such a state to score very moderated-to-low in "*Embodiment*". Similarly, due to this lower sense of embodiment, such an experience might lead to the perception of extended time (Wittman & Schmidt, 2014). The Meditative State 2 (yellow) would be a state reached through a deeper sort of meditation aimed at attending the qualitative features of consciousness itself, like in *Shamata* meditation, involving a very low bodily-sense and maybe leading to a state of apparent timelessness, experienced as stillness or presence. This second meditative state would be more akin to a prototypical case of the clear light sleep (dotted green), which, according to descriptions found in contemplative traditions, is a state of non-dual awareness, like *Samādhi*.

Finally, we could employ the proposed framework to gain a deeper understanding of the phenomenological similarities between the clear light sleep, associated unusual spontaneous states, and more ordinary spontaneous states. I propose that the multidimensional framework can guide research on the ubiquitous experience of mind blanking, which shares similar phenomenological features with the clear light sleep, as well as with deep states of absorption, like *Samādhi*. Mind blanking is described in the literature as a state in which one feels as if, for a while, one was not aware of anything. Episodes of mind blanking subjectively appear as episodes in which one was awake yet lacked conscious awareness (Ward & Wegner, 2013). Mind blanking is a common state associated with mind wandering. However, unlike mind wandering, mind blanking is characterised by the lack of conscious content, where one's mind was "nowhere" (Kawagoe et al., 2019) or went literally "blank" (Ward & Wegner, 2013). Different researchers have proposed various explanations to account for mind blanking. Some argue that during mind blanking there is a lack of linguistic-like thoughts or "inner speech", which appear as a state of blankness (Andrillon et al., 2019; Kawagoe et al., 2019; Ward & Wegner, 2013). Others suggest that mind blanking may involve some sort of content, but one that is not remarkable enough to be remembered. Finally, recent suggestions hint at the possibility that states of mind blanking might lack contents altogether, not just linguistic-like, a hypothesis that seems to be supported by experimental research showing the neural profile of mind blanking as not facilitating the "formulation of reportable content" (Mortaheb et al., 2022). If this later hypothesis proves to be true, we could consider the experience of mind blanking as a genuine

candidate for a state of true absorption or "full-absorption" (Metzinger, 2020). In such a state, attention may not even be directed towards low-level features of our experience, such as the quality of consciousness itself, which is said to be involved in the state of *Samādhi*. In a state of full-absorption, there is a lack of attention to anything. One speculative claim is that mind blanking episodes lack any representational content whatsoever. Therefore, these states can only be accessed once the experience has ended, and we can only provide retrospective descriptions of such a state as a conscious state.

Further research should be conducted to shed light on the question of the mental content involved in the experience of mind blanking and the extent to which it differs from states of deep absorption like Samadhi. The dimension "*Richness of the Experience*" could serve the purpose of discriminating between those states. In mind blanking, the experience would involve some very minimal content about the state itself, whereas, in deep absorption, it would be perceived as lacking content altogether (**Fig. 11**). Similarly, it is also possible that certain instances of mind blanking only lack the typical sort of linguistic and propositional content that distinguishes mind wandering, yet, upon closer examination, some instances might involve a sort of sensorial content similar to those void dreams and experiences said to involve the awareness of "void" or "darkness" (see Boulakis et al., 2023 for a proposal on different types of mind blanking).

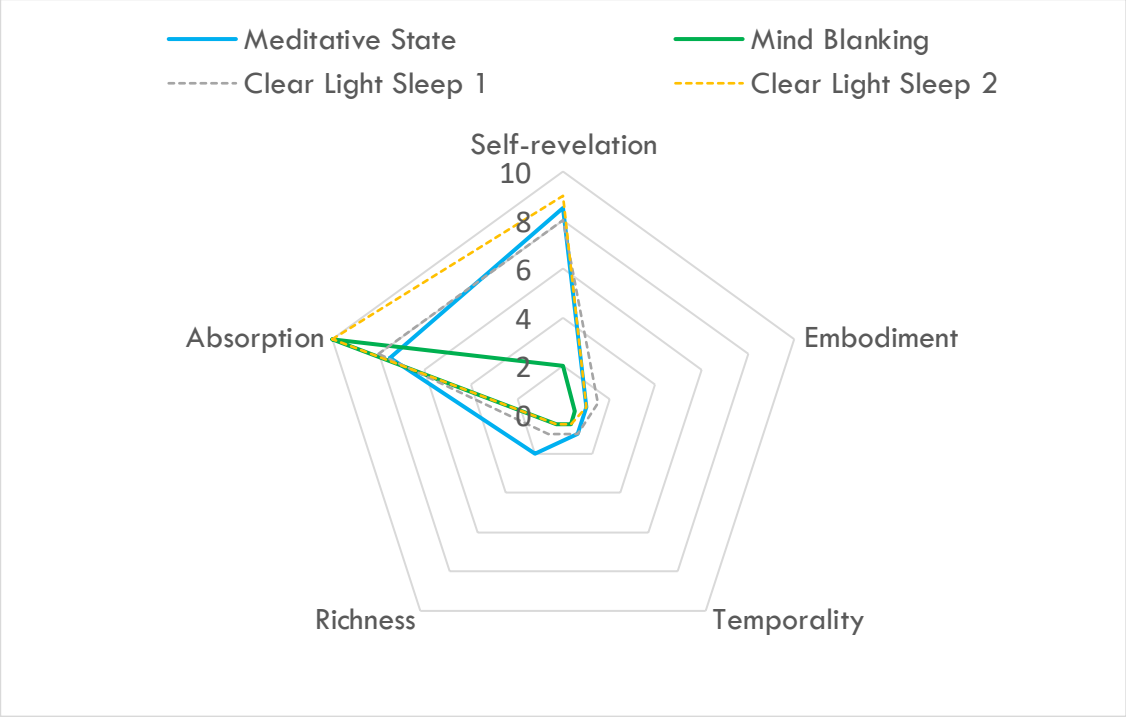


Figure 11. Different instances of the clear light sleep compared to meditative absorption and mind blanking. The graph depicts a hypothetical comparison of two different instances of the clear light (dotted grey and dotted yellow) with instances of a meditative state (blue) and an instance of mind blanking (green). While both meditative states and mind blanking are characterised as involving a high degree of "*Absorption*" (i.e. they are states of deep absorption), we would expect the prototypical state of mind blanking to be an instance of full-absorption episode since this is a state that is said to lack content altogether. However, even instances of deep meditative absorption are said to involve a sort of non-propositional meta-awareness as the sustained awareness of the phenomenal character of the experience. Those states of deep meditation could be said to be more similar to instances of the clear light also described as a self-luminous state; a state of pre-reflective awareness (see dotted grey). On the contrary, some other instances of the clear light might be more akin to a state of awareness that does not involve any sort of meta-awareness; a state of complete absorption that can only be accessed while entering or emerging from it (see dotted yellow).

5.7. Conclusion

While most research on the continuity of experiences across the sleep-wake cycle has focused on studying quite complex forms of conscious experiences such as mind wandering and dreaming, less attention has been paid to other sorts of conscious experiences that might be regarded as ineffable, brief, or difficult to access. In this

chapter, I have examined how a subgroup of unusual conscious states, characterised by their ineffability and lack of linguistic content, can relate to other more typical forms of spontaneous experience. To that aim, I have isolated different phenomenological features distinctive to this subgroup of spontaneous experiences and used them to situate these phenomena amongst a larger continuum of spontaneous experiences. I have proposed that this subgroup of experiences can be linked to other sorts of spontaneous mental events if we situate them along the dimensions of "*Self-revelation", "Embodiment", "Temporal Passage", "Absorption"*, and "*Richness of the Experience"*. Moreover, I have shown a further application of the proposed framework by examining how it could help to situate a particular sort of spontaneous sleep experience, which is a current target of research for studying the nature of consciousness: the clear light sleep.

CONCLUSION

Objectless sleep experiences

This thesis begins by advocating for the adoption of the construct "objectless sleep experiences", which refers to a range of sleep experiences characterised by the absence of a distinct object of awareness. I claimed that an integrated programme is needed to study these sorts of experiences. The need for such a programme is emphasised due to the lack of agreement as to what experiences such as “sushupti” or the clear light sleep are, as well as the problems with the notion of “pure awareness”. By adopting the construct of objectless sleep experiences, we can make sure that our investigation takes a more neutral viewpoint, one that considers the possibility that there is not a unique state of objectless sleep awareness, but that multiple ones can be instantiated. Doing so allows for a more inclusive approach that considers, from the start, how such phenomena are experienced. The definitions of sushupti or the clear light sleep provided by certain Indo-Tibetan philosophical traditions, such as the Advaita Vedānta or Tibetan Buddhism, rely heavily on metaphysical commitments held by authors in these traditions, raising questions about their correspondence to the actual phenomenology of these experiences.

The results from the investigation conducted in this thesis suggest that there is a broader spectrum of sleep experiences than what is currently conceptualised in sleep research. A group of sleep phenomena subjectively experienced as lacking a distinct object of awareness has been significantly overlooked. These groups of experiences belong to the same family of experiences insofar as they are said to be “objectless” or contentless—they appear as a state that lacks the sort of object-directedness characteristic of ordinary consciousness. Nevertheless, as I have argued through the thesis, while these experiences might intuitively appear objectless, they do not necessarily lack all representational content. The construct of objectless sleep experience is a phenomenologically grounded term. A closer examination reveals that different objects of awareness can indeed be discerned.

The findings from the empirical studies presented in **Chapters 1** and **2** support the notion of objectless sleep as a spectrum of experiences. A seemingly common state

emerged from the reports gathered. This state was described as a conscious state lacking an object of awareness, or an awareness of "something". It was said to lack sensorial content and, in most cases, involved just a feeling of knowing that one was aware while the state was ongoing. However, the results also indicated variations in the instantiation of this state. Some participants described experiences closer to the prototypical description of the state of clear light sleep as accounted for in Tibetan Buddhist traditions: a state of non-duality lacking the experience of a distinct or rigid "ego" and concrete objects of awareness. In other cases, the reports suggested an experience that not only appeared as contentless but also as selfless—it was said to lack the experience of a self, other than a sense that the experience was a subjective one. Yet, other reports characterised such a state as involving a minimal sense of spatiotemporal location and a feeling of physical boundaries—the feeling of being located somewhere. I argued that some of these latter reports might be cases of minimal dreaming. Nevertheless, in some cases, it might be extremely difficult to tell apart cases of minimal dreaming from objectless sleep experiences. Further work should explore whether there is any distinctive phenomenological feature that discriminates between both, or whether rather both experiences can be situated along a spectrum, and the differences across them are gradual rather than discrete.

A more pluralist view can account for the variability of the experiences from the collected reports by considering differences in several phenomenological dimensions. By regarding those experiences as part of a family of "objectless sleep experiences", we can account for the differences across reports by variations in their qualitative properties. In **Chapter 5**, I motivated the adoption of such a pluralist account of objectless sleep experiences by spelling out the groundwork for a framework aiming at situating different instances of these sorts of experiences. I showed how we could account for paradigmatic cases of objectless sleep, as well as variations of it, by considering how several phenomenological dimensions are instantiated. In its most paradigmatic form, states of objectless sleep awareness, as those described under the notion of the clear light sleep by Tibetan Buddhism, would involve a state of just awareness of the non-intentional features of consciousness itself. I argued that such a state could be conceived as a state of deep absorption, similar to certain meditative states in which there is a high level of decoupling from external information processing. Moreover, I argued that such an intensified

focused attention to the quality of the experience itself is what leads to a "selfless", "timeless", and "objectless" state. I drew upon proposals in the literature to show how the dimensions of "*Embodiment*", "*Temporal Passage*", and "*Richness of the Experience*" proposed in the framework would be like in states of deep absorption. Additionally, I argued that paradigmatic cases of objectless sleep awareness would score high in the dimensions of "*Self-Transcendence*", the feeling that an experience provides one with new truths about the world, the mind, or oneself. Such a feature can be explained by appealing to the notion of "broader lucidity" that I defended in **Chapter 4.** These instances of objectless sleep awareness can be said to be lucid or to have this feature of a feeling of transcendence, inasmuch as they appear to one as the seeming recognition of the essence or nature of consciousness, the phenomenal character of the experience, as per the Tibetan Buddhism conception.

The wider spectrum of sleep-wake experiences

In the introduction, I emphasised the significance of studying objectless sleep experiences in relation to standard taxonomies of sleep phenomena. While sleep research has primarily focused on the study of dreaming and more immersive forms of mentation during sleep, it has largely overlooked minimal forms of mentation, such as objectless experiences. Throughout this thesis, I emphasised the challenges in establishing a clear cutoff line between certain forms of dream-*less* sleep experiences (see Windt et al., 2016) and more typical forms of dreaming. Adopting the framework I proposed in **Chapter 5** offers a valuable opportunity to enhance our understanding of similarities and differences across sleep phenomena. For instance, this framework can be used in empirical research to situate different types of dreaming described in the literature, such as bodiless dreams and dreams of "the void", alongside the suggested phenomenological dimensions, so they can be compared to more paradigmatic cases of objectless sleep awareness. This framework might serve as a proof of concept that requires further empirically-based research. For instance, the framework could be used to guide future research by providing participants with pre-determined phenomenological features they should attend to in their sleep experiences. This approach can be helpful for the study of certain sorts of elusive and ungraspable phenomena. These pre-established phenomenological features could be used to develop questionnaires aiming at capturing the most important

qualitative aspects of those sorts of experiences, thus helping participants to put into words their experiences, but also, helping them to pay attention to those aspects. Similarly, the framework could also be used to aid experimental protocols for future research. Thus, we could utilise the framework to carry out a "front-loaded" phenomenological study (Gallagher, 2003). An experimental protocol can be phenomenologically inspired by using insights and previously identified phenomenological dimensions to guide the design of an experiment. For instance, in a future study, we could further explore the distinctions between minimal dreaming and the clear light sleep by assessing the richness of the experience in the reports and the degree of embodiment of our study participants. Contrary to the more exploratory work I have carried out in this thesis, in a front-loaded phenomenological study, we would use pre-established phenomenological dimensions to guide our research questions, data acquisition, and data analysis.

Furthermore, the framework presented in **Chapter 5** aims at establishing connections between objectless sleep experiences and other types of waking experiences. Building upon current research on spontaneous experiences during waking, such as mind wandering and dreaming, my framework extends this line of inquiry by highlighting objectless sleep experiences as part of a spectrum of spontaneous experiences across sleep and waking. Given the challenges in studying experimental objectless sleep states—they are extremely difficult to capture and describe—having a framework that links them with other forms of conscious experiences can be advantageous for methodological purposes. For instance, I showed how states of deep meditation could be situated similarly to paradigmatic cases of the clear light sleep in this multidimensional state space. If this is the case, studying further states of deep meditation, particularly those attained through objectless or open-monitoring meditation, could enhance our understanding of objectless sleep awareness. In **Chapter 4**, I argued that the notion of lucidity that best captures states of objectless sleep awareness is also employed to describe certain states of deep meditation, such as those during *Mahamudra* or *Samadhi*. Such a notion involves the feeling that one is directly acquainted with the phenomenal character of the experience. Additionally, meditative practices traditionally rely on the adoption of particular belief systems that influence one's experience, where expectations and desires to reach a particular conscious state have a significant impact. Thus, we can

understand why deep states of meditation have been regarded as states of transcendence, a state that is taken to be over and beyond ordinary states of consciousness. This feature of transcendence also appears in objectless sleep states. Such sorts of states are experienced as involving the phenomenology of self-revelation.

Finally, with the multidimensional framework that I proposed, I identified an additional area of research connecting waking spontaneous experiences and objectless sleep awareness. I highlighted the similarities between objectless sleep experiences, states of deep absorption, and the experience of mind blanking. I suggested that one distinction between those states could be the richness of the experience in each of those states. While in paradigmatic cases of objectless sleep awareness and deep absorption, there still seems to be attention to the qualitative features of the mind itself, paradigmatic cases of mind blanking are described in the literature as lacking attention altogether—they appear as a state that can only be reported once terminated. I linked this characterisation of the state of mind blanking to "true states of absorption". Further research on the phenomenology of mind blanking should be conducted. It could be that the term mind blanking is like the "clear light sleep" and while it tends to be adopted to describe a single phenomenon, there are in fact different ways in which mind blanking can be instantiated, some involving representational content and others lacking it (see Boulakis et al., 2023). Future studies should take advantage of the phenomenological similarities between mind blanking and objectless sleep experiences to advance the study of alleged episodes of objectless awareness. Contrary to objectless sleep experiences, episodes of mind blanking can be studied in waking participants and can also be manipulated, thus providing an excellent case study for studying objectless awareness experimentally.

Moving forward

The primary focus of this thesis was to study the group of sleep experiences I identified as objectless sleep experiences, conscious states where a distinct object of awareness is absent. However, the overarching goal was to utilise the study of objectless sleep experiences to shed light on the nature of consciousness and deepen our understanding of what it means to be conscious.

Throughout this thesis, I primarily examined unusual experiences, including the clear light sleep and other associated states like sensory and perceptual deprivation, deep meditation, and out-of-body experiences. These are not common states and most of us might not have experienced them. However, this does not make their study less relevant. By understanding states where consciousness is disrupted, we can advance our understanding of more ordinary states. Similarly, in this thesis, particularly in the last chapter, I aimed to show that those more unusual conscious states have overlapping phenomenology with more ordinary forms of consciousness, challenging the perception of their exceptional nature. Moreover, this thesis provides initial insights into understanding minimal forms of awareness, such as those characterising objectless sleep experiences. Thus, it serves as a starting point for a larger research programme. Future research could refine the concepts put forward here by subjecting the multidimensional framework to empirical investigation.

I also proposed a distinctive approach to conducting philosophy by integrating methods from neurophenomenology and experimental philosophy. I aimed to show that a mixed methods approach, combining more traditional conceptual analysis with phenomenological research, can offer added value to the study of experience, especially when examining rare conscious states. To do so, I presented two empirical studies that were inspired by this mixed methods approach. In study 1, introduced in **Chapter 2**, I distributed an online survey asking participants about different dream experiences to reach a broader pool of individuals. While some objectless sleep experiences are widely described in contemplative traditions, the average folk are not aware of their existence. Nonetheless, this does not prevent them from having had such an experience; it might be that they simply did not know how to put their experience into words or how to conceptualise it. The results showed that these experiences are not exclusive to expert meditators, and thus, that they might be more ubiquitous than originally thought. In the follow-up study, presented in **Chapter 3**, I applied a phenomenological research method to guide participants in uncovering unnoticed aspects of their experiences. The reports we gathered in that study could not have been obtained by more traditional forms of surveys or questionnaires; they require the guidance of an interviewer present during the recollection of the experience. The sceptical reader might question the value of subjective reports, considering potential doubts regarding the reliability of first-person accounts.

However, it is important to remember that data acquired in phenomenological research is not data that is taken at face value as providing infallible evidence of a phenomenon. Instead, the data is used to explore the phenomenon, and rigorous posterior analysis is required to isolate its distinctive features.

Relatedly, future research would benefit from bringing together the results of the Chapter 3 and the proposed framework developed in Chapter 5. In the proposed multidimensional framework, I considered five dimensions that could account for the distinctive features of a group of spontaneous experiences I regarded as "unusual", including instances of objectless sleep awareness. One way to test this framework would be to compare the proposed dimensions with the phenomenological categories identified in Chapter 3. While the categories presented in Chapter 3 are bound to the reports provided by a small group of participants, they can serve the purpose of informing further the distinctive features of states of nothingness or "void" during sleep, and how such states might relate, phenomenologically, to other unusual experiences like sleep paralysis, out-of-body experiences or REST states. Similarly, we could also use the proposed dimensions of the framework to guide future research on these sorts of experiences. For instance, future work could use those dimensions as pre-established pointers that can facilitate participant's reports.

In conclusion, this thesis has explored the concept of objectless sleep experiences and their significance in understanding the nature of consciousness. By adopting a more inclusive and phenomenologically grounded approach, we have broadened our conception of sleep phenomena beyond the conventional boundaries set by traditional sleep research. The results of the empirical studies presented in this thesis indicate that there is a spectrum of sleep experiences that exhibit varying degrees of objectlessness, from a conscious state lacking content to experiences resembling the clear light sleep described in Tibetan Buddhist traditions.

APPENDICES

Appendix I: Questions for the online survey on Objectless sleep experiences

Dream interest

Q0 How would you rate your overall interest in your dreams? (Knowing about your dreams, dream science, etc) *Sliding Bar 0-100*

Q0.1 Do you take an active part in any 'dream community' (e.g. online forum, Facebook group or similar)?

- ○ Yes
- ○ No

Display This Question: If Q0.1 = Yes

Q0.2 Which one?

End of Block: Initial question: Dream interest

SCI questionnaire

Thinking about a typical night in the last month …
SCI1 … how long does it take you to fall asleep?

- ○ 0-15 min
- ○ 16-30 min
- ○ 31-45 min
- ○ 46-60 min
- ○ >61 min

SCI2 … if you then wake up during the night … how long are you awake for in total? (add all the awakenings up)

- ○ 0-15 min
- ○ 16-30 min
- ○ 31-45 min

- ○ 46-60 min
- ○ >61 min

SCI3 … how many nights a week do you have a problem with your sleep?

- ○ 0-1
- ○ 2
- ○ 3
- ○ 4
- ○ 5-7

SCI4 … how would you rate your sleep quality?

- ○ Very good
- ○ Good
- ○ Average
- ○ Poor
- ○ Very poor

Thinking about the past month, to what extent has poor sleep …

SCI5... affected your mood, energy, or relationships?

- ○ Not at all
- ○ A little
- ○ Somewhat
- ○ Much
- ○ Very much

SCI6 … affected your concentration, productivity, or ability to stay awake?

- ○ Not at all
- ○ A little
- ○ Somewhat
- ○ Much

- ○ Very much

SCI7 ...troubled you in general?

- ○ Not at all
- ○ A little
- ○ Somewhat
- ○ Much
- ○ Very much

Finally …
SCI8 … how long have you had a problem with your sleep?

- ○ I don't have a problem/ < 1 month
- ○ 1-2 months
- ○ 3-6 months
- ○ 7-12 months
- ○ > 1 year

End of Block: Initial questions: SCI questionnaire

Start of Block: Part 1. 1: Sleep onset

Sleep onset (Wake to sleep)

Part1 **Sleep onset experiences:** This section explores experiences that you might have had **in the last month** while you were falling asleep (when you were dropping off) and while you were waking up. Try to answer the questions by referring to experiences had within that time.

Q1 In the last month, were you ever aware of falling asleep?

- ○ Yes
- ○ No
- ○ I'm not sure

End of Block: Part 1. 1. Sleep onset

Start of Block: Part 1. A. (Yes) Sleep onset experiences

Display This Question: If Q1 = Yes

Q1.1 Complete the following sentence by thinking of a particular time in which you were aware of falling asleep, (more than one might apply, but think of one particular time) "*I realised I was not asleep yet because…*"

- ☐ I heard things in the room
- ☐ I heard things in 'my head' (own voice, or others)
- ☐ I had thoughts
- ☐ I felt something in my body
- ☐ I experienced different sensations, not necessarily located in the body
- ☐ I saw some visuals (e.g. images, flashes, geometric forms)
- ☐ I was aware of my state
- ☐ Other [Please describe]

End of Block: Part 1. A. (Yes) Sleep onset experiences

Start of Block: Part 1. B. (No) No sleep onset

Display This Question: If Q1 != Yes

Q1.2 Did you remember having experienced any of the following while you were falling asleep? (more than one might apply, but think of a recent time within the last month)

- ☐ I heard things in the room
- ☐ I heard things in 'my head' (own voice, or others)
- ☐ I had thoughts
- ☐ I felt something in my body
- ☐ I experienced different sensations, not necessarily located in the body
- ☐ I saw some visuals (e.g. images, flashes, geometric forms)
- ☐ Other: [Please describe]
- ☐ ⊗I don't remember having experienced anything

Display This Question: If Q1.2 != I don't remember having experienced anything

Q1.3 If you experienced any of the things in the previous list, including 'other'… … were you aware of those experiences while they were occurring?

- ○ Yes
- ○ No
- ○ I'm not sure

End of Block: Part 1. B. (No) No sleep onset

Start of Block: Part I. 2.

Sleep onset: Waking up

Q2 In the last month, were you ever aware of waking up?

- ○ Yes
- ○ No
- ○ I'm not sure

Display This Question: If Q2 = Yes

Q2.1 …Complete the following sentence by thinking of a particular time in which you were aware of waking up, (more than one might apply, but think of one particular time) "*I realised I was not asleep anymore because…*"

- ☐ I heard things in the room
- ☐ I heard things in 'my head' (own voice, or others)
- ☐ I had thoughts
- ☐ I felt something in my body
- ☐ I experienced different sensations, not necessarily located in the body
- ☐ I saw some visuals (e.g. images, flashes, geometric forms)
- ☐ Other: [Please describe]

End of Block: Part I. 2. Waking up

Start of Block: Part 2. 1. Dream experiences

Dream recall

Part2. **Dreaming**: This section explores experiences you might have had in the last month when you were sleeping (at night or while napping). Please respond by thinking about recent experiences had within the last month.

Q3 In the **last month**, have you recalled your dreams *often*?

- Yes
- No
- I'm not sure

End of Block: Part 2. 1. Dream recall

Start of Block: Part 2. 1.A. Positive dream recall

Display This Question: If Q3 = Yes

Q4.1 How often did you recall the actual dream experience (the plot, the visuals)? (on average, in the last month)

- Every day
- Over 5 times a week
- Less than 5 times a week
- Very rarely (once or twice within the month)

Display This Question: If Q3 = Yes

Q4.2 How real did your dreams feel like compared to wakeful experiences? Think of a particular dream had during the last month and judge how real did the dream feel. Was it more similar or less than wakefulness? *Sliding Bar 0-100*

Display This Question: If Q3 = Yes

Q4.3 In the last month, were there times in which you didn't recall the actual dream experience, but you thought you had a dream?

- Yes
- No
- I'm not sure

Display This Question: If Q4.3 = Yes

Q4.3.1 If you think you had a dream but you didn't recall the actual dream experience, what brought you to think so? Could you describe it?

Q5 In the last month, were you ever aware that you were dreaming?

- Yes

- ○ No
- ○ Not sure

End of Block: Part 2. 1.A. Positive dream recall

Start of Block: Part 2. 1.A.1. Lucidity

Q5.1 How often were you aware that you were dreaming? (on average, in the last month)

- ○ Every day
- ○ Over 5 times a week
- ○ Less than 5 times a week
- ○ Very rarely (once or twice within the month)

Q5.2 What did happen when you realised that you were dreaming?

- ☐ I knew I was dreaming, but nothing else; the dream carried on
- ☐ I knew I was dreaming, and I gained some control over the dream, but I couldn't do as I wished
- ☐ I knew I was dreaming, and I gained control over the dream to do as I wished
- ☐ I knew I was dreaming, and then the dream disappeared/dissolved
- ☐ The dream ended abruptly and nothing else happened
- ☐ The dream ended abruptly, and I woke up
- ☐ Something else: please describe

Q5.3 Did you follow some training or protocol to achieve lucidity while dreaming?

- ○ Yes
- ○ No
- ○ I'm not sure

Display This Question: If Q5.3 = Yes

Q5.3.1 Which training or protocol did you undertake? (more than one might apply)

- ☐ Reality checks during wakefulness
- ☐ Daily dream diaries
- ☐ Mnemonic induction (MILD technique)

- ☐ Wake back to bed (WBTB)
- ☐ Dreaming induction (DILD technique)
- ☐ Wakefulness induction (WILD technique)
- ☐ Other: (please describe)

Q6 In the last month, were you ever conscious while dreaming but there was an absence of visuals? (e.g. you had a lucid dream that lacked visual experience or you saw your dream scenery dissolving)

- ○ Yes
- ○ No
- ○ I'm not sure

End of Block: Part 2. 1.A.1. Lucidity

Start of Block: Part 2. 1.A.2. Conscious dreamless sleep

Q6.1 When did this occur? (More than one might apply if this happened more than once)

- ☐ At some point during my night sleep
- ☐ At some point before I woke up in the morning
- ☐ When I was napping
- ☐ ⊗I don't know

Q6.2 How often did this occur?

- ○ Every day
- ○ Over 5 times a week
- ○ Less than 5 times a week
- ○ Very rarely (once or twice within the month)

Q6.3 Try to remember that particular instance in which that happened and choose which one of the following matches better with your experience:

- ○ I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste) emotional or other)
- ○ I was aware, and there were no visuals or any other perceptual experience, but I experienced something else.

- ○ I was aware, and there were no visuals, any other perceptual experience or any other thing.
- ○ Other

Display This Question: If Q6.3 != I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste) emotional or other)

Q6.4 Could you describe briefly your experience? (In that particular instance)

End of Block: Part 2. 1.A.2. Conscious dreamless sleep

Start of Block: Part 2. 1.B. No lucidity

Q5.4 In the last month, did you ever experience any of the following in a dream?

- ☐ I knew there was something odd/different in my experience, but I didn't know this was a dream
- ☐ I was aware of the dream, but I couldn't act willingly (do what I wished)
- ☐ I could see that my dream disappeared/dissolved and then nothing happened
- ☐ ⊗None of the above

End of Block: Part 2. 1.B. No lucidity

Start of Block: Part 1. B (No) Experience of awakening

Q7 What would describe best (on average, in the last month) your experience upon awakening?

- ○ I feel I had a dream, but I couldn’t recall it
- ○ I feel I experienced something while I was sleeping, but I don’t think it was a dream
- ○ Nothing, I just woke up

Display This Question: If Q7 != Nothing, I just woke up

Q7.1 Could you think of a particular time in which you experience this? How could you better describe the experience you had?

End of Block: Part 1. B (No) Experience of awakening

Start of Block: Part II. 2. Sleep awareness

Q8 In the last month, were you ever aware that you were sleeping, but not dreaming?

- ○ Yes
- ○ No
- ○ I'm not sure

Skip To: End of Block If Q8 != Yes

Q8.1 Please, try to recall a particular instance in which you had this awareness of sleeping but not dreaming. When did this occur?

- ○ At some point during my night sleep
- ○ At some point before I woke up in the morning
- ○ When I was napping
- ○ I don't know

Q8.2 In the last month, how frequently did this occur?

- ○ Every day
- ○ Over 5 times a week
- ○ Less than 5 times a week
- ○ Very rarely (once or twice within the month)

Q8.3 Which of the following matches better to your experience?

- ○ I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste), emotional or other)
- ○ I was aware, and there were no visuals or any other perceptual experience, but I experienced something else.
- ○ I was aware, and there were no visuals, any other perceptual experience or any other thing.
- ○ Other:

If Q8.3 != I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste), emotional or other)

Q8.4 Could you describe briefly your experience? (In that particular instance):

End of Block: Part II. 2. Sleep awareness

Start of Block: Part 3. 1. Demographic, medical and lifestyle

Part 3 **Demographics:** In this last section of the questionnaire you'll be asked a series of personal questions about yourself including medical information, religious practice, meditation practice, and intake of alcohol and other substances. We're asking these questions to explore how some factors could be related to different sleep experiences, so there's no wrong or correct answers. Remember that the questionnaire is completely anonymous and that you are under no obligation to answer any of the following questions.

Q9 Age:

Q10 Gender

- ○ Female
- ○ Male
- ○ Non-binary
- ○ Prefer not to identify

Q11 Nationality:

Q12 Country of residence:

Q13 Native language:

Q14 Religion

- ○ Christian
- ○ Jewish
- ○ Muslim
- ○ Buddhist
- ○ Hindu
- ○ Spiritual but not religious
- ○ None
- ○ Other

Display This Question: If Q14 != None

Q14.1 How important is your religious faith in your life? *Sliding Bar 0-100*

Q15 Do you have any physical condition?

- Yes
- No

Display This Question: If Q15 = Yes

Q15.1 Is this diagnosed or undiagnosed?

- Diagnosed
- Undiagnosed

Display This Question: If Q15 = Yes

Q15.2 Could you tell us which one(s) If more than one, please describe them all below:

Q16 Do you have any mental health conditions?

- Yes
- No

Display This Question: If Q16 = Yes

Q16.1 Is this diagnosed or undiagnosed?

- Diagnosed
- Undiagnosed

Display This Question: If Q16 = Yes

Q16.2 Could you tell us which one(s)? If more than one, please describe them all below:

Q17 Are you currently taking any medication for your condition(s) or other reasons?

- Yes
- No

Display This Question: If Q17 = Yes

Q17.1 Could you tell us which one(s)? If more than one, please describe them all below:

Q18 Do you consume alcohol?

- ○ Yes
- ○ No

Display This Question: If Q18 = Yes

Q18.1 How many units on average per week? (1 unit= half-pint normal beer (4%)/25ml shot; 2 units = pint of normal beer/ small glass of wine; 3= pint of strong beer (5%) / large glass wine)

- ○ Less than 1 unit
- ○ Between 1-2 units a week
- ○ Between 2-3 units a week
- ○ Between 3-4 units a week
- ○ Over 4 units a week

Q19 Do you currently consume any of the following for recreational use? [Chose which one(s)]

- ☐ Cannabis
- ☐ Psychedelics (including magic mushrooms, LSD, mescaline, DMT, salvia)
- ☐ Anaesthetics (Ketamine)
- ☐ Entactogens (MDMA/ecstasy)
- ☐ Stimulants (Methamphetamine/speed, cocaine)
- ☐ Opiates (Heroin, morphine, codeine, opium)
- ☐ Others
- ☐ None

Display This Question: If Q19 != None

Q19.1 Do you consume any of the previous regularly?

- ○ Yes
- ○ No

Display This Question: If Q19.1 = Yes

Q19.2 How often?

- ○ Every day
- ○ Twice a week
- ○ Once a week
- ○ Twice a month
- ○ Once a month

Q20 Do you currently practice any sort of meditation?

- ○ Yes
- ○ No

End of Block: Part 3. 1. Demographic, medical and lifestyle

Start of Block: Part 3. 2. (Yes) Meditation

Q20.1 How often?

- ☐ Every day
- ☐ Every other day
- ☐ Less than twice a week
- ☐ Less than five times a month

Q20.2 Which style or technique do you practice the most? (More than one might apply)

- ☐ Mindfulness
- ☐ Vipassana
- ☐ Metta (Loving Kindness)
- ☐ Transcendental Meditation (TM)
- ☐ Zen
- ☐ Shamata
- ☐ Other
- ☐ I don't know which one

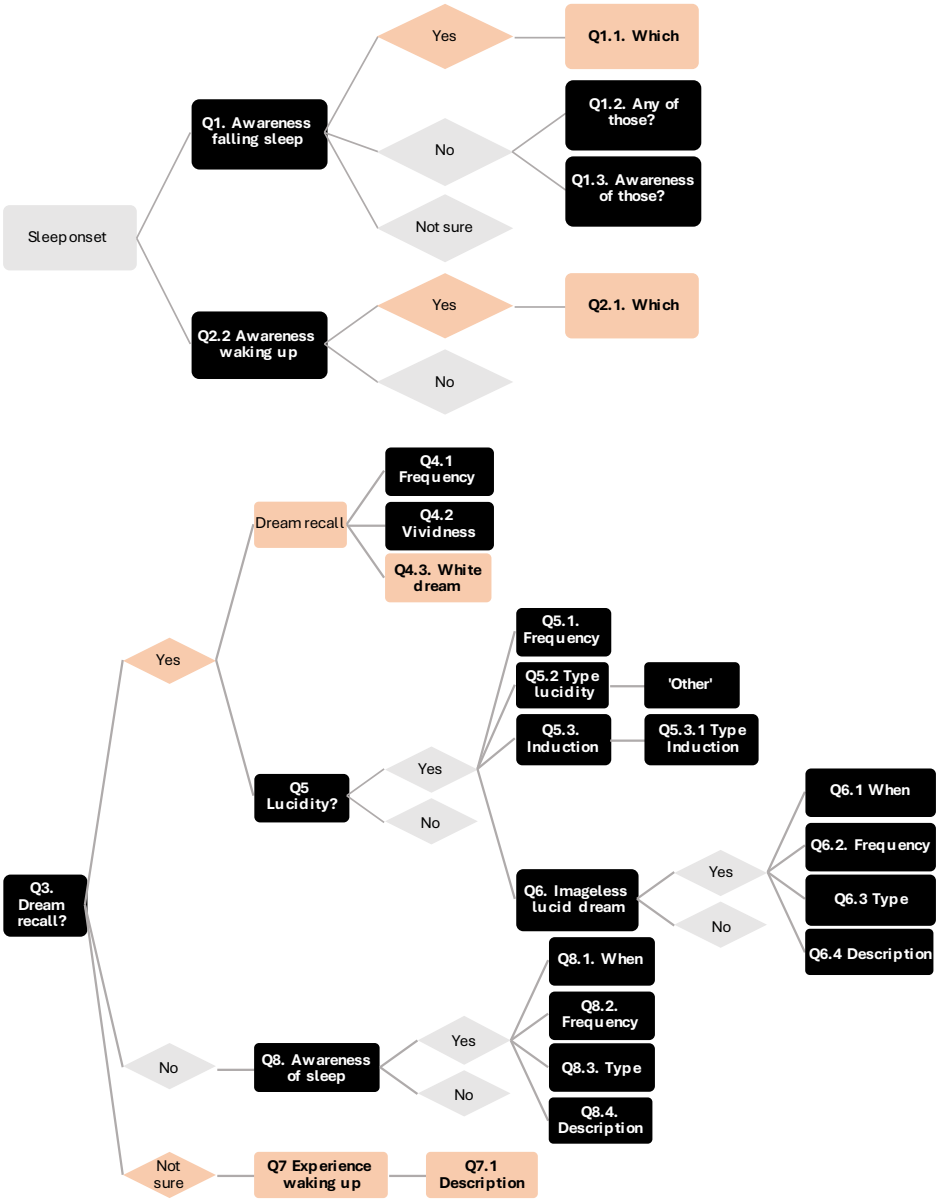
Q20.3 On average, for how long have you practiced? (regardless of style/technique).
Sliding Bar 0-100

Q20.4 On average, for how long do you practice each time?

- ○ Less than 15minutes
- ○ Between 15-30minutes
- ○ Over 30minutes
- ○ Over 1h

Q20.5 How important is your meditative practice in your life? *Sliding Bar 0-100*

Appendix II: Survey's flow



Appendix III: Full results for the online survey "Objectless sleep experiences"

BLOC 4: Demographics, lifestyle, and health

General demographics	
Age	
Mean	29.61
SD	13.14
Range	17-85
Age groups	*% (counts)*
17-25	52.23 (293)
26-35	23.17 (130)
36-45	11.05 (62)
46-55	7.13 (40)
56-65	4.63 (26)
66-75	1.43 (8)
+76	0.36 (2)
Gender	*% (counts)*
Female	67.73 (382)
Male	29.07 (164)
Non-binary	2.30 (13)
Prefer not to self-identify	0.88 (5)
Country of residence	*% (counts)*
United Kingdom	59.42 (331)
United States	10.41 (58)
Germany	4.67 (26)
Spain	3.59 (20)
Canada	2.67 (15)
Netherlands	1.79 (10)
Other	17.41(97)
NA	3.63 (21)
Native Language	*% (counts)*
English	64.79 (357)
Spanish	6.89 (38)
German	5.26 (29)
Other	23.05 (127)
NA	4.67 (27)
Health	
Physical condition	*% (counts)*
No	83.51 (471)
Yes	16.48 (93)
NA	2.42 (14)
Mental condition	*% (counts)**
No	68.20 (384)
Yes	31.79 (179)
NA	2.59 (15)
Taking medication	*% (counts)*
No	75.44 (424)
Yes	24.55 (138)

Affecting CNS	*% (counts)*
Yes (*Antidepressants, anti-seizures, benzodiazepines or sedatives, CNS stimulants and analgesics*)	48.03 (61)
No (Other medication)	51.96 (66)
Sleep Condition Indicator	*% (counts)*
High score (>16)	20.97 (121)
Low score (<16)	79.03 (456)
Alcohol consumption	
Consumes alcohol	*% (counts)*
Yes	65.89 (371)
No	34.10 (192)
NA	2.59 (15)
Frequency	*% (counts)*
>4 units/week	37.19 (138)
<1 unit/week	19.40 (72)
Between 1-2 units/week	17.52 (65)
Between 2-3 units/week	14.28 (53)
Between 3-4 units/week	11.59 (43)
Drug consumption	%
Regular recreational drug consumption	*% (counts)**
None	69.52 (431)
Cannabis	14.19 (88)
Psychedelics (including magic mushrooms, LSD, mescaline, DMT)	3.87 (24)
Stimulants (Methamphetamine, speed, cocaine)	3.87 (24)
Entactogens (MDMA, ecstasy)	3.70 (23)
Anaesthetics (Ketamine)	3.38 (21)
Others	0.96 (6)
Opiates (Heroine, morphine, codeine, opium)	0.48 (3)
Takes any of the above regularly	*% (counts)*
No	56.1 (78)
Yes	43.8 (61)
NA	75.95 (439)
Frequency	*% (counts)*
Every day	44.26 (27)
Twice a week	26.23 (16)
Once a week	13.11 (8)
Once a month	8.19 (5)
Twice a month	8.19 (5)
Religion	
Adhesion to religion	*% (counts)*
None	49.46 (277)
SBNR	20.00 (112)
Christian	18.67 (104)
Buddhist	3.21 (18)
Muslim	3.21 (18)
Other	2.67 (15)
Hindu	1.42 (8)
Jewish	1.42 (8)
NA	3.11 (18)

Importance of religion or faith	0-100
Mean	43.24
SD	34.80
Meditation	
Practises meditation	*% (counts)*
No	65.60 (370)
Yes	34.39 (194)
NA	2.42 (14)
Meditation type	*% (counts)**
Mindfulness	44.01 (114)
Other	15.83 (41)
I don't know the style	9.65 (25)
Metta (loving kindness)	8.49 (22)
Vipassana	8.16 (21)
Shamata	5.09 (13)
Zen	4.63 (12)
TM	3.86 (11)
Frequency meditation practise	*% (counts)*
Every day	37.5(72)
Every other day	26.56 (51)
< twice a week	22.91 (44)
<five times a month	13.02 (25)
Duration of meditation practise	*% (counts)*
<15min	42.3 (82)
Between 15-30min	41.75 (81)
>30min	13.40 (26)
>1h	2.57 (5)
Years of meditation practise	
Mean	6.11
Range	0-30
SD	7.9
Importance meditation	0-100
Mean	60.36
SD	29.31
Dream interest	
Importance dream interest	0-100
Mean	72.09
SD	24.72
Part of a dream community	*% (counts)*
No	86.4 (495)
Yes	13.61 (78)
NA	0.86 (5)
Type of dream community	*% (counts)**
Online forums *(Reddit, Night Club Community, DreamViews.com)*	62.5 (10)
Social media (*Facebook groups*)	25.0 (4)
Independent or private	12.5 (2)

Table 1. Total amount of answers provided to Bloc 4 of the survey involving General Demographics, Beliefs and Lifestyle, and Health. *Multiple answers allowed. More than one participant could have given more than one answer.

NA= No Answer (missing answers): SD = Standard deviation; TM= Transcendental Meditation; SBNR = Spiritual but not religious; CNS= Central Neurosystem

BLOC 1: Sleep-onset awareness

Q1. In the last month, were you ever aware of falling asleep?	***% (counts)***
Yes	*57.26 (331)*
No	*27.85 (161)*
NS	14.35 (83)
NA	0.52(3)
***Only prompted to those answering Yes to Q1*:**	
Q1.1. Complete the following sentence by thinking of a particular time in which you were aware of falling asleep, (more than one might apply, but think of one particular time) "*I realised I was not asleep yet because…*"	*% (counts)**
I was aware of my state	28.44 (186)
I had thoughts	20.95 (137)
I heard things in the room	11.31 (74)
I heard things in 'my head' (own voice or others)	10.70 (70)
I saw some visuals (i.e. images, flashes or geometric forms)	10.55 (69)
I felt something in my body	8.40 (55)
I experienced different sensations not necessarily located in my body	6.3 (41)
Other	3.36 (22)
Qualitative data for 'Other'	*% (counts)**
Threshold of dreaming (Marker 4)	36.84 (7)
Bodily perception	21.05 (4)
Other	15.78 (3)
External stimuli	15.78 (3)
Hypnagogic hallucinations	10.52 (2)
Only prompted to those answering 'No' or 'Not sure' to Q1:	
Q1.2. Did you remember having experienced any of the following while you were falling asleep? (more than one might apply, but think of a recent time within the last month)	*% (counts)**
I had thoughts	34.95 (129)
I don't remember having experienced anything	20.6 (76)
I saw some visuals (i.e. images, flashes or geometric forms)	12.2 (45)
I heard things in 'my head' (own voice or others)	10.03 (37)
I felt something in my body	7.86 (29)
I heard things in the room	7.6 (28)
I experienced different sensations not necessarily located in my body	4.34 (16)
Other	2.43 (9)

Q1.3. If you experienced any of the things in the previous list, including 'other', were you aware of those experiences while they were occurring?	*% (counts)*
Yes	65.45 (108)
Not sure	23.63 (39)
No	10.90 (18)
Q2. In the last month, were you ever aware of waking up?	
Yes	66.84 (383)
No	17.45 (100)
Not sure	15.70 (90)
Q2.1. Complete the following sentence by thinking of a particular time in which you were aware of waking up, (more than one might apply, but think of one particular time) "*I realised I was not asleep anymore because…*"	*% (counts)**
I had thoughts	25.91 (163)
I heard things in the room	23.68 (149)
I felt something in my body	12.56 (79)
I experienced different sensations not necessarily located in my body	10.65 (67)
I heard things in 'my head' (own voice or others)	10.33 (65)
Other	10.01 (63)
I saw some visuals (i.e. images, flashes or geometric forms)	6.84 (43)
Qualitative data for 'Other'	*% (counts)*
Bodily sensations	24.2 (15)
Dream ending	20.97(13)
Awareness room	19.35 (12)
Transition (Marker 5)	17.74 (11)
Other	17.74 (11)

Table 2. Distribution of answers for Bloc 1 of the survey to questions regarding the transition from waking to sleep and from sleep to waking. The themes extracted from the qualitative analysis which are related to each of the markers are indicated. *Multiple answers allowed. More than one participant could have given more than one answer

BLOC 2: Dream recall and awareness

Q3. In the last month, have you recalled your dreams *often*?	*% (counts)*
Yes	64.40 (371)
No	30.72 (177)
Not sure	4.86 (28)
NA	0.35 (2)
Only prompted to those answering 'Yes' to Q3	
Q4.1 How often did you recall the actual dream experience (the plot, the visuals)? (on average, in the last month)	*% (counts)*
>5 times a week	48.52 (180)
<5 times a week	31.53 (117)
Every day	15.09 (56)
Very rarely (once or twice within the month)	4.85 (18)
Q4.2 How real did your dreams feel like compared to wakeful experiences? Think of a particular dream had during the last month and judge how real did the dream feel. Was it more similar or less than wakefulness? (0-100)	
Mean	55.09
SD	21.26
Categories isolated	
As real as wakefulness	58.08 (212)
More real than wakefulness	27.67 (101)
Not real	14.25 (52)
Q4.3 In the last month, were there times in which you didn't recall the actual dream experience, b you thought you had a dream?	*% (counts)*
Yes	78.97 (293)
No	11.86 (44)
Not sure	9.16 (34)
Only displayed if answered 'Yes' to Q4.3	
Q4.3.1 If you think you had a dream, but you didn't recall the actual dream experience, what brought you to think so? Could you describe it?	*% (counts)*
Themes isolated	
Feeling of knowing(Marker 6)	35.71(45)
Emotional state (Marker 6)	34.12 (43)
Partial recall	24.60 (31)
Dream set	7.76 (6)
Mixed recall	0.79 (1)
Only prompted to those answering 'No' o 'Not sure' to Q3	
Q7. What would describe best (on average, in the last month) your experience upon awakening?	*% (counts)*
I feel I had a dream, but I couldn't recall it	56.72 (114)
Nothing, I just woke up	36.81 (74)
I feel I experienced something while I was sleeping, but I don't think it was a dream	6.47 (13)
Q7.1 Could you describe briefly your experience? (In that particular instance)	*% (counts)*
	Themes isolated
Partial recall	46.98 (39)
Feeling of knowing (Marker 6)	31.32 (26)
Emotional state (Marker 6)	13.25 (11)
Waking up	4.81 (4)
Dreaming set	2.40 (2)
Other	1.2(1)

Only prompted to those answering 'Yes' to Q3	
Q5. In the last month, were you ever aware that you were dreaming?	*% (counts)*
Yes	62.80 (233)
No	24.26 (90)
NS	12.94 (48)
Only prompted to those answering 'Yes' to Q5	
Q5.1 How often were you aware that you were dreaming? (On average, in the last month)	*% (counts)*
Very rarely (once or twice within the month)	40.77 (95)
>5 times a week	38.49 (92)
<5 times a week	14.6 (34)
Every day	5.15 (12)
Q5.2 What did happen when you realised that you were dreaming?	*% (counts)**
I gained some control over the dream, but I couldn't do as I wished	23.08 (78)
Nothing else; the dream carried on	21.9 (74)
I gained control over the dream to do as I wished	17.16 (58)
The dream ended abruptly, and I woke up	14.5 (49)
The dream disappeared/dissolved	14.20 (48)
Other	6.80 (23)
The dream ended abruptly and nothing else happened	2.37 (8)
Themes isolated for 'Other'	
Dissolution/Void (Marker 1)	16.67(3)
Other: Some control but no lucidity, feeling body paralysed, voluntarily stopping the dream, state of awe, a new dream, lucidity no control	83.33 (15)
Q5.3 Did you follow some training or protocol to achieve lucidity while dreaming?	*% (counts)*
No	74.65 (156)
Yes	19.13 (40)
NS	5.22 (13)
Q5.3.1 Which training or protocol did you undertake?	*% (counts)**
Daily dream diaries	24.6 (32)
Reality checks during wakefulness	23.07 (30)
Wake back to bed (WBTB)	13.07 (17)
Dream induction (DILD technique)	11.54 (15)
Wakefulness induction (WILD technique)	10.77 (14)
Other (Including Dream Yoga, and Sensory Initiated Lucid Dream or SSILD)	8.5 (11)
Mnemonic induction (MILD technique)	8.46 (11)
Only prompted to those answering 'Yes' to Q5	
Q.6 In the last month, were you ever conscious while dreaming but there was an absence of visuals? (e.g. you had a lucid dream that lacked visual experience or you saw your dream scenery dissolving)	*% (counts)*
No	58.8 (137)
Yes	22.5 (53)
NS	18.45 (43)
Q6.1 When did this occur? (More than one might apply if this happened more than once)	% (counts)*
At some point during my night sleep	53.70 (29)
At some point before I woke up in the morning	35.15 (19)
When I was napping	11.11 (6)
Q6.2 How often did this occur?	% (counts)
Very rarely (once or twice within the month)	52.83(28)

>5 times a week	37.73 (20)
<5 times a week	5.66 (3)
Every day	3.77 (2)
Very rarely (once or twice within the month)	52.83 (28)
Q6.3 Try to remember that particular instance in which that happened and choose which one of the following matches better with your experience:	% (counts)
I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste) emotional or other)	55.55(30)
I was aware, and there were no visuals or any other perceptual experience, but I experienced something else.	20.37(11)
Other	12.96(7)
I was aware, and there were no visuals, any other perceptual experience or any other thing.	11.11(6)
Q6.4 Could you describe briefly your experience? (In that particular instance)	% (counts)
	Themes isolated
Emptiness/Minimal (Marker 2)	7 (36.84)
Dissolution/Void (Marker 1)	6 (31.58)
Other	15.79 (3)
Waking after the dissolution of the dream	15.79 (3)

Table 3. Distribution of answers for Bloc 2 of the survey to questions regarding dream experiences and white dreaming. The themes extracted from the qualitative analysis which are related to each of the markers are indicated. Note that the percentages are computed in relation to those answering this part of the questionnaire, and not against the total of participants to the survey.

SD = Standard deviation

BLOC 3: Awareness of sleep

Q8. In the last month, were you ever aware that you were sleeping, but not dreaming?	***% (counts)***
No	65.20 (371)
I'm not sure	17.75 (101)
Yes	17.05 (97)
Q8.1 Please, try to recall a particular instance in which you had this awareness of sleeping but not dreaming. When did this occur?	*% (counts)**
At some point during my night's sleep	38.61 (39)
At some point before I woke up in the morning	35.64 (36)
When I was napping	23.76 (24)
I don't know	1.98 (2)
Q8.2 In the last month, how frequently did this occur?	% (counts)
Very rarely (once or twice within the month)	39.60 (40)
Less than 5 times a week	32.67 (33)
Over 5 times a week	18.82 (19)
Every day	8.91 (9)
Q8.3 Which of the following matches better with your experience?	% (counts)
I was aware, and there were no visuals, but there was some perceptual experience [e.g. sensorial: (auditory, smell, touch, taste), emotional or other]	42.42 (42)
I was aware, and there were no visuals, any other perceptual experience or any other thing	32.32 (32)
I was aware, and there were no visuals or any other perceptual experience, but I experienced something else.	17.17 (17)
Other	8.08 (8)
Q8.4 Could you describe briefly your experience? (In that particular instance)	% (counts)
Themes isolated	
Awareness of sleeping state (Marker 3)	30.55 (11)
Emptiness/Minimal (Marker 2)	22.22 (8)
Other	16.66 (6)
Kinaesthetic	13.88 (5)
Sleep thinking	11.11 (4)
Feeling of knowing	5.55 (2)

Table 4. Distribution of answers to Bloc 3 of the survey for questions regarding sleep awareness. The themes extracted from the qualitative analysis which are related to each of the markers are indicated. *Multiple answers allowed. More than one participant could have given more than one answer.

Appendix IV: Examples of Interview sessions and excerpts

Examples of interview questions

The interviews conducted weren't based on a semi-structured interview template, but instead, the questions made were formulated in accordance with the responses gathered by the participants. However, as per the micro-phenomenological interview method (MPI), some examples are given about leading questions that can be asked in the different phases of the description.

Setting up

Interviewer: I will ask you some questions about the experience that you choose to talk about for this interview, by focusing on how it felt to be in that particular experience. I will guide you through the process of remembering that experience and I will help you explore different dimensions of it. Sometimes I will ask you for some clarifications, but some others I will move to a different dimension of the experience. I will also rephrase some of the things you say, but feel free to interrupt me if I rephrase them wrong. It can be that when you hear me saying back what you just said you feel that something isn't right, or that you didn't mean that. That's totally fine. Also, remember that you aren't obliged to answer all the questions and we can stop anytime you wish, just let me know.

For this interview we asked you to think about an experience that you have had recently while sleeping in which you recall some sort of awareness in absence of dreams. It's important that you pick a specific experience. Doesn't matter if it's too short, the important thing is that you can recall it very vividly. You can take some moments to think about it if you wish.

Beginning of the experience: situating the participant

Interviewer: Ok [participant's name], let's go back to the beginning of the experience, when [reformulation of their description] happened. How did started?

From this point, different questions are made to explore different components (these are adjusted in base of the answers provided)

- **Visual components:** Do you see anything? I would like you to describe the place. Look around and what do you see?
- **Auditory components**: At this moment, do you hear anything? Listen again, find noises. What is its volume? Its tone? Is it your own voice, or the voice of somebody else?
- **Kinaesthetic or interoceptive elements**: What is the position of your body? Do you feel anything? What do you feel? Is this feeling located somewhere?
- What do you feel? Is this feeling located somewhere?
- If **nothing mentioned**: When you do nothing, what do you do? Is there anything else? What else is going on at this time? Did you have perhaps feelings, thoughts or anything else at this moment? What else is happening at this moment?

Deepening into the experience

Again, the interviewer picks one of the dimensions to explore and guides the participant through the different elements of it. As before, different questions are asked based on the answers provided.

- And when you do X, what do you do?
- And when you feel X, what do you feel?
- And when you are aware of X, what do you do?
- Does this feeling/attention/awareness have a shape/ texture/ size? What is it like?
- Does this feeling/attention/awareness have a direction?

Post-interview questions

Below are the questions asked after each interview phase; for assessing the memory recall of the experience of spelling a word and memory recall of the experience of objectless dreamless sleep chosen.

- **Vividness**: If you were to evaluate the level of vividness you had while recalling the experience, from 0 to 10, which would be?
- **Completeness**: And, how complete was the recollection? Did you feel something missing? Again, from 0 to 10.

- **Invention**: To what (if any) extent did you feel, while describing your experience, that you were constructing or inventing what ended up being described? (0 none, 10 a lot)
- **Articulation**: How well did / do you feel that you managed to articulate the described experience within the interview?

Excerpts

We have included two short excerpts from two interviews to illustrate the application of the phenomenological method carried out. The first excerpt provides a good illustration of questions made by following the micro-phenomenological method to explore different aspects of the experience, inviting the participant to focus on the subjective character of the feelings and sensations had. The second excerpt exemplifies the sort of questions attempted when a participant is describing a state that apparently lacks any feelings and they are finding difficult how to articulate the experience had.

For each transcript provided, participant's answers were highlighted in bold. The speech in brackets denotes a verbalisation made at the same time, or immediately after, someone's else. The speech in capital letters and underlined denotes a stress in intonation.

Excerpt 1

P#07: Yes, actually, now I remember that I wasn't any more in this 3D inner space. But I was in this factory setting then. [Mhm] And I was even less aware of my real-world surroundings then. It was actually quite like a dream but without the visual content...

Interviewer: So there is nothing that you SEE in this moment when you're in the factory space?

P#07: Not like seeing with my EYES.

I: But, and so if you're in this moment, you suddenly feel you don't know how the transition happens, but you suddenly feel like you are in this factory space. And, do you feel INSIDE the space? Is the space bigger than you? [Yes] And you feel it from your first-person kind

of position of your body? [Yes] Are you aware of the SPACE? And of your body in the space?

P#07: No, I actually didn't have the BODY in this space. It wasn't just my awareness that was there.

I: But it feels like YOU? It, does it feel like you're looking at it from the outside, or looking at it from the inside...?

P#07: Well, I was INSIDE this BUILDING, but I couldn't see from the outside or anything like that, standing in front of this room, or BEING in front of it. Because it well, it didn't feel like I was in the normal body.

I: So it feels more like a point of awareness or point of perception? [Yes, but not that single-pointed. More like this cloudy shape that we had earlier]

I: Mm hmm. Okay. And is it... By the way, is this like a familiar space? This factory building?

P#07: No. Not at all.

I: So when you're there, you're saying that you're not seeing anything in the sense that you would see with your eyes? And how do you know that you are in a factory space? And how do you know that you're in front of a sliding door?

P#07: For once, I can FEEL it. And... 5' It's this spatial representation again, that's that I'm aware of.

I: So you can feel it and there's a spatial representation of it. But could you imagine for a moment that I have no idea what spatial representation means? And just try to describe to me if I was in your shoes, or if I was this cloudy awareness in that moment? How, how would I feel the sliding door? Or how good would it be for me to have this spatial representation?

P#07: It's like, I could feel the DISTANCE from my awareness in there, to the walls and to the door, and so on. And, yes... 3' there are different points that make up this space. And I can feel those inside of me. ***[Laughs]***

I: So it feels like there IS space and that this awareness or YOU or however we call it has a certain LOCATION within that space.

P#07: Yes, but it's not that FIXED. It can... It moves around a bit, but the surrounding stays the same. Even if it's not that fixed like something in the real world.

I: Mm hmm. And just a very technical question, but is there a relative distance from this moving awareness to the walls and to the door, right?

P#07: Yes. And (inaudible) [*Laughs*.]

I: And... is awareness moving around?

P#07: Not all the time, but it can change... its place

And if it is distant, if there is a certain distance from the sliding door, for instance, is there also a certain level, like a certain height on which this awareness is?

P#07: Yes, that's, that's like I would experience it normally, being in a body walking there

I: Mm hmm. But you, you know that you are NOT in a body, you don't FEEL in a body?

P#07: No, it didn't feel like that. I couldn't SEE it or something like that. It just didn't FEEL to be there. Because in that state, I wasn't aware of my body at all.

I: Was there anything? So, in the, when you are IN this experience, Is there anything strange about that? Does it feel in any way strange or different that you are NOT in your body?

P#07: No. [*Laughs*.] I didn't even notice that until we spoke about it.

I: Mhm. Okay, so you are standing in front of this sliding door, and you don't really SEE it. So, it's not a visual thing. So, you... Is there anything visual to the experience at all? Like any colour or brightness, darkness?

P#07: Um, there were no colours. But there's TEXTURE. It's a wooden door. 5' But I can't say about the walls, they were not exactly like normal walls. 4' They were just... the limits... for my awareness in this place, maybe...

I: Is there a size to this to this factory building? Like how tall are the ceilings? Or how wide the walls?

P#07: This place I was in was like a pretty normal room size.

I: And do you have any idea how you know that it's a factory building?

P#07: I think it's just this sliding door, on this... this room I was in, that reminded me of it. Because I'm not aware of the building.

I: So there is no... nothing that you see. But you know that there is a sliding wooden door, and it has a wooden texture. And you are aware of this FROM a certain height, similar to the height that you would have if you were there in your body. But you are paying attention or you're aware of that from a kind of like cloudy type of awareness that sometimes moving and but sometimes static?

P#07: Yes. *[Excited]* I think it moves when... I thought about something else and wasn't directly IN this experience, but maybe thought about what it means or what I should do now or something like that. And if I then returned with my awareness to the experience, then it may have changed the place.

Excerpt 2

P#08: It all kind of went into a more chaotic state in the... that was very uniform. The next state just becomes a blur. There's not much going on, I don't have the narcotic feeling anymore. I'm not having much of any feeling. There's just some, some visual patterns moving from upper left to lower right. And maybe towards centre a little bit

that I would think of is like, a little bit like seeing sleep outside a window, you know, where there's impression that something's moving into that pattern. And there wasn't much else going on. That just went on for a while. It's kind of like, nothing, it's closer to that white state where there wasn't much of thought or emotion or anything, or feeling. There was still some background imagery. Not very interesting. I don't know how long it went on. There's probably some part of me that thought it is kind of pretty interesting, but it's not, not interesting when you've been doing it for decades, just, just I was there. And there was a slight pattern of streaking. And that I don't know how long that went on. Because that was also like, very little temporal sense. And then that went into the pure white, so...

I: So how do you feel this transition from this state? Is a bit more chaotic and not that interesting to the, the pure white one, plain white one…?

P#08: Yeah, that is almost impossible to describe. I'm not sure how you're gonna deal with it. There is an awareness you're there. Like, I was, I was there. I was still lucid, but my thought process stopped. So I think it's like when they talk about meditation, one of the meditation types. They try to stop thinking to have a silent mind. Which, oddly I can't really achieve in daily life. After decades, that's one of the hardest meditations. But in this state, yeah, the thought process just stops. There's just white, it's not even a feeling so much of it being directly in front of me. It's just white. For lack of anything else, I mean, it's not black. It's... 7' I guess, the way I look at it is maybe black would be there's no energy or whatever. And this is full of energy, although that's more esoteric. It's, it's, I don't know why it's white. But it also doesn't involve the feeling and the emotion, or the sense of motion. Those things that I just described. It's just being there... But nothing's going on.

I: And when you say that it is just white in opposition to it's not black, is it that visual? So, it's like, now was like, I don't know, like, kind of when starring at a light bulb or something, and you see white? Would that be like that, or…?

P#08: Yeah. It's like, if, in one, you're looking at a movie screen that has nothing on it. And in other, someone turns out, light.

I: I see, okay…

P#08: This is like a movie screen with nothing on it. There. It's not black. But there's nothing there. So... I think that's why they call it clear light, because it's hard to describe. It's the lack of anything, including black.

I: But it has white on it. So, then it's an experience of... [Yeah, I would have to relate it to white, I mean, it's, it's, at this point, you're getting so deep into weird stuff that it's like trying to describe... I don't know, like when they say describe taste to someone, if you can't use any descriptive [inaudible], and they can't compare it to anything that involves taste. So what I would say is, it's... it is the lack of anything, including black. And the way my brain interprets that is white.

I: Now, that's okay, when I'm asking you some questions, and I am very aware that this might be difficult to describe, I'm asking you to think about which things are not, no? So, in a way, like you said, it's not black, it's not like seeing something that is white in front of you. So, we know it's like the lack of anything. And it was like if it was light... [Yeah, it's kind of like seeing white in front of me. That's not exactly what's going on. But that's the closest I can get to describing it]

I: Okay. And then you're in that stage, which is different from the one that you were coming from, which was the one it was that was a bit more chaotic, and that there were these still these images or some things like moving around, that we didn't know how long it lasted. And now you have moved to this one, which the thoughts have disappeared. There's nothing there. And it's only whiteness, there's no feeling, no sense of motion. Are you aware of them? In this state?

P#08: I am aware that not in the traditional sense. Traditional sense would have to involve some thing you can relate to, right? Time or thought. You know, you're definitely crossing into esoteric thought here where... there is... you're there, there's an awareness. But there's nothing to be aware of... So, I wish I could, I wish I could just hand you an answer here.

Appendix V: Full list of categories isolated from the interviews

Sense of self (SS):

This higher-order category involves different second-order categories that refer to how the feeling of being someone—or a sense of ego—is instantiated. The second-order categories have been constructed from features that appear repeatedly in the reports, but they are also informed from the different dimensions proposed in the literature as the basis of the sense of self.

1A. Body ownership:

This dimension refers to the feeling of having a body or identifying oneself to be within some set of boundaries (even if those aren't within a normal body). It ranges from a more explicit sense of body ownership that might involve mentions to bodily feelings, body parts or having a body, to mentions of lacking a body, yet having some minimal sense of self-identification within the experience.

Body parts/bodily processes (SS1A1)

Descriptions that allude to the sense of having or owning a body. They might mention the body or body parts and/or the location of a body in relation to space (including body position) or bodily processes (such as breathing).

Weak embodiment/lack form (SS1A2)

Descriptions that allude to an identification with a body, yet it involves a very weak sense of embodiment or description of a body that lacks a form. Many descriptions involve an explicit mention to the fact that part of the attention was on one's own body, yet one didn't feel it strongly—one knows that one had a body without being explicitly aware of it.

Distorted (SS1A3)

Descriptions that describe having a body in an odd or impossible position or feeling oneself as being a distorted sort of body, like a cloudy shape or cloud of energy.

Minimal identification (SS1A4)

Descriptions that mention the fact that one has lost one's body. In most cases, these descriptions are still accompanied by reports that include some sort of minimal sense of self-identification, either with a body part or something that isn't oneself ('the void', 'a speck'). It also includes more esoteric-sounding or unconventional descriptions such as the feeling of a particular sensation ('a sound', 'a pulsing', 'a ripple') to describe the way in which oneself was part in the experience.

1B. Spatial self-location:

This dimension refers to the feeling of being located somewhere (a sense of 'here'). It can be more explicit or more minimal, ranging from mentions of oneself being in a specific point in space, a sense of relative location to space to the feeling of just being 'there'.

Physical (SS1B1)

Descriptions mentioning a *self* (or an 'I') who is located in a point in space, usually one that have some physical or spatial features (regardless of if the actual environment is in fact located in the physical world). There's a feeling of being located somewhere in reference to that space, including a sense of relation towards the space which is recognised as either the actual sleeping environment or the dream world.

Fluctuating (SS1B2)

Descriptions similar to the previous yet involving mentions of having been in two locations at the same time, such as oneself feeling located in one point, but with a perspective experienced from a different point.

Indeterminate (SS1B3)

Descriptions that appear to be similar to the previous sub-category, inasmuch as they involve a clear self/other distinction (an 'I' or a 'self' distinct to something else). They might still involve a sense of position relative to space, yet one doesn't know where that

is, or they might lack any explicit mention of being in a particular point in space, other than the feeling of being in relation to 'something' else outside oneself.

Minimal (SS1B4)

Descriptions saying to lack a sense of self-location other than a sense of being 'there' in the experience. It might include allusions to the fact that one is 'nowhere' or that whilst the experience started by one feeling to be located somewhere, it has now transitioned to a state where one merely feels to be 'in the state' but without a clear sense of self-location.

No clear boundaries (SS1B5)

Descriptions that only involve a subjective perspective as location – the experience is lived from an egocentric point of view, yet this might not involve a clear sense of boundaries between oneself and the other. Some descriptions allude to a sense of being so immersed with the experience that they can't distinguish themselves from it.

Absent (SS1B6)

These descriptions involve explicit mentions to the fact that they one didn't feel oneself as having been '*in'* the experience while it was unfolding, even lacking a minimal sense of 'being there'.

1C. Perspective:

This dimension refers to the point of view of the 'self' or the 'I'. In some cases, the same description applies to both 'Perspective' and 'Spatial self-location'. The difference between both is that 'Perspective' refers to the point from which the experience is lived (which is usually an egocentric point of view) whereas 'Spatial self-location' refers to a feeling of being in 'there'.

Regular (SS1C1)

Descriptions involving a first-person experiencing something that is outside oneself, closer to ordinary wakefulness experience. Egocentric point of view.

Fluctuating (SS1C2)

Descriptions of an egocentric point of view, that might involve two locations or more at the same time, such as seeing oneself from outside or having multiple viewpoints at the same time

Minimal (SS1C3)

Descriptions that prima facie doesn't seem to involve an ordinary subject or experiencer, other than a minimal point of view from which the experience is had. They usually come together with descriptions of lacking a sense of body ownership or lacking a sense of being in a specific spatial point in the experience. In some cases, descriptions might allude to a sense in which one was being unable to say where one's perspective was, since they are one with the environment. Other descriptions involve a sense of just 'observing' or 'watching' the experience.

Absent (SS1C4)

Descriptions that don't seem to involve a sense of being oneself having the experience, or any sort of egocentric point of view whilst the experience was unfolding.

1D. Agency and attitude

This dimension includes reference to different aspects of a sense of agency, which can be more explicit, like mentioning intentions one had during the experience, motivations or actions initiated (or wanted to initiate), but also references to the attitude taken towards the experience, such as letting it be, or accepting it. It also includes mentions to having lost the control of what is happening or being unable to take control.

Active (SS1D1)

Descriptions alluding to an active agent that wants to take some sort of action towards the experience. These descriptions might include a sense of wanting to stay longer in the experience, to explore the state, to pay or maintain their attention or to change something about the experience.

Receptive (SS1D2)

Descriptions that still involve a sense of agency, although a more 'passive' or acceptant sense of agency. They mention the fact that one could initiate action but one decided not to take it, or that the action chose was to take a more passive role in the experience (i.e. observing, letting it go). Some descriptions allude to how one was actively seeking to 'focus on not focusing', to not disrupt the unfolding of the experience.

Lost control/out of control (SS1D3)

Descriptions explicitly mentioning how something occurs that holds or forces oneself from doing something.

Sensations (SE)

This higher order category involves descriptions of different sort of sensations had by the participants, classified into three kinds (or sub-categories): 2A.Bodily sensations, 2B. Kinaesthetic sensations and 2C. Non-modal sensations.

2A. Bodily sensations

This second order category includes descriptions of sensations that are located in the body or refer to bodily feelings. These descriptions might allude to sensations on a body part or the feeling of a body part (including bodily processes such as breathing). Descriptions here are quite resemblant to actual bodily sensations had during wakefulness.

Breathing (SE2A1)

Feeling or sensation that one is breathing, including body parts involved (i.e., inside of the nose)

Tactile sensations (SE2A2)

The feeling of touch, including the feeling of body in contact with an object

Temperature (SE2A3)

Feeling of temperature, including coldness or heat. Here, we code those descriptions mentioning the actual feeling of temperature on the body or a body part, and not those describing the features of a particular feeling with allusion to temperature-related adjectives.

Absent (SE2A4)

Explicit mentions to the fact that one isn't having physically like (or bodily like) sensations during the state.

2B. Kinaesthetic sensations

This second order category involves more proprioceptive sensations, which they can be related to the body (it might involve the position of the body or an implicit sense of having a body), yet not necessarily.

Position (SE2B1)

Feeling one's body to be in a certain position.

Motion/Gravity (SE2B2)

Feeling oneself moving, with or without reference to one's body. It might involve different sort of motions, such as going down, going forward, or just a sense of gravity.

Floating/hanging or suspended in the air (SE2B3)

Similar to the previous, but in this case there's a sense of feeling lack of gravity, or feeling that one is suspended or floating in the air

Release tension/relief (SE2B4)

Descriptions that allude to feeling how the tension is released, and thus, one is now felt more relieved. It might include allusions to the body or not

A force/barrier (SE2B5)

Descriptions that allude to feeling some sort of force or energy. This might be something that holds oneself back, or it can be just a way to describe a change in the experience

Absent (SE2B6)

Explicit mentions to the fact that one isn't feeling anything, including any proprioceptive sensations

2C. Non modal sensations

This second order category involves descriptions of different sensations had in relation to a state that lacks any bodily or kinaesthetic sensations. These are described as 'non-modal' sensations since they don't seem to belong to any particular sensorial modality (i.e. sight, hearing, touch etc) or to any sensation had within the body. These descriptions allude to how the 'emptiness' or the 'nothingness' is felt.

Modality-like (SE2C1)

Descriptions alluding to one sensorial modality, yet oneself stresses how the experience didn't involve such a sensorial modality (i.e. hearing, seeing or touch without hearing, seeing or touching).

As having material properties (SE2C2)

Descriptions that allude to the 'nothingness' as 'something', as a 'thing'—like an object that has material or physical properties.

As lacking anything (SE2C3)

Descriptions that allude to feeling the 'nothingness', not as a thing, but as a sensation of 'nothingness'. This sub-category involves descriptions that attempt to describe how is it like to feel nothing.

Visual experience (VE)

This category involves descriptions about the type of visual experience had or the lack thereof. Note that the descriptions refer to the content of the visual experience (what was seen or perceived) or how things were seeing (quality of the vision or vividness of the content of the visual experience).

Simple imagery (VE1)

Descriptions of very simply object-like imagery, including simple mathematical, or geometrical forms, but also texture-like and pattern shapes.

Gradual loss of imagery (VE2)

Descriptions mentioning the gradual dissolution or fading of the visual experience, including seeing blurry or dim.

Loss of imagery (VE3)

Descriptions that allude to the lack of any imagery, yet it contains mentions to some visual elements such as colour, light or absence thereof.

Absent (VE4)

Specific mentions to the lack of a visual sense, different from perceiving darkness (or any other colour) or lack of imagery.

Emotion (EM)

This category refers to the emotional component of the experiences reported. It involves descriptions of emotions or feelings had.

4A Emotional sensations

Descriptions referring to the presence or absence of emotions and feelings had during the experience.

Presence (EM4A1)

Absence (EM4A2)

Attention (AT)

This category involves descriptions about how one's attention was—the type of attention

Focused (AT1)

Descriptions of an attention that is focused on specific content of awareness, or aspects of the perceptual experience. Examples might include descriptions of thoughts, intentions, or what was imagined or visualised

Dynamic (AT2)

Descriptions of an attention that fluctuates towards different dimensions of the experience, or an attention that they feel they can manipulate

Resting/Vague (AT3)

Descriptions that mention the fact that there wasn't any explicit focus of attention, yet one was trying to focus on not focusing or one was just observing the experience.

Wide attention, no focus (AT4)

Descriptions that also mention not having an explicit focus of attention, but more of a sense of just being aware, with nothing to be aware of or pay attention to.

Awareness of the state (AS)

This category involves descriptions of what one takes one's experience to be and the sort of awareness had of that fact. It might involve a more explicit or implicit awareness.

Knowing they are asleep

Taking that one is sleeping, that the state is one of sleep. This might be just an implicit sense of knowing that one is sleeping, without conscious thoughts about that fact (such as the thought of 'I am sleeping right now')

Knowing they are in bed

Taking that one is in bed. In some cases, it might come together with the awareness that they one is asleep. Descriptions can be more or less explicit about the fact that one is in bed, and it might just involve a sense of knowing that one is in bed without paying attention to that fact.

Knowing they are dreaming

Taking that one is dreaming. It can come in different degrees.

Knowing they are aware

Taking that one is aware. Descriptions here might involve a sense in which one is aware of being aware or one describes how one's awareness was (it might be related to the previous higher-order category 'Attention').

Appendix VI: Self-ratings

The table below provides mean values for the self-ratings across all participants (n=12) for each of the dimensions of the experience of recollecting the spelling word (first-part interview; vividness1, recollection1, invention1, articulation1) and for the experience of recollecting an instance of contentless awareness during sleep (second-part interview; vividness2, recollection2, invention2, articulation2). Each dimension was self-rated from 0-10 (0 low and 10 high).

Vividness 1	Recollection 1	Invention 1	Articulation 1	Vivivdness 2	Recollection 2	Invention 2	Articulation 2
8.4	9	1.8	7.1	8.9	8.6	1.1	6.9

Appendix VII: Intercoder ratings

Fleiss Kappa's values for the intercoder agreement were computed across the coding given to the selected descriptions in the reports by the different coders (Coder 1 and Coder 2= External coders; Coder 3= Main investigator).

Descriptions= 202	Across coders (Coder.1, Coder.2 and Coder 3)	Coder.1 and Coder.2	Coder.1 and Coder.3	Coder.2 and Coder.3
Kappa*	0.481	0.357	0.627	0.458
Z	67.7	29.2	50.2	36.1

*Kappa's coefficient values are interpreted following Fleiss et al. (2003) who suggest the following interpretation: **>0.75:** Excellent agreement beyond chance; **0.40-0.75:** fair to a good agreement beyond chance; **<0.40:** poor agreement beyond chance.

Fleiss Kappa's values for the intercoder agreement for all categories across all coders.

	Kappa	Z	p.value
AS1	0.436	10.724	0
AS2	0.620	15.262	0
AS3	0.738	19.267	0
AS4	0.551	13.556	0
AT1	0.113	2.789	0.005
AT2	0.158	3.898	0
AT3	0.521	12.838	0
AT4	0.316	7.789	0
EM4A1	0.797	19.612	0
EM4A2	0.855	21.059	0
EM4B2	0.245	6.032	0
SE2A1	0.422	10.386	0
SE2A2	0.390	9.599	0
SE2A3	0.663	16.329	0
SE2A4	0.708	17.417	0
SE2B1	0.898	22.114	0
SE2B2	0.663	16.329	0
SE2B3	0.663	16.329	0

SE2B4	0.498	12.268	0
SE2B5	0.493	4.760	0
SE2B6	0.660	8.124	0
SE2C1	0.679	16.703	0
SE2C2	0.395	9.724	0
SE2C3	0.390	9.599	0
SS1A1	0.436	10.735	0
SS1A2	0.240	5.907	0
SS1A3	0.240	5.182	0
SS1A4	0.348	8.566	0
SS1B1	0.575	14.153	0
SS1B2	-0.008	-0.205	0.838
SS1B3	0.256	6.294	0
SS1B4	0.269	6.618	0
SS1B5	0.113	2.789	0.005
SS1B6	0.330	8.124	0
SS1C1	0.274	6.739	0
SS1C2	0.444	10.941	0
SS1C3	0.210	5.182	0
SS1C4	0.330	8.124	0
SS1D1	0.636	45.660	0
SS1D2	0.697	17.168	0
SS1D3	0.551	13.555	0
VE1	0.655	16.117	0
VE2	0.686	16.877	0
VE3	0.483	11.888	0
VE4	0.597	14.688	0

LIST OF REFERENCES

Aiyar, K. N. S. (2000). *Thirty Minor Upanishads.* Parimal Publications.

Albahari, M. (2011). Nirvana and Ownerless Consciousness. In M. Sideritis, E. Thompson, & D. Zahavi (Eds.), *Self, No Self? : Perspectives from Analytical, Phenomenological, and Indian Traditions* (pp. 79–113). OUP. http://ebookcentral.proquest.com/lib/gla/detail.action?docID=3055840.

Alcaraz-Sánchez, A. (2019). *Conscious States During Dreamless Sleep. A Philosophical and Psychological Investigation* [[MPhil Thesis, University of Glasgow]]. https://theses.gla.ac.uk/78986/

Alcaraz-Sanchez, A. (2021a). Awareness in the void: a micro-phenomenological exploration of conscious dreamless sleep. In *Phenomenology and the Cognitive Sciences* (Issue 0123456789). Springer Netherlands. https://doi.org/10.1007/s11097-021-09743-0

Alcaraz-Sanchez, A. (2021b). Awareness in the void: a micro-phenomenological exploration of conscious dreamless sleep. In *Phenomenology and the Cognitive Sciences* (Issue 0123456789). Springer Netherlands. https://doi.org/10.1007/s11097-021-09743-0

Alcaraz-Sanchez, A. (2021c). Awareness in the void: a micro-phenomenological exploration of conscious dreamless sleep. In *Phenomenology and the Cognitive Sciences* (Issue 0123456789). Springer Netherlands. https://doi.org/10.1007/s11097-021-09743-0

Alcaraz-Sánchez, A., Demšar, E., Campillo-Ferrer, T., & Torres-Platas, S. G. (2022). Nothingness Is All There Is: An Exploration of Objectless Awareness During Sleep. *Frontiers in Psychology*, *13*(June). https://doi.org/10.3389/fpsyg.2022.901031

Alexander, C. N. (1990). *Higher states of human development: Perspectives on adult growth.* (E. J. Alexander, C.N & Langer, Ed.). Oxford University Press.

Alvarado, C. S. (2000). Out-of-body experiences. In E. Cardeña, S. K. Lunn, & S. Kripnner (Eds.), *Varieties of anomalous experience: Examining the scientific evidence* (pp. 183–218).

Alvarado, C. S. (2012). Explorations of the features of out-of-body experiences: an overview and critique of the work of Robert Crookall. *Journal of the Society for Psychical Research*, *72.2*(907), 65–82.

Alvarado, C. S., Zingrone, N. L., & Dalton, K. S. (1999). Out-of-Body Experiences: Alterations of Consciousness and the Five-Factor Model of Personality. *Imagination, Cognition and Personality*, *18*(4), 297–317. https://doi.org/10.2190/293k-3kw9-kyn8-twkc

Andow, J. (2016). Qualitative tools and experimental philosophy. *Philosophical Psychology*, *29*(8), 1128–1141. https://doi.org/10.1080/09515089.2016.1224826

Andrillon, T., Nir, Y., Staba, R. J., Ferrarelli, F., Cirelli, C., Tononi, G., & Fried, I. (2011). Sleep spindles in humans: Insights from intracranial EEG and unit recordings. *Journal of Neuroscience*, *31*(49), 17821–17834. https://doi.org/10.1523/JNEUROSCI.2604-11.2011

Andrillon, T., Windt, J. M., Silk, T., Drummond, S. P. A., Bellgrove, M. A., & Tsuchiya, N. (2019). Does the Mind Wander When the Brain Takes a Break? Local Sleep in Wakefulness, Attentional Lapses and Mind-Wandering. *Frontiers in Neuroscience*, *13*(September), 1–10. https://doi.org/10.3389/fnins.2019.00949

Aranya, S. (1989). *Yoga Philosophy of Patañjali*. University of New York Press.

Arya, P. (Trans.). (1986). *Yoga Sutras Of-Patanjali With The Exposition Of Vyasa*. The Himalayan International Institute of Yoga Science and Philosophy of the USA.

Arzy, S., Idel, M., Landis, T., & Blanke, O. (2005). Why revelations have occurred on mountains? Linking mystical experiences and cognitive neuroscience. *Medical Hypotheses*, *65*(5), 841–845. https://doi.org/10.1016/j.mehy.2005.04.044

Aspy, D. J. (2020). Findings From the International Lucid Dream Induction Study. *Frontiers in Psychology*, *11*(July), 1–12. https://doi.org/10.3389/fpsyg.2020.01746

Ataria, Y. (2015). Where do we end and where does the world begin? The case of insight meditation. *Philosophical Psychology*, *28*(8), 1128–1146. https://doi.org/10.1080/09515089.2014.969801

Ataria, Y., Dor-Ziderman, Y., & Berkovich-Ohana, A. (2015). How does it feel to lack a sense of boundaries? A case study of a long-term mindfulness meditator. *Consciousness and Cognition*, *37*(November 2017), 133–147. https://doi.org/10.1016/j.concog.2015.09.002

Baird, B., Mota-Rolim, S. A., & Dresler, M. (2019). The cognitive neuroscience of lucid dreaming. *Neuroscience and Biobehavioral Reviews*, *100*(March), 305–323. https://doi.org/10.1016/j.neubiorev.2019.03.008

Baird, B., Mrazek, M. D., Phillips, D. T., & Schooler, J. W. (2014). Domain-specific enhancement of metacognitive ability following meditation training. *Journal of Experimental Psychology: General*, *143*(5), 1972–1979. https://doi.org/10.1037/a0036882

Barabasz, M., Barabasz, A. F., & Mullin, C. S. (1983). Effects of brief antarctic isolation on absorption and hypnotic susceptibility—preliminary results and recommendations: A brief communication. *International Journal of Clinical and Experimental Hypnosis*, *31*(4), 235–238. https://doi.org/10.1080/00207148308406617

Barnier, A. J., & Nash, M. R. (2012). Introduction: a roadmap for explanation, a working definition. In A. J. Barnier & M. R. Nash (Eds.), *The Oxford Handbook of Hypnosis: Theory, Research, and Practice* (pp. 1–18). Oxford University Press.

Barrett, D. (1992). Just how lucid are lucid dreams? *Dreaming*, *2*(4), 221–228. https://doi.org/10.1037/h0094362

Bayne, T., Hohwy, J., & Owen, A. M. (2016). Are There Levels of Consciousness? *Trends in Cognitive Sciences*, *20*(6), 405–413. https://doi.org/10.1016/j.tics.2016.03.009

Beaulieu-Prévost, D., & Zadra, A. (2015). When people remember dreams they never experienced: A study of the malleability of dream recall over time. *Dreaming*, *25*(1), 18–31. https://doi.org/10.1037/a0038788

Ben-Soussan, T. D., Mauro, F., Lasaponara, S., Glicksohn, J., Marson, F., & Berkovich-Ohana, A. (2019). Fully immersed: State absorption and electrophysiological effects of the OVO Whole-Body Perceptual Deprivation chamber. *Progress in Brain Research*, *244*, 165–184. https://doi.org/10.1016/bs.pbr.2018.10.023

Beran, M. J., Brandl, J. L., Perner, J., & Proüst, J. (2012). On the nature, evolution, development, and epistemology of metacognition: introductory thoughts. In Michael J. Beran Johannes L. Brandl Josef Perner Joëlle Proust (Ed.), *Foundations of metacognition* (pp. 583–605). Oxford University Press (OUP).

Berkovich-Ohana, A., Dor-Ziderman, Y., Trautwein, F. M., Schweitzer, Y., Nave, O., Fulder, S., & Ataria, Y. (2020). The Hitchhiker's Guide to Neurophenomenology – The Case of Studying Self Boundaries With Meditators. *Frontiers in Psychology*, *11*(July). https://doi.org/10.3389/fpsyg.2020.01680

Berkovich-Ohana, A., & Wittmann, M. (2017). A Typology of Altered States According to the Consciousness State Space (CSS) Model A Special Reference to Subjective Time. *Journal of Consciousness Studies*, *24*(3–4), 37–61.

Bermúdez, J. L. (1995). Nonconceptual Content: From Perceptual Experience to Subpersonal Computational States. *Mind & Language*, *10*(4), 333–369. https://doi.org/10.1111/j.1468-0017.1995.tb00019.x

Bermúdez, J. L. (2001). Nonconceptual self-consciousness and cognitive science. *Synthese*, *129*(1), 129–149. https://doi.org/10.1023/A:1012603425585

Bermúdez, J. L. (2007). What is at stake in the debate on nonconceptual content? *Philosophical Perspectives*, *21*(1), 55–72. https://doi.org/10.1111/j.1520-8583.2007.00120.x

Bigelsen, J., Lehrfeld, J. M., Jopp, D. S., & Somer, E. (2016). Maladaptive daydreaming: Evidence for an under-researched mental health disorder. *Consciousness and Cognition*, *42*, 254–266. https://doi.org/10.1016/j.concog.2016.03.017

Blackmore, S. (1988). A theory of lucid dreams and OBEs. In J. Gackenbach & S. LaBerge (Eds.), *Conscious Mind, Sleeping Brain* (pp. 373–387). Plenum.

Blanchette-Carrière, C., Julien, S.-H., Picard-Deland, C., Bouchard, M., Carrier, J., Paquette, T., & Nielsen, T. (2020). Attempted induction of signalled lucid dreaming by transcranial alternating current stimulation. *Consciousness and Cognition*, *83*(January), 102957. https://doi.org/10.1016/j.concog.2020.102957

Blanke, O., & Metzinger, T. (2008). Full-body illusions and minimal phenomenal selfhood. *Trends in Cognitive Sciences*, *13*(1), 7–13. https://doi.org/10.1016/j.tics.2008.10.003

Bogzaran, F. (1991). Experiencing the Divine in the Lucid Dream State. *Lucidity Letter*, *9*(1), 169–176.

Bogzaran, F. (2003). Lucid Art and hyperspace lucidity. *Dreaming*, *13*(1), 29–42. https://doi.org/10.1023/A:1022186217703

Bosinelli, M. (1995). Mind and Consciousness during sleep. *Behavioural Brain Research*, *69*, 195–201.

Boulakis, P. A., Mortaheb, S., Calster, L. Van, Majerus, S., & Demertzi, A. (2023). Whole-brain deactivations precede uninduced mind-blanking reports. *BioRxiv*, 1–29.

Bowers, K. S. (1979). Time distortion and hypnotic ability: Underestimating the duration of hypnosis. *Journal of Abnormal Psychology*, *88*(4), 435–439. https://doi.org/10.1037/0021-843X.88.4.435

Braun, V., & Clarke, V. (2021a). *Thematic Analysis: A Practical Guide*. SAGE Publications Ltd.

Braun, V., & Clarke, V. (2021b). *Thematic Analysis: A Practical Guide*. SAGE Publications Ltd.

Bronkhorst, J. (2017). Can religion be explained? the role of absorption in various religious phenomena. *Method and Theory in the Study of Religion*, *29*(1), 1–30. https://doi.org/10.1163/15700682-12341375

Brooks, J. E., & Vogelsong, J. A. (1999). *The conscious exploration of dreaming: Discovering how we create and control our dreams.* First Books Library.

Brown, A. S. (2004). The Déjà Vu Illusion. *Society*, *13*(6), 256–259.

Brugger, P., Regard, M., Landis, T., & Oelz, O. (1999). Hallucinatory experiences in extreme-altitude climbers. In *Neuropsychiatry, Neuropsychology and Behavioral Neurology* (Vol. 12, Issue 1, pp. 67–71).

Bryant, E. F. (Trans.). (2009). *The Yoga Sutras of Patañjali*. North Point Press.

Buzzi, G. (2011). False awakenings in light of the dream protoconsciousness theory: A study in lucid dreamers. *International Journal of Dream Research*, *4*(2), 110–116. https://doi.org/10.11588/ijodr.2011.2.9085

Callard, F., Smallwood, J., Golchert, J., & Margulies, D. S. (2013). The era of the wandering mind? Twenty-first century research on self-generated mental activity. *Frontiers in Psychology*, *4*(DEC), 1–11. https://doi.org/10.3389/fpsyg.2013.00891

Cardeña, E. (2005). The phenomenology of deep hypnosis: Quiescent and physically active. *International Journal of Clinical and Experimental Hypnosis*, *53*(1), 37–59. https://doi.org/10.1080/00207140490914234

Carr, M., Haar, A., Amores, J., Lopes, P., Bernal, G., Vega, T., Rosello, O., Jain, A., & Maes, P. (2020). Dream engineering: Simulating worlds through sensory stimulation. *Consciousness and Cognition*, *83*(January), 102955. https://doi.org/10.1016/j.concog.2020.102955

Chalmers, D. J. (1996). *The Conscious Mind: in Search of a Fundamental Theory*. OUP.

Chang, G. (1963). *Teachings of Tibetan yoga*. Citadel Press.

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. SAGE Publications Ltd.

Cheyne, J. A., & Girard, T. A. (2009). The body unbound: Vestibular-motor hallucinations and out-of-body experiences. *Cortex*, *45*(2), 201–215. https://doi.org/10.1016/j.cortex.2007.05.002

Cheyne, J. A., Newby-Clark, I. R., & Rueffer, S. D. (1999). Relations among hypnagogic and hypnopompic experiences associated with sleep paralysis. *Journal of Sleep Research*, *8*(4), 313–317. https://doi.org/10.1046/j.1365-2869.1999.00165.x

Christoff, K., Gordon, A. M., Smallwood, J., Smith, R., & Schooler, J. W. (2009). Experience sampling during fMRI reveals default network and executive system contributions to mind wandering. *Proceedings of the National Academy of Sciences of the United States of America*, *106*(21), 8719–8724. https://doi.org/10.1073/pnas.0900234106

Christoff, K., Irving, Z. C., Fox, K. C. R., Spreng, R. N., & Andrews-Hanna, J. R. (2016). Mind-wandering as spontaneous thought: A dynamic framework. *Nature Reviews Neuroscience*, *17*(11), 718–731. https://doi.org/10.1038/nrn.2016.113

Christoff, K., Mills, C., Andrews-Hanna, J. R., Irving, Z. C., Thompson, E., Fox, K. C. R., & Kam, J. W. Y. (2018). Mind-Wandering as a Scientific Concept: Cutting through the Definitional Haze. *Trends in Cognitive Sciences*, *22*(11), 957–959. https://doi.org/10.1016/j.tics.2018.07.004

Cicogna, P. C., & Bosinelli, M. (2001). Consciousness during dreams. *Consciousness and Cognition*, *10*(1), 26–41. https://doi.org/10.1006/ccog.2000.0471

Cohen, D. B. (1974). Toward a theory of dream recall. *Psychological Bulletin*, *81*(2), 138–154. https://doi.org/10.1037/h0037616

Cohen, W. (1957). Spatial and Textural Characteristics of the Ganzfeld. *American Journal of Psychology*, *70*(3), 403–410.

Cohen, W. (1958). Color-Perception in the Chromatic Ganzfeld. *American Journal of Psychology*, *71*(2), 390–394.

Conduit, R., Bruck, D., & Coleman, G. (1997). Induction of visual imagery during NREM sleep. *Sleep*, *20*(11), 948–956. https://doi.org/10.1093/sleep/20.11.948

Costines, C., Borghardt, T. L., & Wittmann, M. (2021). The Phenomenology of "Pure" Consciousness as Reported by an Experienced Meditator of the Tibetan Buddhist Karma Kagyu Tradition. Analysis of Interview Content Concerning Different Meditative States. *Philosophies*, *6*(2), 50. https://doi.org/10.3390/philosophies6020050

Csikszenthmihalyi, M., & Nakamura, J. (2018). Flow, Altered States of Consciousness, and Human Evolution. *Journal of Consciousness Studies*, *11–12*, 102–114.

Csikszentmihalyi, M. (1990). *Flow*. Harper and Row.

Curot, J., Valton, L., Denuelle, M., Vignal, J. P., Maillard, L., Pariente, J., Trébuchon, A., Bartolomei, F., & Barbeau, E. J. (2018). Déjà-rêvé: Prior dreams induced by direct electrical brain stimulation. *Brain Stimulation*, *11*(4), 875–885. https://doi.org/10.1016/j.brs.2018.02.016

Cussins, A. (1992). Content, embodiment and objectivity: The theory of cognitive trails. *Mind*, *101*(404), 651–688. https://doi.org/10.1093/mind/101.404.651

D'Ambrosio, S., Castelnovo, A., Guglielmi, O., Nobili, L., Sarasso, S., & Garbarino, S. (2019). Sleepiness as a Local Phenomenon. *Frontiers in Neuroscience*, *13*(October), 1–11. https://doi.org/10.3389/fnins.2019.01086

Darracq, M., Funk, C. M., Polyakov, D., Riedner, B., Gosseries, O., Nieminen, J. O., Bonhomme, V., Brichant, J. F., Boly, M., Laureys, S., Tononi, G., & Sanders, R. D. (2018). Evoked Alpha Power is Reduced in Disconnected Consciousness During Sleep and Anesthesia. *Scientific Reports*, *8*(1), 1–10. https://doi.org/10.1038/s41598-018-34957-9

de Pisapia, N., & Penazzi, G. (2022). Direct comparisons between hypnosis and meditation: A mini-review. *Frontiers in Psychology*.

De Vignemont, F. (2013). The mark of bodily ownership. *Analysis*, *73*(4), 643–651. https://doi.org/10.1093/analys/ant080

Depraz, N., Gyemant, M., & Desmidt, T. (2017). A first-person analysis using third-person data as a generative method a case study of surprise in depression. *Constructivist Foundations*, *12*(2), 190–203.

Deshikachar, T.V.K., Deshikachar, K. (2003). *Adi Sankara's Yoga Taravali: English Translation and Commentary*. Krishnamacharya Yoga Mandiram.

Dietrich, A. & Audiffren, M. (2011) The reticular-activating hypofrontality (RAH) model of acute exercise, Neuroscience and Biobehavioral Reviews, 35, pp. 1305–1325.

Dokic, J. (2012). Seeds of Self-Knowledge: Noetic Feelings and Metacognition. In M. J. Beran, J. L. Brandl, J. Perner, & J. Proüstt (Eds.), *Foundations of metacognition* (pp. 583–605). Oxford University Press (OUP).

Domhoff, G. W. (2011). The neural substrate for dreaming: Is it a subsystem of the default network? *Consciousness and Cognition*, *20*(4), 1163–1174. https://doi.org/10.1016/j.concog.2011.03.001

Domhoff, G. W. (2018). Dreaming is an intensified form of mind-wandering, based in an augmented portion of the default network. *The Oxford Handbook of Spontaneous Thought: Mind-Wandering, Creativity, and Dreaming*, *May 2022*, 355–370. https://doi.org/10.1093/oxfordhb/9780190464745.013.7

Domhoff, G. W., & Fox, K. C. R. (2015). Dreaming and the default network: A review, synthesis, and counterintuitive research proposal. *Consciousness and Cognition*, *33*, 342–353. https://doi.org/10.1016/j.concog.2015.01.019

Dresler, M., Eibl, L., Fischer, C. F. J., Wehrle, R., Spoormaker, V. I., Steiger, A., Czisch, M., & Pawlowski, M. (2014). Volitional components of consciousness vary across wakefulness, dreaming, and lucid dreaming. *Frontiers in Psychology*, *4*. https://doi.org/10.3389/fpsyg.2013.00987

Dresler, M., Wehrle, R., Spoormaker, V. I., Steiger, A., Holsboer, F., Czisch, M., & Hobson, J. A. (2015). Neural correlates of insight in dreaming and psychosis. *Sleep Medicine Reviews*, *20*, 92–99. https://doi.org/10.1016/j.smrv.2014.06.004

Droit-Volet, S. (2014). What Emotions Tell us About Time. In D. Llyod & V. Arstila (Eds.), *Subjective time: the philosophy, psychology, and neuroscience of temporality*. MIT Press.

Droit-Volet, S., & Dambrun, M. (2019). Awareness of the passage of time and self-consciousness: What do meditators report? *PsyCh Journal*, *8*(1), 51–65. https://doi.org/10.1002/pchj.270

Droit-Volet, S., & Gil, S. (2009). The time-emotion paradox. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1525), 1943–1953. https://doi.org/10.1098/rstb.2009.0013

Droit-Volet, S., Monceau, S., Dambrun, M., & Martinelli, N. (2020). Embodied time and the out-of-body experience of the self. *PeerJ*, *8:e8565*. https://doi.org/10.7717/peerj.8565

Dunne, J. D. (2011). Toward an understanding of non-dual mindfulness. *Contemporary Buddhism, 12*(1), 71–88. https://doi.org/10.1080/14639947.2011.564820

Dunne, J. D. (2015). Buddhist Styles of Mindfulness: A Heuristic Approach. In B. D. Ostafin, M. D. Robinson, & B. P. Meier (Eds.), *Handbook of Mindfulness and Self-Regulation* (pp. 1–301). Springer. https://doi.org/10.1007/978-1-4939-2263-5

Dunne, J. D., Thompson, E., & Schooler, J. W. (2019). Mindful meta-awareness: sustained and non-propositional. *Current Opinion in Psychology*, *28*, 307–311. https://doi.org/10.1016/j.copsyc.2019.07.003

Ehrsson, H. H. (2007). The experimental induction of out-of-body experiences. *Science*, *317*(5841), 1048. https://doi.org/10.1126/science.1142175

Espie, C. A., Kyle, S. D., Hames, P., Gardani, M., Fleming, L., & Cape, J. (2014). The Sleep Condition Indicator: A clinical screening tool to evaluate insomnia disorder. *BMJ Open*, *4*(3), 1–5. https://doi.org/10.1136/bmjopen-2013-004183

Esser, T. (2014). Kundalini and non-duality in the lucid dreaming state. In R. Hurd & K. Bulkeley (Eds.), *Lucid dreaming: New Perspectives on Consciousness in Sleep Volume 2: Religion, Creativity, and Culture* (pp. 233–263). Praeger.

Evans-Wentz, W. Y. (1960). *The tibetan book of the dead*. Oxford University Press.

Evans-Wentz, W. Y. (Eds.). (1960). *The Tibetan Book of the dead* (Third). Oxford University Press.

Fasching, W. (2008). Consciousness, self-consciousness, and meditation. *Phenomenology and the Cognitive Sciences*, *7*(4), 463–483. https://doi.org/10.1007/s11097-008-9090-6

Fazekas, P., & Overgaard, M. (2016). Multidimensional Models of Degrees and Levels of Consciousness. *Trends in Cognitive Sciences*, *20*(10), 715–716. https://doi.org/10.1016/j.tics.2016.06.011

Feest, U. (2014). Phenomenal experiences, first-person methods, and the artificiality of experimental data. *Philosophy of Science*, *81*(5), 927–939. https://doi.org/10.1086/677689

Filevich, E., Dresler, M., Brick, T. R., & Kuhn, S. (2015). Metacognitive Mechanisms Underlying Lucid Dreaming. *Journal of Neuroscience*, *35*(3), 1082–1088. https://doi.org/10.1523/JNEUROSCI.3342-14.2015

Fleiss, J. L., Paik, M. C., & Levin, B. (2003). *Statistical Methods for Rates and Proportion*. John Wiley & Sons.

Forman, R. K. C. (1986). Pure consciousness events and mysticism. *Sophia*, *25*(1), 49–58.

Forman, R. K. C. (1988). Pure consciousness events and mysticism. *Sophia*, 40–50.

Forman, R. K. C. (Ed). (1990). *The problem of pure consciousness. Mysticism and philosophy*. Oxford University Pres.

Forman, R. K. C. (Ed). (1997). *The problems of pure consciousness*.

Fort, A. O. (1980). The concept of susupta in Advait Vedanta. *Annals of The Bhandarkar Oriental Research Institute*, *61*(1), 271–278.

Fox, K. C. R., Nijeboer, S., Solomonova, E., Domhoff, G. W., & Christoff, K. (2013). Dreaming as mind wandering: Evidence from functional neuroimaging and first-person content reports. *Frontiers in Human Neuroscience*, *7*(JUL), 1–18. https://doi.org/10.3389/fnhum.2013.00412

Fox, K. C. R., Zakarauskas, P., Dixon, M., Ellamil, M., Thompson, E., & Christoff, K. (2012). Meditation Experience Predicts Introspective Accuracy. *PLoS ONE*, *7*(9). https://doi.org/10.1371/journal.pone.0045370

Fremantle, F. (2001). *Luminous emptiness. Understanding the Tibetan Book of the Dead*. Shambhala.

Fridland, E. (2015). Knowing-how: Problems and Considerations. *European Journal of Philosophy*, *23*(3), 703–727. https://doi.org/10.1111/ejop.12000

Gackenbach, J., & LaBerge, S. (Eds). (1988). *Conscious Mind Brain, Sleeping Brain*. Plenum Press.

Gallagher, S. (2000). Philosophical conceptions of the self: Implications for cognitive science. *Trends in Cognitive Sciences*, *4*(1), 14–21. https://doi.org/10.1016/S1364-6613(99)01417-5

Gallagher, S. (2003). Phenomenology and Experimental Design. *Journal of Consciousness Studies*, *10*(9), 85–99. https://ezp.lib.unimelb.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=11261308&site=eds-live

Gallagher, S. (2017). Self-defense: Deflecting deflationary and eliminativist critiques of the sense of ownership. *Frontiers in Psychology*, *8*(SEP), 1–10. https://doi.org/10.3389/fpsyg.2017.01612

Gallagher, S., & Zahavi, D. (2008). The phenomenological mind. In *Routledge*. https://doi.org/10.4324/9780203086599

Gambhirananda (Trans.), S. (1937). *Eight Upanishads. Volume two: Aitareya, Mundaka, Mandukya & Karika and Prasna*. Sharada Press.

Gamma, A., & Metzinger, T. (2021). The Minimal Phenomenal Experience questionnaire (MPE-92M): Towards a phenomenological profile of "pure awareness" experiences in meditators Alex. *PLoS ONE*, 1–39. https://doi.org/10.1371/journal.pone.0253694

Garfield, J. (2006). The Conventional Status of Reflexive Awareness: What's at Stake in a Tibetan Debate ? *Philosophy East and West*, *56*(2), 201–228.

Gifford-May, D., & Thompson, Norman. L. (1994). “Deep states” of meditation: phenomenological reports of experience. *The Journal of Transpersonal Psychology*, *26*(2), 117–138.

Gillespie, G. (1983). Lucid Dreaming and Mysticism: A Personal Observation. *Lucidity Letter*, *2*(3), 64.

Gillespie, G. (1986). *Ordinary Dreams, Lucid Dreams and Mystical Experience George Gillespie*. *5*(1), 1–4.

Gillespie, G. (1991). *Dream Light : Categories of Visual Experience During Lucid Dreaming*. *10*, 25–27.

Gillespie, G. (2002). Dreams and dreamless sleep. *Dreaming*, *12*(4), 199–207. https://doi.org/10.1023/A:1021104527848

Giorgi, A. (2009). *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Duquesne University Press.

Giorgi, A. P., & Giorgi, B. M. (2003). The Descriptive Phenomenological Psychological Method. *Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design*, *January*, 243–273. https://doi.org/10.1037/10595-013

Girn, M., Mills, C., Roseman, L., Carhart-Harris, R., & Christoff, K. (2020). Updating the dynamic framework of thought: Creativity and psychedelics. *NeuroImage*, *213*(September 2019), 116726. https://doi.org/10.1016/j.neuroimage.2020.116726

Glicksohn, J. (2001). Temporal cognition and the phenomenology of time: A multiplicative function for apparent duration. *Consciousness and Cognition*, *10*(1), 1–25. https://doi.org/10.1006/ccog.2000.0468

Glicksohn, J., Berkovich-Ohana, A., Mauro, F., & Ben-Soussan, T. D. (2017). Time perception and the experience of time when immersed in an altered sensory

environment. *Frontiers in Human Neuroscience*, *11*(October), 1–11. https://doi.org/10.3389/fnhum.2017.00487

Green, C. (1968). *Lucid dreams.* Hamish Hamilton.

Green, C., & McCreery, C. (1994). *Lucid Dreaming: The Paradox of Consciousness During Sleep*. Routledge.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, *293*(5537), 2105–2108. https://doi.org/10.1126/science.1062872

Griffiths, P. J. (1990). Pure Consciousness and Indian Philosophy. In R. K. C. Forman (Ed.), *The Problem of Pure Consciousness* (pp. 71–97). OUP.

Hall, C. S., & Van de Castle, R. L. Van. (1967). The Content Analysis of Dreams. In *The American Journal of Psychology* (Vol. 80, Issue 1). Appleton-Century- Crofts. https://doi.org/10.2307/1420563

Henry, A., & Thompson, E. (2011). Witnessing from Here: Self-Awareness from a Bodily versus Embodied Perspective. *The Oxford Handbook of the Self*, *October 2017*, 1–24. https://doi.org/10.1093/oxfordhb/9780199548019.003.0010

Heron, W. (1965). Cognitive and physiological effects ofperceptual isolation. In & D. W. (Eds.) P. E. Kubzansky, P. H. Liederman, J. H. Mendelson, R. Trumbull (Ed.), *Sensory deprivation: a symposium held at Harvard Medical School* (pp. 6–33). Hardvard.

Heron, W., Doane, B. K., & Scott, T. H. (1956). Visual disturbances after prolonged perceptual isolation. *Canadian Journal of Psychology*, *10*(1), 13–18. https://doi.org/10.1037/h0083650

Hochberg, J. E., Triebel, W., & Seaman, G. (1951). Color adaptation under conditions of homogeneous visual stimulation (Ganzfeld). *Journal of Experimental Psychology*, *41*(2), 153–159. https://doi.org/10.1037/h0057894

Høffding, S., & Martiny, K. (2016). Framing a phenomenological interview: what, why and how. *Phenomenology and the Cognitive Sciences*, *15*(4), 539–564. https://doi.org/10.1007/s11097-015-9433-z

Høffding, S., Martiny, K., & Roepstorff, A. (2021). Can we trust the phenomenological interview? Metaphysical, epistemological, and methodological objections. *Phenomenology and the Cognitive Sciences*, *0123456789*. https://doi.org/10.1007/s11097-021-09744-z

Holecek, A. (2016a). *Dream Yoga. Illuminating Your Life Through Lucid Dreaming and the Tibetan Yogas of Sleep*. Sounds true.

Holecek, A. (2016b). *Dream Yoga: Illuminating your life through lucid dreaming and the tibetan yogas of sleep*. Sounds true.

Hood, R. W. (1975). The Construction and Preliminary Validation of a Measure of Reported Mystical Experience. *Journal for the Scientific Study of Religion*, *14*(1), 29. https://doi.org/10.2307/1384454

Horton, C. L. (2011). Recall and Recognition of Dreams and Waking Events: A Diary Paradigm. *International Journal of Dream Research*, *4*(1), 1–2. http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2011-14179-001&site=eds-live

Horton, C. L. (2020). Key Concepts in Dream Research: Cognition and Consciousness Are Inherently Linked, but Do No Not Control "Control"! *Frontiers in Human Neuroscience*, *14*(July), 1–4. https://doi.org/10.3389/fnhum.2020.00259

Huber, R., Ghilardi, M. F., Massimini, M., & Tononi, G. (2004). Local sleep and learning. *Nature*, *430*(6995), 78–81. https://doi.org/10.1038/nature02663

Hufford, D. J. (2005). Sleep Paralysis as Spiritual Experience. *Transcultural Psychiatry*, *42*(1), 11–45. https://doi.org/10.1177/1363461505050709

Hurd, R. (2008). Exploring the void in lucid dreaming. *Dream Studies, 2008*. https://dreamstudies.org/2010/05/13/exploring-the-void-in-lucid-dreaming/

Husserl, E. (1982). *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy. First Book. General Introduction to a Pure Phenomenology* (F. (Trans.) Kersten, Ed.). Martinus Nijhoff Publishers (1st German ed. 1913). https://doi.org/10.4324/9780203856581.ch30

Ichikawa, J. (2008). Scepticism and the imagination model of dreaming. *Philosophical Quarterly*, *58*(232), 519–527. https://doi.org/10.1111/j.1467-9213.2007.546.x

Ichikawa, J. (2009). Dreaming and imagination. *Mind and Language*, *24*(1), 103–121. https://doi.org/10.1111/j.1468-0017.2008.01355.x

Indich, W. M. (1980). *Consciousness in Advaita Vedanta*. Motilal Banarsidass.

Ioannides, A. A., Kostopoulos, G. K., Liu, L., & Fenwick, P. B. C. (2009). MEG identifies dorsal medial brain activations during sleep. *NeuroImage*, *44*(2), 455–468. https://doi.org/10.1016/j.neuroimage.2008.09.030

Irving, Z. C. (2016). Mind-wandering is unguided attention: accounting for the "purposeful" wanderer. *Philosophical Studies*, *173*(2), 547–571. https://doi.org/10.1007/s11098-015-0506-1

James, W. (1980). *The Principles of Psychology (Vol 1)*. Dover Publications.

James, W. (1982). *The Varieties of Religious Experience. A Study in Human Nature. Being the Gifford Lectures on Natural Religion*. Fount Paperbacks.

Johnson, C. R. (2014). Magic, meditation, and the void: Creative dimensions of lucid dreaming. In K.Bulkeley & R.Hurd (Eds.), *Lucid dreaming: new perspectives on consciousness in sleep*. Praeger.

Johnson, C. R. (2020). *Complete book of Lucid Dreaming. A comprehensive Guide to Promote Creativity, Overcome Sleep Disturbances and Enhance Health and Wellness*. Llewellyn.

Jonkisz, J., Wierzchoń, M., & Binder, M. (2017). Four-dimensional graded consciousness. *Frontiers in Psychology*, *8*(MAR), 1–10. https://doi.org/10.3389/fpsyg.2017.00420

Josipovic, Z. (2019). Nondual awareness: Consciousness-as-such as non-representational reflexivity. *Progress in Brain Research*, *244*, 273–298. https://doi.org/10.1016/bs.pbr.2018.10.021

Kahan, T. L. (1994). Measuring dream self-reflectiveness: A comparison of two approaches. *Dreaming*, *4*(3), 177–193. https://doi.org/10.1037/h0094411

Kahan, T. L., & LaBerge, S. P. (1996). Cognition and metacognition in dreaming and waking: Comparisons of first and third-person ratings. *Dreaming*, *6*(4), 235–249.

Kahan, T. L., & LaBerge, S. P. (2011). Dreaming and waking: Similarities and differences revisited. *Consciousness and Cognition*, *20*, 494–514. https://doi.org/10.1016/j.concog.2010.09.002

Kahan, T. L., LaBerge, S. P., Levitan, Lynnen., & Zimbardo, P. (1997). Similarities and Differences between Dreaming and Cogntion: An exploraory study. *Consciousness and Cognition*, 132–147.

Kawagoe, T., Onoda, K., & Yamaguchi, S. (2019a). The neural correlates of "mind blanking": When the mind goes away. *Human Brain Mapping*, *40*(17), 4934–4940. https://doi.org/10.1002/hbm.24748

Kawagoe, T., Onoda, K., & Yamaguchi, S. (2019b). The neural correlates of "mind blanking": When the mind goes away. *Human Brain Mapping*, *40*(17), 4934–4940. https://doi.org/10.1002/hbm.24748

Kellner, B. (2010). Self-Awareness (svasamvedana) in Dignāga's Pramānasamuccaya and vrtti: A Close Reading. *Journal of Indian Philosophy*, *38*(3), 203–231. https://doi.org/10.1007/s10781-010-9091-y

Kihlstrom, J. F. (2012). The domain of hypnosis, revisited. In A. J. Barnier & M. R. Nash (Eds.), *The Oxford Handbook of Hypnosis: Theory, Research, and Practice* (pp. 21–52). https://doi.org/10.1093/oxfordhb/9780198570097.013.0002

Knobe, J. (2012). Experimental Philosophy. In E. Margolis (Ed.), *The Oxford Handbook of Philosophy of Cognitive Science* (pp. 528–544). OUP.

Knobe, J., & Nichols, S. (2008a). An experimental philosophy manifesto. *Experimental Philosophy*, 3–14.

Knobe, J., & Nichols, S. (2008b). *Experimental Philosophy*. OUP.

Koch, C., Massimini, M., Boly, M., & Tononi, G. (2016). Neural correlates of consciousness: Progress and problems. *Nature Reviews Neuroscience*, *17*(5), 307–321. https://doi.org/10.1038/nrn.2016.22

Konkoly, K., Appel, K., Chabani, E., Mironov, A. Y., Mangiaruga, A., Gott, J., Mallett, R., Caughran, B., Witkowski, S., Whitmore, N., Berent, J., Weber, F., Pipa, G., Türker, B., Maranci, J.-B., Sinin, A., Dorokhov, V., Arnulf, I., Oudiette, D., … Paller, K. (2020). Real-Time Dialogue between Experimenters and Dreamers During rem Sleep. *SSRN Electronic Journal*, 1–11. https://doi.org/10.2139/ssrn.3606772

Koriat, A. (2000). The Feeling of Knowing: Some Metatheoretical Implications for Consciousness and Control. *Consciousness and Cognition*, *9*(2), 149–171. https://doi.org/10.1006/ccog.2000.0433

Kornfield, J. (1979). Intensive Insight Meditation: A Phenomenological Study. *The Journal of Transpersonal Psychology*, *11*(1), 41–58.

Kouider, S., de Gardelle, V., Sackur, J., & Dupoux, E. (2010). How rich is consciousness? The partial awareness hypothesis. *Trends in Cognitive Sciences*, *14*(7), 301–307. https://doi.org/10.1016/j.tics.2010.04.006

Kozmová, M., & Wolman, R. N. (2006). Self-awareness in dreaming. *Dreaming*, *16*(3), 196–214. https://doi.org/10.1037/1053-0797.16.3.196

Kriegel, U. (2003). Consciousness as Intransitive Self-Consciousness: Two views and an Argument. *Canadian Journal of Philosophy*, *33*(1), 103–132. https://doi.org/10.1080/00455091.2003.10716537

Kriegel, U. (2004). Consciousness and Self-Consciousness. *The Monist*, *87*(2), 182–205. https://doi.org/10.2307/2178689

Kriegel, U. (2009). Self-representationalism and phenomenology. *Philosophical Studies*, *143*(3), 357–381. https://doi.org/10.1007/s11098-008-9204-6

Kriegel, U. (2019). Dignaga's argument for the awareness principle: An analytic refinement. *Philosophy East and West*, *69*(1), 143–155. https://doi.org/10.1353/pew.2019.0003

Kriegel, U., & Zahavi, D. (2015). For-me-ness: What it is and what it is not. In and W. H. D. O. Dahlstrom, A. Elpidorou (Ed.), *Philosophy of Mind and Phenomenology: Conceptual and Empirical Approaches* (pp. 36–53). Routledge.

Krippendorff, K. (2004). *Content Analysis: An Introduction to its Methodology*. SAGE Publications Ltd.

Kühle, L. (2015). Insight: What Is It , Exactly ? *Open MIND*, *38*(C), 1–13. https://doi.org/10.15502/9783958570696

LaBerge, S. (1985). *Lucid Dreaming: The Power of Being Awake and Aware in Your Dreams*. Ballantine.

LaBerge, S., & DeGracia, D. J. (2000). Varieties of Lucid Dreaming Experience. In R. G. Kunzendorf & B. Wallace (Eds.), *Individual differences in conscious experience* (pp. 269–307). John Benjamins. https://doi.org/10.1075/aicr.20.14lab

LaBerge, S. P. (1980). Lucid Dreaming as a Learnable Skill: A Case Study. *Perceptual and Motor Skills*, *51*, 1039–1042. https://doi.org/10.2466/pms.1980.51.3f.1039

LaBerge, S. P., & DeGracia, D. J. (2000a). Varieties of lucid dreaming. In R. G. Kunzendorf & B. Wallace (Eds.), *Individual differences in conscious experience* (pp. 269–307). John Benjamins.

LaBerge, S. P., & DeGracia, D. J. (2000b). Varieties of lucid dreaming. In R. G. Kunzendorf & B. Wallace (Eds.), *Individual differences in conscious experience* (pp. 269–307). John Benjamins.

LaBerge, S. P., Nagel, L. E., Dement, W. C., & Zarcone, A. N. D. V. P. (1981). Lucid dreaming verified. *Perceptual and Motor Skills*, *52*, 727–732.

LaBerge, S., & Rheingold, H. (1990). *Exploring the world of lucid dreaming*. Ballantine Books.

Lama, D. (1997). *Sleeping, Dreaming, and Dying: An Exploration of Consciousness with the Dalai Lama*. Wisdom Publications. https://scholar.google.com/scholar?hl=es&q=mind+and+life+dalai+lama&btnG=&lr=lang_en#1

Laureys, S. (2005). The neural correlate of (un)awareness: Lessons from the vegetative state. *Trends in Cognitive Sciences*, *9*(12), 556–559. https://doi.org/10.1016/j.tics.2005.10.010

Le Van Quyen, M., & Petitmengin, C. (2002). Neuronal dynamics and conscious experience: an example of reciprocal causation before epileptic seizures. *Phenomenology and the Cognitive Sciences*, *1*(2), 169–180. https://doi.org/10.1023/A:1020364003336

Legrand, D. (2006). The bodily self: The sensori-motor roots of pre-reflective self-consciousness. *Phenomenology and the Cognitive Sciences*, *5*(1), 89–118. https://doi.org/10.1007/s11097-005-9015-6

Letheby, C., & Gerrans, P. (2017). Self unbound: ego dissolution in psychedelic experience. *Neuroscience of Consciousness*, *2017*(1), 1–11. https://doi.org/10.1093/nc/nix016

Levitan, L., & Zimbardo, P. (1999). Out-of-body experiences , dreams, and REM sleep. *Sleep and Hypnosis*, *1*(3), 186–196.

Lewis, H. B., Goodenough, D. R., Shapiro, A., & Sleser, I. (1966). Individual differences in dream recall. *Journal of Abnormal Psychology*, *71*(1), 52–59. https://doi.org/10.1037/h0022824

Lifshitz, M., van Elk, M., & Luhrmann, T. M. (2019). Absorption and spiritual experience: A review of evidence and potential mechanisms. *Consciousness and Cognition*, *73*(May), 102760. https://doi.org/10.1016/j.concog.2019.05.008

Lindahl, J. R., Fisher, N. E., Cooper, D. J., Rosen, R. K., & Britton, W. B. (2017). The varieties of contemplative experience: A mixed-methods study of meditation-related challenges in Western Buddhists. In *PLoS ONE* (Vol. 12, Issue 5). https://doi.org/10.1371/journal.pone.0176239

Lindahl, J. R., Kaplan, C. T., Winget, E., & Britton, W. B. (2014). A phenomenology of meditation-induced light experiences: Traditional Buddhist and neurobiological perspectives. *Frontiers in Psychology*, *4*(JAN), 1–16. https://doi.org/10.3389/fpsyg.2013.00973

Lindström, L., Goldin, P., Mårtensson, J., & Cardeña, E. (2023). Nonlinear brain correlates of trait self-boundarylessness. *Neuroscience of Consciousness*, *2023*(1), 1–13.

Lindström, L., Kajonius, P., & Cardeña, E. (2022a). Dissolution of What?: The Self Lost in Self-Transcendent Experiences. *Journal of Consciousness Studies*, *29*(5–6), 75–101. https://doi.org/10.53765/20512201.29.5.075

Lindström, L., Kajonius, P., & Cardeña, E. (2022b). Dissolution of What? The Self Lost in Self-transcendent Experiences. *Journal of Consciousness Studies*, *29*(5), 75–101. https://doi.org/10.53765/20512201.29.5.075

Lloyd, D. M., Lewis, E., Payne, J., & Wilson, L. (2012). A qualitative analysis of sensory phenomena induced by perceptual deprivation. *Phenomenology and the Cognitive Sciences*, *11*(1), 95–112. https://doi.org/10.1007/s11097-011-9233-z

Loy, D. (1988). *Nonduality. A study in comparative philosophy. New Haven: Yale University Press.* Yale University Press.

Ludwig, A., & Levine, J. (1965). Alterations in consciousness produced by hypnosis. *The Journal of Nervous and Mental Disease*, *140*(2), 146–153.

Lumma, A. L., & Weger, U. (2021). Looking from within: Comparing first-person approaches to studying experience. *Current Psychology*. https://doi.org/10.1007/s12144-021-02277-3

Lutz, A., Dunne, J. D., & Davidson, R. J. (2012). Meditation and the Neuroscience of Consciousness. In P. Zelazo, M. Moscovitch, & E. Thompson (Eds.), *The Cambridge Handbook of Consciousness*. Cambridge University Press. https://doi.org/10.1017/cbo9780511816789.001

Lutz, A., Lachaux, J.-P., Martinerie, J., & Varela, F. J. (2002). Guiding the study of brain dynamics by using first-person data: synchrony patterns correlate with ongoing conscious states during a simple visual task. *Proceedings of the National Academy of Sciences of the United States of America*, *99*(3), 1586–1591. https://doi.org/10.1073/pnas.032658199

Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008a). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, *12*(4), 163–169. https://doi.org/10.1016/j.tics.2008.01.005

Lutz, A., Slagter, H. A., Dunne, J. D., & Davidson, R. J. (2008b). Attention regulation and monitoring in meditation. In *Trends in Cognitive Sciences* (Vol. 12, Issue 4, pp. 163–169). https://doi.org/10.1016/j.tics.2008.01.005

Lutz Antoine & Thompson Evan. (2003). Neurophenomenology Integrating Subjective Experience and Brain Dynamics in the Neuroscience of Consciousness. *Journal of Consciousness Studies*, *No. 9–10*,(10), 31–52. https://doi.org/http://www.ingentaconnect.com/content/imp/jcs/2003/00000010/F0020009/art00004

Lynn, S. J., Malaktaris, A., Maxwell, R., & Mellinger, D. (2012). Do Hypnosis and Mindfulness Practices Inhabit a Common Domain? Implications for Research, Clinical Practice, and Forensic Science. *The Journal of Mind Body Regulation*, *2*(1), 14–26.

MacKenzie, M. D. (2007). The Illumination of Consciousness: Approaches to Self-Awareness in the Indian and Western Traditions. In *Philosophy East and West* (Vol. 57, Issue 1, pp. 40–62). https://doi.org/10.1353/pew.2007.0006

MacKenzie, M. D. (2008). Self-Awareness without a Self: Buddhism and the Reflexivity of Awareness. *Asian Philosophy*, *18*(3), 245–266. https://doi.org/10.1080/09552360802440025

Macpherson, F., & Batty, C. (2016). Redefining Illusion and Hallucination in Light of New Cases. *Nous-Supplement: Philosophical Issues*, *26*(1), 263–296. https://doi.org/10.1111/phis.12086

Magallón, L. L. (1987). Awake in the Dark : Imageless Lucid Dreaming. *Lucidity Letter*, *6*(1), 1–5.

Maharishi, M. Y. (1972). *The Science of Creative Intelligence*. MIU Press.

Maij, D. L. R., & Elk, M. van. (2018). Getting absorbed in experimentally induced extraordinary experiences : Effects of placebo brain stimulation on agency detection.

Consciousness and Cognition, *66*(December 2017), 1–16. https://doi.org/10.1016/j.concog.2018.09.010

Mainieri, G., Maranci, J. B., Champetier, P., Leu-Semenescu, S., Gales, A., Dodet, P., & Arnulf, I. (2021). Are sleep paralysis and false awakenings different from REM sleep and from lucid REM sleep? A spectral EEG analysis. *Journal of Clinical Sleep Medicine*, *17*(4), 719–727. https://doi.org/10.5664/JCSM.9056

Mainieri, Greta, Maranci, J.-B., & Champetier, P. (2020). Are sleep paralysis and false awakenings different from REM sleep and from lucid REM sleep? A spectral EEG analysis. *Journal of Clinical Sleep Medicine*, *7*(4), 719–727. https://doi.org//10.5664/jcsm.9056

Mallett, R., Carr, M., Freegard, M., Konkoly, K., Bradshaw, C., & Schredl, M. (2021). Exploring the range of reported dream lucidity. *Philosophy and the Mind Sciences*, *2*(1), 1–23. https://doi.org/10.31219/osf.io/sz8fa

Marshall, P. (2005). *Mystical Encounters with the Natural World: Experiences and Explanations*. Oxford University Press (OUP).

Martin, M. G. F. (1995). Bodily Awareness : A Sense of Ownership. In *The Body and the Self* (Vol. 30, Issue 1, p. 70). https://doi.org/10.2307/1576384

Mason, L., Alexander, C. N., Travis, F., & Gackenbach, J. (1990). EEG Correlates of Consciousness. *Lucidity Letter*, *209*(2), 2–4.

Mason, L., Alexander, C. N., Travis, F., Marsh, G., Orme-Johnson, D. W., Gackenbach, J., Mason, D. C., Rainforth, M., & Walton, K. G. (1997). Electrophysiological Correlates of Higher States of Consciousness During Sleep in Long-Term. *Sleep*, *20*(2), 102–110. https://doi.org/10.1093/sleep/20.2.102

Mason, L., & Orme-Johnson, D. (2010). Transcendental consciousness wakes up in dreaming and deep sleep. *International Journal of Dream Research*, *3*(1), 28–32. https://doi.org/10.11588/ijodr.2010.1.595

Mavromatis, A. (1987). *Hypnagogia: The Unique State of Consciousness Between Wakefulness and Sleep*. Routledge and Kegan Paul.

McCambridge, J., de Bruin, M., & Witton, J. (2012). The effects of demand characteristics on research participant behaviours in non-laboratory settings: A systematic review. *PLoS ONE*, *7*(6), 1–6. https://doi.org/10.1371/journal.pone.0039116

McCreery, C., & Claridge, G. (1996). A study of hallucination in normal subjects - I. Self-report data. *Personality and Individual Differences*, *21*(5), 739–747. https://doi.org/10.1016/0191-8869(96)00115-8

Merabet, L. B., Maguire, D., Warde, A., Alterescu, K., Stickgold, R., & Pascual-Leone, A. (2004). Visual hallucinations during prolonged blindfolding in sighted subjects. *Journal of Neuro-Ophthalmology*, *24*(2), 109–113. https://doi.org/10.1097/00041327-200406000-00003

Merrit, J. M., Stickgold, R., Pace-Schott, E., Williams, J., & Hobson, A. (1994). Emotions profile in the dreams of man and woman. In *Consciousness and Cognition* (Issue 3, pp. 46–60).

Metzinger, T. (2003a). *Being no one. The self-model theory of subjectivity*. MIT Press.

Metzinger, T. (2003b). Being No One. The Self-Model Theory of Subjectivity. In *Metzinger, T. (2003). Being No One. The Self-Model Theory of Subjectivity. MIT Press, Cambridge, MA* (MIT Press). MIT Press. https://doi.org/10.1017/CBO9781107415324.004

Metzinger, T. (2009). *The Ego Tunnel*. Basic Books.

Metzinger, T. (2013). Why are dreams interesting for philosophers? The example of minimal phenomenal selfhood, plus an agenda for future research. *Frontiers in Psychology*, *4*(October), 746. https://doi.org/10.3389/fpsyg.2013.00746

Metzinger, T. (2019). Minimal phenomenal experience: The ARAS-model theory: Steps toward a minimal model ofconscious experience as such. *Mindrxiv.Org*, 1–38. https://doi.org/https://doi.org/10.31231/osf.io/5wyg7

Metzinger, T. (2020). Minimal phenomenal experience. *Philosophy and the Mind Sciences*, *1*(I), 1–44. https://doi.org/10.33735/phimisci.2020.I.46

Millière, R. (2017). Looking for the self: Phenomenology, neurophysiology and philosophical significance of drug-induced ego dissolution. *Frontiers in Human Neuroscience*, *11*(May), 1–22. https://doi.org/10.3389/fnhum.2017.00245

Millière, R. (2020). The varieties of selflessness. *Philosophy and the Mind Sciences*, *1*(I), 8. https://doi.org/10.33735/phimisci.2020.i.48

Millière, R., Carhart-Harris, R. L., Roseman, L., Trautwein, F. M., & Berkovich-Ohana, A. (2018). Psychedelics, meditation, and self-consciousness. *Frontiers in Psychology*, *9*(SEP). https://doi.org/10.3389/fpsyg.2018.01475

Millière, R., & Newen, A. (2022). Selfless Memories. *Erkenntnis*, *0123456789*. https://doi.org/10.1007/s10670-022-00562-6

Mohr, C. (2018). Are There Varying Depths in Flow? *Journal of Consciousness Studies*, *25*(11–12), 115–130.

Morewedge, C. K., Giblin, C. E., & Norton, M. I. (2014). The (Perceived) Meaning of Spontaneous Thoughts. *American Psychological Association*, *143*(4), 1742–1754.

Morewedge, C. K., & Norton, M. I. (2009). When Dreaming Is Believing: The (Motivated) Interpretation of Dreams. *Journal of Personality and Social Psychology*, *96*(2), 249–264. https://doi.org/10.1037/a0013264

Mortaheb, S., Calster, L. Van, Raimondo, F., Klados, M. A., Boulakis, P. A., Georgoula, K., Majerus, S., Ville, D. Van De, & Demertzi, A. (2022). Mind blanking is a distinct mental state linked to a recurrent brain profile of globally positive connectivity during

ongoing mentation. *BioRxiv*, 2021.05.10.443428. https://doi.org/https://doi.org/10.1101/2021.05.10.443428

Moss, D. (2017). Experimental Philosophy , Folk Metaethics and Qualitative Methods. *Teorema*, *36*(3), 185–203.

Moss, K. (1986). Phenomenology: Personal and Theoretical Considerations The Dream Lucidity Continuum. *Lucidity Letter*, *5*(2), 2–4.

Mota-Rolim, S. A. (2020). On Moving the Eyes to Flag Lucid Dreaming. *Frontiers in Neuroscience*, *14*(April), 1–5. https://doi.org/10.3389/fnins.2020.00361

Mota-Rolim, S. A., Bulkeley, K., Campanelli, S., Lobão-Soares, B., de Araujo, D. B., & Ribeiro, S. (2020). The Dream of God: How Do Religion and Science See Lucid Dreaming and Other Conscious States During Sleep? *Frontiers in Psychology*, *11*(October), 1–9. https://doi.org/10.3389/fpsyg.2020.555731

Mullin, C. S. (1960). Some psychological aspects of isolated Antarctic living. *The American Journal of Psychiatry*, *117*, 323–325. https://doi.org/10.1176/ajp.117.4.323

Nagel, T. (1974). What Is It Like to Be a Bat? *The Philosophical Review*, *83*(4), 435. https://doi.org/10.2307/2183914

Naish, P. L. N. (2007). Time distortion and the nature of hypnosis and consciousness. In G. Jamieson (Ed.), *Hypnosis and conscious states: The cognitive-neuroscience perspective* (pp. 270–293). OUP.

Nave, O., Trautwein, F. M., Ataria, Y., Dor-Ziderman, Y., Schweitzer, Y., Fulder, S., & Berkovich-Ohana, A. (2021). Self-boundary dissolution in meditation: A phenomenological investigation. *Brain Sciences*, *11*(6). https://doi.org/10.3390/brainsci11060819

Nielsen, T. A. (2010). Dream analysis and classification: The reality simulation perspective. In M. Kryeger, T. Roth, & W. C. Dement (Eds.), *Principles and practice of sleep medicine*. Elsevier.

Nikhilananda, S. (1949). *Mandukya Upanishad with Gaudapada's Karika and Sankara's Commentary* (3rd ed.). Bangalore Press.

Nir, Y., Staba, R. J., Andrillon, T., Vyazovskiy, V. V., Cirelli, C., Fried, I., & Tononi, G. (2011). Regional Slow Waves and Spindles in Human Sleep. *Neuron*, *70*(1), 153–169. https://doi.org/10.1016/j.neuron.2011.02.043

Nir, Y., & Tononi, G. (2010). Dreaming and the brain: from phenomenology to neurophysiology. *Trends in Cognitive Sciences*, *27*(3), 320–331. https://doi.org/10.1002/nbm.3066.Non-invasive

Norbu, N. (1983). *Dream yoga and the practice of natural light* (M. Katz, Ed.). Snow Lion Publications.

Noreika, V., Valli, K., Lahtela, H., & Revonsuo, A. (2009). Early-night serial awakenings as a new paradigm for studies on NREM dreaming. *International Journal of Psychophysiology*, *74*(1), 14–18. https://doi.org/10.1016/j.ijpsycho.2009.06.002

Noreika, V., Windt, J. M., & Lenggenhager, B. (2010). New perspectives for the study of lucid dreaming: From brain stimulation to philosophical theories of self-consciousness. *International Journal of Dream Research*, *3*(1), 36–45. https://doi.org/10.11588/ijodr.2010.1.586

Noreika, V., Windt, Jennifer M., Arstilla, V., Falter, C. M., Kiverstein, J., & Revonsuo, A. (2010). The Subjective and the Objective Duration of Static NREM Sleep Dreams. *International Journal of Dream Research*, *3*(1).

Occhionero, M., Cicogna, P. C., Vincenzo, N., Esposito, M. J., & Bosinelli, M. (2005). Representation of Self in SWS and REM. *Sleep and Hypnosis*, 77–83.

Olivelle, P. (Trans.). (1998). *The Early Upanishads: Annotated text and translation.* Oxford University Press.

Padmasambhava, & Gyatrul, R. (2008). *Natural Liberation. Padmasambhava's Teachings on the Six Bardos (A. Wallace, Trans.)*. Wisdom Publications (original work 1998).

Peacocke, C. (2001). Does Perception Have a Nonconceptual Content? *Journal of Philosophy*, *98*(5), 239–264. https://doi.org/10.2307/2678383

Petitmengin, C. (1999a). The intuitive experience. *Journal of Consciousness Studies*, *6*(3), 43–77.

Petitmengin, C. (1999b). The Intuitive Experience. In F. V. and J. Shear (Ed.), *View from Within. First-person approaches to the study of consciousness* (pp. 43–77). Imprimt academics.

Petitmengin, C. (2005). Un exemple de recherche neuro-phénoménologique : l'anticipation des crises d'épilepsie. *Intellectica*, *40*(1), 63–89.

Petitmengin, C. (2006). Describing one's subjective experience in the second person: An interview method for the science of consciousness. *Phenomenology and the Cognitive Sciences*, *5*(3–4), 229–269. https://doi.org/10.1007/s11097-006-9022-2

Petitmengin, C. (2007). Towards the Source ofThoughts. *Journal of Consciousness Studies*, *14*(3), 54–82. https://doi.org/10.20314/als.8584e0642b

Petitmengin, C., Baulac, M., & Navarro, V. (2006). Seizure anticipation: Are neurophenomenological approaches able to detect preictal symptoms? *Epilepsy and Behavior*, *9*(2), 298–306. https://doi.org/10.1016/j.yebeh.2006.05.013

Petitmengin, C., & Bitbol, M. (2009). The Validity of First-Person Descriptions as Authenticity and Coherence. *Journal of Consciousness Studies*, *16*(10), 363–404.

Petitmengin, C., & Bitbol, M. (2017). Neurophenomenology and the Micro-phenomenological Interview. In S. Schneider & M. Velmans (Eds.), *The Blackwell Companion to Consciousness* (Second, pp. 726–739). John Wiley & Sons.

Petitmengin, C., & Lachaux, J.-P. (2013). Microcognitive science: bridging experiential and neuronal microdynamics. *Frontiers in Human Neuroscience*, *7*(September), 617. https://doi.org/10.3389/fnhum.2013.00617

Petitmengin, C., Remillieux, A., & Valenzuela-Moguillansky, C. (2018). Discovering the structures of lived experience. *Phenomenology and the Cognitive Sciences*. https://doi.org/10.1007/s11097-018-9597-4

Ponlop, D. (2006). *Mind Beyond Death*. Snow Lion Publications.

Prasad, H. S. (2000). Dreamless sleep and soul: A controversy between Vedanta and Buddhism. *Asian Philosophy*, *10*(1), 61–73. https://doi.org/10.1080/09552360050001770

Proüst, J. (2007). Metacognition and metarepresentation: Is a self-directed theory of mind a precondition for metacognition? *Synthese*, *159*(2), 271–295. https://doi.org/10.1007/s11229-007-9208-3

Proüst, J. (2010). Metacognition. *Philosophy Compass*, *11*, 989–998.

Proust, J. (2014). A Representational Format for Procedural Metacognition. In *The Philosophy of Metacognition: Mental Agency and Self-Awareness* (pp. 583–605). Oxford University Press (OUP). https://doi.org/10.1093/acprof

R Core Team. (2021). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria.

Rabeyron, T., & Caussie, S. (2016). Clinical aspects of Out-of-Body Experiences: Trauma, reflexivity and symbolisation. *Evolution Psychiatrique*, *81*(4), e53–e71. https://doi.org/10.1016/j.evopsy.2016.09.002

Rainville, P., & Price, D. D. (2003). Hypnosis phenomenology and the neurobiology of consciousness. *International Journal of Clinical and Experimental Hypnosis*, *51*(2), 105–129. https://doi.org/10.1076/iceh.51.2.105.14613

Ram-prasad, C. (2007). *Indian Philosophy and the consequences of knowledge: Themes in Ethics, Metaphysics and Soteriology* (Aldershot, Ed.). Ashgate.

Rao, K. R. (2002). *Consciousness studies. Cross-cultural perspectives.* McFarland.

Raveh, D. (2008). Ayam aham asmīti: Self-consciousness and identity in the eighth chapter of the Chāndogya Upaniṣad vs. Śankara's Bhāṣya. *Journal of Indian Philosophy*, *36*(2), 319–333. https://doi.org/10.1007/s10781-007-9031-7

Revonsuo, A. (2006). *Inner Presence: Consciousness as a Biological Phenomenon*. MIT Press.

Rinpoche, G. (2002). *Meditation, transformation and dream yoga (Wallace, A., & Khandro, S.,Trans)* (2nd ed.). Snow Lion Publications.

Roediger, H. L. (1996). Memory illusions. *Journal of Memory and Language*, *35*(2), 76–100. https://doi.org/10.1006/jmla.1996.0005

Rohrer, J. (1961). Interpersonal relationship in smalls groups. In E. Flaherthy (Ed.), *Psychophysiologic Aspects of Space Flight* (pp. 263–270). Columbia University Press.

Rosen, M. G. (2018). How bizarre? A pluralist approach to dream content. *Consciousness and Cognition*, *62*(August 2017), 148–162. https://doi.org/10.1016/j.concog.2018.03.009

Saraswati, S. S. (1984). *Yoga Nidra*. Yoga Publications Trust.

Sartre, J. P. (1956). *Being and Nothingness (Barnes, H. Trans.)*. Philosophical Library.

Schmidt, T. T., & Prein, J. C. (2019). The Ganzfeld experience—A stably inducible altered state of consciousness: Effects of different auditory homogenizations. *PsyCh Journal*, *8*(1), 66–81. https://doi.org/10.1002/pchj.262

Schredl, M., Burchert, N., & Gabatin, Y. (2004). The effect of training on interrater reliability in dream content analysis. *Sleep and Hypnosis*, *6*(3), 139–144.

Schredl, M., Funkhouser, A., & Göritz, A. S. (2017). Frequency of Déjà Rêvé. *Journal of Consciousness Studies*, *24*(7–8), 155–162.

Seli, P., Kane, M. J., Smallwood, J., Schacter, D. L., Maillet, D., Schooler, J. W., & Smilek, D. (2018). Mind-Wandering as a Natural Kind: A Family-Resemblances View. *Trends in Cognitive Sciences*, *22*(6), 479–490. https://doi.org/10.1016/j.tics.2018.03.010

Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, *62*(3), 373–386. https://doi.org/10.1002/jclp.20237

Sharma, A. (2004). *Sleep as a state of consciousness in advaita vedanta*. State University of New York Press.

Sharma, R. K. (2001). Dreamless Sleep and Some Related Philosophical Issues. *Philosophy East and Wes*, *51*(2), 210–231. https://doi.org/https://www.jstor.org/stable/1400001

Shea, N. (2014). Reward Prediction Error Signals are Meta-Representational. *Noûs*, *48*(2), 314–341. https://doi.org/10.1111/j.1468-0068.2012.00863.x

Shear, J. (1983). The experience of pure consciousness: A new perspective for theories of self. *Metaphilosophy*, *14*(1), 299–301. https://doi.org/https://www.jstor.org/stable/24435534

Shear, J. (1994). On Mystical Experiences as Support for the Perennial Philosophy. *Journal of the American Academy of Religion*, *62*(2), 319–342. https://doi.org/10.1093/jaarel/LXII.2.319

Shear, J. (2004). Mysticism and scientific naturalism. *Sophia*, *43*(1), 83–99. https://doi.org/10.1007/BF02782439

Shear, J. (2007). Eastern methods for investigating mind and consciousness. In S. Velmans & M. Schneider (Eds.), *The Blackwell Companion to Consciousness* (pp. 697–710). Wiley & Sons.

Shear, J., & Jevning, R. (2011). Pure Consciousness : Scientific Exploration of Meditation Techniques. *Journal of Consciousness Studies*, *2*, 189–209.

Siclari, F., Baird, B., Perogamvros, L., Bernardi, G., LaRocque, J. J., Riedner, B., Boly, M., Postle, B. R., & Tononi, G. (2017). The neural correlates of dreaming. *Nature Neuroscience*, *20*(6), 872–878. https://doi.org/10.1038/nn.4545

Siclari, F., Larocque, J. J., Bernardi, G., Postle, B. R., & Tononi, G. (2017). The neural correlates of consciousness in sleep: A no-task, within-state paradigm. *Nature Neuroscience*, *20*, 872–878. https://doi.org/10.1101/012443

Siclari, F., & Tononi, G. (2017). Local aspects of sleep and wakefulness. *Current Opinion in Neurobiology*, *44*, 222–227. https://doi.org/10.1016/j.conb.2017.05.008

Sikka, P., Valli, K., Virta, T., & Revonsuo, A. (2014). I know how you felt last night, or do I? Self- and external ratings of emotions in REM sleep dreams. *Consciousness and Cognition*, *25*(1), 51–66. https://doi.org/10.1016/j.concog.2014.01.011

Slater, M. (2009). Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1535), 3549–3557. https://doi.org/10.1098/rstb.2009.0138

Slater, M., & Sanchez-Vives, M. v. (2016). Enhancing our lives with immersive virtual reality. *Frontiers Robotics AI*, *3*(DEC), 1–47. https://doi.org/10.3389/frobt.2016.00074

Smallwood, J., & Schooler, J. W. (2015). The Science of Mind Wandering: Empirically Navigating the Stream of Consciousness. *Annual Review of Psychology*, *66*(1), 487–518. https://doi.org/10.1146/annurev-psych-010814-015331

Smith, J. A. (1995). Evolving issues for qualitative psychology. In J. T. E. R. (ed.) (Ed.), *f qualitative research methods for psychology and the social sciences*. BPS Books.

Soffer-Dudek, N. (2019). Dissociative absorption, mind-wandering, and attention-deficit symptoms: Associations with obsessive-compulsive symptoms. *British Journal of Clinical Psychology*, *58*(1), 51–69. https://doi.org/10.1111/bjc.12186

Soffer-Dudek, N., & Somer, E. (2018). Trapped in a daydream: Daily elevations in maladaptive daydreaming are associated with daily psychopathological symptoms. *Frontiers in Psychiatry*, *9*(MAY), 1–14. https://doi.org/10.3389/fpsyt.2018.00194

Solomonova, E. (2017). Sleep Paralysis: phenomenology, neurophysiology and treatment. In K. Christoff & K. C. R. Fox (Eds.), *The Oxford Handbook of Spontaneous Thought: Mind-Wandering, Creativity, Dreaming, and Clinical Conditions* (pp. 1–25). OUP.

Solomonova, E., & Wei, S. X. (2016). Exploring the depth of dream experience: The enactive framework and methods for neurophenomenological research. *Constructivist Foundations*, *11*(2), 407–416.

Somer, E. (2002). Maladaptive daydreaming: A qualitative inquiry. *Journal of Contemporary Psychotherapy*, *32*(2), 197–212.

Somer, E., Somer, L., & Jopp, D. S. (2016). Parallel lives: A phenomenological study of the lived experience of maladaptive daydreaming. *Journal of Trauma and Dissociation*, *17*(5), 561–576. https://doi.org/10.1080/15299732.2016.1160463

Sparrow, G., Hurd, R., Carlson, R., & Molina, A. (2018). Exploring the effects of galantamine paired with meditation and dream reliving on recalled dreams: Toward an integrated protocol for lucid dream induction and nightmare resolution. *Consciousness and Cognition*, *63*(June), 74–88. https://doi.org/10.1016/j.concog.2018.05.012

Sparrow, G. S., Thurston, M., & Carlson, R. (2013). Dream reliving and meditation as a way to enhance reflectiveness and constructive engagement in dreams. *International Journal of Dream Research*, *6*(2), 14–23. https://doi.org/10.11588/ijodr.2013.2.10151

Stace, W. T. (1960). *Mysticism and Philosophy*. Macmillian.

Stace, W. T. (1961). *Mysticism and Philosophy*. Macmillian. https://doi.org/10.5840/philtheol200416218

Stawarczyk, D., Cassol, H., & D'Argembeau, A. (2013). Phenomenology of future-oriented mind-wandering episodes. *Frontiers in Psychology*, *4*(JUL), 1–12. https://doi.org/10.3389/fpsyg.2013.00425

Stich, S., & Tobia, K. P. (2016). Experimental Philosophy and the Philosophical Tradition. In *A Companion to Experimental Philosophy*.

Stumbrys, T. (2018). Bridging lucid dream research and transpersonal psychology: Toward transpersonal studies of lucid dreams. *Journal of Transpersonal Psychology*, *50*(2), 176–193.

Stumbrys, T., & Erlacher, D. (2016). Applications of lucid dreams and their effects on the mood upon awakening. *International Journal of Dream Research*, *9*(2), 146–150.

Stumbrys, T., Erlacher, D., Johnson, M., & Schredl, M. (2014). The phenomenology of lucid dreaming: An online survey. *American Journal of Psychology*, *127*(2), 191–204. https://doi.org/10.5406/amerjpsyc.127.2.0191

Suedfeld, P., & Borrie, R. A. (1978). Altering states of consciousness through sensory deprivation. In A. A. Sugerman & R. E. Tarter (Eds.), *imensions of consciousness* (pp. 226–252). Springer.

Suedfeld, P., Rank, A. D., & Malůš, M. (2018). Spontaneous mental experiences in extreme and unusual environments. In *The Oxford Handbook of Spontaneous Thought: Mind-*

Wandering, Creativity, and Dreaming (Issue May 2020). https://doi.org/10.1093/oxfordhb/9780190464745.013.35

Sze, J., Gyurak, A., Yuan, J., & Levenson, R. (2010). Coherence Between Emotional Experience and Physiology: Does Body Awareness Training Have an Impact? *Emotion.*, *10*`(6), 803–814. https://doi.org/doi:10.1037/a0020146

Takeuchi, T., Miyasita, A., Inugami, M., Sasaki, Y., & Fukuda, K. (1994). Laboratory-documented hallucination during sleep-onset REM period in a normal subject. *Motor Skills Research Exchange*, *78*, 989–985.

Tart, C. T. (1979). From spontaneous event to lucidity: A review of attempts to consciously control nocturnal dreaming. In B. Wolman, H. Ullman, & W. Webb (Eds.), *Handbook of Dreams: Research, Theories and Applications* (p. 226—268). Van Nostrand Reinhold.

Tart, C. T. (1984). Theoretical and personal observations. *Lucidity Letter*, *3*(1), 3–5.

Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences ("absorption"), a trait related to hypnotic susceptibility. *Journal of Abnormal Psychology*, *83*(3), 268–277. https://doi.org/10.4324/9781315252858-23

Terhune, D. B., Croucher, M., Marcusson-Clavertz, D., & Macdonald, J. S. P. (2014). Time Contracts when the Mind Wanders. *Procedia - Social and Behavioral Sciences*, *126*, 125–126. https://doi.org/10.1016/j.sbspro.2014.02.340

Terhune, D., Croucher, M., Marcusson-Clavertz, D., & Macdonald, J. S. P. (2017). Time contracts and temporal precision declines when the mind wanders. *Journal of Experimental Psychology*, *43*(11), 1864–1871.

Terrillon, J., & Marques-Bonham, S. (2001). Does Recurrent Isolated Sleep Paralysis Involve More Than Cognitive Neurosciences ? *Journal of Scientific Exploration*, *15*(1), 97–123.

Tholey, P. (1988). Model for lucidity training as a means of self-healing and psychological growth. In J. Gackenbach & S. P. Laberge (Eds.), *Conscious Mind, Sleeping Brain* (pp. 263–285). Plenum Press.

Thompson, E. (2004). Life and mind: From Autopoiesis to Neurophenomenology. A Tribute to Francisco Varela. *Phenomenology and the Cognitive Sciences*, *3*, 381–398. https://doi.org/10.1023/B:PHEN.0000048936.73339.dd

Thompson, E. (2007). *Mind in Life. Biology, Phenomenology and the Sciences of Mind*. The Belknap Press of Harvard University Press.

Thompson, E. (2011). Self-no-Self? Memory and Reflective Awareness. In M. Siderits, E. Thompson, & D. Zahavi (Eds.), *Self, No Self?: Perspectives from Analytical, Phenomenological, and Indian Traditions*. Oxford University Press. https://doi.org/10.1093/acprof

Thompson, E. (2014). *Waking, Dreaming, Being: Self and Consciousness in Neuroscience, Meditation, and Philosophy*. Columbia University Press.

Thompson, E. (2015a). Dreamless Sleep, the Embodied Mind, and Consciousness. *Open MIND*, *37*. https://doi.org/10.15502/9783958570351

Thompson, E. (2015b). Steps Toward a Neurophenomenology of Conscious Sleep. *Open MIND*, *37*(R). https://doi.org/10.15502/9783958571181

Thornberg, R., & Charmaz, K. (2014). Grounded Theory and Theoretical Coding. In U. Flick (Ed.), *The SAGE Handbook of Qualitative Data Analysis* (pp. 153–170). SAGE Publications Ltd. http://dx.doi.org/10.4135/9781446282243

Thrangu, R., & Johnson, Clark. (2004). *Essentials of Mahamudra : looking directly at the mind*.

Timmermann, C., Roseman, L., Schartner, M., Millière, R., Williams, L., Erritzoe, D., Muthukumaraswamy, S., Ashton, M., Bendrioua, A., Kaur, O., Turton, S., Nour, M.

M., Day, C. M., Leech, R., Nutt, D., & Carhart-Harris, R. (2019). Neural correlates of the DMT experience as assessed via multivariate EEG. *Scientific Reports*, *9*(16324), 1–13. https://doi.org/10.1101/706283

Tononi, G., & Koch, C. (2008). The neural correlates of consciousness: An update. *Annals of the New York Academy of Sciences*, *1124*, 239–261. https://doi.org/10.1196/annals.1440.004

Toribio, J. (2007). Nonconceptual Content. *Philosophy Compass*, *2/3*, 445–460. https://doi.org/10.7551/mitpress/9780262029209.003.0002

Trautwein, F. M., Schweitzer, Y., Dor-Ziderman, Y., Nave, O., Ataria, Y., & Berkovich-Ohana, A. (2023). Suspending the embodied self in meditation attenuates beta oscillations in posterior medial cortex. *PsyArXiv*, *13 Feb*, 1–26. 10.31234/osf.io/8k76z

Travis, F. (1994). The junction point model: A field model of waking, sleeping, and dreaming, relating dream witnessing, the waking/sleeping transition, and Transcendental Meditation in terms of a common psychophysiologic state. *Dreaming*, *4*(2), 91–104. https://doi.org/10.1037/h0094404

Travis, F. (2014). Transcendental experiences during meditation practice. *Annals of the New York Academy of Sciences*, *1307*(1), 1–8. https://doi.org/10.1111/nyas.12316

Travis, F., & Pearson, C. (2000). Pure consciousness: Distinct phenomenological and physiological correlates of "consciousness itself." *International Journal of Neuroscience*, *100*(1–4), 77–89. https://doi.org/10.3109/00207450008999678

Twemlow, S. W., Glen, O. G., & Jones, F. C. (1982). A Phenomenological Typology Questionnaire. *American Journal of P*, 450–455.

Tyson, P., Oglivie, R., & Hunt, H. (1984). Lucid, Prelucid and Nonlucid Dreams Related to the Amount of EEG Alpha Activity during REM sleep. *Psychophysiology*, *21*(4).

Valenzuela Moguillansky, C., & Vásquez-rosati, A. (2019). An Analysis Procedure for the Micro- Phenomenological Interview. *Constructivist Foundations*, *14*(2), 123–145. https://doi.org/http://constructivist.info/14/2/123.valenzuela

Van Eeden, F. (1913). A Study of Dreams. *Proceedings of the Society for Psychical Research*, *26*, 431–416.

Varela, F. J. (1996). Neurophenomenology: A Methodological Remedy for the Hard Problem. *Journal of Consciousness Studies*, *3*(4), 330–349.

Varela, F. J. (1997). *Sleeping, Dreaming and Dying*. Wisdom Publications.

Varela, F. J. (1999). The specious present: A neurophenomenology of time consciousness. *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*, *LXIV*(255), 266–329. https://doi.org/10.1093/mind/LXIV.255.376

Varela, F. J., & Shear, J. (1999). First-person methodologies: What, why, how? *Journal of Consciousness Studies*, 1–14.

Voss, U., D'Agostino, A., Kolibius, L., Klimke, A., Scarone, S., & Hobson, J. A. (2018). Insight and dissociation in lucid dreaming and psychosis. *Frontiers in Psychology*, *9*(NOV), 1–9. https://doi.org/10.3389/fpsyg.2018.02164

Voss, U., & Hobson, A. (2015). What is the State-of-the-Art on Lucid Dreaming ? Recent Advances and Questions for Future Research. *Open Mind*, *38*, 1–20. https://doi.org/10.15502/9783958570306

Voss, U., Holzmann, R., Hobson, A., Paulus, W., Koppehele-Gossel, J., Klimke, A., & Nitsche, M. a. (2014). Induction of self awareness in dreams through frontal low current stimulation of gamma activity. *Nature Neuroscience*, *17*(6), 810–812. https://doi.org/10.1038/nn.3719

Voss, U., Schermelleh-Engel, K., Windt, J. M., Frenzel, C., & Hobson, A. (2013). Measuring consciousness in dreams: the lucidity and consciousness in dreams scale.

Consciousness and Cognition, *22*(1), 8–21. https://doi.org/10.1016/j.concog.2012.11.001

Wackermann, J., Pütz, P., & Allefeld, C. (2008). Ganzfeld-induced hallucinatory experience, its phenomenology and cerebral electrophysiology. *Cortex*, *44*(10), 1364–1378. https://doi.org/10.1016/j.cortex.2007.05.003

Wackermann, J., Pütz, P., & Miener, M. (2001). EEG correlates of distorted time experience: Frequency bands and topography. *Brain Topography*, *13*, 326.

Wahbeh, H., Sagher, A., Back, W., Pundhir, P., & Travis, F. (2018). A Systematic Review of Transcendent States Across Meditation and Contemplative Traditions. *Explore*, *14*(1), 19–35. https://doi.org/10.1016/j.explore.2017.07.007

Wallace, B. A. (2012). *Dreaming Yourself Awake: Lucid Dreaming and Tibetan Dream Yoga for Insight and Transformation*. Shambhala.

Walsh, R. N., & Vaughan, F. (1992). Lucid Dreaming: Some transpersonal implications. *The Journal of Transpersonal Psychology*, *24*(2), 193–200. https://doi.org/10.7551/mitpress/7347.003.0083

Wangyal, T. (1998). *Tibetan Yogas of Dream and Sleep (M. Dahlby, Ed.)*. Snow Lion Publications.

Ward, A. F., & Wegner, D. M. (2013). Mind-blanking: When the mind goes away. *Frontiers in Psychology*, *4*(SEP), 1–15. https://doi.org/10.3389/fpsyg.2013.00650

Weinberg, J. M., Nichols, S., Stich, S., Topics, S. P., Philosophy, T., Spring, G., & Weinberg, J. M. (2016). Normativity and Epistemic Intuitions. *Philosophical Topics*, *29*(1/2), 429–460.

Williams, P. (1998). *The Reflexive Nature of Awareness: A Tibetan Madhyamaka Defence*. Motitlal Banarsidass.

Wilson, S. C., & Barber, T. X. (1981). Vivid fantasy and hallucinatory abilities in the life histories of excellent hypnotic subjects ("somnambulers"): Preliminary report with female subjects. In E. Klinger (Ed.), *Imagery: Vol. 2. Concepts, results, and applications* (pp. 133–1490). Plenum.

Windt, J. M. (2010). The immersive spatiotemporal hallucination model of dreaming. *Phenomenology and the Cognitive Sciences*, *9*(2), 295–316. https://doi.org/10.1007/s11097-010-9163-1

Windt, J. M. (2013). Reporting dream experience: Why (not) to be skeptical about dream reports. *Frontiers in Human Neuroscience*, *7*(NOV), 1–15. https://doi.org/10.3389/fnhum.2013.00708

Windt, J. M. (2015a). *Dreaming: A Conceptual Framework for Philosophy of Mind and Empirical Research*. MIT.

Windt, J. M. (2015b). Just in Time—Dreamless Sleep Experience as Pure Subjective Temporality. In *Open MIND* (Vol. 37). https://doi.org/https://doi.org/10.15502/9783958571174.

Windt, J. M. (2021). How deep is the rift between conscious states in sleep and wakefulness? Spontaneous experience over the sleep-wake cycle: Spontaneous experience in sleep/waking. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *376*(1817). https://doi.org/10.1098/rstb.2019.0696rstb20190696

Windt, J. M., & Metzinger, T. (2007). The philosophy of dreaming and self-consciousness: What happens to the experiential subject during the dream state? In D. Barrett & Pl. McNamara (Eds.), *Praeger perspectives. The new science of dreaming: Vol. 3. Cultural and theoretical perspectives* (pp. 193–247). Praeger Publishers/Greenwood Publishing Group.

Windt, J. M., Nielsen, T. A., & Thompson, E. (2016). Does Consciousness Disappear in Dreamless Sleep? *Trends in Cognitive Sciences*, *20*(12), 871–882. https://doi.org/10.1016/j.tics.2016.09.006

Windt, J. M., & Voss, U. (2018). Spontaneous Thought, Insight, and Control in Lucid Dreams. In K. Christoff & K. C. R. Fox (Eds.), *The Oxford Handbook of Spontaneous Thought: Mind-Wandering, Creativity, and Dreaming* (Vol. 1, Issue August, pp. 387–406). OUP. https://doi.org/10.1093/oxfordhb/9780190464745.013.26

Winter, U., Levan, P., Borghardt, T. L., Akin, B., & Wittmann, M. (2020). Content-Free Awareness : EEG-fcMRI Correlates of Consciousness as Such in an Expert Meditator. *Frontiers in Psychiatry*, *10*(February), 1–11. https://doi.org/10.3389/fpsyg.2019.03064

Wittmann, M. (2009). The inner experience of time. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 1955–1967. https://doi.org/10.1098/rstb.2009.0003

Wittmann, M. (2014). Embodied time: the experience of time, the body, and the self. In D. M. Lloyd & V. Arstilla (Eds.), *Subjective time: the philosophy, psychology, and neuroscience of temporality* (pp. 507–523). MIT Press.

Wittmann, M. (2015). Modulations of the experience of self and time. *Consciousness and Cognition*, *38*, 172–181. https://doi.org/10.1016/j.concog.2015.06.008

Wittmann, M., & Schmidt, S. (2014). Meditation – Neuroscientific Approaches and Philosophical Implications. In S. Schmidt & H. Walach (Eds.), *Meditation – Neuroscientifi c Approaches and Philosophical Implications, Studies in Neuroscience, Consciousness and Spirituality 2* (Vol. 2, Issue October). Srpinger International Publishing Switzerland. https://doi.org/10.1007/978-3-319-01634-4

Wolman, R. N., & Kozmová, M. (2007). Last night I had the strangest dream: Varieties of rational thought processes in dream reports. *Consciousness and Cognition*, *16*(4), 838–849. https://doi.org/10.1016/j.concog.2006.09.009

Woodhouse, M. B. (1990). On the possibility of pure consciousness . *The Problem of Pure Consciousness: Mysticism and Philosophy , January 1978*, 254–268.

Woods, T. J., Windt, J. M., & Carter, O. (2020). Silence in Shamatha, Transcendental, and Stillness Meditation: An Evidence Synthesis Based on Expert Texts. *Frontiers in Psychology*, *11*(July), 1–19. https://doi.org/10.3389/fpsyg.2020.01259

Woods, T. J., Windt, J. M., & Carter, O. (2022). Evidence synthesis indicates contentless experiences in meditation are neither truly contentless nor identical. In *Phenomenology and the Cognitive Sciences* (Issue 0123456789). Springer Netherlands. https://doi.org/10.1007/s11097-022-09811-z

Worsley, A. (1984). Lucid Dream Definition. *Lucidity Letter*, *3*(2 & 3), 97.

Yaden, D. B., Haidt, J., Hood, R. W., Vago, D. R., & Newberg, A. B. (2017). The varieties of self-transcendent experience. *Review of General Psychology*, *21*(2), 143–160. https://doi.org/10.1037/gpr0000102

Yaden, D. B., & Newberg, A. B. (2022). *The Varieties of Spiritual Experience: 21st Century Research and Perspectives*. Oxford University Press.

Yamashiro, J. (2015). Brain Basis of Samadhi: The Neuroscience of Meditative Absorption. *New School Psychology Bulletin*, *13*(1), 1–10. http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,uid&db=aph&AN=112934067&site=ehost-live

Zahavi, D. (2005). *Subjectivity and Selfhood: Investigating the First-Person Perspective*. MIT Press.

Zink, N., & Pietrowsky, R. (2015). Theories of dreaming and lucid dreaming: An integrative review towards sleep, dreaming and consciousness. *International Journal of Dream Research*, *8*(1), 35–53. https://doi.org/10.13140/RG.2.1.3139.0560

Zubek, J. P. (1964). Effects of prolonged sensory and perceptual deprivation. *British Medical Bulletin*.

Zubek, J. P., Pushkar, D., Sansom, W., & Gowing, J. (1961). Perceptual changes after prolonged sensory isolation (darkness and silence). *Canadian Journal of Psychology/Revue Canadienne de Psychologie*, *15*(2), 83–100. https://doi.org/10.1037/h0083205