

**Is my mind my own?
Inside managing self-diagnosed insomnia in a mixed
economy: A critical autoethnography**

by

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Abstract

All humans need sleep to survive, whereas primary insomnia is said to be a common occurrence among all age groups. A myriad of factors can influence one's sleep patterns, stress simply being one of them. Sleep happens at night for most people while the largest part of the day is apportioned to labour and priming future labour. Some people fall asleep without thinking about how to, how long they must sleep for and/or why they need a perceived amount of sleep. However, the quality and a set number of hours of sleep are a growing obsession with a tight grip on the populace in the West and thus the expanding billion-dollar sleep industry. This study aimed to de-commodify the self-management of what society designates as primary insomnia.

I used critical autoethnography to examine physical, psychological and socioeconomic aspects of self-managing primary insomnia in a mixed economy. I combined narratives with visual inspirations as sources of data throughout this undertaking. Historical materialism as an organising concept for Marxian analysis and the adaptive control of thought–rational shaped my narrative analysis and synthesis to derive explanations for mechanisms influencing night-time sleep struggles.

I established that primary insomnia is an anxiety about night-time sleep due to the structured window of opportunity for sleep to occur, which the controls of social order determine. A range of commodities are available on the sleep market for individuals to consume and compel night-time sleep when human nature sways out of the expected order. The efficacy of sleep commodities for ameliorating quantity and quality comes into question as sleep commodities work to perpetuate night-time sleep anxiety. The type of consciousness embedded in the material form of things often comes before the awareness of their use value. The sleep anxiety stemming from evaluating purchases against the quality and amount of sleep awakes the realisation about the worth in the commercial dealings of sleep, which is essentially innate to humans.

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Declaration

I declare that:

- The work presented in this thesis is my own and embodies the results of my research during my period of registration.
- I have read and followed the University's Academic Integrity Policy and that the thesis does not breach copyright or other intellectual property rights of a third party. Where necessary I have gained permission to reproduce copyright materials.
- Any material which has been previously presented and accepted for the award of an academic qualification at this University or elsewhere is clearly identified in the thesis.
- Where work is the product of collaboration the extent of the collaboration has been indicated.

Signature  Date22/07/2024.....

Abbreviations

Adaptive Control of Thought–Rational	ACT-R
Alcohol	AL
Benzodiazepines	BZD
Biographic Narrative Interpretive Method	BNIM
Business in the Community	BTC
Coronavirus Disease -19	COVID-19
Diagnostic and Statistical Manual of Mental Disorders	DSM
Electroencephalogram	EEG
General Practitioner	GP
International Classification of Sleep Disorders	ICSD
Melanin Concentrating Hormone	MCH
National Health Service	NHS
Non-Rapid Eye Movement	NREM
Public Health England	PHE
Rapid Eye Movement	REM
United Kingdom	UK
United Nations	UN
United States	US

*Sweet is the sleep of labourers but the abundance of the rich permit no sleep
(Aubert and White, 1959)*

Chapter 1: Introduction and overview of the study

Introduction

The hypothetical imperative I commonly hear is adequate sleep for good health and the moral obligation for reliable citizens is to follow suit. But is it necessary to ponder how much or less we sleep? Irrespective of climatic, cultural, economic or political influences on when, how and where we sleep, all humans sleep. Nonetheless, something called primary insomnia is a common incapacitating sleep disorder affecting the physiological and psychological wellbeing of all age groups including children and adults. Persistent primary insomnia carries a plethora of concerns weaving into the quality of life of individuals. Sleep happens at night for most people while the largest part of the daytime is apportioned to labour and priming future labour. The quality and a set number of hours of sleep are an obsession with a tight grip on the populace in the West and hence the growing billion-dollar sleep industry. On the contrary, costs associated with a primary insomnia are often distinguished from a public viewpoint and little seeks to illuminate individual costs linked to forcing night-time sleep into compliance.

McKinsey and Company, the oldest global management consulting firm and one of the United Kingdom's (UK) renowned investment advisors identified sleep health as resource where optimising ambience, regular modification and therapeutic treatments merge (Goldman, 2017). The paradox of the individual's responsibility to optimise sleep health alongside excellent performance during wakefulness generates opportunities for problematising and remedying sleeplessness and sleepiness (Wolf-Meyer, 2011). The work and life borders now blend in the only space that was once known to accommodate useless, irrepressible and irrational humans (Penzin, 2016). Comprising products, services and high-tech devices, the United States leads the growth of the global \$585 billion (£465b) sleep industrial complex with a revenue of about \$2 billion (£1.8b) compared to UK's revenue of about \$127m (£105m) (Statista,

2024). Put rather loosely, the sleep market growth trend will not be slowing down in the face of the engines of redescribing formerly nonmedical concerns as remediable with medical solutions (Barbee, Moloney and Konrad, 2018). Whilst I never missed a day of work due to my sleep experiences, aside from my day-time preoccupations, insomnia work related absences are presumed to present the highest cost burden to the economies of the world (Daley et al., 2009; Hillman et al., 2018; Grandner, 2018; Streatfeild et al., 2021). It is worth noting that cost calculations for insomnia related absenteeism and reduced productivity often incorporate comorbid insomnia and conditions such as narcolepsy that in my opinion may require medical intervention. Problematizing naturally occurring sleep in 'sleep matters' reinforces sleep ideologies in a predominantly 24/7 culture that goes beyond actual sleep research interests (Williams and Wolf-Meyer, 2013).

This thesis focuses on the structural causation of poor health inclined on illness instead of disease. Social structures organise sleep and positionings such as class, employment status and/or marital status may influence the quality and quantity of sleep (Meadows et al., 2021). Drawing on the biopsychosocial model, Reibling and Bleckmann (2023) highlight that medical disciplines often run the risk of changing the context through which social problems are discerned. Social concerns such as inequalities generated through social relations are refocused as pathologies of individuals in modern societies. My study sought to illuminate managing a self-diagnosed illness compounded in the complexities of existing in conflict with physiological functions and the usual expectations of the wider society, often reduced to a disorder. For this reason, I did not consult with clinical sleep practitioners or clinical sleep researchers while undertaking the study. As far as I am concerned, my physiological setup ascertains that I sleep at some point within the 24 hours to reap the benefits that the sleep state serves. Disease concerns the malfunctioning of the physiology of the human body usually detectable via methodical diagnostics (Wikman, Marklund and Alexanderson, 2005). On the other hand, illness is a self-diagnosed state based on physical or mental symptoms that may be the basis for diagnosing disease. Structural causality implies that the economy occupies both spatial and temporal aspects of social existence (Althusser et al., 2016). That is, structure exists within itself since the process of reproducing a society cannot be delineated as a single entity. The act of sleeping is intimate and affective reports of 'soul destroying' and 'a

death from within' like experiences (Brown, 2019) are mostly subjective. But why and how do individuals get to such low points if all humans are physiologically endowed with sleep?

From social patterns of health interpretation and response to how medical or therapeutic advice is pursued or selectively ignored, to the roles of globalization, commercialization, and industrialization on sleep-related health and ideology, there is critical work yet to be done [Henry, Knutson and Orzech, 2013, p.1].

Henry, Knutson and Orzech (2013) captivated my thinking and the whirl of questions about sleep that loitered in my head. Why is it contextualised as a disfunction if the only change in my sleeping pattern shifts to falling asleep when the external clock indicates it is time to contribute to processes of social reproduction? I found myself obsessed with regaining the ease of partaking in an activity I had previously enjoyed, and the fixation took a toll on me. The fatigue and dark circles around my eyes supplemented the fixation on returning to perceptibly normal ways of being. I did not suffer from other ailments and thus talked freely about my nocturnal sleep encounters. I consulted widely within my own social and work circles for knowledge of evidence-based solutions for night-time sleep struggles. Discussions were compelled by a desperate need to find something that worked to restore normality, drifting off to sleep at night without any thoughts of how to. I consulted web-based self-help measures, but something was always missing from even the most meticulous processes of preparing for a good night. Impartially inferred in medical and academic texts, several weeks of unceasing events led to a self-diagnosis with a night-time sleeping problem. I understood my condition as a problem at the time, but the whole experience persuaded another perspective. I held the missing piece in an experience I had personalised as an affliction.

“We are not alone in coming to the view that it is understanding about the subjective dimensions of personal experience that are missing from many of the academic text- subjective dimensions that are best expressed through the personal voice” [Douglas and Carless, 2016, p.88].

I followed Douglas and Carless's (2016) epiphany throughout this undertaking to embrace the autonomy autoethnography offers in using my experiences with night-time sleep to unravel some of the intricacies surrounding sleep in humans. I specifically examined the physical, psychological and socioeconomic aspects of sleep including the mode that steers social reproduction.

The aim of Chapter 1 is to provide basic foundations to contextualise the study. Categories such as race, class, ethnicity and gender often shape subjectivities about phenomena within social structures (Ryan, 2006). In this regard, positions and positionings are crucial elements in exploring the power relations that contribute to how life's trajectories are framed (Reed-Danahay, 2017). While ideologies legitimise power, individual beliefs and values influence one's interpretation of the ideals of existing socially (Robinson and Groves, 2012). It is possible that my background, values and beliefs underpinned my choices and how I made meaning of events. Firstly, I present my identity within the sum of social relations to underscore aspects of social existence that I am unable to change despite my ambitions in life and views on the fair distribution of wealth. I introduce the broad aim of the study, guiding questions, how it all began and the significance of this work. I trek through the discovery of my interest in contemporary sleep and some of the elements that may have influenced my thinking and the presentation of my work. Lastly, Chapter 1 provides details of the layout of the rest of the chapters constituting my thesis.

1.1 Who am I in the sum of social relations?

As Chang (2016) observes, the self is often drowned in succumbing to demands in the surroundings of a society and is constantly adjusting to unstable global conditions. Therefore, solely presenting subjective experiences of a primary insomnia and related actions could fall short of full knowledge of underpinning circumstances without understanding my social relations. Social relations are generally understood to be connections involving two or more people in the realm of social networks such as family, friends and other support groups (Cash and Toney-Butler, 2022). I use the expression social relations to encompass all social interactions that enable society to reproduce itself in all aspects such as ecologically, economically, politically and intellectually.

Sleep is a universal natural endowment wherein my racial identity and/or ethnicity do not bear a great deal of significance to its occurrence. However, my experiences as a black woman born and educated in Uganda in East Africa might have influenced a selection of vivid examples appearing in my narratives. I believe that human practices creating historical structures founded on norms to which societies subscribe, determine the inclusion or exclusion of individuals from equal opportunities.

Uganda was a British colony until October 1962 when it gained its independence. I was born in the central part hosting the capital city Kampala. In my day, obtaining an education was essential for competing for white-collar jobs for anyone nepotism did not favour. My father was an average middle class man and his slogan about finishing basic levels of education was “I have taught you how to fish, now go and fish.” The level of education and employment status jointly stratified social classes in Uganda, and I was keen to start climbing the social class ladder as soon as I finished my first university degree. I have always believed in earning a living and the days I was unemployed were distraught moments of my life. Experiences of a primary insomnia might have engendered ideas about different systems for the overall reorganisation of society. While these may shine through my narratives, my intention was not to unearth such thoughts. Overhauling historical establishments of a monetised society requires logical thought into counterbalancing the contradictions embedded in use and exchange values. This includes the value attached to professions or roles in the context of social reproduction.

I was intrigued by Honneth’s (2014) concept of social justice, only befitting a euphoric social world. Honneth’s (2014) reconceptualised social justice refrains from the fair distribution of material things and points towards developing even relations through the processes of exchanging goods and services. According to Honneth (2014), freedom is intersubjective whereby individual interests, needs, beliefs and values are pursued within reciprocal recognition for people to give each other normative worth. Freedom is not free, as the paradox engrained in valuing professions or roles stick out like a sore thumb in reciprocal recognition. Doctors, teachers, market stall attendants and cleaners are equally important for the contributions they make to society. However, the value attached to individual careers also witnessed in their remuneration is a passive mode of promoting social hierarchies and erodes the recognition of mutual

importance in the holistic relations of social reproduction. Advocating for equity through enabling self-realisation of individuals to obtain identities in contributing to social reproduction (Honneth, 2004) is demeaning in a society that attaches value to the level of intellectual input.

Hegel's conceptualisation of self-certainty through external objects implies a never satisfied self and hence the continuous search for identities (Ferro, 2013). The value attached to my role during the time I experienced the primary insomnia was a level far down below my workplace hierarchy. However, my ambition to ascend the career ladder was everlasting. Searches for new identities may involve individual pursuits for full potential. Nonetheless, society is so complex that factors underlying enabling the full potential of individuals are left in the hands of relativism. Relativism relies on a contextually specified framework of assessment to establish truths about characteristics of things (Baghrarian and Carter, 2020). For instance, full potential lacks objective truths in some Asian cultures where the course of a child's education is predefined (Benson, Chik, and Lim, 2003). We cannot all become doctors precluding passion and autonomy because society needs farmers, teachers, cleaners etcetera thriving on mutual support in the process of social reproduction. But the value and ostentation attached to social identities, some more than others, grinds down on morals of recognising each other's worth. Consequently, social hierarchies overrule to sustain social order as access to resources remains unequal and beneficiaries of these inequalities tussle to maintain the hierarchy (Bradly, 2012).

I would have had the power to negotiate convenient sleep patterns if I occupied a senior position, feeding on the surplus from other people's labour in the institution through which I contribute to social reproduction. Nonetheless, capitalism's purpose is to suck as much value from each stage of producing raw materials for subsequent commodity production processes to create wealth (Marx, 1889). One view of the political economist's understanding of illness is that it is a socially constructed condition for the unfortunate individual. Figure 1.1 depicts a laidback capitalist's view of the health of labour. I am inclined to board the defeatist wagon with claims that expectations of reorganising labour to deal with perceived feelings of oppression is wishful thinking. Reorganising labour would require restructuring all human practices that have led developments in relations and forces of reproducing social existence.

However, Thompson (2017) would be quick to interject that this viewpoint is not worthwhile for tackling the subtleties of social power. I could very easily take the pleasure in the sleep I experience towards that time of the forever annoying sound of my alarm clock. Then again, I also gladly subscribe to substantive materialism that Borman (2017) posits humans partake in to satisfy subsistence needs. I would gladly relocate to the era prior to private property ownership wherein social labour featured the individual's will to contribute their labour to secure fair economic subsistence for members of the family and society. Do I mean this?



Illustrated by Stephanie McMillan 2014

Figure 1.1 Capitalism exploits labour

Rational thought plus experience aid untampered understanding of one's involvement with the external world (Howell, 2016). For example, capitalism tables the options for day to day experiences of health sustained by healthcare, food, education, transport, and human relations (Freudenberg, 2021). Daytime is largely allocated to labour processes of social reproduction while night-time is the given opportunity to sleep,

irrespective of the individual's distinctive needs and experiences of sleep. I am unable to transform some aspects of historical domination that I am aware of. Nevertheless, I campaign for emancipation from specific aspects founded on basic truth without justifying the need for levelled ground for the common good. Critic might unmask the cloud within structures and nuances of social existence to aid knowledge development, as common sense is often opaque when observing external reality (Howell 2016). A critical paradigm offered the means of applying common knowledge and scientific assumptions to dissect my beliefs along the true to false spectrum (Lehrer, 1990).

1.2 Broad aim of the study and design

The overall aim of the study was to de-commodify managing self-diagnosed primary insomnia. I employed a retrospective study design, which is practical for examining events involving a time lapse between exposure and outcomes. Retrospective studies explore outcomes that have already occurred at the inception of the study (Song, 2010). The study featured a critical autoethnography of coping with a primary insomnia in a mixed economy. Critical autoethnography involves exploring personal experiences linked to one's assessment of the contribution of power to experiences of phenomenon (McCall, 2016). Autoethnography can be applied as evocative entailing in depth descriptions of events, which may elicit sentiments from the readership or a pragmatic source of data. However, the author's lived experience must draw out meaning to a larger social group (Poulos, 2021). I embedded visual inspirations in my work to distinguish the complexity of various forms of human experiences as Clandinin and Huber (2010) recommend. I used questions throughout the study to entice deliberation on the themes introduced instead of provoking emotion or creating suspense for my readership.

1.3 Developing research questions

Autoethnography can generate beautifully crafted stories humanising written text (Mereness, 2008). However, the end component of an account sets the tone justifying the intent of the auto ethnographer. I set out to de-commodify managing self-diagnosed insomnia in a mixed economy. Commodification is "the act of relating to objects or persons in terms of their exchange or sign-exchange value to the exclusion

of other considerations” (Tyson, 2014, p.69). Humans are commodified when their relations and the exchange of goods and services rely not on utility (use value) but on advancing others’ financial gain (Tyson, 2014). De-commodification thus seeks to develop independence from market forces driving natural processes that humans are ideally entitled to (Gerber and Gerber, 2017).

Economic terms such as market forces, laissez faire economy, commodification, capitalism and consumerism frequently featured in my thoughts while putting ideas together for my study. Karl Marx (1818 –1883) instantly became a close companion and critical lens for disentangling the evolving nature of contemporary sleep. Perspectives on ideology and stages of economic development engrained in Marxian analysis influenced developing my research questions and my understanding of the overall aim and significance of what I set out to study. The questions I sought to address were embedded in my experience spanning the pursuit of a perceptibly good night. I aimed to answer two key questions comprising:

- What were my experiences of managing a self-diagnosed primary insomnia in a mixed economy?
- What role did consumerism play in the changes of my experiences over time?

The United Kingdom maintains a free market economy, thanks to Margaret Thatcher’s governance in the 1980s that led an effective privatisation drive realising an economic boom compared to the 1970s (Global Tenders, 2021). While the healthcare system has a focus on universal access to basic medical services for UK residents, over the counter options are available to meet expectations and needs for self-care. A mixed economy thus comprises both free market forces and a level of government intervention, often supplementary to the market forces to increase the capacity of their operation (Mattick, 2020). Consumption therefore constitutes the process of acquiring and using commodities and services (Sulkunen, 1978). While consumption is action oriented, consumerism is a way of life gripped by the arena within which social realities are constructed (Miles, 1998). The roadmap to achieving the overall aim of my exploration was predicated on two specific objectives:

- To illuminate practices of managing a primary insomnia within the growing sleep market.
- To identify the influence of use value on changes in consumer behaviour.

Christiansen (2017) demonstrates the close link between economies powered by capitalism and pitiable public health. For example, commodified healthcare not only heightens health inequalities that lead to the mortality of labour, but it also complicates conditions that would otherwise be easier to manage with affordable healthcare.

1.4 Why de-commodify a primary insomnia?

Applying the critical approach in Marxian analysis aims to resituate humans as social beings who are much more than simply potential owners of private property (Tucker, 1978). I absolutely resisted the temptation to start this sub section by explaining the article (a) preceding the phrase 'primary insomnia'. One of Karl Marx's qualms with capitalist economies is the effect on human values. The need to find new markets for the survival of capitalism promotes boundless ventures into the production of physical nature. Without much regard for quality, profit maximisation is often the driving force behind production, distribution and the exchange of commodities and services (Castree, 2003). The sleep market has earned a status of sincerity with people who struggle with night-time sleep. However, I strongly believe that sleeping should not assume the status of a thing that can easily be acquired through monetary exchange.

Sleeping is part and parcel of the physiology of the human body and its disfunction if not related to another condition requires rethinking alongside relations through which society reproduces itself. My study was based on a personal account, but I am not the originator of current social practices and hence I presumed existence of many others involved in the familiar captivity. Wolf-Meyer (2011) coined the term 'natural hegemonies' to illustrate the production of human biology such as sleep inducement and alertness chemicals to enhance productivity in the labour market. Natural hegemony represents the interaction of biological and social factors in time and space for both causal and effect relationships in aspects of everyday life. Everyone in this respect is a potential consumer in the fast-growing sleep-wake regulation market.

The patterns and amount of sleep we obtain may change as humans grow older, but its occurrence and thus significance do not diminish. Sleep hence becomes an easy target for commodification by people holding allegiance to tenets of structure within neoliberalism. The term neoliberalism here refers to political and economic principles set on globalisation to offer entrepreneurial liberty, free markets and property rights (Flew, 2014). Free markets harbour inhumane practices such as child labour witnessed at the onset of the industrial era (Hofstetter, 2016). The relentless search for pinnacles of exchange value exposes nature's endowments such as sleep vulnerable to the greed of capitalists. For example, long term attempts on the mastery of sleep to clone a sleepless soldier for the United States defence department sought to align human sleep with the existing 24/7 markets (Crary, 2013).

When we believe and espouse ideologies, we slip into a state of false consciousness to sustain protagonists in power (Tyson, 2014). The set number of hours for 'healthy' night-time sleep and the recommended sleep hygiene to achieve these, colonise minds of the working class that can afford comfortable states but tussle with night-time sleep into compliance (Reiss, 2017). Some scholars have explored lived experiences and individual responses to insomnia (Henry et al., 2013; Cheung et al., 2014; Rezaie, Khazaie and Yazdani, 2016), but little seeks to understand individual costs and the mental labour borne through the urgent pursuit of satisfactory sleep. This critical autoethnography sought to illuminate the camouflage coating sleep commodities on the market. I assumed my encounters with the primary insomnia would be possible experiences of other people considering the exponential growth of goods and services available on the sleep market.

Autoethnography offers enduring access to intimate data that would ideally be inaccessible through merely studying other human beings (Gorichanaz, 2017). The knowledge I impart is deeply rooted in experiences influenced by the capitalist ideology of inferred fair monetary exchanges and my wake from this false consciousness. Marxian analysis that I drew on is geared towards a radical revolution to enlighten ideologies ordering societies and generating experiences of human existence to repossess the autonomy of the physiology of humans for the common good. It was my wish to elucidate possibilities of the independence from subscriptions to consumer practices fuelling the delinquent cultures of capitalists. Capitalists are not

creatures from outer space since the working class can become capital owners only if they can afford to save some of their wages and invest in the reproduction of capital (Gras, 1942). Moreover, innovations geared towards taming human sleep and the belief and consumption of these ideas will continue to grow unless raising awareness puts a cap on ventures dehumanising social existence.

1.5 Open to view how it came to this

Autoethnography deviates from most recognised ways of undertaking research and hence clarifying my position in this process of knowledge production is fundamental as Chang (2016) emphasises. Phenomenologists call for explanations of pre-understandings, suppositions and knowledge of existing evidence about lived experiences studied to hold these at bay when discerning the importance of the phenomenological question (Van Manen, 2016). Auto ethnographers on the other hand willingly and enthusiastically accept to work reflexively with presumptions in accounts of lived experiences aiming to transform issues surrounding a specific group's culture (Chang, 2016). I continue to place myself under the microscope in this section to highlight features including familiarity with the subject and the lens for interpreting meaning of experiences, which might have influenced the presentation of my ideas.

Stating my values and assumptions may clarify the context in which various explanations in ensuing sections of the thesis were placed. This is commonly referred to as reflexivity in qualitative research, which considers the researcher's endeavour to highlight the crisscrossing relationship between the researcher and the participant(s) (Dodgson, 2019). The critical aspect of the study I pursued blended familiarity with distance and testimony with analysis and thus challenged ideas of absolute objectivity and subjectivity (Reed-Danahay, 2017). I am a conduit for exposing the self to realities and cascading meaning, and as Nancy (2000) asserts, meaning is non-existent if it is not shared in a social sphere. This is because I do not rely exclusively on myself for existence. My reflexivity occurred continuously throughout undertaking the critical autoethnography to appreciate the social space of possibilities in which personal experiences and those of others are curved. The next subsection about my understanding of reality unveils possible prejudices in my interpretation of ideas. I also provide some insights on how I came to select the topic for the autoethnography and

the practicalities of my familiarity with the contemporary concept of sleep in human beings.

1.5.1 My understanding of reality

My background and positionality in the study provided a subjective viewpoint of how I understood managing perceivably malfunctioning sleep that was not underpinned by another health condition. Several social realities exist, but I adopted Patton's (2002) supposition that the truth is discoverable through examining historical structures promoting the subjugation framing experiences and understanding of the social world. My (the object of knowledge) and I (inquirer) were salient contributions to the autoethnography, resourcefully inseparable in understanding my experiences and the meaning attached to them in the social world. The concept of self was key to the study irrespective of whether I explored other methods and theoretical perspectives embracing the nonviable disengagement of the interaction between the object of knowledge and the inquirer.

Appearance is part of assessing the quality of something, which is a facet of reality. The value of humans as natural beings is found in holistic relations of processes that makeup social reality (Thompson, 2017). Even so, I dared not to generalise my narratives to experiences of others due to differences binding the context and time (Guba and Lincoln, 1981). For example, an individual with more autonomy in work relations than an employee whose input and outputs are dependent on the others' will experience sleep opportunities distinctively and may assume an identity different from a person with primary insomnia. Nevertheless, some experiences are transferable in common contexts and how time is experienced. The autonomous working individual (craftsman) may have school going children, which creates a similarity in temporal experiences and opportunities for negotiating time and sleep. I thus considered and understood that aspects of similarity did not conform to absolute control to produce generalisable truths. Sleep is nature's reality but experiences of it are subjective, and it is this subjectivity that shapes behaviours around sleep. The 'I can' or 'I cannot' sleep without a prop are constructed realities that individuals hold closely as truths to create multiplicity in truths. However, a study into the 'can' and 'cannot' of sleep might unearth a myriad of other phenomena to delve into, only discernible when examined

holistically. The subsection that follows details my experience of selecting the topic for my study.

1.5.2 Selecting the topic to explore

All aspects of qualitative research ranging from the overarching paradigm to methods are value laden including choosing the topic to study. As Guba and Lincoln (1981) point out, I could not offset this bias by any form of supposed rigour. My previous academic awards focused on women's struggles with split decisions concerning their reproductive health and earning a living. My first dissertation for the award of a Bachelor of Arts degree in social work covered problems and prospects of self-employed women. I examined women's potential and opportunities for entrepreneurial growth amidst limitations in education and those of socially ascribed roles. A study of antiretroviral therapy in human immunodeficiency virus (HIV) positive mothers was the partial contribution to the Master of Arts in social sector planning and management. The women's tales of grim experiences could have contributed to several achievements, but their stories did not make it beyond academic texts sat on shelves in a higher education institution. I listened and interpreted stories of women with a short-term illness yearning for good end of life care and security for anticipated orphans to write the dissertation I never got the opportunity to defend. I was open about the hypothetical outcome of the study that the intervention would be reviewed based on the women's stories. I neither saw those women again nor did I disseminate their stories to be considered in a way that could benefit them.

Drawing on the knowhow acquired from supporting large research projects and leading on smaller academic research, the first step towards a doctoral thesis was to identify a research problem that would contribute to new knowledge. My university training nurtured my passion for research in sustainable individual and community health. Both fields covering medicine and public health are wide, and the starting point for a focused research topic was difficult for me to define. I had always considered researching sustainable health to be both a wealth of experience but also a dilemma in how I presented myself in academic circles. I dreaded attending events with academics involving talking about myself and my research areas of interest. I was insecure about coming up with a definitive response given my involvement in a range

of projects employing different methodologies in investigating health and social concerns. I sometimes could not resist the temptation of looking at my Curriculum Vitae prior to attending a faculty research seminar in case I was required to talk about my interests in research before I contributed anything meaningful. Words jumbled in my head on such occasions as I struggled to think of clever phrases to enhance personal confidence and the credence of my ideas.

I was fortunate to have been part of various healthcare access and utilisation research projects including but not limited to utilisation patterns; reproductive health commodities; health systems factors influencing maternal health; occupational health hazards in caring for people living with HIV/AIDS; HIV/AIDS behavioural surveillance in refugee camps; just to mention a few. Work colleagues who had sailed the journey of acquiring a doctorate advised me during my quest for a suitable research topic to consider an area of interest that would keep me going. I would then be sure to keep afloat instead of sink when the going got tough. I also realised from scouring some texts of renowned intellectual thinkers such as Foucault's (1926-1984) work that pursuit for knowledge always concerns a topic of interest. I considered researching something that concerned me, but I struggled with finding a research approach that did not involve indulging the self.

Research entails complex connections that may shape the observer's view of seeing the world even within the innate distance of reflecting and listening to one's thoughts (Eriksson, 2010). Thinking deeply about possible research topics reminded me of a young person I once met at the exit of a superstore on a hot summer's afternoon. A bundle of papers shielded a sweaty face from the hot sun when I stopped and turned to look at the person calling and hurrying towards me. The person identified as a female doctoral student who was looking for volunteers to respond to a chronic pain assessment questionnaire. The student's strategy of identifying potential respondents did not match the luxury I had experienced in the past of systematically identifying respondents in the regions selected for the research. I told the student in the friendliest way possible that I could not be a participant in her research because I neither experienced chronic pain nor did I know anybody that did at the time. The student offered me an addressed envelope for returning the questionnaire and insisted I took the questionnaire to complete it the next time I felt any form of pain. I obliged and took

the highly pre-coded questionnaire with concerns about the student's sampling strategy for a quantitative study and definition of chronic pain. I could not be part of her sample following the ethics of research, but I wondered about other people the student was able to convince to participate using the same approach.

I started my research career working with rural and urban communities in developing countries. The rural poor were always receptive and whole heartedly consenting to providing information about issues directly affecting them and the communities they lived in. Longitudinal research designs implied frequent visits to specific samples in identified communities. This experience sometimes qualified my involvement in other research studies targeting the same regions. Ethical clearance through regional and local research governance bodies became slightly less cumbersome due to the familiar faces. While I made friends with the locals in the different regions, people also became warier and more aware of the questioning ways of research and its pioneers. For example, when the purpose of the study was introduced as enabling the design of a community support programme, target groups provided information they perceived would generate enough funding to gratify both needs and wants in their communities. This is not to imply that all qualitative studies in research-fatigued communities yielded data of that sort, but the palpable bias resulting from over researched groups cannot be escaped as Koen, Wassenaar and Mamotte (2017) note.

Despite my position at the University as a Research Fellow, experience, and the expertise I acquired through conducting field-based research, I yearned to be viewed as a doctoral student. Navigating the intricacies of undertaking a doctoral programme was a journey I was keen to walk bare of preconceived judgements. My search for a topic that would substantively constitute a doctoral thesis continued as I went through emotions of moral and research ethics. The first choice concerned a phenomenological approach to understanding experiences of young adults battling with a chronic condition that is to date complex to diagnose (Martin, 2019). The difficulties of getting the right diagnosis and managing a multifactorial condition was close to home. I felt comfortable with my choice because I was not only doing it for myself, but also for somebody with whom I struggled to navigate the roving care pathways for long term conditions in the English National Health Service (NHS). I registered for my doctoral programme to investigate the experiences of getting a

diagnosis and condition management in young people diagnosed with hypermobility Ehlers Danlos syndrome. The research employing a potentially privileged traditional qualitative approach seemed like a perfect choice, but my intuition indicated that I was about to do it again – explore others' experiences without warranting the journey would change their circumstances. I ran the risk of failing to raise awareness of required improvements in care experiences if I did not publish my findings in good time through an appropriate medium. I could not help questioning whether the right people would read and listen. But how did it come to this? Why was it so difficult for me to identify a suitable research topic I would be comfortable with exploring?

My quest of becoming a well-integrated member of the world of academia seemed to slip further away each day that went by as thoughts continued running through my head like a nightmare. I mumbled through a supposed interest in the diagnosis and management of long-term conditions in young people at a networking seminar between two research centres, in then the Faculty of Health and Wellbeing. The scepticism gnawed on me as I scribbled on my notepad something about studying the experience of pursuing a good night down the high street of Canterbury in Kent. I showed the scribble to a colleague who sat next to me, and we both giggled. Yeah right, it was a joke! I continued talking to friends and colleagues about the uncertainty of my choice of a research topic for the doctoral programme. Pondering my research morals continued, oscillating between ideas until I received a proposal which conformed to positivism. The idea involved developing a ground-breaking tool for assessing person centred and effective workplace cultures in healthcare. The proposal was somewhat exciting, but I suddenly had a light-bulb moment of my struggle with a doctoral research topic, the imperative!

Upgrading from being a Research Assistant, my Research Fellow role was linked to a requirement to complete a doctoral programme. It did not occur to me as an opportunity for personal progression at the time, but a control of ways of being in an academic institution. An imperative is an abbreviated command that falls short of the goal to be fulfilled. For example, self-isolate for ten days when you get a positive coronavirus disease (COVID-19) test! ...does not fully explain why and whether I would need to stay exclusively indoors for the specified period. Human beings inherently obey commands from figures of authority embedded in social structures

irrespective of the moral ethics attached to commands (Hofling et al., 1996). In the groundwork of the metaphysics of morals, Kant introduced the idea of hypothetical imperatives to guide human action based on conditional reasoning about achieving a desired goal (Cahn and O'Brien, 1996). Would the road to selecting a topic have been any different, shorter, or perhaps filled with joy instead of dread if my thoughts towards the process were different? I will always wonder. I should have had the mindset to appreciate the requirement for fulfilling a doctorate programme as a platform to use my voice and an opportunity for expansive learning about myself and others. I did not have to look back or search much further when the penny suddenly dropped. I longed to explore something that I was passionate about, something I knew relatively well.

1.5.3 My interest in the subject of sleep

I relished the opportunity to be the research participant contributing towards a chosen field of study while retaining ownership of my story, with full control of meaning behind a wider social phenomenon. I did not think I would ever write about the gravity of my haste to obtain at least one restful night, but I heard my experiences projected in the workplace and social circles. Questions directed at me sought to establish what I had done if anything to make my perceived sleep problems better. It was clear from the questions and other tales of poor sleeping experiences that many other people sought remedies to enhance their sleep. Extraordinary measures such as “I’d eat a bucket of nails if it you told me it would help me sleep.” ... “me too” (Andrews et al., 2013, p. 9) illustrate the unprecedented price for good sleep. In a study investigating processes of underlying treatment preferences in adult insomnia, participants perceived good sleep as uninterrupted sleep that allowed the body to perform relevant natural processes enabling a feeling of restoration (Cheung et al., 2016). I had discovered a lot about sleep, and this was an opportunity for me to share my in-depth knowledge about the craze of chasing the perfect sleep. How did I come to believe that sleep was an object I could easily get off a market shelf?

Sleep intrigued me as a contemporary topic not only as something that took over almost more than a year of my life, but also as a lived experience both in Africa and the West. I cannot trace a word in my mother tongue that describes insomnia as a health condition besides scattered statements of ‘having not slept well at night’ or

'having been up all night'. Anyone listening would expect an explanation as to why one's attempted night rest was not satisfactory and in most cases the utterer comes out with potential reasons before the questions arise. The closest I came to a sleeping pill during my thirty something years of living in Uganda was chlorphenamine (piriton) that was frequently prescribed to calm my allergies. My knowledge that it is in human nature to sleep thus guided forethoughts to challenging the transactional relationship human sleep has acquired among dwellers of numerous societies. I identified several controversies from an in-depth review of the physiology of sleep in the literature, plausibly because sleep in its nature constitutes subjective experiences that would be unknown unless told of. Results from the encephalogram used to track brain activity during sleep are conscious perceptions of the observer. The fact that observed brain activity is not linked to the social world is an ongoing concern in neuroscience (Kastrup, 2017).

My interest in sleep was a process that deepened through managing a perceived illness, self-observations and listening to other people's tales about experiences with night-time sleep. A colleague once told me about nightly feelings of frustration and anger while lying next to a peacefully sleeping partner. An annual prescription for benzodiazepines was the solution that kept my colleague's night-time loneliness and melancholy at bay. Whilst our conversation entailed a lot of sharing of night-time sleep experiences, I pondered quietly whether the annual prescription was necessary. Perceptions of external objects are socially contextualised through language, norms, culture, politics, morals, economics et cetera. While society frames the thinking of individuals, the ability to apply logic bestows humans with the capacity to question the status quo. I compare this to the truth about an apple fruit, which is contingent on the broader context of its purpose, health, texture, specie, smell or taste. Knowledge of the apple is not absolute due to what lies underneath the skin of the apple. I can therefore afford a degree of scepticism for judgements made to the exterior of the apple as truth. The assumptions underpinning my autoethnography were thus embodied in nature and overall experiences of sleep related events.

Nature's truths are infallible and hence distinguishable as unquestionable knowledge (Lehrer, 1990). I had known sleep as a genuine biological function within a normative domain so much that I could explicitly differentiate satisfactory from unsatisfactory or

malfunctional sleep. I fell asleep every 24 hours irrespective of the time because that is what my body does to sustain my physical being. This knowledge was emancipatory considering my awareness of the impact of the structures organising society on my sleep pattern. Could my behavioural response to perceived night-time sleep difficulties have taken a different route if I had a large share of or solely owned some capital for social reproduction?

1.6 Conclusion

Scrutinising my background, thoughts and beliefs did not acquit me of other potential biases that might accrue to my narratives. However, elements presented in Chapter 1 grounded my understanding of the contemporary topic of sleep. These elements might help readers of my narratives to contextualise viewpoints on normal sleep and its perceived night-time disturbances. I specifically carried forward the natural temperament of the physiology of sleep in all humans irrespective of sexuality, gender, ethnic or racial background. But presenting my assumptions about social institutionally ordered sleep patterns felt like I was already concluding my critical autoethnography. Nevertheless, my research questions were pending answers, and I was yet to tell the actual story about trends of nursing a primary insomnia, a peregrination that was far from straightforward. I could somewhat empathise with a distant observer who would be quick to assume a laid back experience of my doctoral programme given my initial exposure to research. "...but you are a researcher. I cannot understand why you find it so difficult", one person responded to my release of surplus emotional energy about my doctoral journey. How did this undertaking unfold? The last section of Chapter 1 presents an overview of the rest of the chapters in my thesis.

1.7 Layout of the thesis

Chapter 2 provides a targeted critical review of the literature about sleep in humans to contextualise the physical, psychological and socioeconomic aspects of sleep covered in my thesis. I examine the characteristics of sleep before looking into the core function(s) sleep is believed to serve to give a picture of the magnitude of the impact of sleep troubles on its craving community. I consider the sleep–wake regulation cycle as well as factors that may impinge on sleeping patterns. I review the efficacy of scholarly models explaining sleep disturbances that are not underpinned by other

health conditions. Finally, Chapter 2 illuminates the power influencing the fragility of sleep within the context of the growing sleep market.

Chapter 3 presents the happenstances of the methodological decision making process for my study. My thesis is founded on autoethnography nested within the qualitative approach that is not short of misgivings. Chapter 3 excavates guiding principles of possible approaches for undertaking the study, which was vital for me to delineate autoethnography as a method for collecting data or the overall study approach. I specifically pay attention to critical theory as the foundation for the core paradigm that I chose to steer the presentation of my ideas. The second half of Chapter 3 considers theoretical perspectives of the study. I introduce the Marxian paradigm, which is the foremost theoretical framework for my research. I discuss components of Marxian analysis – historical and dialectical materialism, both of which guide the critical autoethnography. I explore the subtleties of power and domination to set the scene for the non-negotiables in a capitalist society. I link Marxian analysis to the adaptive control of thought-rational, showing how advancing from false to full consciousness is not simply a sudden realisation.

Chapter 4 takes a critical slant to the intricacies of undertaking autoethnographic research. I provide a historical overview and clarify the back and forth movements of autoethnography as a method and its assumed position of a methodology. For purposes of credibility, I examine the complexities of constructing and using narratives in autoethnography as well as the use of other sources of data. I pay attention to evaluating the quality of my study.

Chapter 5 delves into the story of self-managing society's designation of night-time sleep troubles. I begin the story with an untamed sleeper who labour priming processes sensibly initiate into the realities of social existence. In this chapter, I present the behavioural trend as a response to a supposed deviation from the passiveness of sleeping. Visual inspirations embellish the story while descriptive themes segment it into sections. Chapter 5 finalises with a reflection on my night-time experiences of the primary insomnia.

Chapter 6 is set in the context of the evocative against analytic autoethnography discussion in academic writing. As Weatherall (2019) argues, most auto ethnographers should be in a position to derive individualised styles of writing. While this is tenable for fulfilling the liberties of being human, using a conceptual framework in research underpinned by a preferred approach guides making coherent conclusions. I provide some insights into narrative analysis of my study before exploring what narrative synthesis meant for my critical autoethnography. Chapter 6 also details how I developed and used the best fit framework for synthesis to generate inferences about managing a self-diagnosed primary insomnia in a mixed economy. I dig into the multi-stage process of bringing together various elements of the study into a unified whole. I draw on the explanatory strength of critical realism to integrate the physical, psychological, and socioeconomic aspects influencing night-time sleep to generate crises.

In Chapter 7, I employ the synthesis derived in Chapter 6 to gain deeper insights into what society describes as primary insomnia and the mechanisms behind it. I explain my understanding of the physiology and psychology of primary insomnia and sleep as a negotiated involuntary activity within capitalism, the existing mode of social reproduction. Capitalism may have indeed revolutionised human health, seeing the upward trend of life expectancy globally before the COVID-19 pandemic. Conversely, the gloom that lies behind material advancements is difficult to discount. While negotiating an involuntary activity is quite perplexing, attempts to manufacture a process that would ideally occur naturally introduce another layer of complexity. Chapter 7 includes explanatory statements offering an overview of the long-term impact of embracing the ideology of buying sleep.

I present concluding thoughts in Chapter 8, which is the final chapter summarising future directions for both the sleep research and sleep yearning communities. I also reflect on the rewards and possible limitations of writing a critical autoethnography.

Chapter 2: Events and mysteries about sleep

Introduction

The science of manipulating sleep continues to evolve to sustain needs of different stakeholders in the capitalist world. In contrast, the need for that feeling of renewal is compelling for those who seek to experience sleep in its natural entirety. Developments in technology and the 'easily bored' drive for innovating quicker solutions to tasks or problems encapsulated under modernisation accelerate endeavours for the fast-paced capitalism. Capitalist cultures eagerly tap into the desperation for the ordinary phenomenon sleep, a rapidly growing business ranging from frontier technology to services and products marketed to support good sleep. The question of why we sleep is so essential that it should be answered within the context of the intrinsic nature of being human (Hartmann, 1973).

Human existence transcends the physical and psychological facets to encompass interactions with each other. Aristotle's Nicomachean Ethics state that humans are rational animals who use thought and reason to exercise full capabilities beyond growth, reproduction, self-movement and perception (Ameriks and Clarke, 2000). Anything that supports these functions is good and inhibitors are bad for the essence of humans. One would wonder how the mysteries of sleep are associated with managing a primary insomnia. It was a matter of necessity that I acquired more knowledge about sleep to defend the biological stance I espoused with confidence against commodified sleep. Defining sleep was essential for delineating what sleep is and what it is not, to illuminate the physical experiences of people with primary insomnia. Likewise, I could only understand purported sleep troubles by gleaning from mechanisms of sleeping. My hope for obtaining insights into the naturally recurring phenomenon was to discern events when sleep falls short of expectations.

As highlighted earlier, my search for the literature was targeted at the topics I considered crucial for substantiating my claims and interpretations of sleep in humans. A targeted review is a non-systematic approach with a core objective of providing information on a subject instead of covering all elements on the subject in a comprehensive way (Huelin et al., 2015). Consequently, I neither applied any rigorous

approach to the search nor to the interpretation of the critical targeted review of the sleep literature. This chapter does not comprise a scientific exploration of sleep. I searched for current publications on each of the sleep topics of interest and used a snowballing method to identify other studies from reference lists and from publications citing the articles I had initially identified. I structured the review of the literature to cover three levels of reality supposed in critical realism (Fletcher, 2017). Chapter 2 includes physical, psychological and socioeconomic aspects of sleep to reflect the ontic depth of consciousness in perceptions of social reality. I explore the definition of sleep, the architecture, regulation cycle, its purpose, sleep and culture and designations for limitations on the amount of sleep that humans may have. These comprise sleep deprivation, sleep loss and insomnia. I present contents of Chapter 2 in the given order to demonstrate perceptions of normal sleep on the functional to dysfunctional sleep spectrum. I also explore scientific attempts to explain the psychological aspects of dysfunctional sleep, specifically that which is not underpinned by other ailments. Lastly in this chapter, I briefly explore the influences of the appointed regulator of sleep – capitalism. Chapter 2 constitutes my interrogation of the literature on human sleep and what I made sense of it.

2.1 The elusive nature of defining sleep

Distinguishing what sleep is would elucidate what it is not in the context of experiences of night-time sleep difficulties. Although useful for providing initial insights into the meaning of a concept, dictionaries are deemed inadequate for defining concepts (Morse, 1995). Most of the literature I came across presents sleep as a conspicuous behavioural aspect requiring no distinctive definition. For example, Bringmann (2018) and Lima et al. (2005) define sleep as a periodic easily reversible altered sense of consciousness and a universally noticeable behaviour across animal species. Morse (1995) contends that defining words such as hope using its characteristics or descriptions of how hope is experienced, prevents misconceptions that may generate confounding questions and responses in health research. Lima et al.'s (2005) definition of sleep throws some but inadequate light on the act of sleeping because different animal species may exhibit varying behaviours during natural sleep. For example, non-rapid eye movement, inattention to the environment, reduced muscle activity and a wide range of brain activity characterise the act of sleeping in animal

species (Sejnowski and Destexhe, 2000; Siegel, 2003; Lima et al., 2005). Conversely, marine mammals such as whales can swim while sleeping, keep one eye open to look out for predators during natural sleep and the assumed absence of rapid eye movement is uncertain (Lyamin et al., 2008).

The medical field features sleep health, with descriptions of not only dysfunctional sleep but also its deficiency in most humans, instead of providing an ordinary definition of sleep (Buysse, 2014). Following numerous encounters of what sleep was not, I was excited to find a whole chapter on 'what is sleep' in Leader's (2019) publication on 'why we cannot sleep'. I read on with interest and a longing to get to the most significant part...the definition of sleep. Leader (2019) goes through the esoteric of rapid eye movement (REM) and non-rapid eye movement (NREM) and critics of whether the two presumed core sleep stages could be differentiated, without getting to the critical part. On the other hand, Walker (2017) embodies a social order tactic in distinguishing the characteristics of sleep. For instance, a sleeping person maintains a horizontal position; and circadian rhythms instruct sleep to adhere to a 24 hour pattern, within which people prefer to sleep at night. I have seen people sleeping on public transport in daylight while sitting upright on several occasions. Does that form of sleep differ from the one Walker (2017) distinguishes? Moreover, sleep as a contemporary subject could acquire a definition to include behavioural aspects of obtaining adequate sleep in humans.

The nebulous temperament of defining sleep did not do much for me to enlighten night-time sleep experiences for people with primary insomnia. My curiosity meandered to what happens when humans are sleeping after establishing that the sleep state of being was yet to acquire precision capturing behavioural aspects in various animal species. I supposed that insights into the trajectory of normal sleep can illuminate sleep disturbances and perhaps how normal sleep can easily be restored.

2.2 What happens during natural sleep in humans?

Physiological occurrences during natural sleep comprise the sleep architecture denoting the organisation of the recurring state of the mind and body (Barbara and Philips, 2006). Human sleep has evolved in response to changes in the external

environment such as globalisation that perpetuated shift work patterns and 24/7 business cultures (Nunn, Samson and Krystal, 2016). The preindustrial period featured limited interest in sleep and waking but the increasing awareness of the perceived value of sleep and night-time sleep concerns have gradually shaped sleep in humans (Ekirch, 2001; Hardy, 2016).

Physiologically, sleep has two distinct types including REM and NREM that neurophysiology breaks down further into various stages according to observable features on the encephalogram (Barbara and Philips, 2006). I refrained from delving into the contentious NREM sleep stages, which in recent times witnessed a retraction from four to three stages as Leader (2019) highlights. The NREM stage features reduced physiological activity, a reduction in blood pressure and slower breathing and heart rate (Barbara and Philips, 2006). Non-rapid eye movement sleep supposedly involves a disconnect from the environment which triggers less paced slow wave oscillations (Tononi and Cirelli, 2006). Rapid eye movement sleep on the other hand involves intense brain activity, fast but irregular and shallow breathing as well as a rise in heart rate and blood pressure observed through polysomnographic tests. Non rapid eye movement sleep is believed to form between 75% and 80% of total normal sleep (Barbara and Philips, 2006). The REM and NREM stages alternate in normal sleep and the time spent in either stage is not a constant. The balance between NREM and REM sleep is supposed to ascertain restorative sleep required for memory consolidation and learning processes (Barbara and Philips, 2006). The supposed balance between necessary proportions of REM and NREM sleep here is a paradox considering the unstructured alternation of both types of sleep with a significant difference in their contribution to total normal sleep.

Wauquier and Van Sweden (1992) adopt the idea of core and optional sleep, believing that slow wave sleep during NREM forms core sleep and that the rest of sleep is optional. Optional sleep is assumed to have no impact on daytime functioning if it does not occur. Van Dongen et al. (2003) argue against this distinction based on experimental observation of chronic sleep restriction and total sleep deprivation in healthy adults, showing discernible differences in cumulative cognitive performance across both groups. Van Dongen et al. (2003) used time thresholds, for example, six hours to determine the capacity for cognitive performance of core sleep. However, the

irregular alternation between sleep types may not warrant full attainment of the 75% – 80% and 25% – 20% contribution of NREM and REM sleep respectively.

Normal sleep can be manipulated but only to some extent because a possible sleep reserve generates complexities in drawing conclusions about overall changes. Evidence of recovery post sleep deprivation shows primacy of slow wave sleep in the NREM stage which may require a function to be met before alternating to REM sleep (Hartmann, 1973). The contentions surrounding REM and NREM stages and proportions needed for sleep to perform its functions were an early indication of a lack of consensus about the physiology of sleep. Could the regulation of the sleep–wake cycle in humans offer insights into night-time sleep challenges?

2.3 Sleep–wake regulation

Normal sleep–wake regulation follows the physiological obstruction of systems promoting wakefulness and inhibition of systems that encourage sleepiness respectively. I examined elements responsible for regulating the recurring of sleep and wakefulness typifying a daily routine. Homeostasis and circadian rhythms are portrayed as the core biological mechanisms working jointly to regulate the sleep–wake cycle. For example, the two-process model supposes sleep regulation is through the interaction between the sleep–wake homeostatic process and the internal biological rhythm of about 24 hours (Borbély et al., 2016). However, factors external to the human body including light and darkness mischievously join the fundamental biological properties to exemplify human activity during the day and sleeping at night.

Homeostasis

Homeostasis is a physiological mechanism for maintaining balance to internal systems in organisms (Cannon, 1929). Homeostasis thus denotes dynamic stability of for example biochemical conditions such as blood sugar and physiological variables like body temperature (Zion and Klein, 2015). Sleep and wakefulness are controlled by homeostasis like other states of the human body such as temperature, blood pressure and acid-base balance (equilibrium between proton donors and proton acceptors) (Barbara and Philips, 2006). Automatic signalling calls on compensatory activity to diffuse imbalances and offset unpleasant effects that would ideally come with internal

imbalances. Dynamic homeostasis hence enables all structural and functional levels of the human body to respond optimally to changes in the environment and continue normal interactions with the environment (Kryzhanovsky, 2004; Saborido and Moreno, 2015). Neuronal networks facilitate this process through the activation and control of enzymes relevant to specific functions (Pulvermüller et al., 2014). Existing evidence on the neurotransmitters of sleep homeostasis is largely in other animals instead of humans. Controlled experiments employ sleep activation and inhibition techniques with subjects that cannot provide subjective perspectives to clarify the mysteries encountered in the objective evidence. Nonetheless, the evidence in other animals illustrates that numerous neurotransmitters and neuromodulators are responsible for the behaviour of sleep, most commonly the production of the sleep stimulation chemical known as adenosine (Bjorness and Greene, 2009). Adenosine levels rise gradually when we wake causing an increased need to sleep which eventually becomes difficult to resist (Barbara and Philips, 2006).

During wakefulness, enzymes adenosine kinase and adenosine deaminase plus transport inhibitors increase adenosine levels to steadily produce a feeling of sleepiness. The mechanism for adenosine accumulation follows adenosine kinase inhibitor preventing adenosine attachment to the signalling molecule adenosine monophosphate; adenosine deaminase inhibitor preventing its break down into inosine, which is vital for the translation of genetic coding; and the transport inhibitors preventing adenosine from being carried to cells to allow the increase in its levels (Bjorness and Greene, 2009). Adenosine binds to its receptor to increase sleepiness and inhibit the transmission of histaminergic neurons that sustain wakefulness and arousal (Provinsi, Costa and Passani, 2018). Adenosine receptor agonists also excite sleep active neurons and control acetylcholine (a neurotransmitter for sending signals to other cells usually for muscle activation) to increase time in NREM (Bjorness and Green 2009).

The homeostatic drive for sleep gradually accumulates from the time we wake to later in the evening when most people fall asleep (Barbra and Philips, 2006). Adenosine levels decrease when we are asleep and when we consume substances that block its receptors. For example, caffeine is supposed to be an adenosine antagonist with a direct blocking effect on adenosine receptors. On the other hand, Walker (2017) contends some people can expel coffee more rapidly out of their body system than

others and therefore do not experience the caffeine effects. Could the motive for ongoing diurnal demand in some coffee drinkers be due to the minimal effect, the need to keep alert or simply an addiction necessitating regular servicing?

“Coffee is not my go to drink because it can stain one’s teeth”, I would always say to anyone who observed I never drank coffee. The pre-millennials born in the central region of Uganda would know the upheld ideology about female coffee drinkers. My maternal grandmother who was more spiritual than gullible used to serve coffee with our lunchtime meals. The aroma of a boiling kettle of home grown and ground coffee reached the playground signalling lunchtime for the holidaying grandchildren. I cherished the meal accompaniment and most of us regularly asked for a top up to wash down whatever was left on the plate. I would always enjoy a nap after lunch, which was never altered by the supposed caffeine. Nonetheless, I found coffee intolerably bitter when I tried the perceived addictive and yet uncontrolled drug in my adult life. I never took the time to inspect the type of coffee I tried. Bloggers for coffee online platforms such as ‘enjoy java’ and ‘driftaway coffee’ rave about the higher content of caffeine and bitter taste in robusta than arabica coffee. I once requested a cup of coffee with milk at an event with the hope that the milk would disguise the bitterness when searching for my perceived sleeplessness reversal effect. The first sip of the mud puddle-like lukewarm drink jolted my taste buds into shock. I quickly placed the cup down, but mistakenly on top of a biro pen on the round table occupied by five other people. The embarrassment I endured from the panic at the table and mess of the spilt coffee prevented me from accepting offers of any other drinks throughout the day including water. The experience did not scar the dare to try coffee again, but the extra effort required to find the right balance of sweetness using additives did.

High consumption of fermented alcoholic drinks such as beer, wine and liquor may also increase the level of histamine in the brain. This is because histamine and orexin (also known as hypocretin) act jointly to maintain wakefulness and arousal and the levels of histamine are highest during wakefulness (Thakkar, 2011). The increased transmission of histaminergic neurons disbands adenosine from its receptors converting adenosine to adenine monophosphate or inosine to promote wakefulness. Wakefulness is not the immediate effect of consuming intolerable quantities of alcohol, but poor coordination and drowsiness are the instant upshots (Geggel, 2017). Similar to a large dose of opium, excessive amounts of alcohol weaken the functions of the nervous system and compromise the respiratory function to allow the supply of ill

processed blood to the brain (Hammond, 1869). The circulation of poisoned blood culminates into an unhealthy state of unconsciousness referred to as stupor, with excessive congestion of the brain vessels and limited or no brain activity. A stupor state is not sleep and Hammond (1869) suggests one may have to work harder at arising a person from a stupor than a sleep state.

The core metabolic process for alcohol involves breaking it down into acetaldehyde first before it is metabolised into acetate and finally water and carbon dioxide for elimination (Edenberg, 2007). Acetaldehyde is a highly toxic by product and therefore it stays in the body for a very short time before it is further broken down (US Department for Health and Health Sciences, 2007). The impact of alcohol doses on dozing is that adenosine receptor agonists fail to control acetylcholine, which activates muscle activity and limits NREM sleep (Bjorness and Green, 2009). Histaminergic neurons disband adenosine from its receptors to increase possibilities of wakefulness after the body degrades acetaldehyde. While the primary reactions to consuming alcohol may include poor visual coordination and sedation, high levels of alcohol concentration eventually stimulate neuronal firing signalling for an increased heart rate, alertness and energy generation (Geggel, 2017).

Hartmann (1973) suggests sleep is no more natural than waking and neither state is a prerequisite for the other. Both states depend on biochemical and neuronal activity fulfilling the requirements of each state of being. However, adenosine's contribution to maintaining sleep homeostasis is compelling considering the feeling of sleepiness after prolonged wakefulness. Any unspent adenosine pushes the sleep agenda high on the list of priorities irrespective of demands of the external clock. Nevertheless, circadian rhythms are also posited to control the sleep wake cycle. What are circadian rhythms, and how do they work with adenosine?

Circadian rhythms

Circadian rhythms are among the four broad categories of physiological rhythms including circannual, infradian and ultradian (Beauchemin, 1997). Circannual rhythms follow annual changes, which are not so conspicuous in humans. Circadian rhythms take place every approximately 24 hours. The 24 hours period is an estimate because

the circadian period is shorter in day light active animals and longer in nocturnal active animals (owls, bats). An infradian rhythm is a period slightly longer than a circadian rhythm for example, monthly hormonal fluctuation while the ultradian rhythm involves a recurring cycle completed more than once every about 24 hours (Beauchemin, 1997).

Circadian rhythms, which signify a physiological clock, are independent of day light and nocturnal darkness because the process is endogenous (Beauchemin, 1997; Leader, 2019). However, the frequency of biological oscillations is influenced by zeitgebers emanating from the earth's rotation in relation to the sun instead of the local time or manmade clock. Zeitgebers are external cues such as day light, night darkness and temperature that are believed to attune physiological rhythms (Monk, 2010). Sleep can still happen in the absence of circadian rhythms, but its distribution throughout a 24-hour period would be arbitrary (Gillette and Abbot, 2005). Circadian rhythms therefore are endogenous self-sustaining processes concerned with more than simply sleep and wake cycles (Aschoff, 1965). The intersection of the sleep – wake cycle with circadian cycle happens twice per standard circadian cycle (one period of sleep in 24 hours) but often in polyphasic sleep (sleeping at least twice a *day*) (Borbély et al., 2016). In my opinion, this conclusively indicates adenosine does not work with the circadian rhythms.

Hammond (1869) underscores that sleep is not often caused by the periodic oscillation of systems in the human body and that a reduced supply of oxygen to the brain is what causes sleep to happen. The level of oxygen reduces significantly during REM sleep and carbon dioxide increases particularly during NREM sleep with reduced necessity for the nervous system to respond to this change (Malik, Smith and Lee-Chiong, 2012). The increased level of carbon dioxide stimulates continuity of the respiratory function to maintain a balanced level of the amount of oxygen and carbon dioxide in the blood (Venojärvi, 2009). While the amount of oxygen in the brain at sleep onset merges into the complexity of neural activity, the outstanding issue is why humans generally sleep at night. Sleep could occur any time particularly if circadian rhythms are not necessary for regulating the sleep–wake cycle. Is day light crucial for sleep–wake cycles?

The role of day light in sleep–wake regulation

It is generally insinuated that light largely contributes to signalling circadian oscillations via the suprachiasmatic nuclei, a small region in the hypothalamus of the human brain (Duffy and Czeisler, 2009; Blume, Garbazza and Spitschan, 2019). The exposure to light may influence functioning of circadian rhythms, but it is not a prerequisite for the sleep–wake cycle. Yetish et al. (2015) explored sleep duration, timing and the link to natural light and temperatures in three non-industrialised societies without electricity and temperature modification devices. The societies investigated included the Hadza in Tanzania, Tsimane in Bolivia and the San in Namibia. The San and Hadza were hunter gatherers while the Tsimane were horticulturalists. Napping in these societies was not uncommon and there was no formal vocabulary for chronic sleep problems.

Yetish et al. (2015) recorded irregular sleep onset in the three societies, but regular waking attributing this to light exposure, which peaked in the morning instead of noon. Hunter gathers predominantly woke after sunrise in the summer while the Tsimane always rose before dawn, which researchers ascribed to the difference in ambient temperature independent of light. In addition to the farfetched disposition of deductions made, Yetish et al. (2015) did not consider the possible effects of dominant occupations on waking time of the societies studied. While the San were predominantly hunter gatherers, the Tsimane primarily bore a culture of subsistence agriculture. In my experience, tilling the land with rudimentary tools in the summer requires earlier waking before the heat of the rising sun becomes harsh on the skin. Hunting on the other hand may not require constant exposure to the sun when hunters check on pre-set traps for their prey animals. Shrubs and trees also offer shelter during waits for opportune moments depending on the species hunted. For example, game tends to be available throughout the day.

Life persists without natural light through making use of inorganic sources and hence studying life's endurance should focus on physical and chemical conditions necessary for survival instead of the vicinity of the sun (Pace, 2001). When separated from zeitgebers, Aschoff (1965) was happy to live timeless just after two days out of the 10 days spent in an underground cave like structure. Aschoff's physiological sleep clock reverted to the preindustrial era of three hours phased sleep. During this experiment, circadian rhythms were independent of external cues of light and darkness. Although

the experiment sounds noble in justifying the biological workings of the human body, Leader (2019) cites a slip in its accuracy where human existence is separated from social factors that may influence true reactions of endogenous to exogenous systems. I do not consider Aschoff's (1965) experiment unreliable despite liking almost all of Leader's (2019) inklings about impositions of the external clock on endogenous processes. Aschoff sought to determine the photic effect on the circadian rhythm in humans instead effects of the general external environment. On the other hand, tackling social pathologies such as a primary insomnia necessitates a holistic view of social relations.

Several social and environmental interactions currently withstanding redesigning human biology over natural selection for fulfilled human survival constitute human existence. An all-encompassing approach is vital for dissecting the existence of social beings. For example, Maslow's (1968) hierarchy of human needs is erroneously critiqued for emphasising self-centredness instead of collective wellbeing (Rennie, 2008). However, the need for safety is not against oneself and the longing for belongingness symbolises the need for interpersonal relationships instead of one's need for a relationship with the self. In a similar vein, experiences of sleep are not independent of how we experience time and space, which may impact on subjective experiences of sleep. Socioeconomic interactions and culture create significant rhythms that determine when individuals sleep (Monk, 2010). In the 'interpretation of dreams', Freud (1913) linked dreams to the intimacy of one's psyche, which embodies aspects ranging from desires to anxieties underpinned by factors existent in the external environment.

The rest–activity cycle for nocturnal sleep and day light wakefulness respectively could be superimposed upon sleep in humans (Hartmann, 1973). As Brennan et al. (2007) observed, the secretion of melatonin, a hormone usually associated with regularising sleep, can be accomplished through the neurological network and biochemical processes independent of light. Having cited inconsistencies in earlier studies, Lockley and colleagues (2022) embarked on a journey to establish the significance of light in the production of melatonin and regulation of sleep in people with various visual impairments. Key findings from this study indicated that circadian rhythms are not constricted to the light–day cycle and that other aspects such as exercise, pattern of

eating and sleep can shape shifts in circadian rhythms. Nevertheless, Lockely et al. (2022) considered phased sleep in people with visual impairments disordered due to the limitations in light perception.

Melatonin is also closely linked to metabolic processes, working in conjunction with insulin to balance energy requirements of the human body (Cipolla-Neto et al., 2014). Day light is believed to suppress while night-time darkness is said to promote the secretion of melatonin in diurnal and nocturnal mammals irrespective of behavioural patterns or activity (Challet, 2007). However, the production of melatonin is likely to occur in the pineal gland or extra pineal sites including the retina and gut when a physiological imbalance in energy manifests irrespective of the amount of light available. For instance, I tend to feel sleepy after a prolonged span of a monotonous task and whenever I do not encounter physical activity demands on my relaxed muscles.

Its roles in the functioning of the human body said to be ubiquitous, melatonin is synthesised immediately on production, and it is not storable in the body (Peuhkuri, Sihvola and Korpela, 2012). Melatonin's supposed role in the onset and offset of sleep in humans may therefore neither be as direct nor as certain as largely presumed in the sleep literature. Walker (2017) agrees that the role of melatonin in sleep is overrated. However, Walker's (2017) hypothesis about melatonin inducing sleep when one changes from one time zone to another is also questionable. The supposition is that a pill of melatonin improves the darkness signal to improve the perception of light and darkness in different time zones. Walker exemplifies this with travel experiences between San Francisco and London with a time difference of about eight hours without considering the typical food intake and sleep pattern simulated on the flight. Overnight flights usually include dinner time, sleep time and breakfast. The daytime fatigue felt after a long haul flight is inevitable particularly for the economy class travellers. In my opinion, food and rest arrangements particularly on long haul flights gently coax the body to adjust to the time zone of the passengers' destination. The controls of globalisation are embedded in flying to make sure that social order is maintained through influencing when one eats and sleeps.

Adenosine is the sole substance seemingly indispensable in the ensemble activity regulating a natural sleep–wake cycle. The circadian rhythm and melatonin appear as peripheral facets in a sleep–wake circuit particularly without zeitgebers, which the external human clock use to order society. Conversely, Walker (2017) posits a link between circadian rhythms and sleep patterns in youngsters without considering the role of adenosine. My teenage years remind me of the capacity of young people to accumulate sleep debt, in this case unspent adenosine, as they delight in the extended privacy when adults hit the hay. Then, the urge for the young person is to sleep longer hours extending into the typical day to expend the accumulated adenosine. Socioeconomic interactions including culture therefore add significantly to reactions of biochemical processes stimulating sleep. But how does culture influence sleep?

2.4 Sleep and culture

Going to bed may not follow an immediate physiological need, but people respond to society's espoused bedtime signals like lights out and emotional exchanges for a good night in their social environment (Aubert and White, 1959). The entwined relationship between sleep and culture is vivid in the oral tradition of myths told by the Greek people. Hypnos the god of sleep embodied sleep with the power to make others fall asleep. Hypnos and wife Pasithea, a goddess symbolising relaxation, meditation and hallucinations named their three off springs the dreams (Oneiroi) which are common experiences during sleep. Hypnos's mother Nyx (night), and father Erabus (darkness) also took on names associated with when sleep widely occurs (Littleton, 2005). While sleep is a physiological phenomenon, it does not transcend culture and hence the variations in how and where people slept in different cultures (Aubert and White, 1959; Worthman, 2010; Flakerud, 2015). For example, co-sleeping for mother and child as well as sleeping in groups in some cultures denoted security, comfort and warmth (Worthman, 2010). On the contrary, group sleeping observed in South American, Africa and Asia (Worthman and Melby, 2002) can be precipitated by economic factors beyond people's control such as limitations in space and/or facilities. The evaluation of the Buddhists' contention that contentment is absence of desire implies a desireless state of being that is presumably preferable to the suffering harboured in repetitively unfulfilled desires (Marks, 1986). The expression 'to pig' was common among lower

ranks in English societies, which meant one or more bedfellows during the preindustrial era (Ekirch, 2001).

The sociological view of sleep introduces tugging forces of personifying sleep between understanding the physiology of humans and socialisation. Societies constitute unique groups formed through mutual influences of members of a population culminating into shared views and cultural values of the group (Scott, 2006). Socialisation involves teaching new members of the group to internalise and adopt regular practice of the society's norms (Park, 2014). A sociological view argues for the undeniable influence of social aspects on sleep in humans. That is how, when with whom or where we sleep (Aubert and White, 1959). The 'how' in this context should not be confounded with 'how to'. For instance, regular sleep positions can be maintained from the way parents lay babies down to sleep. However, the act of falling asleep is a physiological experience of the unborn that starts in the mother's womb. Infants are sometimes labelled problem sleepers as they transition from autonomous feeding and sleeping patterns in the womb to constricted nocturnal and diurnal structures via which infants are taught when to sleep to suit the norm (Semple, 2008).

Worthman (2010) suggests factors such as social sleep settings, fluid bedtimes and fear of sleep without security in some cultures may shape the architecture of sleep to challenge scientific perceptions of sleep states. Just like food, sleep bears numerous ideologies shaped by social cultures. Co-sleeping is currently regarded as backward and unhealthy while offering guests bed companionship used to be a strong sign of hospitality among the Asabano ethnic group in Papua New Guinea (Reiss, 2017). Similarly, food is important for our subsistence. Nonetheless, people from different cultures do not perish under staple foods eaten more often than the public health recommendations of five pieces of fruit and vegetables per day for a healthy diet. Napping in the afternoon particularly in Mediterranean and Tropical countries is thought to be cultural (Flaskerud, 2015). On the contrary, physiological systems of the human body induce sleepiness in hot seasons.

People nap particularly after eating a caloric meal to cushion the post lunch slump activated by the decline in the activity of biological pacemakers (Kelly, 2007). Calories consumed tend to raise the core body temperature. Human enzyme activity usually

denatures at temperatures higher than 37degrees Celsius (98.6 F) that is meant to support optimal enzyme activity. A change in the core body temperature (high or low) affects the activity of enzymes necessary for optimal metabolism (Osilla and Sharma, 2019). Adding to the serotonin and melatonin induced by a happy meal, the body's capacity to keep pace with the external heat is mismatched by the hot meal rich in calories. This leads to a decrease in enzyme activity required to breakdown the carbohydrates into energy and thus the lethargy and feeling of sleepiness after an afternoon hot meal in remarkably warm external environments. For example, in India the 'bhaat-ghoom' is a Bengal traditional siesta associated with a meal that comprises of rice. In more active individuals, sweating is the thermoregulatory response in exceedingly warm external environments to cool the body temperature and enable optimal metabolism (Osilla and Sharma, 2019). In a study of natural sleep and it's variations, Yetish et al. (2015) found napping in the three societies studied was 15% higher in the summer than the winter. Hammond's (1869) hypothesis about reduced oxygen in the brain inducing sleep may also explain afternoon napping during hot seasons. As blood flows towards the surface of the body in high temperatures to generate a cooling effect through the sweat glands, the amount of oxygenated blood flowing to the brain decreases to stimulate sleepiness. On the contrary, excessive heat directly targeting the head congests the brain blood vessels, a condition observed in sunstroke victims (Hammond, 1869).

Culture historically influenced how and when people slept. However, the industrial revolution diluted cultures immensely under the guise of modernity. Modernisation with a face of economic growth carries crises, one of which is social degeneration (Goldstone, 2002). Preindustrial cultural practices surrounding sleep are now at the brink of absolute extinction under the capitalists' shaped sleep norms characterised by micromanagement, medical concerns and ubiquitous anxiety (Reiss, 2017). Even then, the need for sleep is so absorbing that humankind surrender to internal forces at some point, including those without the comforts of well slept citizens (Airhihenbuwa et al., 2016). Considering why humans sleep might illuminate this irresistible urge irrespective of the relentless demands from the external clock.

2.5 Why do humans sleep?

The industrial revolution's fixation on the efficiency of labour ignited and accelerated the interest in sleep research, to explore how far the human body could be stretched (Miller, 2023). Miller (2023) traces the history of sleep research, highlighting discoveries and confutations without conclusive resolutions on the cause of the regular and sometimes unexpected shuteye in normal sleep. Just as fear may cause one to tremble, a particular state of the brain is assumed to cause sleep (Hammond, 1869). Why we sleep is a mystery that Siegel (2005) argues is not simply about rhythmic regulation of activity and inactivity, but one that involves a lot of significance to organisms. 'Why we Sleep' by Walker (2017) carries an ominous approach detailing the detrimental effects of not sleeping seven hours nightly instead of providing clear functions of sleep in humans. Apparently, it is wrong for anyone seeking to understand sleep to pose the question of why we sleep. The shared feature across the animal kingdom addresses the enigmatic question of why sleep holds such importance to humans (Reiss, 2017). However, variations in the amount and patterns of sleep may suggest sleep serves different functions in different animals. For example, smaller animals like cats sleep more than their larger counterparts, the elephants (Siegel, 2005). Schmidt (2014) agrees with this hypothesis but maintains there must be a shared function for sleep across all animal species. What could this be?

Hartmann (1973) argues that the gripping hypotheses of why we sleep ought to reflect the distinct types of sleep and it follows that the functions of sleep are customarily explained with sleep types and the different stages of sleep. However, Nunn, Samson and Krystal (2016) do not believe that the benefits of sleep can be traced in the time spent in either REM or NREM sleep. Earlier sleep studies such as Hammond (1866;1869), Kleitman (1963), Hartman (1973) and Dement (1998) intrigued me. As Leader (2019) observed, earlier sleep researchers were more amenable to the naturalness of sleep, which is no greater than waking. Why would sleep be so important if mechanisms for the survival of the humankind such as reproduction and food intake are not fulfilled during sleep? The core sleep functions proposed in the literature include restoration, safety, memory consolidation and energy allocation and conservation. Whether posited functions puzzle out the significance of sleep to humans and hence the devastation due to its loss was worth exploring.

Restoration

Restoration simply refers to the process of returning something to the original healthy state. Sleep presumably presents the chance for the body to restore and strengthen tissues, muscles and cells that wear and tear during biological processes and daily activities of wakefulness. Siegel (2005) posits smaller animals have higher metabolic rates than bigger animals and therefore sleep longer to reduce the effects of metabolism, which produces extremely reactive chemicals causing injury to body tissue or cells. For instance, cats can sleep for about 12 hours a day while elephants can survive on only three hours. Metabolism constitutes the overall catabolic and anabolic chemical reactions, which sustain living organisms (de Nava and Raja, 2019). Catabolic chemical reactions involve the breakdown of compounds to release energy while anabolic reactions consume energy in the process of building compounds required by cells.

Basic metabolic pathways are similar in most organisms and have been retained through evolution due to their usefulness (Ebenhöh and Heinrich, 2001). Metabolism slows down during sleep specifically during NREM, but other organs and regulatory systems function continuously (Barbara and Philips, 2006). Lower temperature and metabolic rate in NREM sleep provide a conducive atmosphere for cell renewal and enzyme reproduction (Seigel, 2003). Findings from an experiment involving rats totally deprived of sleep but fed regularly and rats deprived of food but slept regularly supports the aforementioned hypothesis. The totally sleep deprived rats died quicker than rats that were deprived of food but slept as usual (Siegel, 2003). The specific cells that were not renewed during the rats' prolonged sleep deprivation were not examined and thus actual reasons for the deaths were not established. However, observed weight lost alongside increased food consumption indicated unnecessary heat loss (Siegel, 2003).

The restorative function of sleep is also exemplified through sleep–wake neural activity. The release of neurotransmitters, vital ones including monoamines (norepinephrine, serotonin, and histamine) stops during REM reducing body movement and environmental awareness (Siegel, 2003). Brain cells making monoamines are active throughout waking but stop during REM sleep to facilitate rest

and revival for appropriate functioning of neurotransmitters and their receptors (Siegel, 2003). Siegel believes that monoamines are switched off during REM sleep to avoid accidental changes in brain connections due to intense activity of brain cells. Sejnowski and Destexhe (2000) share a similar view suggesting the activation of calcium ions during NREM sleep prepares neurotransmitters for permanent changes. Calcium ions are secondary messengers in the regulation of a variety of cellular processes some of which include muscle contraction, gene expression, cellular regeneration and secretion of hormones (Schnellmann and Covington, 2010). NREM sleep is a quieter time when sensory processing is fairly inactive, presenting the right environment for activation of calcium ions plus their distribution through pyramidal neurons, which allow integration of a lot of information from other neurons (Schnellmann and Covington, 2010).

I did not come across strong refutations in the literature for the presumed restorative function of sleep engrained in the busy bee like brain activity. I was not able to identify contradictions in scientific explanations of the restoration function of sleep, probably due to limitations in my knowledge of biology. However, the restorative function is presumably incomplete considering that other propositions for the function of sleep exist.

Safety

Sleep functions to provide safety was a supposition, if at all, applicable to animals at risk of predation. The assumption was that the stillness posture mostly adopted during sleep protected animals from attracting the attention of potential predators or responding to frightening stimuli (Lima et al., 2005). The safety theory for sleep function is inapplicable to apex predators like lions that spend more than 18 hours of a typical day asleep. Lima et al. (2005) also espouse the restoration perspective in proposing blackout sleep for animal safety. The reasoning is that the sleeping organism consolidates sleep into a single short block to maximise wakefulness and the vigilance needed to tackle predators. However, most sleeping animals at low levels of the food chain are vulnerable to predation during sleep. The need for safety influences how and where to sleep. Our ancestors selected caves for safety while sleeping to escape the appetite of big cats. Evolution has adorned humans with more safety strategies to optimise good sleep and minimise the adaptive state to perceived

threat or the arousal fear perpetuates. Sleep for safety, even when anchored on the notion of restoration is far from a kernel of truth and neither is sleep as a secure pastime. Sleep is so irresistible that it sometimes occurs in circumstances that necessitate watchfulness. It is not unusual to watch parliamentarians on television nodding off during crucial debates of issues that affect citizens.

Memory consolidation

Memory is the conscious recall of information but features unconscious recollection of ordinary effects like motor skills (Lynch, 2004). Recognised for regulating and preparing for brain functions (Walker, 2009; Lewis and Durrant, 2011), sleep is postulated to have a fundamental role in sustaining memory and cognitive performance (Barbara and Philips, 2006). On sleep and memory consolidation, Sejnowski and Destexhe (2000) suggest the process is facilitated by the alternation between slow waves and short episodes of fast oscillations observable on the electroencephalogram (EEG). The fast oscillations represent a recall of information (presumably gained during wakefulness) stored as synchronised events that appear as slow waves. This activity can only take place during sleep when the nervous system is neither receiving nor processing messages and the release of calcium ions prepares neurotransmitters for permanent changes (Sejnowski and Destexhe, 2000).

Following a similar argument of molecular mechanisms of memory, Tononi and Cirelli (2005) argue sleep serves to control the strength of structures that permit neural activity in the brain (synapses). Long term potentiation is the cellular mechanism involved in continuous strengthening of synapses that underpin learning and memory (Gall, Lynch and Lauterborn, 2009). Memory formation depends on the strength of synapses that allow stronger links with neurons (Lynch, 2004). While wakefulness increases the strength of nerve impulses in the neocortex, slow wave activity during NREM is associated with synaptic downscaling to enhance the benefits of sleep on neural function. A decrease in synaptic density causes a decrease in slow wave activity, usually observed in neurodegenerative conditions (Tononi and Cirelli 2005). This hypothesis is challenged in view of other animal species such as migratory birds that spend unusual hours awake but do not demonstrate signs of impairment or memory loss during migration or mating seasons (Schmidt, 2014). Additionally,

Rattenborg et al. (2016) found that birds can only afford power naps during flight due to the vigilance required for their overall survival.

While sleep research's understanding of memory has evolved from information recall to retrieval, I concur with Leader's (2019) proposition that sleep serving to emancipate the memory disc from redundant retentions is a little peculiar. This is a step too far for Hammond's (1866) analogy of a well fed body's capacity to self-repair during sleep compared to a machine that requires a workman's input when its parts are worn. Strengthening synaptic plasticity is discernible and comparable to times when sleep mends a feeling of unwellness. However, the notion of freeing space is simply bizarre without standardised mechanisms of establishing memories consolidated and those cleaned off the hippocampus to optimise space for future important memories. Sleep in this regard is presented as a sacred activity predetermining necessary information to remember during one's life span. Integrating new experiences into the existing network of memories of life experiences is more credible than the 'sleep to clean up the memory disc' assumption. The sleep to free space for new memories supposition leaves plenty of room for unfounded assumptions particularly in view of variations in sleep patterns across animal species.

Energy allocation and conservation

Schmidt (2014) proposes a unifying theory of sleep function for all organisms, one that covers functions of both REM and NREM in many animal species particularly endotherms (generate internal body heat). Thermal regulation required to maintain core body temperature in humans utilises energy. Schmidt (2014) appropriates the use of energy into waking effort and biological investment. The proposition of energy allocation and conservation assumes more energy is used during waking than sleeping. Sleep facilitates the general allocation of energy to biological processes different animals partition to wakefulness and sleep. This implies an instinctive physiological regulation of the allocation of energy and its utilisation during the wake–sleep cycle.

On the other hand, the discussion about the energy appropriation function of sleep is contentious. While metabolism occurs during both states of sleep and wake, less energy is utilised for anabolic processes during sleep. Rapid eye movement and

NREM alternate to maintain the balance between energy use for maintaining core body temperature and other biological processes (neural activity). When thermoregulation is on hold during REM, energy is allocated to biological processes and REM sleep will last for as long as possible. However, sleep will shift to NREM if the core body temperature starts to deviate and the costs of holding REM sleep outweigh benefits. Catabolic and anabolic processes take place continually through waking and sleeping, but Schmidt (2014) supposes energy saved from biological investment counterbalances the heavy demands for higher energy utilisation during waking. While Schmidt (2014) criticises earlier presentations of sleep as an energy saving mechanism (Walker and Berger, 1980; Jung et al., 2011), sleep as an energy allocation mechanism is not significantly different but a mere description of energy utilisation during sleep and wakeful states. Jung and colleagues (2011) use a similar approach to illuminate sleep architecture and energy expenditure.

Rechtschaffen (1998) contends reduced use of energy during sleep is limited specifically with constant neuronal firing endorsed by the ongoing brain activity. On the other hand, Borbély et al. (2016) consider the energy allocation and utilisation mechanism of sleep using a metabolic lens. The endocrine system regulates the release and consumption of energy through a chain of biological processes producing glycogen and cholesterol during the wake–feeding period and breaking down glycogen into glucose during the sleep–fasting period. Cortisol, a hormone that promotes wakefulness released near the end of a sleep cycle (Lugaresi and Provini, 2001), incites the production of glucose through a process known as glycogenesis. Glucose is a key source of energy for cellular processes and the reduction in some autonomic responses in prolonged sleep disturbances promote peripheral organ utilisation of nutrients during the usual sleep–fast period. Hence sleep disturbances are associated with risks to type II diabetes particularly due to the decrease in the sensitivity of insulin regulating the metabolism of fats, carbohydrates and protein (Borbély et al., 2016).

Contrary to regulation of the production and use of glucose during sleep–fast and wake–feed cycles respectively, metabolism is a continuous process thus, glucose is released according to the needs of cells and/or organisms. For example, the instantaneous need for a response from enzymes responsible for degrading glycogen

into glucose to signalling metabolites (Berg, Tymoczko and Stryer, 2002) means glycogenesis does not pend overnight fasting as Borbély et al. (2016) imply.

The influence of sleep disturbances on energy allocation and conservation during sleep deprivation and restriction that Schmidt (2014) examines does not have the same impact on cognitive functions as unsatisfactory sleep. The cumulative drive to sleep in circumstances of sleep restriction and deprivation presents short term physiological deficits such as fatigue that push the need for sleep higher on the priority list of physiological needs. On the other hand, unsatisfactory sleep does not carry the cumulative sleep effect that bears more psychological effects on individuals than the physiological impact (Rezaie et al., 2018). A systematic review of metabolism in insomnia concluded minor differences in metabolic rate in normal sleepers compared to poor sleepers (Chapman et al., 2018). Whereas sleep deprivation is due to external factors curtailing the opportunity to sleep, the consequences of failing to fall asleep or sustain sleep within the ascribed window of opportunity are far more reaching.

The energy allocation and conservation perspective of the function of sleep does not differ from metabolism when feeding and fasting are integrated in this view. However, the assumption of net energy conservation during sleep does not align with the production of glucose during sleep, assuming wakefulness and sleep utilise energy for various processes. Physiological functioning of the brain relies on glucose as a source of energy (Mergenthaler et al., 2013). While the brain performs different activities during sleep and wakefulness, the intensity of brain activity during sleep possibly connotes equal utilisation of glucose in both states. The human body stores surplus energy as glycogen for long term use when catabolic reactions produce more energy than anabolic reactions (positive change). When anabolic reactions use more energy than catabolic reactions can produce, stored energy (glycogen) is broken down into glucose to meet the deficiency of energy from catabolism. If metabolism is ongoing during wake and sleep states, there is no certainty that the compensatory process for the demand and production of energy would take place in either state. The energy conservation function of sleep, whilst creative, its credibility is yet to be substantiated.

In the context of controversial perspectives on the function of sleep, wakefulness and sleep states are linked to a myriad of physiological processes, which makes

understanding the functions of sleep more complex (Benington, 2000). Sleep is no more natural than waking and neither state is more important than the other (Hartmann, 1973) considering the relevance of both states to human existence. Both states are maintained by ongoing biochemical and neuronal activity for the production and utilisation of energy as well as elimination of toxicity from the body. While I did not come across contentions in the restoration function, I noticed a close link between sleep and metabolic reactions in dealing with reactive chemicals. For example, smaller animals need longer sleep durations to minimise tissue injury due to the high metabolic rates (Siegel, 2003). Nonetheless, the suggestion that sleeping occurs to conserve and restore energy (Shapiro and Flanigan, 1993) disregards the intensive energy consumption during anabolic processes plus the instant degradation of reserved glycogen to glucose for direct energy whenever required.

Sleep science is robbed of the edifying objective when specifics are presented inconsistently in explicating scenarios. Walker (2017) used lab rats to evidence sleep patterns and circadian rhythms in human youngsters (Walker, 2017). Conversely, Walker (2017) also acknowledges differences in sleep patterns between rodents and humans in addition to dropping the role of adenosine in teenagers' sleep to distinguish variances along one's life span. Siegel (2003; 2005) identify that functions of sleep differ across animal species and this variation is verifiable through sleep patterns and the amount of time slept. Variations in sleep patterns across animal species consequently may leave room for free-floating assumptions where other animals represent humans in scientific experiments. The common agreement among studies of sleep (Siegel, 2005; Schmidt, 2014; Borbély et al., 2016) is that sleep deprivation throws more light on the core functions of sleep.

2.6 Sleep deprivation, sleep loss and insomnia

It was crucial for me to examine the understanding of these aspects to illuminate what could be dysfunctional in the physiology of a human body and hence illness or poor health. Despite varying connotations, the terms sleep deprivation, sleep loss and insomnia are commonly used interchangeably. When considered as a state of being, deprived is the hardship resulting from the lack of opportunity to satisfy a basic need (Dubrovsky, 2018). Sleep deprivation is therefore the lack of the opportunity to sleep

due to externally imposed restrictions on the chance to sleep and/or a voluntary choice via individual capacities for self-governance. For instance, engaging in diurnal economic productivity as society's norm and voluntary nightlife significantly constrict the number of hours available for sleep in a typical 24-hour day. Self-governance in this case does not happen in the absence of other members of society, but within the freedom of external factors that the individual can control (Sørensen and Triantafyllou, 2009). The Institute of Medicine (IoM) allotted sleep loss in adults to sleep of shorter duration than the average basic need of 7-8 hours each night (Colten and Altevogt, 2006). The third edition of the international classification of sleep disorders (ICDS-3) defines insomnia as the persistent difficulty with initiating, consolidating, or sustaining sleep or its quality despite enough opportunity to do so often associated with daytime impairment (Sateia, 2014). Sleep loss is therefore implicated in sleep deprivation and insomnia, but to a greater extent driven by lifestyle and occupations featuring shift patterns in sleep deprivation.

The problems I experienced with sleeping did not fit the description of sleep loss through self-governance. I was a reasonably fit and healthy person besides a few experiences of colds during different seasons of the year. My usual pattern involved going to bed between 10.00pm and 11.00pm without much thought about the number of hours I would sleep. There were times I retired to bed at about 9.00pm, earlier than usual, because I felt tired from the day's labour. Occasionally, a social event or pressing work related task meant a later night. During my experience of recurring perceived sleeplessness, I laid awake thinking how unfortunate it was that I was unable to do something I had always done with ease all my life. I had forgotten how to fall asleep without thoughts of how to. I forced myself to redirect thoughts to something else that did not involve sleep. I structured redirected thoughts around the day's experiences or programmes I watched on television, but always reverted to the fact that I was trying to distract myself from my inability to simply drift off. I had had sleepless nights in life before, but I had no recollection of thinking hard about whether it mattered if I did not sleep or how I could get myself to sleep. My thoughts continued to develop to include other events as I tried to work through re-establishing the innate ability to close my eyes and temporarily lose awareness of my environment. A quick internet search for an explanation of perpetual yet unpleasant experience indicated I suffered with primary insomnia. Information acquired through my search also revealed it was a common experience especially among people in industrialised

nations. I was not content with the psychopathology of the average adult population. My ambition was to become discordant again and restore my usual sleep experiences.

Insomnia

The prevalence of insomnia varies from 5% to 50% depending on the definition used (National Institute for Health and Care Excellence, 2022). The definition of insomnia originally bore two categories including organic or primary and non-organic or secondary (Sateia, 2014; Riemann et al., 2017). Non-organic or primary insomnia represented poor sleep experiences not associated with other health conditions, while organic or secondary insomnia was considered to be a symptom underpinned by other health conditions, most commonly with psychiatric attributes (Attarian and Perlis, 2010). Replaced with 'insomnia disorder' in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the American Psychiatric Association (2013) originally distinguished primary insomnia as a disorder that is not due to a medical condition, substance use, a mental disorder or another sleep disorder. The ICD-10 also carries one category for insomnia subtypes. The changes were aimed to accommodate comorbid insomnia to counteract assumption of its resolution after treating the underlying illness (Sateia, 2014; Riemann et al., 2017). Conversely, insomnia is delicately defined to preserve the capitalist production of human biology (Wolf-Meyer, 2011).

In 2005, the United States (US) Institute of Medicine defined insomnia as 'having difficulty falling asleep, maintaining sleep, or by short duration despite adequate opportunity for a full night's sleep' (Colten and Altevogt, 2006, p.75). The US National Sleep Foundation indicated insomnia was the complaint of difficulty initiating or maintaining sleep, waking too early and not being able to get back to sleep, or waking feeling unrefreshed and lethargic (Barbara and Philips, 2006, p.13). Other addendums to the difficulties of falling asleep and maintaining sleep in defining insomnia later included nonrestorative sleep or poor-quality sleep accompanied with perception of shorter duration of sleep than actual duration (Buysse et al., 2011). The definition for insomnia loses clarity when a misperception is combined with actual difficulties associated with sleep. In such cases, the term insomnia ceases to apply to pathological wakefulness associated with the disordered interaction of the cortical and subcortical structures regulating sleep and wakefulness observed by Schulz and

Salzarulo, (2016). While Schulz and Salzarulo (2016) reference regulation, Hammond (1866) conceives insomnia as failure to sleep due to high blood flow in the brain exceeding the necessary measure of a pint. If insomnia is a sleep pathology with an acknowledged degree of sleep, pathological wakefulness then is the will but inability to sleep at all for prolonged hours with adequate opportunity to do so. However, this understanding has recently morphed into sleepiness during a state of wakefulness and wakefulness during a state of sleepiness. Dres and colleagues (2019) identified pathological wakefulness as EEG observable oscillations between increased slow wave activity usually seen in sleeping subjects, and reduced activity of higher frequencies typifying wakefulness when one is believed to be in a wakeful state.

In clinical neurology, primary insomnia is an umbrella term used to refer to circumstances where sleep difficulties are not caused by medical, psychiatric or environmental causes (Terzano and Parrino, 2011). Thorpy (2012) details six types of primary insomnia categorised in the ICSD-2.

- Adjustment insomnia that is not linked to a known stressor and tends to resolve when the stressor ceases to exist.
- Psychophysiological insomnia, which is assumed to be the commonest. Characteristically, psychophysiological insomnia involves high levels of arousal with a learned preoccupation with the inability to sleep.
- Paradoxical insomnia is that which entails complaints of no or little sleep without objective evidence of sleep difficulties.
- Idiopathic insomnia that starts during childhood, and it is not linked to any triggers, but gradually persists.
- Linked to inconsistencies in usual activities that prevent good-quality sleep and day-time alertness, inadequate sleep hygiene is characterised by irregular bed and wakeful times and/or use of substances such as caffeine and alcohol close to bedtime.

- Finally, behavioural insomnia of childhood, which entails the use of stalling tactics at bedtime and relying on supports such as rocking, feeding or sounds for sleep onset.

Paradoxical or misperceived sleep, the common basis for many insomnia studies presented as the inconsistency between objective and subjective measures of sleep (Perlis et al., 1997) is contentious in the literature. Rezaie et al. (2018) presume paradoxical insomnia is a delusional state usually symptomatic of schizophrenia and treatable with antipsychotic drugs. The delusion imposed on a subjective experience is an extreme comparison with a severe mental disorder, which is a clear reflection of the dangers of aligning the ICSD-3 with the DSM. It is disappointing that studies (Vgontzas et al., 2013; Castillo, Goparaju and Bianchi, 2014) advocating for sleep clinics for more accurate measures of existence of insomnia still present unconvincing results like those scoffed at in subjective sleep measures. Research associating insomnia with psychiatric disorders funded by pharmaceutical companies as Roth (2007) notes, is yet to validate whether insomnia is a symptom of psychiatric disorders or the cause. The common indication across studies is that primary insomnia is a misperceived condition and treatments recommended for overcoming sleep misperception range from antidepressants to antipsychotics.

Attarian and Perlis (2010) caution the definition of insomnia should not be determined by number of hours slept because some people can comfortably survive on four or less hours of sleep. Nevertheless, 7-8 hours is the prescription and short of that is sleep lost (Colten and Altevogt, 2006). The addition of experiences of daytime impairment to difficulties of initiating and sustaining sleep in the second and third editions of ICSD (Sateia, 2014) consolidated the definition for insomnia. However, later sleep studies noting inconclusive results of observed cognitive performance in people with insomnia and good sleepers following sleep restriction or deprivation exist (Rezaie, Khazaie and Yazdani, 2016; 2018). Hartman (1973) highlights that establishing whether it is lack of motivation or will plus ensuing emotions could enlighten the contention around deficits in performance in sleep experiments. Hartman (1973) notes cognitive and performance difficulties arising from sleep disturbances are more recognisable in tasks requiring prolonged focused attention and when human

emotions such as irritability and anger surface where they would ideally be suppressed.

Sleep evaluations were originally based on subjective reports and observing distinct behaviour of the asleep. The discovery of eye movements and the link to the brain reignited the excitement in sleep medicine. The finding of the two states of REM sleep and NREM sleep progressed sleep medicine to more scientific studies of the sleeping person (Schulz and Salzarulo, 2016). Transferring the accumulated knowledge through teaching and publishing marked the birth of sleep medicine (Dement, 1998). The 21st century witnessed an exponential increase in disordered sleep treatments plus sleep associations with funding earmarked for researching the impact of sleep deprivation. Sleep deprivation was perceived to be the largest threat to public health of Americans at the time (Dement, 1998). Public health campaigns for increased awareness of the relevance of adequate sleep to health and wellbeing have continued to prevail. Public Health England pioneered learning resources for key stage two pupils in year six to get acquainted with the benefits of good quality sleep and strategies for getting better sleep (Public Health England, no date). Such messages carry warnings of the devastating results should anyone fail to take the responsibility of sleeping suitably. In addition to poor cognitive performance, sleep loss is supposedly linked to increased risks of cardiac disease and hypertension (Bonnet and Arand, 2012).

The ICSD-3 itemises six types of disordered sleep including insomnia, sleep related breathing disorders, central disorders of hypersomnolence, circadian rhythm sleep–wake disorders, parasomnias and sleep-related movement disorders (Zucconi and Ferri, 2014). The significance of the circadian rhythm sleep–wake disorders category is indistinct particularly if sleep can occur independent of the internal body clock. Insomnia carries three distinguishable types incorporating chronic insomnia, short term insomnia and other insomnia. People diagnosed with other insomnia disorder neither meet the full diagnostic criteria for the chronic insomnia disorder nor the short term insomnia disorder (Zucconi and Ferri, 2014). Short term insomnia is linked to a known trigger such as stress lasting less than three months. Box 1 presents the criteria for chronic insomnia.

Box 1 Diagnostic criteria for chronic insomnia (adapted from ICSD-3)

A. The adult patient reports one or more of the following:

1. Difficulty initiating sleep
2. Difficulty maintaining sleep
3. Waking up earlier than desired

B. The patient reports one or more of the following related to the night-time sleep difficulty:

1. Fatigue or malaise
2. Attention, concentration or memory impairment
3. Impaired social, family, occupational or academic performance
4. Mood disturbance/irritability
5. Daytime sleepiness
6. Behavioural problems (e.g., hyperactivity, impulsivity, aggression)
7. Reduced motivation/energy/initiative
8. Prone to errors/accidents
9. Concerns about or dissatisfaction with sleep

C. The reported sleep/wake complaints cannot be explained purely by inadequate opportunity (that is, enough time is allotted for sleep) or inadequate circumstances (that is, the environment is safe, dark, quiet and comfortable) for sleep.

D. The sleep disturbance and associated daytime symptoms occur at least three times per week

E. The sleep disturbance and associated daytime symptoms have been present for at least 3 months

F. The sleep/wake difficulty is not explained more clearly by another sleep disorder

(Adapted from Zucconi and Ferri, 2014, pp.96)

Criteria A–F in Box 1 must be met for a diagnosis of chronic insomnia. I adapted the characterisation to exclude features that reflect adults with limited mental capacity and children who would possibly need carer or parental guidance.

I am a person with chronic insomnia because I meet point 3 of criterion A mirrored in point 5 of criterion B in Box 1. Adequate opportunity allotted for sleep in criterion C is relative because I wake up earlier than I would like to since social obligations require that I do to fulfil them optimally. Considering my social obligations, a typical 24-hour day offers a maximum of 7 hours of sleep, but I only fall asleep at about 12am after a self-evaluation of how it all went in the day. Criterion D features my experience of point 5 of B and the continuous temperament of my social obligations ascertains I meet criteria E and F. Except, being a 9am-5pm working mum with slightly older children gives me the chance to fully explore adequate opportunity to sleep on Saturdays and Sundays. But then, this is also problematic because it is branded as

excessive time in bed. Subjectively, I consider myself a normal sleeper whose sleep pattern is constrained by the structures that organise the society I dwell in.

The case presented above illustrates cumulative sleep debt that supposedly meets the criteria for diagnosing chronic insomnia. This is a misplaced emphasis for Howell's (2013) notion that subjective awareness is insufficient without objective recognition of my consciousness to discern my own reality. The objective explanation of my experience varies from my reality. I may recognise myself in others in my community of practice (the so-called people with primary insomnia) whose experiences would be subjective to individuals. The standard and purportedly scientific description of social realities may be a tunnel vision within the controls of eminence based practice. Chronic insomnia influenced by other long-term conditions also carries the same diagnosis of insomnia. The decision to drop more definitive categories like secondary insomnia to align the categorisation of insomnia with the fifth edition of the DSM expands the scope for medical intervention, presenting challenges and opportunities for clinical practice (Zucconi and Ferri, 2014).

My study focused on sleep disturbances not related to any other known disease. Closest to my experiences and for the purpose of this study, I use the term primary insomnia hereon to refer to the psychophysiological type identified in Thorpy (2012). The definition of insomnia implies that some degree of sleep occurs, but difficult to initiate or sustain, generally sleep that is nonrestorative. It is however important to note individuals display variations in sleep duration and patterns ranging from short to long sleepers and phased to block sleepers and this variation does not normally indicate differences in restorative sleep (Aeschbach et al., 2003). At first, referring to people as primary insomniacs within considerations of structural causality of illness was greatly tempting. However, I later opted for a person-centred approach of using the expression people or a person with primary insomnia. The key question to pose here is what causes non-restorative sleep that is often referred to simply as insomnia in the literature.

What causes insomnia?

Airhihenbuwa and colleagues (2016) suggest that culture is integral to understanding sleep disorders. On the contrary, with other factors constant, people are happy to

continue sleeping according to the norm unless a sudden change in usual practice occurs. Understanding the causes of insomnia is getting more complex due to increasing social and economic developments. Nonetheless, insomnia is usually linked to prolonged stress on the sympathetic nervous system (Bonnet and Arand, 2012). Stress conditions activate the whole sympathetic nervous system inducing the fight or flight response to prepare the person for danger (Britannica Editors of Encyclopaedia, 2019). Responses to and the impact of stressful stimuli on sleep vary among individuals (Kalmbach et al., 2018). Prolonged stress stimulates constant hormonal and neural responses such as the production of cortisol, a hormone that promotes wakefulness amongst other roles. Riemann et al. (2010) suggest primary insomnia triggered by acute stressors dissipates when the individual overcomes the effect of events but persists in some people due to genetic causes.

I get concerned whenever the pathogenesis of a condition is associated with a genetic predisposition without definite biomarkers. Riemann et al. (2010) incline this supposition on cross sectional surveys of familial experiences of insomnia. The overall muddle of such experiences without clear differentiation of the type of insomnia experienced is incomprehensible. This explains the contentions and inconsistent evidence linked to hyperarousal in insomnia and variations in body temperature and heart rate. Evidence from longitudinal research however illustrates insomnia is a complex experience that can persist for more than five years (Morin et al., 2009; Suh et al., 2014). Several models attempt to explain processes that cause and sustain primary insomnia.

2.7 Models explaining the cause for primary insomnia

Models of primary insomnia in this context are logical descriptions of the trigger of insomnia and how it is borne into a chronic condition. Models facilitate reasoning and use of experiential knowledge to enhance description or representation of phenomenon (Frigg and Hartmann, 2006). I reviewed the models I came across in the literature comprising the behavioural, neurocognitive, cognitive, neurobiological models and the attention-intention-effort pathway for a deeper glimpse into the scientific vindication of a primary insomnia.

The behavioural model

The behavioural model of insomnia (Spielman, Saskin and Thorpy, 1987) is one of the earliest models but it still holds significant importance to date. Generally known as the 3-P model, the behavioural model illustrates three factors that potentially cause and sustain insomnia including predisposing, precipitating and perpetuating factors. Predisposing factors are characteristics of individuals that increase the susceptibility to insomnia. These characteristics involve physiological aspects like hyperactivity, psychological facets such as anxiety and social factors such as the pressure to adopt a specific bed routine. The model supposes that the individual normally sleeps well until a major event such as emotional pain occurs, which activates sleep disturbances. The emotional pain is the precipitating factor and the maladaptive coping strategies, for instance, excessive time in bed perpetuate chronic insomnia (Perlis et al., 1997). Partial sleep deprivation through restricting time in bed is presumed to stabilise sleep to become regular and more predictable and thus eliminating the anxiety about sleep loss (Spielman, Saskin and Thorpy, 1987).

Other factors that could perpetuate insomnia exist instead of the excessive time in bed proposed in the 3-P model. The approach of restricting time in bed seeks to consolidate sleep in one block from the accumulated sleep debt. Nevertheless, primary insomnia may persist in individuals with social obligations that do not accrue time in bed. Perlis et al. (1997) suggest time awake in bed causes the individual to associate the bed to a state of arousal and that sleeping in a different environment may improve opportunities for sleep to occur.

“Being awake while in bed increases the likelihood that the individual will attempt to get more sleep by increasing sleep opportunity. The end result is conditioned arousal during the traditional sleep period and chronic insomnia”
[Perlis et al., 1997, p.181].

The complexity in the statement above arises from being awake while in bed, which is usually the starting point when we go to bed to sleep at any time. Would it be excess time in bed if I awoke at 3.00 am with certainty that I would fall asleep again at 5.00 am according to my usual routine? The association of misperceived sleep with wakefulness in this model is contentious and does not adequately explain the sleep

disturbances experienced in most people suffering with perpetually nonrestorative sleep. A different environment like a comfortable hotel bed may not adorn the person with restorative sleep because it is still a bed, and the perceived function of a bed will not dispel thoughts about sleep, or the arousal associated with a bed. Some of the evidence from the study by Hauri and Olmstead (1989) illustrated that people with sleeping problems may sleep better in not so sleep friendly environments due to a reversal effect of purpose. This does not necessarily follow conditioned arousal, or a lack of usual visual cues as suggested in Perlis et al. (1997).

The satisfaction I got from a few winks on a hospital camper bed, when my purpose was to stay awake to keep watch over the hospitalised patient is indescribable. I felt like I had met sleep for the first time. On a different occasion, loud telephone conversations, laughter of bemused youngsters and screams of agitated children during a train trip to London did not restrain me from closing my eyes. The fear of missing my stop made dosing off riskily enjoyable and memorable despite the curtailed duration.

Sleep under unusual, particularly restrictive circumstances is often irresistible. This may also be true for one who falls into deep sleep at dawn with full knowledge of the approaching demand to respond to social obligations. The ICSD-2 (American Academy of Sleep Medicine, 2005) identified one of the characteristics of primary insomnia as failing to fall asleep at desired time but falling asleep without the intention to. The socially structured opportunity for sleep does not align with the description of desired time wherein desires exhibit strong subjective feelings. Would it be true then that everyone experiencing the feeling of sleepiness in the afternoon after a hot plate of food on a blazing summers day is a person with primary insomnia? Putting restorative sleep experiences in a delimited box therefore may neither sufficiently explain nor address experiences of poor sleep the behavioural model details.

The neurocognitive model

Perlis et al. (1997) introduced the neurocognitive view of insomnia but sustained elements of life stress, maladaptive coping strategies and conditioned arousal featured in the behavioural model. The neurocognitive model draws on somatic (cortical) arousal and measures of brain activity instead of simply mental activity to illuminate complexities associated with ongoing insomnia. The assumption in this view

is that somatic arousal, which relates to the activated sympathetic nervous system, is connected to cognitive arousal relating to mental stimulation. Like the behavioural model, the neurocognitive view is founded on subjectively misperceived sleep and objective measures of brain activity during sleep. Perlis et al. (1997) suppose increased sensory processing from environmental stimuli at sleep onset accompanied with high frequency electroencephalogram activity is a possible explanation for misperceiving the sleep state as wakefulness.

While the neurocognitive view asserts sole focus on somatic arousal with a possible link to cognitive arousal, Perlis et al. (1997) present primary insomnia as psychophysiological to illustrate the general pathway of arousal in the brain mediated by the ascending reticular activating system (Edlow et al., 2012). Buysse et al. (2011) overtly present the neurocognitive model of insomnia as a combination of structure and function of the brain and nervous system. Buysse et al. assume “insomnia leads to conditioned cortical arousal that manifests as increased high-frequency (beta and gamma) EEG activity during sleep” (Buysse et al., 2011, p.3). Cortical arousal and frequent wakeful episodes characteristic of psychophysiological insomnia (Rezaie et al., 2018), do not line up with sleep misperception. Has science so far failed to substantiate the assumed link of cognitive to neural activity in primary insomnia?

The neurocognitive model of insomnia (Perlis et al., 1997) is an attempt into a step further from the 3-P model (Spielman, Saskin and Thorpy, 1987) to illustrate neural activity and a link to cognitive processes. However, objective measures of cortical arousal and frequent wakeful periods are asymmetrical with the notion of sleep misperception in which subjective reports of sleep experiences are considered short of the duration portrayed on objective measures. Paradoxical or sleep state misperception was purposely reassigned the designation of chronic insomnia disorder in the ICSD-3 to preserve the ambiguity surrounding primary insomnia (Holley, 2016). How can perceived shortfall in sleep assume the same category with difficulty of falling asleep? Wouldn't wakeful episodes in the night realistically shorten the total sleep obtained?

The cognitive model

The cognitive view presents insomnia as a psychological disorder that causes severe distress and social, interpersonal and occupational impairment (Harvey, 2002). Developing the cognitive model was aligned with the fourth edition of the DSM criteria for diagnosing insomnia. The criteria for diagnosing primary insomnia comprise difficulty with initiating or maintaining sleep; clinically noteworthy distress or impairment; and sleep concerns that are not associated with another sleep or mental disorder (Harvey, 2002).

The cognitive model explains the influence of thoughts, feelings and beliefs especially relating to worrying about poor sleep and associated behaviours to counteract experiences of insomnia (Buysee et al., 2011). Unlike the behavioural model that proposes a trigger for insomnia (cause), the cognitive model focuses on the process of maintaining non-comorbid insomnia. The model is framed around perpetual anxiety about sleep. Fears about sleep deficit and the possible impact on the individual's health stimulate the sympathetic nervous system causing anxiety biased towards threat. The anxious person monitors the body and environment for inhibitors, facilitators and signs of falling asleep resulting in increased negative cognitive activity while attempting to fall asleep.

Harvey (2002) considers night and day events of the person consumed with negatively framed thoughts about sleep. In the night, the thought process starts with how long it would take one to fall asleep, the duration of sleep and possible effects if objectives are not achieved. The cognitive model assumes that safety behaviour is adopted through the effort to redirect thoughts away from sleep, but the person suffers a rebound to intrusive and unwanted thoughts. The individual may verbalise some of the thoughts or use visual imaging, such as laying on a cloud to aid processing of emotions surrounding the perceived sleep deficit, which results in the real deficit. The daytime events begin with an appraisal of the night's quality of sleep plus its effects on physiological wellbeing. The day's events continue with constant self-preoccupation like searching for cues of unusual appearance and fatigue as well as protection against perceived effects, which Harvey (2002) describes as daytime safety behaviours.

Harvey's (2002) cognitive model of insomnia is considered comprehensive for understanding and treating chronic insomnia (Hiller et al., 2015). However, the model's basis on real sleep deficit and misperceived sleep duration is poorly represented. It is difficult to visualise the sleeping person preoccupied with intrusive unwanted thoughts and fighting to divert or get rid of them. The cognitive model falls short of subjective experiences beyond the supposed hypochondria of the person with primary insomnia if misperceived sleep is considered a sleep state to the external observer. According to the existing presentation of the cognitive model, negatively framed thoughts occur prior to the altered conscious state. It is also unclear when the actual sleep deficit sets in since, the time lapse between cognitive activity of negatively framed thought and when the person finally falls asleep is not predetermined.

The way the cognitive model of insomnia is presented reflects campaigns for more sleep and possible effects of this shortfall. Individual thoughts differ, and the worry may not be around inadequate sleep but not being able to sleep. For example, trying different mechanisms such as systematic breathing while in bed with the hope that sleep will suddenly happen involves wakefulness with thoughts on how to fall asleep. The situation may not preclude thoughts of failing to fall asleep early enough to obtain sufficient sleep, whatever that may mean for the individual.

The cognitive model paints an incomplete picture of night-time and daytime information processing. The emotional distress that Harvey (2002) suggests denotes a characteristically long term sorrowful and anxious person with primary insomnia. The negative thoughts depicted in the model are not established states devoid of previous experiences of positive thoughts about sleep. Emotions experienced in a moment in time come from the true nature of humans and increase the sense of activity and awareness (Solomon, 2010). The anxiety is an adaptive response to the fear of nonrestorative sleep with potential to elicit further feelings of frustration, sadness and anger during the person's preoccupation with sleep. Phelps (2006) posits that factors influencing first stages of stimulus processing including attention and perception, affect the pathway of cognitive functions. For example, the fatigue derived from a day's busy schedule could limit attention to the external signs that would ideally inhibit sleep from occurring. However, the emotion attached to the specific sleep inhibitor stimulates the person's attention to it. It is possible to argue that they are merely short-

lived feelings difficult to garner empirical support. Negatively framed thoughts about sleep appearing with significance in the cognitive model of insomnia are subjective experiences that are as equally complex to evidence as emotions. The cognitive model for sustaining insomnia presents common experiences but requires reviewing to represent more generalisable encounters with nonrestorative sleep or night-time wakefulness.

Attention-intention-effort pathway

Following the cognitive model of insomnia, Espie et al. (2006) developed the attention-intention-effort pathway for primary insomnia based on the key assumption that normal sleep is a relatively automatic process. Unlike Harvey (2002), Espie et al.'s (2006) starting point is normalcy in sleep moving onto factors that may upset the usual trend. The good sleeper is passive to external and internal cues presenting opportunity for automaticity during sleep onset. Espie et al. (2006) believe primary insomnia involves sleep inhibitory processes emanating from the focus and effort involved in wrestling the self into sleeping. The attention component entails biased information processing of events compatible with the individual's experiences eventually blocking awareness of maladaptive behaviours. Espie et al. (2006) also note that an individual with homeostatic sleep debt may not sufficiently inhibit sleep and hence posit a weaker regulatory structure in primary insomnia. This scenario would explain the occurrence of largely unsatisfactory sleep, a complex characteristic underpinned by one or a range of factors.

The attention-intention-effort pathway (Espie et al., 2006) suggests selective attention is about withdrawal from other things to facilitate effective focus on the major concern. However, it is difficult to delineate thoughts about sleep from why I should sleep satisfactorily for this includes a multitude of concerns. The primary focus is on the sleep but other elements such as the opportunity for adequate sleep; factors that dictate wakefulness at a particular time; and what I would or not be able to do because of no or poor sleep spiral in the mind leading to thoughts about other aspects of being. The subliminal trend is conveyed in the ICSD-2 American Academy of Sleep Medicine (2005) describing the fixation on the impact of sleeplessness and possibilities of how to resolve the problem often triggering help-seeking behaviours.

On explicit intention Espie et al. (2006) explain the individual's attention for action for sleep that is not common in good sleepers. The self-monitoring and continuous observation lead to a failure to comply to the normally involuntary process. Espie et al. compare the mutually exclusive parties (good sleepers versus poor sleepers) in terms of activities done in bed prior to sleeping such as reading where the intention is different. While good sleepers may read in bed as a hobby, poor sleepers read to initiate sleep, sometimes opting for a perceivably boring read for quicker results. Espie et al. (2006) complete the attention- intention pathway with effort to characterise sleep related performance anxiety therefore identifying direct and indirect effort. Direct effort involves actions such as breathing, counting sheep, touching pressure points while indirect effort points to increasing opportunity for sleep, for example, more time in bed, all of which are counterproductive to initiating and maintaining satisfactory sleep.

While the attention- intention-effort proposition may seem compelling, a lot of emphasis is on the activity at bedtime excluding other diurnal actions (intentions) aimed to ease the process at bedtime. Intention and effort are described in the setting when the individual is ready to fall asleep. However, reference to sleep as a craving in this context does not tell poor and good sleepers apart. It is not uncommon to hear of cravings for a lie in. This does not imply sleeplessness but a desire for more with delayed interruptions from other factors organising social beings.

The neurobiological model

Buysse et al. (2011) build on to the psychological and behavioural models to explain the neural basis of insomnia. The neurobiological model of insomnia assumes ".....persistent wake like activity in neural structures during NREM sleep, resulting in simultaneous and regionally specific waking and sleeping neuronal activity patterns" (Buysse et al., 2011, p.5). This means neuronal activity and metabolism are higher in the relevant regulatory zones in people with insomnia compared to good sleepers. The posterior hypothalamus regulates normal wake-sleep states within homeostatic processes. The posterior hypothalamus that also regulates metabolism and appetite contains orexinergic (hypocretin) and gamma-aminobutyric acid (GABAergic) neurons that promote wakefulness (Gompf and Anaclet, 2019). Melanin concentrating hormone (MCH) also found in the posterior or lateral hypothalamus serves numerous physiological functions as well as regulating wakefulness.

While the neuromodulator adenosine accumulates during wakefulness, melanin concentrating hormone levels increase at sleep onset to inhibit the reception of orexin neurons and sustain sleep. Orexins increase at waking, obstructing firing of MCH to sustain wakefulness. Chronic deletion of MCH causes prolonged wakefulness and reduced NREM sleep (Gompf and Anaclet, 2019). Blouin et al. (2013) demonstrated a correlation between emotions and levels of hypocretin (orexins) and MCH. While both levels decreased during negative emotions, the reduction in MCH levels was higher at the experience of negative emotions than in hypocretin. These findings also support the coexistence of cognitive activity with night-time emotions such as frustration and anger in the so called people with primary insomnia. Although MCH inhibits hypocretin to promote sleep, the substantial reduction in the levels of MCH during the night-time's feelings of negative emotions disarm the full control of wakefulness.

Kleitman (1963) emphasises that sleep is distinct from wakefulness in normal sleep experiences. However, the neurobiological model supposes that sleep is not a dichotomy of all or none and that partial sleep is possible, introducing the notion of local sleep (Bussye et al., 2011). The sleep-wake hybrid state of being is believed to be a common occurrence in narcolepsy (Siclari and Tononi, 2017), that recently acquired the autoimmune disease category (Miller, 2023). Local sleep usually implied during wakefulness occurs in circumstances of sleep loss and prolonged activity when people show behaviours or responses of sleepiness (Siclari and Tononi, 2017). Brain activity of an awake organism performs sleep like patterns such as NREM slow wave activity experienced during a definite sleep state (Murphy et al., 2011). The local use-dependent activity happens during wakeful states in response to prolonged activity or sleep deprivation (Quercia et al., 2018). The brain rewires itself to mitigate dysfunction during a task. Pursuing the activity that uses specific neurons during a task activates sleep regulating neurons to encourage sleep like states. However, wake like activity of a sleeping person displayed on EEG recordings does not suggest local waking during sleep. Buisse et al. (2011) propose persistent activity in the precuneus could play a role in nonrestorative sleep. Wide linkage to the cortical and subcortical structures renders the precuneus to higher order functions, most notably self-processing tasks instead of external stimuli (Cavanna and Trimble, 2006). The

increased activity in experiences of nonrestorative sleep could be due to continuous assessment of signs of being asleep and the conviction that sleeplessness throughout the opportune time is a possibility.

The Neurobiological model attempts to explicate increased neuronal activity similar to the waking state in primary insomnia, but the assumption that wakefulness occurs during sleep equated to local sleep during wakefulness is illusive. A controlled study (Riedner et al., 2016) found relative activity of sensory and sensorimotor areas even during the deepest stage of sleep in people with insomnia. Wakefulness in animals is a conscious state that involves perception and interaction with the environment. On the other hand, arousal is the level of vigilance during wakefulness (de Lecea, Carter and Adamantidis, 2012). The level of arousal fluctuates depending on the animal's perception of the environment and the required adaptive behaviour. The notion of lucid dreaming supports spontaneous consciousness occurring during sleep. Lucid dreaming is the realisation of the act of dreaming during sleep. Research examining physiological coordinates of lucid dreaming found increased activity of the cortical network during lucid dreaming (Voss et al., 2009). Although, the cited level of consciousness during sleep typically during REM does not imply wakefulness due to limited or no sensory awareness of the external world (La Berge et al., 1981). Dreams occur in both NREM and REM sleep (Crick and Mitchison, 1983; Siclari and Tononi, 2017) and the wake like activity presumed during NREM (Buysse et al., 2011) is reflective of the possible spontaneity witnessed in lucid dreaming.

Do existing models adequately explain incidents of primary insomnia?

Sleep is so uniquely innate that it should be allowed free expression lest it becomes disordered. Essential for human survival, sleep interacts and adjusts to the external environment but can still occur without the zeitgebers to accomplish its relevant functions. Maslow (1968) posits inner nature is weak and hence vulnerable to overpowering by habit, cultural pressure and ill attitudes towards it. However, these aspects cannot dissolve it, for its expression continues to press for accomplishment. The cognitive model among the models of insomnia discussed earlier is the most transferable to personal experiences due to its explanatory strength of nocturnal and diurnal cognitive activity of people with primary insomnia. The model focuses on

maintenance of insomnia, which does not stand independent of a trigger that could be borrowed from the 3-P model, generally considered as life stressor(s).

The attention-intention-effort pathway fairly explains existing insomnia but excludes potential causes and falls short of the daytime activities of people assigned to have primary insomnia, which constitute a thought-provoking quest. Although the neurocognitive and neurobiological models of insomnia could be founded on empirical evidence and knowledge of the physiology of biochemical operations, testing of such concepts was beyond the scope of my study. Nonetheless, the naturalistic view to sleep as basic physiochemical and neural processes of the human body adds a normative viewpoint to this tenet rendering insomnia a constricted function of the human body (van Hateren, 2017). The human body's physical nature involves circulatory, digestive plus other physiological systems when functioning to a high degree represent good health (Hurka, 1993). To this point, assume insomnia is a result of internal impairment of systems promoting sleep and arousal triggered by external stimuli as Terzano and Parrino (2011) suggest. Physiological effects fail to fulfil allotted functions due to the decline in adaptive regulatory systems of the organism in providing complete balance (Saborido and Mareno, 2015). Then, what causes and perpetuates the malfunctioning of sleep particularly in the context of the opportunity for sleep to occur?

Society must reproduce itself biologically, culturally and even psychologically to prevent the humankind from prematurely becoming extinct (Harvey, 2014). The mode governing social reproduction, which currently is capitalism, vitally contributes to maintaining the health of proletarians who mostly have no option but bow down to capitalism for subsistence. Walker's (2017) persuasive promotion of the eight hours minimum sleep mark for social dwellers manifests as the sleep saboteur. The author acknowledges that social structures are neither kind to night owls nor variations in sleep needs. Contrary to Walker's (2017) variable sleep pattern in youngsters, the context can frame teenage sleep patterns wherein youngsters can obtain more hours in a boarding school with stricter bedtime routines than a non-restrictive home environment (Carskadon, 1990). Erratic hormonal activity during teenagerhood may impact on sleepiness time as opposed to the need for more sleep time than any other age group due to rapid physical, intellectual and emotional maturation (Canadian

Paediatric Society's Adolescent Health Committee, 2008). The sleep saboteur pushes everyone to sleep the same way thereby promoting anxieties on uniqueness in the sum of social relations. The non-pharmacological but sleep clinic based intervention Walker (2017) proposes for older people with primary insomnia reminds me of the hawkers of 'natural sleep ways' I explore later in Chapter 5. The section that follows examines the role that capitalism plays in regulating sleep in humans.

2.8 Sleeping on a bed of capitalism

Under capitalism, capital circulation and accumulation dominate how material, intellectual and social lives are shaped (Harvey, 2014). Sternberg (2015) defines capitalism as "an economic system characterised by comprehensive private property, free-market pricing and the absence of coercion (Sternberg, 2015, p.385)". The lack of coercion is depicted in class societies permitting only a handful to subjugate the majority, an ideology diffused through espoused social norms invalidating the freedom of humans (Ebert and Zavarzadeh, 2008).

The idea of sleep and capitalism comprises two arms. The 'delimit sleep' arm which devalues core needs for sleep and prioritises wakefulness. Individuals are lured into manufactured control of sleep and the responsibility of managing side effects of artificial sleep control measures is devolved to the succumbing individuals (Williams, 2011). It becomes the individual's task to service the cyclic imbalance between sleep debt and wakefulness and adhere to expectations of institutions governing society. The sleep better arm on the other hand expresses concerns around costs and consequences of poor sleep and insistently promotes sleep friendly practices to improve sleep (Williams, 2011). The perceivably positive arm constitutes stakeholders with varying agendas beholding sleep as a rich resource base to exploit optimally. Both arms are conceived to redesign sleep to maximise economic productivity, although Williams (2011) attests the delimit sleep is the dominant arm. The long commutes to work on poor transport networks and long working hours ration sleep opportunities (Andersen and Tufik, 2015).

Sleep and capitalism

Modern society regulates sleep and lays a foundation for how we perceive individuals and social life (Wolf-Meyer, 2011). Social order situates variances in the functioning

of human biology as abnormal in a social context instead of a physiological context. For example, the dawn sleepers are considered lazy and would not hold a 'normal' job if the choice was to pursue the joy of sleep that only unearths its depth when birds bellow tweets at the sight of light that signifies the beginning of yet another day. In this respect societal demands frame experiences of human biology in the interaction of space and time (Wolf-Meyer, 2011). Ancestral sleeping had nothing to do with career progression and the associated climb in wages (Huffington,2014). However, perpetuating a hierarchical socioeconomic society now begins at the school going age where emphasis laid on greater academic performance is linked to the better fit for the high-end job market.

Economic theorists used Newton's solar system and the forces of gravity blueprint to explain economic activity and its regulatory forces at the onset of industrialism. Further developments established social economic laws directing all human activity particularly for individuals. Safety was and still is realised in conforming to the control systems (Frank, 1944). Those who do not conform to social order acquire labels of rebellion such as those ascribed to antisocial behaviour needing intervention. We are steadily socialised into sleeping better only through adhering to commodities that the sleep market has to offer. While sleep for beauty is a common belief, the current generation and those to come will be enacted into luscious mattresses, sleeping pills, balms, oils, sprays and ointments for better sleep. Frank (1944) contends social order is a result of categorising human behaviour into conduct sanctioned by the group tradition. People distinguished to have primary insomnia and those who faithfully follow imperatives of sleeping better and are good for the rapid processing of capital. People recognised in the two categories have approved the existence and rapid growth of the sleep market that later generations will inherit as human values to carry on the defeatist tradition.

The delimiting sleep capitalist arm

Discourses trivialising sleep have a sharp tone of moral and political disapproval implying retarded steps behind the rest of individuals in a society (Guzel, 2019). For instance, lazy or wake up and meet reality, awake lest you sleep through modernisation like Rip Van Winkle who slept for 20 years through the American revolution (Irving, 1995). The time people devote to production processes define

chances of success in a society, with more time inclined to higher wages and a better standard of living (Huffington, 2014). Gadgets obtained from workplaces like laptops and phones raise or tempt expectations of immediate responses to the limitless demands of the contemporary situation in which individuals experience the world (Hsu, 2012; Cassidy, 2014). Wakefulness is now wired into the nocturnal space previously less useful to labour processes. The high value for time spent on productivity is usually at the expense of sleep, which is presumably the most recurring pattern of restorative activities (Pierce, 2003).

The sleep better capitalist arm

Even without consensus about scientific evidence on the purpose it serves, the imperative is to get more of it simply because it is deemed good for you. Sleep during the preindustrial era was variably phased in many cultures around the world (Ekirch, 2001). Procreation, storytelling around campfires, singing and dancing subject to norms occupied interludes between the first and second sleep fragments (Ekirch, 2001; Triebel, 2012). Williams and Boden (2004) present a wider coverage of the consumer culture of sleep embodied in lifestyles linked to beauty, leisure, pleasure and productivity in the modern world. This encompasses a variety of products ranging from what to sleep on, sleep gear, to beauty products that will only work while we sleep at night.

Like finetuning regulation to allow politicians to openly buy themselves into power, which was originally considered a corrupt act (Harvey, 2016), recommendations for sectors to invest in human sleep for increased productivity are no longer under the table propositions. In their work on wage returns to sleep, Gibson and Shrader (2014) recommend nine hours per night for wage optimising sleep. The idea that anyone can get a higher wage from sleeping nine hours per night is a fallacy within individual and institutional responses to existing social, economic, political and cultural structures. The drive for better sleep is to expand opportunities for accelerating the processing of capital to maintain its accumulation. Neoliberalism principles assume the wellbeing of humans is guaranteed through liberal entrepreneurs wherein the state's sole responsibility is to develop and maintain a framework suitable to those undertakings (Harvey, 2005). Sleep is conjoined with neoliberal governance comprising numerous power relations not forgetting the individual's psyche (Williams, 2011). Advertisements

of commercial hotels have enhanced the outlook by stirring away from the usual luxury swimming pools, restaurants and bars to reflect quieter spaces exhuming comfort for good sleep (Huffington, 2014). Extortionate mattresses are at the extreme end of expressing deep respect for sleep and its benefits when one considers rough sleepers that authorities force awake at the break of dawn to unclutter cities. The power nap once grew in popularity in the workplace to allow the release of unwanted biology slowing production (Triebl, 2012; Cassidy, 2014).

Williams (2011) tells of sleep as a political notion engrained in relations of power, authority and expertise on assertions of related disorders that require immediate public health policy attention. The political stance of sleep highlights the shift of focus on sleep from a private matter to a public concern. Both delimit and sleep better arms disclose control and release mechanisms analogous with monetary authorities or policies regulating inflation.

We now have the means to exert an unprecedented degree of control over bodies, yet we are also living in an age which has thrown into radical doubt our knowledge of what bodies are and how we should control them [Shilling, 2012, p.3].

I wonder whether the control Shilling (2012) cites above such as quantifying sleep is the root cause for the excitement about the sleep shortfalls. Women for example are prone to unsatisfactory sleep experiences due to hormonal changes. Estrogen and progesterone changes throughout the follicular, ovulatory and luteal phases of the menstrual cycle and lower levels of oestrogen are linked to sleep instability in women (Deurveilher, Rusak and Semba, 2009). This implies an existence of experiences of sleep variability prior to the drumming awareness of a well slept, happier and more productive society – an organising element for a functional capitalist society.

Hancock (2008) avows that the dichotomy of delimiting sleep and sleeping better is the sole source of primary sleep pathologies. The fixation on framing sleep for productivity bestows capitalism with a double edge on profits. One would then ask; what use is labour with primary insomnia? Political and economic principles based on economic globalisation to offer entrepreneurial liberty, free markets and property rights

(Flew, 2014) signify constant novelties in search for pinnacles of exchange value make insomnia amenable to the greed of capitalism. Capitalism embodies maximum exploitation of resources and ongoing search for new avenues for processing capital where depletion of exploited resources manifests.

Humans in their natural state are free agents of life activity (Blackledge, 2018). This is true in an economic system where, unrestricted competition between entrepreneurs determines prices (free market). For example, consumerism introduces the idea of infinite goodness in buying, use and ownership of material things (Tyson, 2014). Similar ideologies such as retail therapy improves mental wellness are a veil that make sure the market for commodities produced always exists to facilitate profit accumulation. Retail therapy involves unplanned purchases aimed to cheer up individuals from a sour mood (Atalay and Meloy, 2011). The length of time spanning the absence of the sour mood before the individual gets the push for another uplift and on whose account does not call for much debate. The objective of de-commodifying insomnia offers an invaluable framework for resolving primary insomnia, independent of the practices driven by delinquent capitalist tendencies. I continue using the term primary insomnia to imply dissatisfactory sleep that is not due to an illness but other factors ranging from nature to structures or institutions organising society.

Primary insomnia and capitalism

Contemporary sleep carries a price tag irrespective of whether sleeping is done according to what public health institutions recommend. McKee and Stuckler (2012) urge conscientious medical practitioners to speak out against relentlessly creating demand for products and services, and yet illness is essential for the survival of capitalism. Academic and corporate scientists do not deviate from the core principles essential for the survival of capitalism. As Foucault (1973) cautions in *The Birth of the Clinic*, the gaze connoting improved knowledge of the physiology of humans, is a fertile soil for germinating illnesses and a complex pathway to discerning disease (Teagarden, 2021). The health of labour is thus a mechanism and source for processing capital as newly created specialisms must demonstrate their importance to survive. Sleeping multiple times in 24 hours was common phenomenon prior to industrialisation. The current association of sleep and labour productivity largely encourages monophasic sleeping at night plausibly for individual restoration. A

semantic analysis of lay counsel on sleeping better depicts mannerisms through which sleep is romanticised as something that must be meticulously prepared for to avoid health risks. *Improving sleep hygiene, including adapting the bedroom and eliminating any noise will set the scene and will help if you have sleeping difficulties* (Triebel, 2012, p.108). Such concerns for healthier sleeping do not account for the poorly slept citizens whose circumstances are dictated in numerous ways by policies governing social structures.

Some of capitalism's necessities for the survival such as class divisions need not persist in universal human endowments. The homeless person sleeping on carboards on the streets with a duvet to wade the cold off is not worried about sleeping better but fulfilling a physiological need. Their contribution to the accumulation of profits is uncertain, and thus they are considered more of urban litter than potential consumers. The human body is physiologically trained to wake and sleep for the physiological functions that both states bequeath (Pierce, 2003). However, the industrialised world is more concerned with wakeful minds and therefore the growing business in sleep is mostly prominent in the purpose sleep serves (Williams, 2011). Flexible capitalism involving longer working hours and shift patterns tailor sleep to when the human body finally becomes available. Sleep experiences falling short of monophasic sleeping culminate into usually self-diagnosed primary insomnia requiring immediate intervention for proper social functioning of the individual. The sleep industry takes advantage of this sense of guilt resulting from constant contemporary social life evaluations compounded in the individual's and others' perspectives (Leader, 2019).

The sleep market explores every aspect that may interfere with recommended sleep durations for various age groups. For example, one is bound to find something among the drugs and products stocked in Boots and Superdrug retailers and pharmacy chains perceived to address sleep needs covering different causes of sleeplessness and aesthetic needs. In 2016, the global insomnia market was priced at \$4,093 million (£3166m) and its value was predicted to move up to approximately \$5,488 million (£4245m) by 2023, a likely compound annual growth rate of 4.2% between 2017 and 2023 (Sumant and Kunsel, 2017). Europe was not far behind North America that claimed the biggest share of the insomnia market in 2016. Prescriptions for sleep

inducers are estimated at \$60 million (£45 million) per year, which contributes to the billion-dollar industry (Huffington, 2014).

While the sleep niche market has earned a status of sincerity with the sleepless community, my study aimed to de-commodify self-diagnosed primary insomnia. Some studies have examined the lived experiences of and individual responses to insomnia (Henry et al., 2013; Cheung et al., 2014; Rezaie, Khazaie and Yazdani, 2016). However, little pays empathetic attention to behavioural trends of individuals and the costs borne through the urgent pursuit of at least one silent night of good sleep. Some of the participants in a study by Cheung et al. (2016) willed to pay up to AUD 600 (£350) per month around 2013/14 for some form of psychotherapy or counselling to obtain good sleep. Self-help measures often preferred to restore night-time sleep carry indirect and direct costs, (Henry, Knutson and Orzech, 2013; Cheng et al., 2016). On the other hand, the most cited costs of primary insomnia in published literature relate to mainstream healthcare, loss or reduced productivity and accidents (Rosekind and Gregory, 2010; Wickwire, Shaya, and Scharf, 2016). How can nature's endowment that is at the edge of destruction be saved? Several authors (Williams, 2011; Reiss, 2017; Leader, 2019) have raised awareness of the capitalists' grip on the sleep market. I follow suit to revolve the consumption of sleep commodities and potentially transform the normative ideologies brewing in the political and social arms organising and sustaining the relations of social reproduction. According to Marx (1904), a revolution is formed within existing resources and resolutions to crises are embedded within our capabilities. The precision of sleep as nature's given accelerates the rebellion against socio-political ideologies sustaining the exponential growth of the sleep market.

2.9 Conclusion

Chapter 2 presented a targeted critical review of the literature concerning the physical psychological and socioeconomic aspects of sleep. It is apparent that a range of sleep mysteries remain unresolved and various contentions inhibit attempts to make conclusive inferences about the role of sleep and factors surrounding its erratic behaviour. The definition of sleep is imprecise, its exact purpose is inexplicit, models explaining its loss are limited to the night-time activity while the mode of social

reproduction bears an iron fist over its control. The history of artificial light is telling in the case of capitalism's penetration of would be private spaces. Artificial light invaded the night's former colony darkness that sheltered the rebels of social order such as polyphasic sleepers as well as crime and evil. The invention of candlelight introduced a measurable expense that prompted the lower social class to rise with the sun and go to bed after sunset (Hardy, 2016). Chapter 2 locates sleep in its physiology and social relations. The models explaining insomnia seemingly blame it on the individual's mind naughtily racing around at night instead of sleeping as if sleep is something to do instead of something that occurs naturally. Existing evidence about the sleep disturbances tell an incomplete bedtime story defining the physiology of humans by pre-set numbers less of which denote catastrophic sleep loss. Sleeping on the bed of capitalism challenges the linearity and power of the tales from somnology and medicine. Capitalising on sleep may be more soul destroying than the primary insomnia itself. I claim the duty of positioning sleep conclusively in the sum of social relations to illuminate natural sleep and existing inklings of the primary insomnia. The next chapter considers my journey of exploring the best fit research approach to de-commodify the self-management of what society designates as primary insomnia.

Chapter 3: Exploring research strategies and methodology

I got caught up in the word count. The text sounded good, but I lost the logic and basis for my arguments as my critical thinking snowballed around social ideologies that can be transformed. Structure organises in ways I am sometimes not fond of. I am starting to dread the word structure, although I fully realise the significance of giving it my full attention. Every part of my body seems to be perspiring after spending nearly two hours deciding where to start with restructuring my writeup. I finally find the drive to push past the sinking feeling in my stomach caused by the lack of the inclination to reorganise my previous ramble.

Introduction

I spent significant time wrapped in the whirlwind of ways of understanding reality in the social world. I came across several paradigms and theories for generating knowledge and it all made sense without a clear link to my topic of study. My study aimed to de-commodify the management of self-diagnosed primary insomnia, drawing on personal experiences of coping with a primary insomnia in a mixed market context. I dug around the literature about conducting qualitative studies with the hope of finding obvious pointers to a perfectly fitting approach for my study. Deciding on theoretical influences was only one part of my expedition around research strategies explained in this chapter. The decision to adopt the critical qualitative inquiry influenced by dialectical materialism was neither a moment of sudden nor eminent realisation, but an excursion through my understanding of the application of various research strategies. Chapter 3 presents my journey of selecting a research approach and perspectives in critical theory as the basis for the critical qualitative inquiry and foundations of the Marxian paradigm. The guiding principles in critical theory are critique of domination and possible transformation of oppressive human practices. Contrary to indifferent text written for information, a critical stance seeks to incite readers to take a position that can transform the way things are (Ebert and Zavarzadeh, 2008). Can I reclaim sleep as a physiological function or universal characteristic of human beings? I thus briefly examine power, social domination and prospects of realising emancipation in this chapter.

3.1. Voyaging through qualitative approaches

The literature about experiences of insomnia cites a paucity of qualitative research to enable understanding of the magnitude of its effects, (Rezaie, Khazaie and Yazdani, 2016) especially how the economic context shapes episodes and interactions with healthcare mechanisms. Greater emphasis on trends and statistical significance of correlations in quantitative studies follow pharmacological treatments and clinical observations of sleep disorders, which do not capture the depth of the impact on individuals. This section aims to demonstrate considerations of research strategies and no-noes in the name of enhanced rigour in an autoethnographic study. Qualitative research is often trivialised for including small samples that flag concerns of generalising findings to a wider population and the close link of the researcher to the research exposing findings to researcher's beliefs (Hammarberg, Kirkman, and De Lacey, 2016). On the other hand, aggregate data generated from quantitative research offer answers to the 'what' but do not explain the 'how', that is vital for the improved understanding of issues in health and wellbeing domains.

It is worth clarifying my understanding of the difference between a research approach and a methodology, considering the bewildering use of the terms in the literature. A research approach is a strategy that moulds research questions and defines the results obtainable through using a specific approach (Teherani et al., 2015). I use Guba and Lincoln's (1994) conceptualisation of paradigms and their fundamental beliefs in qualitative inquiries in espousing a definition of a methodology. A methodology is a composition of the logic of what is comprehensible, assumptions, and values influencing the research (Campbell, S. 2016). A multitude of approaches for conducting qualitative research exists, but beliefs surrounding the nature of the social world, how to know what is knowable and the overall objective of pursuing knowledge of interest often guide the choice of a specific paradigm (Ormston et al., 2014). I picked up a pencil to put my general certificate of education art skills to task when I felt overwhelmed. My performance in art was not top notch. However, the impulse to draw was worth the release of the confusion surrounding my too many ideas syndrome. In the picture I drew of myself (Figure 3.1), I aimed to capture the flood of thoughts, emotions and physical sensations of the confounding but also

possible avenues for my research. I used the metaphor of clues without full knowledge to signify the lettered and unlettered self about the range and sometimes crisscrossing conceptualisations guiding research.

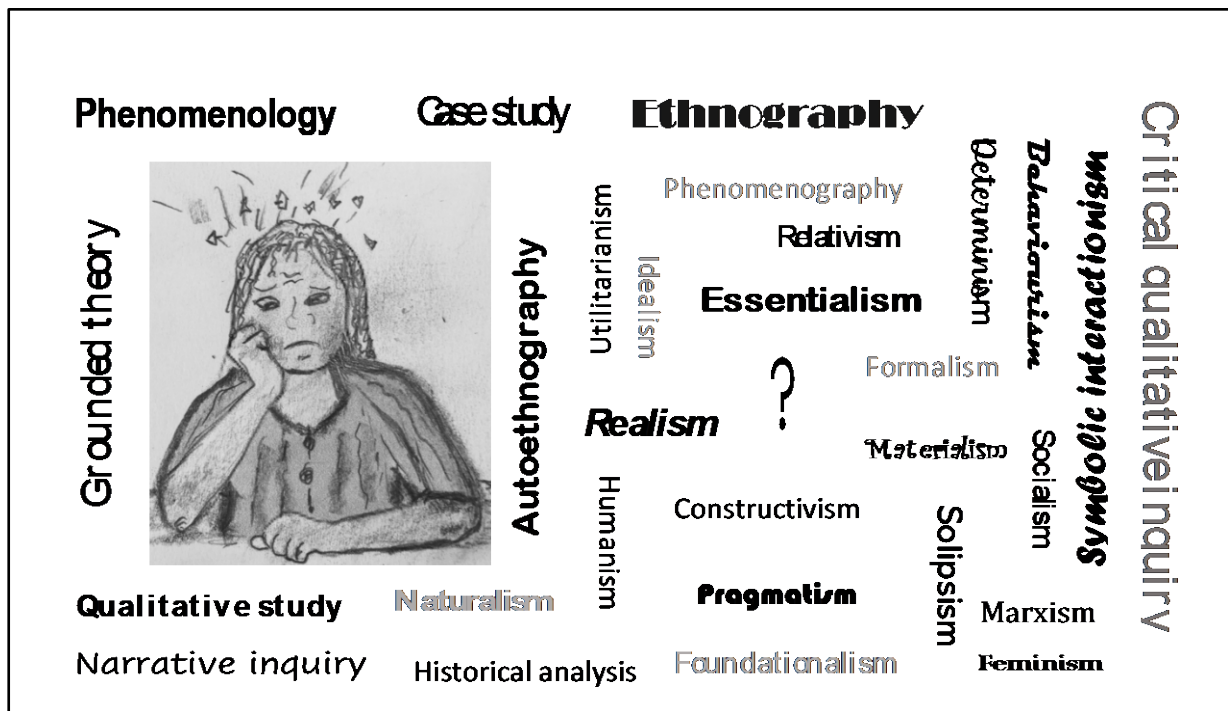


Figure 3.1. Clues without full knowledge

The enthusiasm to understand particularly all-encompassing concepts engulfed me at an early stage of my research project. Qualitative research entails a range of approaches, but what does qualitative stand for? Definitions of the qualitative approach to research tend to be context bound attaching specific strategies for gathering and processing information to the study context. For example, a definition presenting qualitative research as an activity involving researcher's interpretation of field notes, interviews, conversations etcetera and meanings attached (Denzin and Lincoln, 2011) assumes a substantive dualistic researcher-researched relationship trapped in the hegemony of a hermeneutical circle. Working with data that do not indicate ordinal values (Guest, Namey and Mitchell, 2013) could be my preferable definition to the former. However, qualitative research involving data from more than a participant existing in the same social world can be quantified. Qualitative data are coded and assigned values to identify intensity and impact of issues highlighted when using content analysis (Bengtsson, 2016).

An analysis of a range of resources in the literature concluded with a definition that could not tell the qualitative from quantitative research apart. Aspers and Corte (2019) identified three defining characteristics for qualitative research also applicable to quantitative research including a process, improves understanding and makes new important distinctions from examining events closely. An encompassing definition of qualitative research for me, would be 'methods for collecting and analysing in-depth meaning of phenomenon in the social world'. Sleep associated with the brain network is supposedly scientific knowledge spelling only what is valid to be known. Nevertheless, applying objective tools to examine my brain was beyond the reach of my study. I needed to select a qualitative approach that would facilitate drawing on current evidence, highlighting sleep's salient features, narrating tales of experiences of sustaining nature's endowment and conceivably reconstructing some of the ideologies around night-time sleep.

Practical application

I knew from the start that an inquiry involving the concept of 'self' pointed to autoethnography as a primary method for collecting data for my study. I profess guilt of the auto ethnographers' enthusiasm to incorporate techniques that enhance the credibility of their research as Muncey (2005), and Wall (2008) observe. I was determined to maintain the autoethnographic focus but circumvent the loud critiques of indulging the self in an armchair inquiry. However, I was reluctant to delve into the qualitative versus quantitative legitimacy battle simply to gratify applying science to the social after coming across Edmund Husserl's (1859-1938) transcendental phenomenology in the life world. Husserl (1970) supposed a shared domain for all human activity including scientific experiments presumed to be objective. Husserl believed objectivity is not experienceable in its true being like subjectivity since human cognition guides all forms of interpretation within the lifeworld. In other words, the lifeworld presents a universal framework for all creativity and relative experiences determined by subjective perception of objects within the controls of space and time. I discovered that grounded theorists share a similar viewpoint that researchers inhabit the world they examine, and that the information researchers process is embedded in historical and current interactions of the world (Charmaz, 2014). Grounded theory would have been an option for generating a practice theory for my community of people with primary insomnia. However, personal narratives neither accord with

theoretical sampling nor saturation. I could have been able to interview myself as Anderson and Glass-Coffin (2016) propose, but the limited knowledge of myself did not justify enough sides of the self to sufficiently guide telling a personal story to saturation.

I explored using phenomenography, which entails studying variations in which people understand their experiences (Larsson and Holmström, 2007). The researcher's understanding of phenomenon is a second order view acquired through descriptions of the researched. Phenomenography would have been appropriate for my study if the purpose was to understand the syntax of my description of managing the primary insomnia without paying much attention to the process. This would have involved mining my narratives for what I did to manage my experiences of a primary insomnia and how I describe this experience. The cause(s) and process of managing sleep experiences branded as primary insomnia were core to the overall objective of the study. Besides, coding a personal account as Chang (2016) suggests is overextending impressions of rigour in autoethnography wherein the researcher has the liberty to edit oneself.

A case study is an inquiry into real life situations involving blurred boundaries between the setting and elements under study (Yin, 2017). Putting myself forward as the primary unit of analysis in a case study design would have been largely acceptable in a scholarly environment. Nonetheless devising initial propositions about the self to shape my inquiry as a rule of thumb that Yin (2017) accentuates would have been mechanistic and rather pretentious for a study based on a personal narrative. Data used in such a study pre-exist in some form of record, in this case not bypassing my memory. Social structures pre-set the contextual circumstances for people with primary insomnia with predetermined descriptions and clarified boundaries of a social concern. I contemplated an alternative approach for undertaking my research after discounting phenomenography and a case study design.

Phenomenology which is widely acceptable in academia to study lived experiences was a good bet for describing my sleep experiences in their true exposition. Phenomenology entails a set of activities culminating into a written description of lived experiences of a selected group of people bearing characteristics of interest to the

researcher (Creswell and Poth, 2016). I carefully re-examined the overall aim of my study, which carried more than illuminating activities and meaning attached to experiences of people with primary insomnia in my community of practice of managing a perceived discomfort. Van Manen (2016) emphasises that a good phenomenological study entices nods when others recognise themselves in experiences shared, which validates the circle of inquiry. Others may recognise their experiences in mine, but this is not sufficient to transform the profit accumulation impinging on the humankind. Mertens (2017) believes transformation can be achieved when the objective is embedded within the research framework. It was essential for me to employ a paradigm and study approach facilitating the impact of my research to go beyond the changes within me, to highlight possibilities of wider change in my cultural group. It was now clear that a critical paradigm shaped the overall goal of my research. A critical inquiry highlights imbalances to change the world and thus transcends mere interpretations of the world that would ideally be presented through phenomenology. I reflected on possibilities, whether my research would be transformative, emancipatory or both.

Transformation and emancipation are used interchangeably in the literature to describe research aimed at generating knowledge useful to people restrained in low positions in situations of power imbalances (Noel, 2016). Gravem et al. (2017) contend transformation can be an objective with indeterminable effect at the start of the research process and that evaluating the significance of research should focus on goals instead of possible outcomes. Emancipation entails illuminating the origin of social problems stemming from self-seeking power structures and bringing to the fore reforms for dissolving the subjugation to reinstate individual or collective rights (Ratner, 2014). In this respect, transformation and emancipation are seemingly intertwined, although one of them can be a process leading to achieving the other.

I considered my study to meet both transformation and emancipation objectives through the caveat of self-transformation for emancipation. The individual gains the upper hand along the journey leading to emancipation through using the knowledge campaigners produce to free oneself from the perceived oppression. I opted for the principles of critical theory to illustrate practices of managing a primary insomnia in the sleep niche market. My study then took on the form of a critical qualitative inquiry.

Critique in critical theory delves into different ways of seeing the world to everyday perceptions involving judgement or resistance based on rational knowledge of the world (Thompson, 2017). A critical qualitative inquiry is engrained in moral principles of specific standards for human existence protected in international law to tackle inequalities through bringing attention to voices of the oppressed (Denzin, 2017). One would subsequently ask whether the international human rights law sufficiently safeguards sleep without distinguishing its intentional deprivation as a form of psychological torture as Cakal (2019) echoes. Sleep unlike food is not protected as a human right, but a space encapsulated in property rights wherein the UN Habitat (2009) considers poor ventilation and crowded arrangements inhumane.

The failure of critical theorists to stimulate and engage sensibility in any world has been repeatedly cited (Sandoval, 2013) inciting sharp criticism of critical inquiries. Some forms of domination are more conspicuous and easier to repudiate than others, specifically those underpinned by a range of factors creating intergenerational beliefs. For example, white supremacy historically evolved into firmly established ideologies whereby rights of people of colour are constantly doubted throughout their social existence. A considerable number of white people still emulate superiority in African and Caribbean countries predominantly occupied by people of colour. MacLure (2015) posits critical inquiries assume an antagonistic dichotomy of a world of good and evil with an aim to denounce evil and maintain the good. I view this as a narrow and mundane channel to analysing interdependent social relations blurring the good and evil in everyone. For instance, stars appearing at night in the sky will soon become historical facts of nature as they strive to shine through the guise of bright streetlights and above the weight of air pollution. Some people are happy with the way things are, some simply do not care, while others actively advocate for change in human practices (Trevors et al., 2012).

Materialism is another sensitive and easily defensible domain in society. The *laissez faire* deposition implies both capitalist and labour have the freedom to strive for more exchange value (Harvey, 2014). Labour will bargain for higher rates and/or exchange its input for longer paid hours to appease the states of private property ownership. However, we are quick to defend contemporary capitalism under the pretext of modernisation lest we fall behind the rapid technological advancements. Would it be

a political act to decode historical beliefs about health and illness in response to the mysteries surrounding the purpose and effectiveness of sleep aids? Examining aspects of transformation, emancipation and initiatives individuals adopt to effect the necessary change was undoubtedly a useful compass while I sailed the methodological journey. I gained more confidence and comfort in the direction of my research as a qualitative inquiry framed by a critical paradigm to encourage defiance against specific forms of social domination. Now, this was turning to critical autoethnography. Critical autoethnography explores personal experiences linked to one's assessment of the contribution of power dynamics to the experiences of phenomenon in a specific context, while using theory to challenge the hegemonic influences (Boylorn and Orbe, 2021). In terms of practical application, critical autoethnography was indeed the perfect fit to use as a qualitative research strategy to achieve the purpose of my study. Critical autoethnography is distinct from an autoethnography as it transcends reflexive self-analysis to consider the positionings of the inquirer within the unjust social systems (Reed-Danahay, 2017). However, at this point of the research process, I was still unsure of whether I was to use autoethnography as a data collection method or qualitative research strategy.

Knowledge, which is the outcome of scepticism, is embedded in the techniques used to find it and the theory shaping the topic of investigation to identify the difference between truth and false (Russell, 1926). Theories provide an interpretive framework for understanding of complex systems such as behaviours, organisational operations and interactions in society (Reeves, Kuper and Hodges, 2008). The methodology I assumed needed to incorporate both elements including transforming the ideology that sleep can be bought and setting the insomnia consumer tribe free from the chains of the expanding sleep market. Critique is the common divisor for the numerous views rooted in critical theory and the aim of the research shapes the view through which critique is applied. Normative views form the benchmark for critique against which an object of analysis is evaluated. Critique carries various dispositions comprising cognitive explanatory critique unveiling truths in false statements, needs based critique pointing to human suffering and dialectical critique distinguishing the inherent contradictions in the object of analysis (Castree, 2003). I proceed with looking into critical theory in the next section to illuminate the construction of social reality, the practical application of the different perspectives and foundations of critical theory.

The procedure is aimed at clarifying how and why I settled on my perception of the most suitable methodology for my study.

3.2 Critical Theory

Pippin (2004) applies a sharp blade to critical theory presenting it as a 'nothing' unless 'what it is' and 'it is not' are clarified. Thompson (2017) clarifies critical theory as a unique and all-embracing approach to understanding social reality by considering the individual, their social life and binding social processes. Pippin's (2004) critique of ideas by prominent philosophers as a dead end in using philosophy to address issues in the social world embodies the 'critique' principle of critical theory. Pippin (2004) would have no basis for counter arguments of intellectual domination without critically dissecting works of previous thinkers. The critical lens provides opportunities for highlighting and challenging power structures to transform ideals for rationally defined outcomes. The notion that critical theory does not proclaim a priori ethical or political values (Thompson, 2017) is contentious. Illuminating ways of seeing the world typifies critical theory if the goal is to free humanity from some form of domination (Horkheimer, 1972). Domains of analysis may include but are not limited to forms of domination arising from cultural values and norms, economics and politics to reveal the alienation of the humankind (Fuchs, 2015).

3.2.1 The nature of social reality in critical theory

The foundations for critical theory as outlined earlier are power and ideologies in society, both of which maintain hierarchies and structural inequalities (Brookfield, 2014). Social reality is a multifaceted creation of ideologies sustaining the imbalances in society. Social reality thus entails a range of factors interacting to shape and develop other aspects of that reality (Thompson, 2017). Statements that do not involve critique accept phenomenon in its appearance for as long as its functions and processes can be evaluated against its usefulness to humans (Thompson, 2017). On the other hand, understanding an object in a reasonable way requires me to examine the proper state of the object. For example, normal sleep is endorsed by ontological naturalism. However, the quality experienceable is intimately subjective and cannot be disintegrated from evaluative judgements. I can call it an assumption or more precisely a declaration that I had slept well before my experiences of poor sleep. I therefore

have full knowledge of the difference between satisfactory and non-satisfactory sleep to comment rationally on both experiences. Sleep is a natural given if its regular functioning is not influenced by other health conditions. Nevertheless, cultural relativism adds a layer of complexity to what would be regarded as normal in one society and not another (Giroux, 2016). Theological and secular worlds may carry different views on the normativity of masturbation. In a similar vein, a siesta and splitting the workday into two parts is traditional to Spaniards but a deficit for a modernised world opting for a continuous workday (Jones, 2017).

Truth is conditioned by human practices linked to a given period and thinking is influenced by practical and theoretical interests bound to change over time (Horkheimer, 1972). Truths or facts are derived from practices, norms and concepts that validate them as reality. Social reality therefore can be understood within normative aspects of cognition and practices that make it reality. Nevertheless, truth comes to light when knowers reinforce it and apply it as a powerful tool against views of individual groups (Horkheimer, 1995). Like Karl Marx, Horkheimer's (1972) tenet for a critical theory was that any form of subjectivity develops through life processes in a society and the critique aims to protect the truth that historical knowing or knowledge established without putting it down to historical conditions. For example, cavemen walked long distances in search for food and gathered straw and leaves to improve the comfort of sleeping on the floor of their caves (Wadley et al., 2020). The sleep comforts were less advanced than they are today, but the act of sleeping across animal species persists despite science's enthusiasm to clone sleepless humans.

Borman (2017) underscores that substantive materialism embraces the development of new ideas in a liberated society resulting in the expansion of human culture. Biological functions common to humans such as sleeping do not elucidate past events because historical events are not nature itself. Like imperialism and the investment of mobile capital in low wage global locations, slavery was a result of socioeconomic processes mainly pioneered by capital gains. Conversely, Postma (1992) deduces the acceleration of slavery by African natives to depict an externally controlled process, to underscore the ideology associating black people with a birth into slavery. African traders often sold people from their own communities into slavery. Exchanging human captives for firearms at first followed the excitement of acquiring the technology. The

later growth in demand for firearms in exchange for human captives justified the necessity for self-defence (Foster, 1976). Scientific intelligence quotients, if valid in an environment of equal opportunities, are yet to tell humans apart.

The principle of critique in critical theory tackles social pathologies through a synthesis of cognitive and evaluative claims to describe phenomena and how they shape human experiences (Thompson, 2017). Statistical inductive reasoning would be a misplaced emphasis for examining social reality due to society's constantly evolving temperament and deeper processes that influence construction of truths. But how can I separate facts from values in social reality? Facts are definite while values are subjective evaluations of what ought to be. For example, falling asleep anywhere is a fact whereas homelessness is an evaluative judgment. Facts of nature differ from social facts underpinned by human practices that validate them (Thompson, 2017). I sleep is a natural fact, while the recommended hours of sleep are an ideology aimed to organise when I sleep and what I do when I am not sleeping. Human activities generate and regenerate social facts and thus social realities change as humans flexibly change behaviour in response to knowledge (Morrow and Brown, 1994). This transformation not only pertains to the way I would attach meaning to my experience, but also the way I advocate for rational thinking about my social life experiences.

My excitement about a more straight forward critical theory methodology was short lived after assessing the suitability of the contemporary approach by Strydom (2011). Infusing critical theory with pragmatism to denote evidence based solutions for addressing problems identified through critique is sound. However, Strydom (2011) suggests sign-mediation theory and conception of regulative ideas productively articulate the interaction between critical theory and pragmatism. Sign mediation theory signifies changes in cognitive processes that prompt humans to reorganise behaviour via a sign (Bugrimenko and El'konin, 2001). While night-time sleep anxiety may have been a sign for an existing social problem, testing for possibilities of managing the primary insomnia was the counterproductive approach that my study specifically sought to address.

Critical reconstruction engrained in pragmatism did not suit my inquiry. A critical inquiry investigates issues separating the natural (physical world) and social sciences

(human activity and relations). The historical aspect does not preclude the present but seeks to understand transformations in human societies with emphasis on dominative relations to illuminate prospects in the essence of human existence (creating value and identity). History that is logical is not simply written ideas, but a chronology of human practices that may influence social life experiences (Guédon, 1977). For example, instituting rights to private property ownership was followed by commodifying labour, suppressing indigenous production, imperialism and monetising the means of exchanging goods and services. The chronology of the socioeconomic practices tended to the growth of capitalism (Harvey, 2005). Critical theory hence considers that social reality is built on the network of human practices which do not necessitate laboratory based experiments to uncover mechanisms influencing the existing social reality.

3.2.2 Perspectives in critical theory

Critical theory has acquired several branches alongside evolutions in social relations underpinning definitions of humane standards for quality of life and creating social identities. Numerous views of critical social theory influenced by different schools of thought exist and this is reflected in continuous deliberations of underpinning epistemologies. Tyson (2014) cites an overlap in some, which is rightly undeniable. However, the most applicable approach of critical theory to an inquiry is contingent on the purpose of the research that a paradigm unifies into meaning to change the view of the world for the better. For example, primary insomnia is rekindled in a man when he meets a partner with a young child (Leader, 2019). The stimulant of recollecting childhood experiences of night noises from the mother's bedroom with a lover could be a case suitable for a psychoanalytic inquiry. The prescription for sleeping pills during the man's visit to a physician for another ailment might be a better fit for a Marxian analysis, highlighting how ideologies by humans in position of power form experiences of others. Psychoanalysis is concerned with the unconscious (repressed often unpleasant experiences) shaping current experiences while Marxian analysis explores practices related to material circumstances commonly interpreted as socioeconomic factors (Tyson, 2014).

Feminism is another approach to critical social theory concerned with examining patriarchal ideologies shaping experiences of women in most structures organising society (Tyson, 2014). Women tended to be the last to retire to bed after making sure that children were in bed and arrangements were in place for a smooth start of the next day. This approach was not appropriate for my study because I sought not to explore patriarchal ideologies on non-restorative sleep, but actors that would equally maintain poor experiences of sleep in both sexes. The woman who goes to bed last might be sleep deprived given a narrower sleep window compared to the rest of the household members. However, the woman can fall asleep at the earliest opportunity possible without tussling herself into submission. Is this then structural criticism? I would have been quick to place my study into structuralism if concerned with internal structures that organise human experiences. The Marxian concept applies to the external bodies or institutions such as the police, army, education and health institutions organising the conscious and unconscious of the humankind. However, structuralism is a nebulous concept used flexibly contingent on the discipline.

Critical realists use the term structuralism in reference to the analysis of hidden structures influencing observable behaviour (Gorski, 2013). Conversely, in linguistics, structuralism seeks to highlight the rational structure of language. Steinberg and Kincheloe (2010) assert that a critical analysis of codes and symbols used in communication unearths the mystification, power and oppression in various platforms to empower individuals to discover previously concealed truths. Semiotic decoding of the media may perhaps suit the education niche to deconstruct forms of media nurturing learners into oppressive practices as acceptable. However, addressing past painful experiences encountered for example through sociopathy using the linguistic lens would be an inept steal from a psychoanalyst who I believe is better suited to deal with suppressed emotions. I am inclined to suggest that the structuralism Louis Althusser (1918-1990) posited was an unwarranted and convoluted kinship to the Marxian paradigm, which raptured into linguistic bases for discoverable truth. Structuralism contests the view that the state is influenced by the mode of production and proposes the state prevails to take care of the survival of capitalism and not the capitalist class (Felluga, 2002). Capital is owned through the liberals of private property ownership. Therefore, capitalism shapes the existence of the state if policies

instituted by the state must maintain proper functioning of the existing mode of production (Figure 3.3).

Reality cannot be fully perceived, but political, social, economic, gender and cultural values shape virtual reality, and this happens over time (Guba and Lincoln, 1994). I understood the need to examine myself for cultural or other aspects that blind positive effects of the research. Researchers of colour are also encouraged to use their niches in academia to oppose racial prejudices (Chapman, 2011). However, in this context, it is crucial that readers of my views of social reality on sleep issues thrust aside the critical race paradigm. Racial discrimination does not impair my capacity to fall asleep in a typical day unless sleep deprivation is explicitly and intentionally applied as a form of torture to a person of a specific race. All humans are born free prior to linkages with chains of institutions systematising society and its developments (Rousseau and Cranston, 1968). Sleep enhancing products are for humans convinced by the ideology to pursue states of well slept citizen. But should this form of power and domination continue to hold for something innate?

*I sleep or do not like you, we in humankind
blood flowing in veins alike, type plausibly different or similar
different or like another like me or another like you
we only call for a fairer view if the sleep I confer is different in your view.*

The various approaches to critical theory can be unified by the basic principle of critiquing ideologies underpinned by social and historical powers to enable fairness and one's capacity for self-determination (Howell, 2016). I opted for Marxian's dialectical materialism to examine experiences of self-managing a primary insomnia in a free market economy. Marxian analysis involves transformative and emancipative strategies aimed at highlighting the subjugation that forms false consciousness to reveal certain truths (Kincheloe and McLaren, 2011). Belief systems result from cultural conditioning. 'Every adult requires a minimum of eight hours of sleep for proper brain function' may be an ideology that entices those who can survive on less hours of sleep to utilise sleep aids at the first sign of forgetfulness. Tyson (2014) uses the example of a gambling addict who gets attached to the possibility of winning to illustrate false consciousness. Consumerism also proclaims, 'you are what you buy', offering a range

of commodities including ostentatious goods that may confer status without guaranteeing use value.

The extent to which knowledge is considered scientific is determined through a theoretical lens because memory and unobservable experiences cloud the glass of certainty (Russell, 1926). A critical theory-based methodology enabled me to tease out tensions driving the construction and eventual reconstruction of sleep related social realities. What I gleaned from the brief review of the varying perspectives of critical theory is the most suitable strategy for my study. However, I believed that exploring the building blocks for the critical paradigm adopted would go a step further to clarify the context and enhance understanding of the appropriateness of the critical paradigm for my study. The next section focuses on linking the bricks of advances of critical theory. The section introduces and explores influences that connect the Marxian paradigm.

3.2.3 Bringing critical theory into being

Karl Marx's (1818-1883) work, that I collectively refer to as Marxian analysis comprising social, economic and political critique, largely influenced the outset and growth of critical theory. The institute of social research at the University of Frankfurt led by Carl Grünberg inherited the Marxian analysis line of thought on opening in 1923. The institute upheld critique as the guiding principle for work on historical and empirical economic relations (Kautzer, 2017). Max Horkheimer (1895–1973) took over the leadership of the institute in 1930, still inclined on the great inspiration of Karl Marx's body of knowledge (Berendzen, 2009). Horkheimer introduced the Frankfurt School in 1931 and the definitive era for critical theory in the school followed Horkheimer's publication of 'traditional versus critical theory' in 1937 (Kautzer, 2017). Traditional theory described actual states of social structures which when used to analyse modes of functioning of these social structures legitimised oppressive human practices. Critical theory on the other hand sought to examine social structures within a wider historical scope to reveal truths obscured in the functioning of these structures (Macdonald, 2017). Although, some Chinese whispers still preach that critical theory was a guise for the survival of undercover communists (Herbert Marcuse, Max

Horkheimer, and Theodor W. Adorno) who took refuge in the United States of America to escape the Nazis in Germany (Fuchs, 2015; Nakamura, 2017).

Critical theory can be traced through proponents of idealism prior to the split of Hegelianism through which the Marxian paradigm came into being. I am tempted to evade defining idealism here for the fear of losing systematic thought and getting tangled up in defending my perceived truths. Nonetheless, sidestepping the definition of idealism could render any further explanations I make shaky and amorphous and thus lacking a specified destination. I was inspired by Brightman's (1933) presentation of Hegel's idealism, which contends the whole is better than its parts to encompass comprehensive understanding of different influences of truths. These include value is objective; reality is a conscious (mental) and reality is a construction by individuals.

Hegel's conception of idealism dwelled in the view that realities of the spiritual world were definite only through the minds of God knowing humans in the substantive world of time and space (Redding, 2018). This way of thinking is almost congruent with the supposed father of idealism Bishop George Berkeley's (1685-1753) view about reality which presumed the possibility of absolute knowledge only willed through the finite. Berkeley found no reason to believe perceptions of the conscious had any connection to anything external to human thoughts (Buckingham et al., 2011). Likewise, Hegel's philosophy of the right in relation to the nature and limits of human cognition was debatable. The philosophy of the right supposed human cognition was conditioned by history and culture, which varied contingent on context on one hand. On the other hand, a higher level of cognitive function with eternal content influenced the cultural context (Redding, 2018). The finite and infinite were presumed mutually exclusive, and thus prohibitive to each other. The finite was limited by the infinite but what bound the infinite was what it was not – the finite (Williamson, 1984).

The drive for theological logic was not popular with the secular philosophers in the twentieth century and beyond. Horkheimer (1972) strongly objected to Hegel's theological interpretations of the eternal life of spirit with a view that it masked human suffering. Drawing on historical materialism, Horkheimer suggested broad theorising needed to show the link between the economic structure, psychology and culture for

an all-encompassing illustration of society (Berendzen, 2009). Materialism in general sense points to the physical existence of things or matter and doubts the existence of immaterial entities such as ghosts and spirits (MacLure, 2015). Horkheimer's focus on suffering and desire for happiness carries the intonation that being human embodies suffering. Jürgen Habermas (1929- to date), also a descendant of the institute of social research at the Frankfurt School and prominent proponent of critical theory anchored its further developments on theory of human interest. Habermas (1970) posits that basic human interests prime social inquiries and quests for knowledge. Individuals develop logical thoughts around areas of interest and proceed to critique domineering ways in society. A mere focus on the spurs of the Frankfurt School to trace the lineage of critical theory is being short sighted. While Karl Marx largely influenced the boom for critical theory, Kant's rational critique and Hegel's further development of Kant's work formed ground for its growth (Strydom, 2011). How was this so?

Emmanuel Kant (1724 – 1804)

Based on the dialectic of Kant's critique of pure reason, the response to how we know would be as concise as 'through reason'. But this form of knowing cannot claim absolute truths of what things in themselves may truly be (Cherniak, 1986). Critique of pure reason aimed to show the extent to which human reason can generate a priori knowledge, contingent absolutely on cognition without experience. The moral basis for critical philosophy is human autonomy (Strydom, 2011). Individual autonomy allows room for doing the right thing within governance of the moral law (Stangroom and Garvey, 2012). Nevertheless, the critical question is whether reason can transcend establishments of power and authority to operate with full autonomy.

Postmodernism exposed everything to criticism including units such as religious institutions and the judiciary that would ideally be considered exempt from such subjugation. Jerome Frank (1889 – 1957) 's (1949) analysis of judicial processes in America painfully unveiled the baseless but established and accepted procedures of obtaining justice, leading to changes in seeking and using facts in courts of law (Traynor, 1957). Jerome Frank's autonomy to use reason to scrutinise operations of a branch of government, the courthouse, also inspiring the legal realism movement was not independent of life experiences as a lawyer. Natural endowment for reason may differ from person to person but this does not mean that ideas are innate. I would have

questioned a lot earlier in life why it was necessary to speak to the catholic priest about my spinster kisses. Kant rethought a priori knowledge and proposed individual judgements in transcendental realism to imply human experiences were only appearances and not things in themselves and that space and time were no more than subjective intuitions (Rohlf, 2020). Transcendental realism identified active participation of the mind in shaping experiences and searching for causes through reason. Kant's suppositions restricted knowledge to appearances sans sufficiently justifying the constraint (Dahbour, 2017). Even with attempts to consolidate suppositions of pure reason, Kant fell short of a firm foundation to clarify concepts of being (Heidegger, 1962), exposing the thread of thought to free floating constructions.

Georg Wilhelm Friedrich Hegel (1770-1831)

The link of idealism to critical theory excites bitter criticism without considering the non-static temperament of knowledge. Hegel cited a misconception in Kant's work of the individual as an entity and the relation between the individual and the world (Strydom, 2011). Hegel posited a lack of moral potency in Kant's work that left no room for reason. Hegel drew on concrete ethical life to posit moral autonomy is not a subjective value that simply ought to be, devoid of consequences in an indifferent world (Strydom, 2011). Reason is integrated in the real world and social reality is experienceable within established and widely moralistic norms supporting self-consciousness. That is, communities are built on individuals' shared reasoning and the awareness of the freedom to reason, which is not a given but has to be strived for (Stangroom and Garvey, 2012).

Hegel's perception of logical being involved development whereby being first turns into nothing prior to becoming, which is the higher form of reality. Hegel expounded Kant's concept of human cognition bound to structures of the mind to include historical and social influences on being in understanding reality. Complete knowledge of a thing involved tracing the history of its development moulded around logic. For example, a pot appears like a pot at first sight, but it was clay on a swampy land sculpted and glazed into a pot. Complete knowledge of the pot involves knowing that the pot is sustainable in its existing condition unless broken beyond repair, parts of which cannot decay, but can be used as a raw material for something else. In my view, this does

not offer complete knowledge of the pot if I still wonder what else a broken pot can possibly be used for.

The rational element was an opportune play field that split Hegel's followers into right and left (Strydom, 2011). The right Hegelians upheld and pursued theological views and conservative political strategies (Rossi, 2010). The left Hegelians were radical in their interpretation of Hegelianism, taking on democracy in political assumptions and atheism, opposing Christianity. The left Hegelians comprised younger and older members. While older members critiqued foundations of Christianity, the younger Hegelians' concerted effort was on developing Hegel's incomplete philosophy on history silent about the future in representing individuality (self), society and the political realm. For example, August von Cieszkowski illustrated history as an ideal totality contingent upon organisation, content and realising the interdependence of content when applying action (Stepelovich, 1974). Cieszkowski's (1838) prolegomena to a historiosophy inspired Karl Marx's promotions for social change. Cieszkowski suggested that current affairs neither erode history nor deter its advancement and that the significance of history is most appreciated in looking across past, present and future contexts (Lisiecki, 2015).

Karl Marx (1818-1883)

Karl Marx was a prominent left- Hegelian, whose experiences of prejudice and discrimination thanks to the Jewish heritage kindled the push for advocating for change in human systems and practices (McLellan and Feuer, 2022). Karl Marx's experiences did not rule out fair judgements in the work soliciting for changes in human systems because the analysis of social processes had to be adequately rational to produce the intended outcomes (Woods, 2016). Hegel's notion of constant change stimulated by conflicting elements and Ludwig Feuerbach's critique of the existence of the finite independent of the infinite also inspired Marx's thinking (McLellan and Feuer, 2022).

3.3 Theoretical perspectives framing my critical autoethnography

Philosophy wore my thinking when its constituents seemed to dominate discussions about anxieties of their mastery in pursuit for a doctorate degree. I could feebly distinguish between philosophical ideas about the nature of knowledge, truths and

existence from suppositions verifiable with empirical evidence. Nonetheless, I spent a considerable period trying to make out how to align my work with theories of being, values, knowledge and logic plus the steps for producing knowledge to become an accredited researcher as Pratt (2006) would suggest. Prior experiences of working with different research approaches sent a whirl of confusion throughout my cognitive capabilities to the extent that everything I thought I knew became a blur. My state of confusion lasted until I came across the blueprint (Grant and Osanloo, 2014) for integrating a theoretical framework to structure any form of proposed research. Something resembling a bright light flickered but only for a short while.

I reconnected with the purpose of a theoretical framework in research as the structure and support providing the anchor, for every key aspect of the study as Grant and Osanloo (2014) point out. My next dilemma lay in whether I presented the exploration of my experiences with sleep as a critical qualitative inquiry or an autoethnography. A critical qualitative inquiry equally involves the subject set in the object, engaging with historical and current perspectives with the hope of inspiring current and future transformation of aspects of social domination (Denzin, 2017). Either way, the steps I would follow incorporated views of the world described through interactions in broad social systems instead of facts distinctively led by the scientific laws of cause-and-effect existent outside of my cognition (Tuli, 2010). Lincoln and Guba (1985) emphasise the significance of using theoretical perspectives that align well with the paradigm guiding the inquiry. Having befriended Karl Marx from the start, dialectical materialism was the plausible methodology for my study. I explore my journey of delineating the methodology from methods in Chapter 4.

While I chose to clarify the theoretical underpinnings for my study in Chapter 3, Karl Marx's ideas meander through nearly all sections of my thesis in explaining and drawing connections with phenomena. Also, my autoethnographic thesis involved iterative analyses of all materials complementary to the personal accounts and how the evidence existing in the literature aligned with the materials I selected. The subsections that follow present details of theoretical underpinnings for my study. These include Marxian's dialectical materialism, its inclination on historical materialism and the adaptive control of thought-rational theory of the learning that raises consciousness to the relations of social reproduction.

3.3.1 The Marxian paradigm

Paradigms constitute systems of ideas that not only explain the nature of reality in the world, but also comprise pathways to knowing what can be known and what falls within and out of a justifiable inquiry (Guba and Lincoln, 1994). A paradigm is thus the composite of a set of beliefs, values and assumptions guiding the nature and conduct of the research (Johnson and Onwuegbuzie, 2004). Guba and Lincoln (1994) underscore that exponents for a paradigm of inquiry share responses to fundamental and interdependent questions about epistemology and ontology. Table 3.1 illustrates my understanding of the basic beliefs of the Marxian paradigm.

Critical theory is not reducible to Marxian thinking because of the analytical approach to social relations, but critical theory cannot be divorced from the Marxian paradigm (Morrow and Brown, 1994). Truth is dynamic and social reality is actively constructed through an unending process (Thompson, 2017). The composite of relations of social reproduction regulates consciousness in the social world and it is through critique that we derive knowledge of the key processes that make up reality (Stone, 1985). The Marxian paradigm facilitates ordering concepts not to predict outcomes, but to illuminate relations influencing behaviour in the social world (Stone, 1985). Strauss (1978) presumes existence of a range of social worlds, some of which are invisible. However, power relations are critical to inquiries into any of the social worlds. For example, members of the night-time sleep chasing community may also be part of the quizzical world of researchers without physical limits of either of the social worlds. Marxian analysis therefore clarifies connections of areas of the inquiry to other units in a social world (Stone, 1985).

Table 1 3.1 Basic beliefs of the Marxian paradigm

Core question	Marxian analysis axiom/ basic belief	Explanation
Ontology <i>What is the nature of reality?</i>	Historical materialism.	Dominating political and social ideologies influenced by the existing mode of social reproduction shape social reality.
Epistemology <i>What is the nature of the relationship between the researcher, researched and what can be known?</i>	Value laden subjectivism.	The researcher and researched are contemplatively intertwined and the researcher's values are reflected in the inquiry.
Methodology <i>How does the researcher go about finding out what can be known?</i>	Dialectical materialism.	Historical events motivate the march towards resolving the contradictions characterising a specific era.
Axiology <i>What are the shared values?</i>	Moral inclination to freedom from oppression.	The inquiry exposes truths about perceived realities to free others from the identified form of domination.
Theory of logic	Critical theory	A critique of structures exploiting the humankind, highlighting practices that should be transformed.

Adapted from Guba and Lincoln (1994)

Historical materialism

I opted for dialectical materialism for a methodology to shape the scope of my study and the next hurdle questioned how Marxian analysis of historical materialism applied to the object of analysis (commodified sleep). Understanding the moving parts of historical materialism was crucial to facilitate some form of application to how I discerned its place in the aim and significance of the study. Materialism carries a duo conception of ontological physicalism and theoretical analysis of human conditions. Physicalism presupposes everything to be physical including any changes that may take place within matter and energy (Kim, 2013).

The purpose of exploring my experiences with managing a self-diagnosed primary insomnia inclined more on the temporal and spatial analysis of human situations

ranging from the social to individuals (Harrison, 2012). Meaning in Marxian analysis is neither realised in language nor symbols but through social relations (McLaren and Jaramillo, 2010). The core tenets of historical materialism are: i) the present is better illuminated as a historically constituted whole because history is inseparable from the network of human activities; ii) behaviour is primarily conditioned by the mode of production at a specific time (Blackledge, 2018). Karl Marx's starting point emphasises the social instead of the individual as the guiding principle for any form of analysing conditions in which humans live (Borman, 2017). This is because one enters established relations of production independent of one's will. These relations comprise the material conditions I am born into plus those that I produce through contributing to the reproduction of society in meeting my needs for food, clothing and shelter. The social relations then position the commodity and its mode of production to the fore of transforming statements of social reality, considering labour is also a commodity given its capacity to produce value (McMillan, 2014).

Historical materialism is an organising concept in Marxian analysis, offering a starting point into an inquiry to critically examine uniqueness of events and causal explanations (Hunt, 2004). In a study examining Vladimir Lenin's theory of practice, once Russia's revolutionary politician, Lukács (2009) posits historical materialism involves a logical synthesis of social existence. That is, people are born into existing cultural and socioeconomic beliefs, which they espouse until they start thinking rationally about particularly practices deemed unfair and how to transform them. The use of logic is vital in this respect because senseless and futile consumption behaviour prevails whenever the application of logic is considered to be extravagant (Ebert and Zavarzadeh, 2008). External structures shape experiences instead of the individual's voluntary actions (Morrow and Brown, 1994). For example, sleeping when I can and desire to would be disorderly in view of social structures and would bear negative consequences on the means of obtaining and sustaining my livelihood. The relations of social reproduction I was born into have groomed me to earn my material conditions including both needs and wants.

Steinvorth (2008) argues that critical theory requires an addendum of a moral theory to justify the normative standard for evaluating social problems. I argue that this is a symptom of viewing social problems in fragments instead of holistically. Aspects of

nature may involve evaluative judgements of their performance, but this does not stop their occurrence. Structures ordering society pioneer evaluative judgements of the performance of biological functions and guide the engineering of interventions to enhance nature's performance. The moral inclination in critical theory is thus to advocate for practices that have respect for nature's fully developed internal expression to fulfil existence. For example, the human body expels unwanted by-products after digesting solid food and fluids. The critical theorists would advocate for recognising the need for access to facilities where the prisoner can put the waste when it is ready for elimination from the body. The process of digesting food and eliminating by products does not require morals unlike the location of the waste that can be governed by society's moral standards.

The essence of history in historical materialism

The history in historical materialism is traced in the inputs for production and social structures that completed the ownership and operation of various modes of production. Materials used in producing commodities have a history of labour input. For example, mangoes are grown, picked and sorted as raw materials for making mango juice. Mangoes can be commodities ready for the market in the form of fruit. However, capitalists obtain more value from the mango juice as a commodity because capital owners keep the surplus value from labour processes of producing the fruit and fruit juice. Similarly, labour is required to be in a healthy functional state to offer itself to capital. The healthy state is labour's responsibility as the proletariat only gets a wage in arrears after contributing to the production of commodities (Marx, 1889). Moreover, the wear and tear emanating from contributing to the process of creating surplus value is labour's responsibility to replenish with the help of the proletariat's wage.

Marxian analysis is built on historical struggles between the social class that survived on the surplus value and the class that produced the surplus value (Tyson, 2014). Advancements in the forces of producing commodities and ensuing relations of production thus illuminate historical developments of society. While the means of producing material life conditions were socially owned in primitive communal societies, slavery was forced labour entailing maximum exploitation of slaves by their masters.

The feudal system released ownership of the life of workers and allowed peasants to claim their rudimentary tools to enhance their interest in work. Nevertheless, workers were still merchandise that could be bought or sold on. The production of a little more than required for sustaining the self and family relations introduced the surplus in feudalism, which released a section of society from having to work for their subsistence (Mandel, 2002). The surplus value gave rise to social classes that progressively distanced the working class from goods produced and social interactions (Tyson, 2014).

Markets were borne from the human discovery of possibilities of cultivating land to diversify sources of food and counteract the dwindling of natural endowments (Varoufakis, 2017). Agricultural mechanisation and the manufacture of weapons preceded large scale production. Logging the amount of surplus kept in centralised granaries created avenues of exchanging produce for items others did not have direct access to. The state and its constituents resulted from the thought need to protect the surplus from external threat and the unequal distribution of the surplus amongst those who carried political powers. However, something more sinister was necessary to sabotage the farmers' awareness of injustices surrounding the distribution of the surplus. While every ship needs a captain, the introduction of organised religion spread the ideology of divine powers legitimising and stabilising inequalities in societies (Varoufakis, 2017). Free-market capitalism, which is the existing system of social reproduction, quitted workers from being sold as merchandise. Nevertheless, workers had to sell their labour to owners of the means of production in exchange for a wage to afford the necessities of living. To date, the proletarian or working class produce the surplus value sustaining the unceasing greed for the accumulation of capital (Blackledge, 2018).

Similarly, understanding current sleep dynamics requires an insight into historical sleep practices so that any strategies aimed at returning humanity to itself do not avert the practicalities of the physiology of the humankind. Developments in sleep practices followed changes in the forces of production. Historical materialism in this respect brings to light how social reality embedded in the interaction of a multitude of factors evolves as a sum into established practices (Blackledge, 2018). The industrial era introduced remarkable changes to sleeping patterns including how, when and for how

long the working class slept. The night shifts, nocturnal trade and advances in night-time lighting systems gradually mystified undertakings previously accomplished in the dark (Ekirch, 2001). While crowded sleeping epitomised arrangements for the workers employed in industries, civilised societies now seek more room to enhance sleeping conditions (Reiss, 2017). The poor hygienic sleeping conditions during industrialisation strained relations of production resulting in the British 1851 parliamentary act on common houses and lodging detailing hygienic considerations in dormitories and the need for privacy (Crook, 2008).

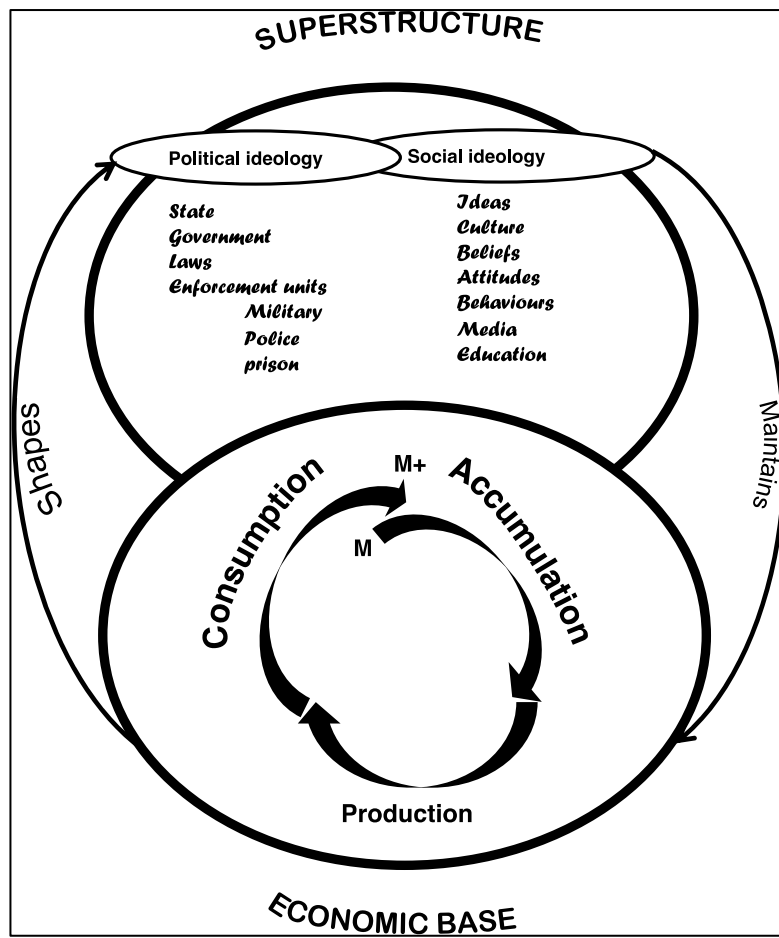


Figure 3.2. To whom it may concern

I was bewildered with intrigue after I took the photo above (Figure 3.2) of the plaque placed outside of a shop doubling up as a beauty and drugstore located on an incredibly busy high street. The 3am hour captivated my attention first, but a closer look at the image revealed a contradictory question. I was confused as to whether the advertisement targeted people who could not sleep at night because they woke up at 3am or two different groups of people: one group that could not sleep at night at all and another that slept but woke up at 3am. Rotating the image did not clarify the contention and the only clear message I could make out was that anyone that woke up at 3am did not sleep.

Sleep across several nations and societies around the world was historically segmented. However, block sleeping introduced to increase productivity related alertness categorised people failing to adhere to the norm as people with insomnia (Schenck, 2017). The working class prematurely dived into the first sleep because they were required to assemble early in the morning while capital owners bustled in the brightness that lit their streets and home comforts (Ekirch, 2001). Industrial capitalism's requirement for effective time management sealed the end to segmented sleep (Figure 3.2) and pioneered anxieties around throwbacks to experiences of biphasic night-time sleep (Reiss, 2017). Work ethic dominated the voices behind church pulpits and waking in the night was cautioned against the risk of developing idle and unclean thoughts (Ekirch, 2010).

As outlined earlier in the changes in forces of producing commodities, ownership of the means of production determines the system of social reproduction. Social reproduction encompasses all processes such as physiological, educational and capital through which society reproduces itself (Harvey, 2014). The economic base ascertains the temperament of the superstructure both of which are engrained in human practices. The superstructure therefore represents aspects of human endeavours supporting the accelerated multiplicity of profits accruing to owned capital. Figure 3.3 demonstrates the interaction and relationships between the economic base and the superstructure. The superstructure comprises ideological conceptions of political entities to which social forms of thought correspond (Marx, 1889). Ideologies are concepts and languages of practical thought sustaining forms of domination and the oppressed in subordinate positions (Haslanger, 2017). The dominating ideologies are those of the ruling class that will usually sustain them as the domineering social class. The time allotted to breakfast, lunch and dinner as much as the time assigned to sleep ascertains that the social schedule runs in harmony while mediating universal human needs. The exploitation in such ideologies is masked to maintain the hegemony for the ruling class and the oppressed in the subjugated positions.



Adapted from the superstructure-economic base illustration by Stephanie McMillan 2014

Figure 3.3 Economic base and superstructure

Initial capital (M) accumulates wealth through consumption. The economic base shapes the political entities while the corresponding social thought maintains the economic base.

The class owning the system of production declares upper class interests to the corresponding political entity typifying a specific era (Marx, 1904). The state tailors legal and government entities to protect the values of the dominating class (Harrison, 2012). For instance, Business in the Community (BTC) voiced their interests about the productivity associated with 'well slept' citizens. Public Health England (PHE) and BTC collaboratively developed a toolkit for employers (Varney, 2018) without any guise behind making the business case for sleep. The tool kit exhibiting the billions of pounds lost due to insomnia guides employers on the empathetic intervention in the employee's sleep with a strong emphasis on preventing problems of attaining seven hours of sleep (BTC and PHE, 2019). The drain is appropriated to the individual worker to comply or face the risk of acquiring a different designation – unemployed if you asked me. The unemployed worker would be temporarily liberated from the

exploitation of capitalism, but the sole path out of capitalism is a return into it through reemployment, or having control over owned capital (Ebert, 2009).

Political ideologies permeate the understanding of health as a responsibility one abides by or chooses to omit with economic consequences (Kristensen, Lim and Askegaard, 2016). Political ideologies thus powerfully infiltrate norms of social conduct that are subsequently legitimised as the normative order maintaining economic activity (Krzyżanowski, 2020). Power, ideologies and capitalism cemented together form a hierarchical framework for governing social reproduction (Brookfield, 2014). Healthful sleep currently dominates public beliefs like sleep had never been healthy before the industrial age. Familial, cultural, educational and media outlooks engulf the healthism validating and maintaining the sleep market. The healthism targeting individual behaviour, attitudes and emotions induces obsessions with personal health as the core route to attaining wellbeing (Crawford, 1980). The overall political, cultural and intellectual processes therefore respond to the system of producing material life. However, at a point in time the development of material productive forces trigger conflict within the existing relations of production until that point, humans have been working within. The strain in the relations of production causes a period of social revolution to transform the economic foundation. The superstructure subsequently responds to the changes in economic conditions (Marx, 1904). When do proletarians free themselves from the oppressive mechanisms through which commodities are produced and consumed? This is a thought-provoking question at the tip of the tongue of overzealous critiques such as Miller (1981) and Goodwin (2018) who dig deep but spread the Marxian paradigm and its proponents thin. As Cohen (2000) cautions, this form of literacy defies dialectical logic. The false consciousness surrounding the commercial dealings of self-managing the primary insomnia within the sum of relations of production is expounded in Chapter 7 of this thesis.

3.3.2 Far from a sudden realisation: An integrated theory of the mind

Enlightenment as an intellectual and philosophical movement integrated the analysis of life experiences with logic in understanding the social world (DeCarlo, Cummings and Agnelli, 2021). Using various theoretical lenses appropriately embraces the value of diversity in views of the world to illuminate elements constituting social pathologies

and provide in-depth understanding of the social world. Marxian analysis alludes to the proletariat's wake from the false consciousness on realising the exploitative relations with capitalists. However, the structure of consciousness does not preclude experiences of anticipatory action (Shepherd, 2017). Knowledge of the action in this respect is informed by the different states of consciousness during one's spatial and temporal engagements within a social entity. That is, experiences of the consequences of acting a certain way may inform subsequent choices of the action. My research questions carried an undertone of a change in behaviour. Nevertheless, the mystery for any reader to this point would surround the knowledge motivating the change, not to mention the critical innuendos of the literature on sleeping in humans.

Recognising the mind as a powerful tool for rationalising realities, Anderson et al. (2004) proposed the adaptive control of thought-rational (ACT-R), to explain how the mind controls aspects of behaviour. I believe that the wake from long term established social norms such as *'you have disordered sleep if you cannot sleep soundly throughout the night'* entails a learning process instead of a sudden realisation. The adaptive control of thought-rational supposes four fundamental components that work in tandem to create a view of the external world. The core components of the mind comprise the goal module, perceptual motor system, declarative memory module and the procedural memory (Anderson et al., 2004). I consider these components to have influenced my experiences of self-managing the primary insomnia. While Marxian analysis aids the synthesis of factors shaping and sustaining a particular mode of social reproduction, the ACT-R elucidates the process of changing perceptions to empower individual and collective action.

Performance of the ACT-R

The ACT-R theory presumes human capability to reason through logical thought to solve problems. The four core components of ACT-R contribute to the general integration of reasoning. Each component is inclined on a specific tenet enabling its function. For example, the goal module presupposes human ability to initiate different responses to different situations. This is contingent on the knowledge of the goal for the response and one's ability to sustain cognition or reasoning to achieve the goal within constant conditions of the external environment. That is, the goal module keeps

track of the intention while the individual goes through the various steps of solving the problem at hand such as pursuing a good night's sleep.

The perceptual motor system is based on the notion that the external world provides a large proportion of the connective tissue involved in cognition and action. This can be viewed either through eye movement or paying attention to a specific object in a fixed time. Emphasis here is laid on choice in encoding information in visual buffers as opposed to optical mechanisms of object representation. For example, the time it takes to locate sleep related commodities in a pharmacy stocked with several other items may be constant whereas the time to choose from a range of options available on the shelf is random. The random time depends on when the consumer finds a commodity with a description that matches the consumer's goal.

The declarative memory module stores the information needed to sustain logic in a problem-solving situation. Based on probability and the latency of retrieving information, the declarative memory module is central to clarifying the process controlling access to information stored in the buffer. Anderson and colleagues (2004) suggest the probability of retrieving just any chunk of information stored exists and that latency of retrieving information useful to the problem situation reflects activation of a chunk. The time it takes to activate chunks correlates with the amount of practice in solving the same problem. For example, practice generates faster activation of the relevant chunk. Placing the activation of chunks in the context of analysing the pursuit for good night sleep, one would question for lessons learned if any during the pursuit.

Procedural memory, the fourth fundamental component of the ACT-R, is concerned with integrating the three other core components to control and adapt thought. The adaptive element explains the ability to change behaviour or cope with the situation including acquiring the skill required for the perceived change. The procedural memory is the production system that identifies patterns in the information stored and determines the action to attain rational behaviour. The guiding principle for the procedural memory component is that several production rules exist but only one rule with the most valued use can be selected. For instance, I will choose a caffeinated drink instead of wine if I am falling asleep at my desk in the afternoon considering I must produce a key document before end of business. The rational choice is contained

in the lessons learned from experiences of successes and failures in the probable choices. However, the perceptual and motor actions play the essential role of defining the boundaries of chunks retrieved and used for solving a particular problem.

Dialectical materialism

Dialectical materialism is a technique that proponents of Marxian analysis often use to illustrate aspects of a material mode of production generating crises that may impact negatively on the livelihoods of the humankind. I took on the dialectical materialism methodology to align my story of managing struggles with night-time sleep within the context of social relations. In *Dialectic: the Pulse of Freedom*, Bhaskar (1993) refers to dialectics as a logic of content seeking to establish grounded and context sensitive truths. Dialectics trace their origin in the breakthrough of classifying objects and processes to examine them as separate entities, absenting the connections between them to transcend the immediate appearance of phenomenon. Dialectical materialism comprises principles engrained within ontological, epistemological and methodological presuppositions guiding its utilisation (Bhaskar and Danemark, 2006). How does dialectical materialism apply to the goal of de-commodifying society's labelling of night-time sleep struggles innocent of other health conditions?

Lehrer (1990) posits that an analysis of knowledge should have a purpose and that a theory of knowledge should detail conditions to be met and how to achieve these to declare the individual's knowledge of something. Dialectical materialism entails holistic presentation of knowledge and its structure of development through Marxian analysis (Harrison, 2012). The dialectical element involves appraising truths about life experiences through rational debates to expose damaging contradictions (Stalin, 1949). Like Harvey (2014) suggests, not all tensions such as a single working mum with an infant are overtly deleterious as sometimes people manage to navigate the strains in life without having nervous breakdowns.

Materialism inclined on the dialectical encapsulates the substantive and explanatory endeavours to elucidate processes of human social existence. Whereas substantive materialism refers to human interaction with nature to cater for the needs necessary for human existence, explanatory materialism employs critique to elicit action on the

changeable aspects of social domination (Borman, 2017). Georg Wilhelm Friedrich Hegel initiated the dialectical method, but with an emphasis on the contradictory process instead of the subject matter under discussion (Dahbour, 2017). Hegel's dialectic method suggested consciousness develops through its own repudiation due to the contradictory elements embedded (Rossi, 2010). Hegel's dialectic is a cognitive process of overcoming the contradiction between a proposition and its opposing idea through logical evaluation of both ideas (Blackburn, 1996). The subject acquires absolute knowledge of the object after going through all assumptions of the object's otherness. Reality is grasped through reasoning, so much that truth is rational and whatever can be explained rationally is truth (Strydom, 2011).

Karl Marx drew on Hegel's idea of rational thinking to analyse social relations. Proponents of Marx's dialectic method have used other likening concepts such as totality, contradiction, essence and internal relations to explicate approaches for examining constituents of society as an organic whole (Ollman, 2003). Karl Marx did not use the term dialectical materialism, but Friedrich Engels fully developed the term in *Anti-Dühring* (1887) and in *Dialectics of Nature* first published in Russian and German in 1925. Friedrich Engels (1820-1895) was Karl Marx's comrade, a collaborator on the 1848 *Communist Manifesto* (Marx and Engels, 1988) and editor of Karl Marx's works. Engels presented the dialectics as a change in motion that occurs between a minimum of two objects. During the change, one of the objects loses some amount of quality while the other obtains a corresponding amount of a change in quality. For example, a degree of degeneration of social systems is attached to the supposed comforts arising from the advancement of human societies, like the demons haunting the tensions embedded in capitalism. Say, developments in technology are aimed to ease ways of doing things, but also displace human labour. Their operation and functionality require higher calibre skills than the workers displaced, and hence more costly labour is inducted to operate technological advancements (Harvey, 2014). Cost savings only lie in the future with an assumed increase in production. On the other hand, capitalists still need the labour displaced to provide the market for the presumed increase in production to accelerate the processing of capital and profit accumulation. Welfare support for the labour displaced by technology cannot sustain capitalists' market needs indefinitely and therefore capitalists devise means of creating

low to middling income jobs to absorb the labour that technology displaces (Harvey, 2014).

Advancements in technological solutions offer a decent example of the application of dialectical materialism in the analysis of the paradoxes within social relations that capitalism continues to guide. Another vivid application of the dialectical materialism technique is examining the relationship between capital and labour. Capital and labour are private properties that need each other to survive. Nonetheless, capital exploits labour to multiply itself (Arthur, 1986). Firstly, labour's value of the opportunity to offer services to capital in exchange for a wage manifest as a fair position. However, labour is not warranted automatic entitlement to the products of labour's input. Labour must use the wage to purchase the product and thus giving everything back to the capital owners, considering the proletarian has to cater for substantive needs before earning a wage. In that way, capital owners retain the power to shape and control social reality. This also involves venturing into the anatomy of humans to explore elements of new and profitable markets to accelerate profit accumulation.

Capitalism's organisation of labour's sleep is paradoxical. Sleep can happen anytime, including daytime when it is allowed free expression. Shared workspaces often disclose individuals who depend on caffeine to get through every single afternoon of the work week. Capital owners are required to make certain that the proletarian is in a good functional state to participate in social reproduction (Marx, 1889). Effects availed to labour including wages and night-time sleep commodities are geared towards achieving this requirement. Labour as a commodity has the potential of generating more value than itself. The common belief is that sleep improves cognitive performance and that the happier the workers are, the more productive they are at their jobs. But what happens when nature swings outside of the regularising external clock? While labour is a commodity in a free labour market sold for a wage (Harvey, 2014), human nature is also commodified and further exploited. The worker receives a wage and puts it towards the purchase of commodities for subsistence, including night-time sleep enhancing commodities. Night-time sleep becomes a commodity sold to the anxious working class to sustain performance in the production of other commodities and thus heighten the profit margin of capital owners. Nevertheless, capitalism risks recreating itself in the relentlessly anxious proletarians existing

beyond their means as they battle with the tension between high performance and owning some of civilisation's comforts.

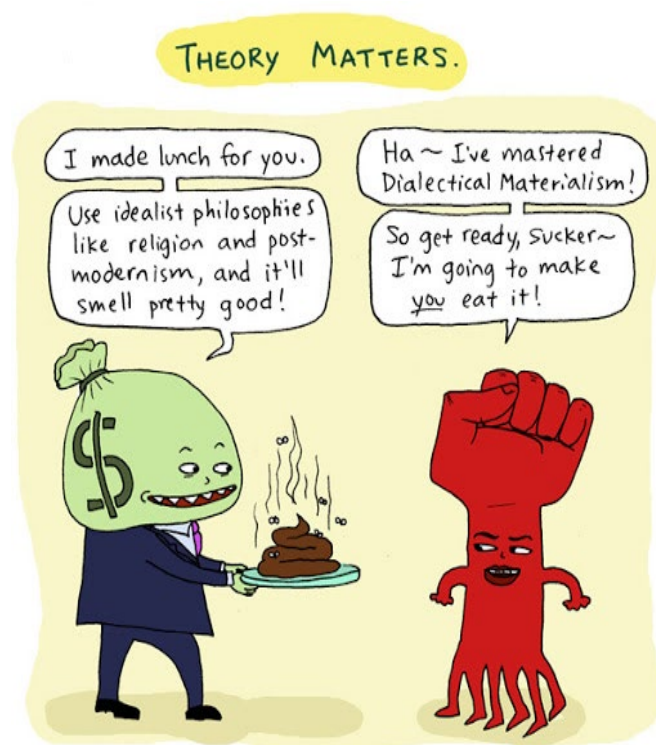
Materialism was an introduction to examining things through their development from the original form to their destruction. Applying the dialectic to materialism resulted into dialectic materialism to illuminate capitalism's alienation of labour and the possible changes in human systems to destroy the structures from which they develop. A social analysis of simply some elements of the whole sanctions continued existence of factors that history has established as reality (Blackledge, 2018). Marxian's dialectical reasoning identifies contradictions in existing political, economic and social structures shaping experiences and psychological behaviour of individuals and groups (Tyson, 2014). Reality does not always correspond with appearances and here Karl Marx contends science would be useless if real meaning could be distinguished from the appearance of things (Paolucci, 2001).

Humans produce their material life through producing their means of subsistence (Blackledge, 2018). Introducing the right to private property ownership into political systems engendered acquisition by disposition, which further introduced the competition that alienated social labour (Harvey, 2014). The class struggles are not only between the ranks of social classes, but also within individuals who alienate themselves from humanity while striving to make it to a higher socioeconomic ladder in the hierarchies. This scenario may offer an ideal response to Goodwin's (2018) question as to where the role of the working class in self-emancipation has gone within the Marxian viewpoint.

The interactive process of class struggles eases the effort at the top and widens the gap between the bourgeois and lower social classes. Proletariats then remain central to reproducing the upper classes from whom they wish to emancipate themselves (Blackledge, 2018). Economic freedom presupposes the autonomous play of market forces to allocate resources and the government's sole role remains to provide guiding frameworks for market mechanisms (Harvey, 2005). Nevertheless, the hierarchical controls ascertain that most of the working class maintain positions as subordinates succumbing to optimal gains of their surplus realised at varying positions of society. The social division of labour for instance means that the individual's capacity to labour

is dependent on others' input and the interdependence forms interpersonal trust (Borman, 2017). However, the thread of trust is torn asunder under the capitalist mode of production to create a horrifying state of vulnerability. The vulnerability festers at various layers and forms of domination.

Harvey (2014) equates the mode of social reproduction to an engine enabling the running of a ship occupied by a diverse population. Various ethnicities, gender and class holding different roles move up and down the ship's decks. Elements of the engine may fail to function properly resulting in a rocky cruise even in the calmest of waters. When the engine is examined, through critical theories such as race theory and feminism, the captain (government) must decide whether to repair or replace the dysfunctional parts to enable a smoother cruise. For example, a reawakening of trade unions' action and workers' walkouts in different entities of the economic engine responded to the recent rise in the cost of living in the UK (Hansen, 2022). A press release by the Business Secretary Grant Shapps published on the 5th of January 2023 then invited union leaders back to the negotiation table for fair pay.



Illustrated by Stephanie McMillan 2014

Figure 3.4 Theory matters

As McMillan illustrated in Figure 3.4, revolutionary militants shape the theory that transforms practice in social relations based on their circumstances (McMillan, 2014). I chose to analyse my experiences of chasing sleep within the sum of social relations using the ACT-R theoretical lens and the logical reasoning embedded in historical materialism, the organising concept for dialectical materialism. In my view, the attempt is not a bootless errand, but a guide to illuminating the realities of social beings to garner collective action in a conscious manner.

3.3.3 Choosing Karl Marx for a theoretical companion

My voyage through methodologies entailed digging through ideas of esteemed philosophers and established theories that would suitably explicate my sleep experiences and how I can claim them as knowledge. Maurice Merleau-Ponty's (1908 – 1961) blend of the study of lived experiences with understanding human subjects through historical developments (Miller, 1976) was a numbing step away from the unceasing growth of the critiques of Marxian analysis. In the *Phenomenology of Perception*, Merleau-Ponty attempted to demonstrate that human embodiment in the world holds more importance than thinking to circumvent the object–subject dichotomy of existence (Reynolds, 2001). The supposition that perception of objects is achieved through the complimentary functioning of different organs of the body was somewhat convincing because when viewed in part, the mind blurs the purity of the external world. However, the presumed lack of distinction between the physiology of human beings and social influences on human behaviour derailed my interests off the Merleau-Ponty tracks of generating knowledge.

Some behavioural responses such as eating are an inkling to the internal stimuli hunger, which is usually a decline in blood glucose (Campfield et al., 1996). Nevertheless, starting to smoke cigarettes is more likely to result from social influences than an internal craving for nicotine. I became more confident and content with the capacity of Marxian thinking to exert its everlasting significance in society than suppositions of the dissolved existence of social classes. Society can be declared classless if everyone earning an income can afford to buy a studio apartment in Mayfair, London. A simpler example depicted in the controls inflicted by one's social

class is having to ponder putting a restaurant bill on a credit or debit card after indulging in a fine dining celebratory meal.

I chose Marxian analysis to examine my night-time sleep experiences because of its direct relevance and application to my circumstances. Karl Marx posits two categories of human existence, that is, natural being and social existence (Bien, 1973). I could directly relate to the sculpture of my being that is dependent on other elements of nature such as water, air and plants. Social existence on the other hand entails that aspect that humans strive to fulfil as social beings. As Donne's (1987) common saying goes, 'no man is an island'. This does not imply a yearning to take on the world's misery, but the need to belong to the humankind. Although, private property ownership alienates humans from themselves to create artificial poverty and economic relations characterised by the notion of each one for themselves. In this respect, Maurice Merleau-Ponty's (1908—1961) work is said to have preserved some significance in cognitive and social sciences for explaining embodied experiences of the self, others and the world at large (Reynolds, 2001).

Merleau-Ponty believed that a single paradigm could not explain human existence and thus tried to infuse phenomenology with historical developments of human subjects, adopting the essentialist view of the proletariat (Miller, 1976). Merleau-Ponty (1969) conceived that the post-war era in the Soviet Union was inconducive for building human relations because the freedom in which humans survived brewed a level of threat for each other. The question then was whether Marxian analysis would overcome the violence surrounding humans through the proletariat's consciousness to arrive at the common good. Merleau-Ponty's conception of the revolutionary proletariat in the *Humanism and Terror* publication lays emphasis on using irrational means to influence the behaviour of others (Rockmore, 1996). The French philosopher argued against evaluating violence as an absolute negative, but instead advocated for separating progressive from regressive violence (Miller, 1976). Merleau-Ponty equated Marxian analysis to progressive violence that eventually dissolves to establish an orderly society, despite lacking certainty in the rationale of using historical events to offer comprehensive meaning.

While progressive violence leads to building a better society, regressive violence keeps an exploitative system in power. After endorsing Marxian analysis as the only way of thinking that values the meaning of history within current events, Merleau-Ponty contradicted this backing as deterministic and divergent from the fundamental nature of the humankind. Using the same conceptualisation, Merleau-Ponty's review of the Moscow trials missed evaluations of justice and instead questioned whether the deaths of the accused would revolutionise humanity. The Moscow trials involved charges against the Trotskyists and opponents of the Soviet Union's communist party (Hutley, 1937). Merleau-Ponty's Marxism in this context emerged ambiguous and confounding via the attempt to infuse moral coherence with the logic embedded in individual action (Miller, 1976).

Critiquing social pathologies or oppressive practices would be an irrational method of the proletariat's awareness of the evils of capitalism if I had opted for Merleau-Ponty's lens of Marxian analysis. Without getting myself in a wrangle and tangles of wordplay, capitalism as a form of social violence is no different from precursors slavery and feudalism that perpetuated social inequalities. Advancements that signalled higher profits guided the changes in the modes of production. For example, the losses from the cane sugar production in the British empire (Robertson, 1930) made slavery less attractive and countermandable at the time when Britain succumbed to the voices of antislavery movements. The inhumane resistance against the 1831–1832 Baptist war (Momodu, 2017) is sufficient to evince Britain's will to defend economic interests where these were still existent. The British would have been reluctant to shrink the labour through killing as many slaves as they did if cane production was still profitable.

My interest in Merleau-Ponty's Marxism gradually waned with the presumed literal violence of the proletariat and the failure to recognise the historical simulation of possibilities embedded in the interaction with the natural and social environments. Far from prophecies, simulation of tendencies is based on real events of the humankind with the agency to stray or recreate events as opposed to laws of social development (Hudelson, 1980). I concur with Low's (2012) supposition that the ability to analyse personal circumstances does not render complete sovereignty, because the institutions and other structures organising society remain in place. However, I diverge from the assumed permanence of circumstances within the (material) conditions I was

born into simply because I have experienced the social world for me to acknowledge it as such. The primary insomnia I experienced and the influences of which I more aware of do not connote everlasting behavioural responses to insomnia in the social world. Despite the relative permanence of structures organising society, I retain a level of power to change my attitude and model of relating to social structures.

Rules governing social action are not natural causes that would apply to any place any time. For instance, education in a developing country setting was introduced to me as a socioeconomic aspect for human existence. Nevertheless, individuals have transcended this supposition and have found self-fitting passions that are not backed by completing the levels of formal education society recognises for the well accomplished (Ryan, 2021). In addition to being turbulent, I found Merleau-Ponty's ideas incoherent about forming meaning in and about the proletariat's social world. The straightforward question hitherto would be 'why not employ one of Karl Marx's other proponents who have tried to advance Marx's perspectives. I espouse Marxian analysis as opposed to Marxism, which I believe to be a practice omitting key values or instituting other ingredients of choice within the Marxism pursued. I maintained my focus on Marxian analysis with high anticipation that my views would retain the purity engrained in Karl Marx's perspective about the power and domination in class struggles.

3.3.4 Addressing critiques of the Marxian paradigm

Writing a response to the various critiques of Marxian analysis would require me to replicate great works of Harvey (2014), Varoufakis, (2017), Eagleton (2018) and many others. But that does not fit my format for de-commodifying a primary insomnia or put in another way, immunising society from depending on the market for innate entitlements. Old-fashioned, aggression orientated, disregarding the prosperity capitalism generates and failings of socialism are some of the many criticisms of Marxian analysis. While socialism could not survive within conditions of international alienation and scarce resources (Eagleton, 2018), I would not be drawing on the Marxian paradigm today if the perspective is no longer relevant for modern societies. Besides, does any social system conform to socialism if the labour does not own the forces of production? Nevertheless, I shall focus on the presumed determinism of

material forces influencing the systems ordering society since they strain when I can sleep. Determinism in this respect reflects one element of the sum of social interactions bearing an influence over others (Jossa, 2018).

Materialist dialectics examine historical dynamics in which specific groups of individuals develop ideas and connect with other people's beliefs in a society to replace existing knowledge with new ideologies in their favour (Korsch, 1931). Opponents of materialism propose individuals are free to develop independent realities instead of being passive recipients of matter (Blackburn, 1996). Conversely, perceived realities are only partial of the total whole because humans are social beings who reproduce themselves through interacting with each other in their environment. Additionally, how does the proletariat arise from false consciousness without logical thought? Regrettably, material conditions for social reproduction imparting the falsity in one's consciousness precede logical thought. Agreeable to historical materialism as an explanation for the development of social classes in various societies, Williams (1996) falls prey to misinterpretations of Marxian analysis to suggest historical materialism precludes humans from nature.

Substantive materialism allows sustainable human interaction with nature while explanatory materialism employs critique to expose oppressive practices that contravene humanity (Borman, 2017). Humans are born from and into nature through interacting with and adapting to their environment to reproduce themselves unceasingly, particularly if sustainability is on the agenda. Human relations with nature evolve to adapt to their living conditions, the way society is organised and ensuing beliefs. For example, the ability to carry more 'things' when walking on two limbs than when straddling on four is largely believed to have stimulated the evolution of humans into biped creatures (Lovejoy, 1988). Walking on two legs is thought to carry more physical and tree fruit picking limitations than walking on four legs. However, humans stuck with the biped locomotion due to the found capacities of carrying high energy foods which were often gathered from further afield. Females were keener to pair up with males who provided better for a nuclear family than those who straddled around. The energy giving foods satisfactorily nourished females to reproduce more and sufficiently nurture their off springs (Lovejoy, 1988). This exemplifies historical

materialism's capacity to enlighten the proletariat's consciousness through analysing the social existence of humans and their struggles with and against alienation.

Strydom (2011) critiques materialism for absolutism in establishing reality. However scientific thought involving experimental mental reflections to generate confirmed truths oversteps the significance of historical developments in the evolution of societies. Marxian analysis is not a complete reduction of all aspects of being to social classes, but a logical synthesis of social beings to enable holistic discernment of humanity's interaction with nature (Blackledge, 2018). This is also true for the assumed deterministic relation between the base and superstructure, which is influential rather than causal. That is, the mode of social reproduction and superstructure carry a mutually influential connection and neither of them can be understood entirely independent of the other. Spatial and temporal factors underpin variabilities in aspects of the base and superstructure (Martin, 1995). Causes hold verifiable and attributable results whereas an influence guides the direction of a possible outcome. This implies that an aspect of probability exists in an influential context wherein the supposed absolute determinism then loses the strength at its anchor. Socialism therefore does not imply all day lounging humans waiting for food to miraculously fall into gaping mouths, but a system organising material life to meet human needs sufficiently (Eagleton, 2018).

Historical materialism does not explain every aspect of human existence since a range of theories elucidate child growth and development. While social classes may be depicted in the child's experiences of the world, historical materialism as a theory cannot adequately explain the various stages of a child's intellectual progress. As Cohen (2000) explicates, historical materialism is practical for illustrating how the sum of social relations of production maintains and advances the forces of production (means of production and labour power). While humans can give their labour autonomously, capitalism assumes labour inevitably has nothing else to give but itself for substantive existence. Collectivisation in the former Soviet Union was aimed at reducing the economic strength of peasantry and thus culminated into state controlled mandates for the distribution of agricultural produce and farmers' earnings (Encyclopaedia Britannica, 2020). Peasant farmers had had liberties of choosing the crops they grew each season and how these were distributed in their communities and

beyond. However, mechanised farming conglomerated smallholdings into vast pieces of land in response to the global rise in demand for grain and a felt need to raise capital for industrialisation. Capitalism in this case is deterministic with its unilateral control over the purpose of others (Vrousalis, 2021).

Historical Materialism provides an explanatory context for processes part of the complex totality that can only be understood through engaging with empirical evidence (Blackledge, 2018). The primary reflection on personal experiences with the primary insomnia pointed to the inner workings of the mind first before exploring how social interactions have been defined overtime. Further contemplation of why it mattered that I did not sleep at night and the limited opportunity to reverse structure of my daily activities unveiled the logic behind the course of my actions. Social being influences the consciousness of humans and reflecting on the social aspect plus material conditions is a prerequisite for understanding the reality of social existence (Tucker, 1978). Therefore, the wake to some of the false consciousness created via social influences involves humans reconsidering social realities through rational thinking.

Proponents of structural Marxism such as Louis Pierre Althusser (1918-1990), disparaged the concept of base–superstructure claiming the state’s superiority over the economy for the survival of capitalism (Poulantzas and Miliband, 1972). It seems trivial to mention the state is not managed by digital technologies alienating nature from itself such as artificial intelligence with no interest in material conditions of life. A British Prime Minister was once of the world leaders implicated in the Panama papers for benefiting from the offshore system instead of abolishing it (Trautman, 2016). Antonio Gramsci (1891-1937) also worked with the superstructure to elaborate the role of the political arm in controlling the social arm and the conditions necessary for the survival of the mode of production. Gramsci’s theory of cultural hegemony presupposes consent to be dominated by ideas and laws propagated by the ruling class (Bates, 1975). Critical emancipation on the other hand brings to light the forces that influence autonomy of individuals or groups in decision making (Kincheloe and McLaren, 2011).

As explicated earlier, political systems, social ideas and beliefs are structured to maintain the economic base. The mode of production in the economic base shapes

political systems influencing social values and beliefs. If logic was commonly applied, shoppers seeking to escape the lows of life via retail therapy would think twice about the absurdity and unsustainable temperament of emotional consumption for many. I anticipate that some of the critiques of Marxian analysis can relate to the traps of a consumer society. I withdrew my consent to lead my sleep experiences, if at all given in the first instance, after opening my eyes to ideologies that drew some of my submissions to oppressive socioeconomic agendas.

Power and domination in capitalism can easily be referenced as a categorical rhetoric forged by the ungrateful populace enjoying piecemeals of the fruits of capitalism for their comfort. This reciprocal and essential relationship for capitalism's survival is gratified on illusional grounds of equal exchange. Considering the Marxian paradigm would be rendered incomplete without exploring the relationship between power and domination, and questioning whether emancipation from the vices of capitalism, is simply something to dream of. The subsequent sub-sections consider power, domination and emancipation.

3.3.5 Power, domination and emancipation

I consciously skirted around defining power as a concept because humans implement power, plus society's organising structures are driven by human behaviour. The general assumption is that finding an all-encompassing definition for power is almost an impossible task. One of the earlier contenders (Dahl, 1957) suggested power as a concept should be defined by the operational criteria. Dowding (2012) argues that definitions are conceptually useful if they carry predictions and that most explanations of power tend to have normative implications. For instance, coercion is seldom perceived positively and yet people can be coerced for beneficial outcomes. While debates about the atheoretical and theoretical conceptions of power can be overbearing, power is unmistakably without a fixed reality like words such as water. Baldwin (2015) suggests power is neither a theoretical concept nor can it be modified by theory. On the other hand, Dowding (2012) underscores power as a contextual concept without a fixed reality applicable to various theoretical questions. Dowding (2019) is against presenting a semantic definition for power and believes that a concept analysis revealing measurable indicators offers a more useful recognition of

power in the relevant context. For example, the control over the means of production gives capitalists the power to decide what to market for consumption.

Consumer choice makes capitalists' power seem subtle even with the persuasive advertising of goods and services. An individual with a desperate need will consider the advert showing where to purchase the goods to satisfy the identified need as a source of information, minus the persuasion. Actors have means of inducing power, even when it is simply a social position, and the scale of power lies in the response actors are capable of inducing (Dahl, 1957). The difference in the scale of power lies in the repercussions of a lack of response and the individual's or group's perceived effect of the consequences. The capitalist's power emanates from the strength of the identified market, which is often informed by consumers' supposed need. The ideology of sold sleep compels me to buy because of my supposedly desperate need, which will not get fulfilled if I do not buy. While I have the agency to act in the marketplace, I have much to lose and nothing to gain if I find no utility value in my acquisition.

Tuck (2002) explains Thomas Hobbes's (1588- 1679) understanding of humans and maintains that humans have equal rights to all things and the right to preserve themselves through any means required to achieve this objective. According to Hobbes, humans endeavour to collect and protect things they perceive to be good for them. However, humans are vulnerable to living in constant fear of the violence that may be used by other humans to infringe on what is being protected jealously. The solution then lies in everyone giving up the natural right to acquire and preserve things through natural endowments of mental and physical capacities. The abdication of individual natural rights to all things is representative of the social contract through which everyone passes the power onto a control mechanism that reinforces the social contract and maintains safety. Nevertheless, the social contract and sovereign power are socially imposed at birth until the supposed age of adulthood when one is permitted to make certain decisions independently. A lack of conformity at an age earlier than the permissible bears consequences that compromise the individual's safety. John Locke's legitimate power engrained in divine grace supposes a natural form of subordination in the child-parent relationship (Hoff, 2015). Is power then legitimised by consent of individuals or the capacity of some individuals to exert control over others controlled as John Locke suggests?

Gramsci's theory of hegemony posits humans are controlled using not simply force but ideas that become accepted as norms and values to help maintain the status quo (Bates, 1975). Democracy may in this case mean superimposed consent for the party that loses a vote since no rebellion is expected to rise against the party winning the majority vote. The supposed freedom to choose is the junction where capitalism meets and diverges from democracy in the whole process of society reproducing itself. Inequalities are inevitable where capital owners are the minority. On the other hand, labour and a market for consuming the produce are prerequisites for the profitability of capital. Gramsci's theory of hegemony is reflected in liberalism ideologies such as liberal markets, in which operational procedures simply trickle down via hierarchical structures obstructing the involvement of the majority. Hence, can power be truly legitimate?

Villarreal (2020) disparages Hobbes for the desire driven behaviour of the humankind as a misplaced emphasis and an oversimplification of the human psyche. Villarreal (2020) instead advocates for empathy and moral consensus in the place of the constant pursuit for glory. Nevertheless, humans not only have desires but also preferences and the competition for things will be more evident in the desire for some objects than others. Biology highlights phenotypic (observable characteristics in an organism) and genetic composition differences in humans, which manifest in the physiology and behaviour of individuals (Nettle, 2006). While it is not true that every human being will seek glory for conquering acquisition of the same objects, instinctual seeking for more objects predetermines human survival.

Just as the physiological makeup of humans maintains the internal balance for their being, human intelligibility continues to foster ways of mastering nature to aid forward movement in their social existence. The connotation of being human automatically adorns a degree of agency with the power of being the human. Human existence carries different forms of power in relation to the social such as force, intellectual and instructive, all of which have the potential to oppress others. Humans tactlessly use inherent power to confront or oppose powers of others through debate, arguments, negotiation or mutinying (Rummel, 1976).

Foucault (1970) posits knowledge is powerful if purposeful in achieving intended objectives. Power perceptively carries luck as those who are powerful can use their positions in society to get what they want (Hindmoor and McGeechan, 2013). Although, I would argue that power inversely inflicts deficiency for dominated groups. High class status confers the power for mental production and intellectual domination (Nakamura, 2017). Purposeful knowing thus requires a suitable platform to achieve the desired goals. The extract below depicts something sinister about some of the powerful sleep scientists.

Two-thirds of adults throughout all developed nations fail to obtain the recommended eight hours of nightly sleep. I doubt you are surprised by this fact, but you may be surprised by the consequences. Routinely sleeping less than six or seven hours a night demolishes your immune system, more than doubling your risk of cancer. Insufficient sleep is a key lifestyle factor determining whether or not you will develop Alzheimer's disease. Inadequate sleep – even moderate reductions for just one week – disrupts blood sugar levels so profoundly that you would be classified as pre-diabetic. Short sleeping increases the likelihood of your coronary arteries becoming blocked and brittle, setting you on a path toward cardiovascular disease, stroke and congestive heart failure...the shorter your sleep, the shorter your life span...you will be dead sooner and the quality of that (shorter) life will be worse [Walker, 2017, pp. 3-4].

One may have a different set of questions or levels of anxiety after reading the citation above. Mathew Paul Walker (1974 – present), a professor of neuroscience would be bemused by my enchanted cackle when I first came across the contents of the passage above. Gelman and Guzey (2020) call out the manipulation of research materials through which Walker's (2017) publication on 'Why we Sleep' features a riddle of scientific and factual errors. Walker (2017) is an example of how insolvable contradictions in capitalism are repackaged into cultural concepts to seduce people into regenerating their identities to match the profit maximisation drive. New identities are anchored on the space between the logic of structures organising society and individual freedom, to carry on the master slave tradition (Ebert and Zavarzadeh, 2008). For example, the concern for expanding wealth increasingly guides scientific

advancements such as the artificial selection of the genetic composition of a child. What started off as a novel scientific development to prevent risks of inheriting diseases culminated into an extortionate possibility of enhancing attributes of unborn children (Agar, 2006).

It may not be every individual's goal in life to rule a nation, but society constitutes a web of different levels and forms of power starting from the family unit extending to other interactions outside of the family. Authority effectively frames all human relationships, which are most vivid when nonconformists realise penalties from exercising perceived human freedom (Klikauer, 2015). Foucault's analysis of what it means to be human takes on an evaluation of historical dynamics in human practices and lines of thought shaped by specific eras. In *The Birth of the Clinic*, Foucault (1973) examines the human as an object of knowledge development plus changes in medical practice from simply restoring health to diversifying illness according to one's socioeconomic class. For instance, peasants are happy with a simple meal on the plate. The wealthy on the other hand carry diagnoses of gastrointestinal disorders requiring gluten free diets to address bloating experiences from carbonated drinks like champagne and sparkling wine embedded in their routine diets. Developments in human medicine have had constructive progress in eliminating disease and increasing life expectancy. However, the improvements in understanding the anatomy of the human body have also elevated the power in medicine and scope for violation of how maladies are defined. Such achievements are what Horkheimer (1972) refers to as instrumental knowledge in sciences that sustains systems of domination.

Human practices for modernity are steadily creating pegs to fit and/or legitimise capital accumulation and thus the essence of Karl Marx's thinking. The historical trajectory of high calibre positions in the process of social reproduction illustrates ideologies relating to differences in race, gender, sex and ex-convicts. Why does the presidency of a black man demean a country's greatness in anyway if the value is to fairly level the ground for human existence? Racial division of labour had never allotted a person of colour to American presidency. *Hollywood* (Murphy and Brennan, 2020), a production by Todd Nenner and colleagues depicts the struggles with accepting difference amidst the dominations persisting to date. Set in the post-World War II epoch, *Hollywood* series unearth a monarchical form of control of ownership of the means of

production. The series also portray potential benefits of stepping away from traditional practices to create a different outlook for the entertainment industry. Unfortunately, consumers of sleep products serve a master who does not consider voices suppressed in the darkness of the night, and only affords to keep them just where they are. Leader's (2019) analogy of prison guards sneering at writings on the wall in faecal matter without reading the message is a revealing simulation of profit accumulation and primary sleep disturbances. The prison guards ruthlessly chastise the prisoner as an unspeakable human whose only place is the cell, for having used the only means of scribbling circumstances could avail for self-expression. The scenario could permanently imprint questions of where to place 'reason' and 'unreason'.

Social trends are embedded in powerful and dominating institutions that individuals succumb to without questioning. Marxian's dialectic method of analysing social relations aims to review historical periods of production to distinguish nongeneralizable aspects of a particular historical period (Kain, 1980). The historical era frames the context for understanding production processes and human experiences (Tyson, 2014). For example, attending school originally concerned attaining basic functional skills for social labour. Obtaining good grades in all taught subjects to ameliorate chances of a well-paid career or else risk existence in the lowest of social classes is now a naturalised social pattern. Education has been commodified with numerous institutes advertising high success rates of their products in securing employment as an attraction for fee paying students.

The requirement for reasonable cognitive performance and optimal productivity for measurable outputs guides people with primary insomnia down and around the paths sustaining capitalism. The proletariats surrender their wages to acquire something that they are ideally entitled to so that they can improve or perform at expected levels to produce the surplus value. Peddlers of primary insomnia remedies seek to obtain maximum gain from a biological (*mal*)function. The contradictions in the moral economy of sleep more for good health and wasting time through sleeping more identify the power topography of capitalism. Deceit and subordination become common places of comfort instead of equality and autonomy (Steinberg and Kincheloe, 2010).

Foucault's (1970) discourse on knowledge and power posits constant evolution of the concept of humanity because of the unethical pursuit for knowledge and hence power to synthetically control structure and functions of the human body. The traditional medical perspective did not consider some conditions like a desire for surgical procedures to resize a nose as pathological, as these are based on individual wishes or wants as opposed to a health need. Changing perspectives however may now justify the mental wellbeing behind a strong desire for a smaller nose as pathology in need of medical intervention to restore the individual to 'normal health'. Critical theorists seek to elucidate this form of dominance moulding the minds of individuals and compromising aspects of human nature.

The Marxian paradigm cultivates freedom from capitalist ideologies seeking to maximise the accumulation of capital at the expense of the working class through dialectical reasoning (Blackledge, 2018). To think that Marxian analysis is an old fashioned way of looking at a modern society is to disregard the future need of a doctor after curing one's first ever presenting disease. Eagleton (2018) questions the possibility of intelligible discussions of human greed, aggression and the growing nihilism in a society where market value is deeply entrenched in all aspects of human activity without applying Marxian analysis. True social modernity is reflected in the capacity of human activity to meet human needs adequately (Gerber and Gerber, 2017). However, a system promoting private property ropes generations into lifetime debt as labour strives to pay off mortgages, inheritable by the next of kin. Marxian analysis becomes alive when one is ready to admit that capital can only be found in the hands of the minority and the drive for its multiplication is persistent. Class struggles then hold an indeterminable future and hence the foothold for the supposed determinism in materialism is lost. My thoughts on emancipation from the evils of capitalism conclude perspectives on the choice of the Marxian paradigm as a core theoretical companion that saw me through the expedition of my study.

3.4 Conclusion: Is emancipation realisable?

Failing to believe in emancipation to this point would be equivalent to declaring a systematic review empty after convincing research funders about the viability of undertaking the review. Emancipation is a process that aims to free humanity from

ideologies impinging upon the full development of the human conscious (Huault, Perret and Spicer, 2014). The growth of scientific knowledge about the social structure and collective human behaviour introduces numerous groups eligible for emancipatory debates and discussions (Collins, 1965). Emancipation via Marxian thinking is often referenced as a rhetoric for the breakdown of the Soviet Union communism, an alternative to capitalism, and the failure of proletariats to take control and overthrow capitalism (Brookfield, 2014). This problem is witnessed in Horkheimer's essay on tradition and critical theory (Horkheimer, 1972) questioning the likelihood of actual emancipation of the oppressed particularly where a total lack of awareness to the oppression exists.

Emancipation nestled in the Marxian paradigm points to freedom from forces that oppress human existence with limited inclination to political liberalism. This is because emancipation accentuates preserving humanity in its true being (Nakamura, 2017). In this form of emancipation, the proletariat takes an inquiry into historical initiatives of property ownership to discover oneself in nature's being. The proletariat realises that nature's act of sleeping does not succumb to exchange value terms nor social status and its exploitation can be overcome to free humans from this aspect of capitalism. Collins (1965) contends that experiences of a status imprint an unforgettable mark on the people who experience the status and that self-actualisation, adequacy and achievement remain problems of modern life. Nevertheless, crises arising stimulate changes in perceptions of reality.

Theories embellish the meaning of observed phenomenon. Personal sleep experiences perceived objectively for optimal productivity are reduced to instrumental functioning towards selfish ends that reduce the value of my self-worth. Living within the rhythms of the natural world bestows freedom from practices and values of social and cultural developments. My reasoning against commodified sleep aims at preserving nature's given right in a logical way. My study may not lead to statutory laws abolishing the hawking of human sleep. However, giving the free rein to people with primary insomnia will actualise changes in the perspectives of the overall micromanagement of human sleep. Narratives aimed at transforming current social praxis require logical understanding of society as a historically constituted whole without which the present is incomprehensible. A Marxian analysis influenced critique

seeks to free reason from instrumental thought to reincarnate humanity in its natural form.

To this point, I had opted for autoethnography as one the methods for collecting data for my critical qualitative inquiry. Chapter 4 explores my various encounters with autoethnography that determined the direction of the concrete qualitative research approach for my study.

Chapter 4: Meeting with autoethnography

Introduction

Flirting with the idea of a critical qualitative inquiry in examining the self-management of a primary insomnia, I was the primary source of data, observing myself and my activity in the sleep craving community of practice. The specialised term for the research describing and systematically analysing personal experiences to illuminate a culture is autoethnography (Ellis, Adams and Bochner, 2011). Marrying the critical qualitative inquiry with autoethnography or deciding what the final product of my research would be at this point was a huge dilemma (at least to me). I loosely cognised autoethnography as a pact with authenticity in narrating stories about the self, but I clearly required full appreciation of the inner workings of auto ethnographers to be accredited as one. Chapter 4 constitutes the proceedings from my numerous encounters with autoethnography. I discuss my perception of the literature about the history of autoethnography; autoethnography as a method and presumed methodology; types of autoethnography; and using narratives in autoethnography. I clarify the autoethnographic context of my research, the use of additional sources of data in autoethnography as well as my inevitable encounter with the triad that qualifies the credibility of my research.

4.1 Historical overview of autoethnography

Autoethnography is a qualitative research approach evolving beyond the most commonly practicing disciplines of sociology, communication, information analysis and education to embrace health and wellbeing. Autoethnography originated from anthropology, a branch of social sciences representing a non-individualised 'I' to emphasise collective culture instead of individually perceived or constructed realities (Hughes and Pennington, 2016). The literature about the history of autoethnography does not recognise earlier autoethnographies perhaps because the term autoethnography had not been devised at the time.

Ellis, Adams and Bochner, (2011) presume postmodernism enthused autoethnography stemming from doubts about ways of undertaking research. The

postmodernism era promoted the questioning of absolute objectivity in conducting research and representing others for individual benefit with limited or no consideration of those represented (Hughes and Pennington, 2016). Multiple ways of knowing, acknowledging difference and the multifaceted nature of human conflict characterise postmodernism (Patton, 2001). Postmodernists are therefore critical thinkers who do not accept anything as true at face value but look beyond the surface to explore human experiences framed by social existence to reconstruct social realities (Rosenau, 2001). My proposed critical qualitative inquiry conjoined well with foundations of autoethnography.

Autoethnography dates to the 1890s when, people like psychologist William James' (1842–1910) personal experiences inspired the clarification of human experiences of mystical states (Douglas and Carless, 2016). James Baldwin (1948-1985) presents another vivid case of an early auto ethnographer penning non-fictitious experiences of living in various societies dominated by the powers of white supremacy (Baldwin, 1985). These narratives and many more of early feminist writers (Collins, 1986 illuminating the marginal positions of black women in academic settings; Davis, 1978 narrating the quest for black liberation from adversarial forces) depict what autoethnography stands for to date. That is, connecting personal experiences to wider social phenomena whereby reality is lived and not simply observed or recorded (Anderson and Glass-Coffin, 2016).

A few texts in the literature (Hayano, 1979; Hughes, 2008; Hughes and Pennington, 2016) acknowledge Raymond Firth's first use of the term autoethnography while discussing the contention around rights and appropriate means of representing society during a structuralism seminar at the London School of Economics in 1966. This was against the backdrop of the best display of insider knowledge of the life and custom of the Kikuyus between ancestral Kikuyu tribal man Jomo Kenyatta and a Kenyan born son of missionaries, Louis Leaky. Without mentioning the term autoethnography, Jomo Kenyatta's (1938) work was critiqued for being too subjective (Hughes and Pennington, 2016), in amalgamated experiences and a representation of life and custom of the Kikuyus in Kenya. Kenyatta (1938) engaged the self and culture in describing the Kikuyus as an integrated society based on the idea that all individuals were dependent on the tribal system governing the society in which they dwelt.

Physical as well as physiological needs were satisfied only through the family kinship. Heyano (1979) recognised Jomo Kenyatta's work as being the first published autoethnographic research combining autobiography and ethnography.

Heyano's (1979) further exploration of rights of representation of society gave rise to the crisis of representation in research, which swept through all methods of inquiry promoting the shift from post positivism towards postmodernism. Positivism underscores statistical verification of objective reality while post positivists embrace a degree of subjectivity in the untenable temperament of discovering absolute truth through science (Levers, 2013). The paradigm shifts from post positivism towards postmodernism aimed to address the epoch of the crisis of representation in research. Heyano's argument inclined authentic ethnographers to being full members of the cultures they studied rather than detached outsiders (Anderson, 2006).

The postmodern movement promoted new ways of thinking and free forms of researching truths and facts to enable people to understand themselves and others independent of the intricacies of theories predetermining approaches to research (Ellis, Adams and Bochner, 2011). The development and uptake of autoethnography as a research method is closely linked to post Chicago School advances in phenomenology, ethnomethodology and existential sociology that required students to record their own experiences and emotions along with research participants' (Douglas and Carless, 2016). I recognised the strong link of the self to a culture, and I sought to understand whether this association applied to autoethnography the method or the methodology during my subsequent encounter.

4.2 Autoethnography: A method or methodology?

A universally agreed definition for autoethnography is non-existent since its meaning and application continue to transform (Chang, 2016). I tentatively adopted the simplified definition that presents autoethnography as a research method and writing format attempting to "describe and systematically analyse (graphy) personal experience (auto) to understand cultural experiences (ethno)" (Ellis, Adams and Bochner, 2011, p.273). The focus in autoethnography is on critically examining oneself vis-à-vis a cultural context (Reed-Danahay, 1997). Culture as a concept connects the

self to a group of others in a community of practice, the individual being the focal point in acquiring and transferring culture (Chang, 2016).

Autoethnography can be applied as a research strategy and method of collecting data as opposed to a stand-alone methodology. A methodology constitutes "...the rationale and the philosophical assumptions that underlie any natural, social or human science study, whether articulated or not" (Campbell, S. 2016, p.658). Guba and Lincoln (1994) caution against reducing the question of how researchers go about what they believe can be known to research methods. The methodology provides a logical explanation for generating knowledge and why particular methods are used for addressing research questions. A paradigm suited to the research thus determines the methodology to be used in the research process. Conversely, Campbell, E. (2016) overplays using autoethnography as a methodology without highlighting the paradigmatic position that the research carries. Autoethnography is assumed to integrate postmodernism, critical theory and interpretivism (Qutoshi, 2015; Pant, 2019). However, an in-depth look into the afore mentioned paradigms negates the uniqueness of the multi-paradigmatic space that autoethnography is presumed to occupy. It is worth noting that within the realms of subjectivism, interpretivism is universal to all humans. Moreover, ontological and methodological perspectives of postmodernism are an open window for researchers to select a paradigm that agrees with the nature of phenomenon studied (Aldawod and Day, 2017).

The transformative temperament of autoethnographic research usually relies on ontological tenets of critical theory encompassing a socially framed reality specific to the culture of a social group. Autoethnography embodies a distinctive foundation that fully encompasses the subjectivity engrained in personal experiences (Collinson and Hockey, 2005). Inquiries conducted about humans are characteristically dialectical since they focus on human experiences in the context of contradictions (Lincoln and Guba, 1985). Methodologically, autoethnography often employs dialectic technics to challenge the status quo, raise awareness and transform ideologies that guide specific practices. Unlike other qualitative approaches such as ethnography, grounded theory and phenomenology, autoethnography is characteristically open to numerous ways of engaging with and presenting the self to ground narratives recounted (Anderson and

Glass-Coffin, 2016). However, autoethnographic research requires a paradigm for the inquiry spelling out the basic beliefs guiding the implementation of the study design.

The self is complex because it is influenced by a multitude of interactions in a fragmented social world. Thus, autoethnography benefits from a paradigmatic lens depicting a particular way of seeing the world (Tedlock, 2016). For example, the Marxian paradigm that posits social existence organises consciousness underpins the critical examination of the self in managing a primary insomnia in a mixed economy. On the other hand, discerning how personal experiences relate to culture may easily bear what Collinson and Hockey (2005) call the intellectual baggage, blurring the supposed unique paradigmatic view in an autoethnographic study. While the tales of my experiences embrace subjectivism in my construction of meaning, interpretivism also encompasses my understanding of cultural meaning. Constructivism supposes individuals form meaning in the process of engaging with the world they live in (Collinson and Hockey, 2005). Nonetheless, the language pertaining to the culture of a social group creates and limits what is real to an extent that, whatever does not constitute a designated word is not spoken of. Constructivism, therefore, easily engulfs symbolic interactionism to illustrate views constructed through social groups, language and communication. While broad theorising in autoethnography facilitates linking a web of interactional elements of an individual in society, focusing on the purpose of the research is vital for selecting the suitable design.

As observed earlier, methods comprise tools and techniques of collecting, managing and processing data. As a research method, autoethnography entails numerous modes of collecting data such as self-interviews, fieldnotes particularly for studies involving prospective aspects, artifacts, photos and personal documents like diaries (Chang, 2016; Anderson and Coffin-Glass, 2016). I afforded myself a smile through the toils of constructing my methods section when I encountered fieldnotes as a method of collecting data in autoethnography. Fieldnotes in a literal sense are compiled while conducting field based research. These include crucial observations a researcher deems relevant to explaining phenomenon that may or not be guided by research questions. My study comprised a retrospective design predicated on personal narratives largely relying on memory and an automated record of my activity in pursuing night-time sleep. I did not have any field notes as never did I think at the

time of the events that I would write about my experiences for the public to view. But Anderson and Coffin-Glass (2016) incline fieldnotes on any approach used in autoethnographies for self-description and introspection, which vary contingent on the topic of study and individual choices. I should hope that field notes are equivalent to journaling. The auto ethnographer's diary in which I logged some of the experiences of my doctoral student journey turned out to be my worry doll. While I never placed the electronic diary under my pillow with the hope of waking up wiser, I irregularly resorted to my journal to retell of the complexities of my expedition and the occasional revelations. Overall, autoethnography is a qualitative research approach drawing on personal experiences to describe and interpret cultural practices, beliefs and others' experiences in a social world (Adams, Ellis and Jones, 2017). Gradually, I felt like I could work with the aspects of this logic to continue exploring the exact positioning of my tentatively acclaimed critical qualitative inquiry. Founded on a personal account retold with the emotions the experience carries, autoethnography used as a research method opens both domains of the personal and inner self. Nevertheless, the cultural link to the self is a key defining characteristic of an autoethnography.

I grappled with connecting what I considered at the time to be a biological malfunction to a cultural tradition. My interaction with the sleep searching community of practice had only involved reading and writing reviews of my trials and errors when self-managing the so-called primary insomnia. I found my fit in the tales of safe spaces for feminist cyberethnographers, citing opportunities convened by the digital age for conventional or alternative forms of community interactions different to the corporal face to face (Gajjala, 2004). Locating a cultural identity for myself did not solve all the troubles with a research method that primarily focused on the choices the 'self' ordained. I had come across several types of autoethnography in the literature and I needed to establish the type that would guide my study during my next fundamental engagement with autoethnography. The subsequent encounter entailed understanding and deciding the brand of autoethnography to suit the format of my study.

4.3 What type of autoethnography?

A wide range of labels for personal narratives exist stemming from the uptake and utilisation of autoethnography as an approach to research by different disciplines (Chang, 2016). Examples of such labels include autobiographical autoethnography, autobiology, collaborative autobiography, critical autobiography, auto-observation, confessional tales, et cetera (Chang, 2016, p.47 – 48). The long list of labels raised a level of anxiety within me, worrying about the perfectly fitting autoethnography and whether I had to master each of the strategies on the list to justify my choice. I steered away from classifying the various forms of autoethnography strongly believing that the purpose of research or self-representation in written text would guide such categorisation and the final product also claiming the term autoethnography. As Chang (2016) argues, I chose to maintain the simplicity that the auto (personal account) and ethnography (cultural analysis) offer in research. Nonetheless, proponents of the qualitative research approach mostly branch autoethnography into two categories comprising evocative (Ellis and Bochner, 2006) and analytic (Anderson, 2006) camps.

Evocative autoethnography encourages free and autonomous use of language to enrich ideas in a way that engulfs the reader into the story and meaning behind it (Ellis, Adams and Bochner, 2011). Anderson (2006) defines analytic autoethnography as “work in which the researcher is (1) a full member in the research group or setting, (2) visible as such a member in the researcher’s published texts, and (3) committed to an analytic research agenda focused on improving theoretical understandings of broader social phenomena” (Anderson, 2006, p.375). Anderson’s (2006) approach to autoethnography compliments promoters of evocative writing, adding a systematic layer that transcends emotional accounts to highlight possible action to resolve the scale of the social concern identified. Whereas experiences of the world and their meanings hold true to individuals, humans are part of social groupings with shared values and beliefs yielding a degree of consonance in views of the social world.

Anderson (2006) does not provide a systematic way of undertaking an analytic autoethnography. Nevertheless, Anderson espouses Adler and Adler’s (1987) binary distinction of full membership to the research group including opportunistic and convert. Opportunistic members of a social group under study are either born into the

group or assigned to the group by circumstances beyond control. Conversely, converts start with a research idea and adopt the group's lifestyle including values during the research process. This implies that converts start off as ethnographers but change the focus of the study to auto ethnographers. This ideology highlights undeniable bias introduced by the gap in between the start and the change of focus of the study emanating from reflecting on experiences as they are being lived.

Anderson's (2006) illustration of an African apostle for a typical convert is rosy in the context of continued questioning of what the experience means to the individual. For example, an ethnographer observing a homeless community perched in one of the suburbs of a popular city does not offer levelled ground for adopting this lifestyle. I may have abandoned a cultural identity I was assigned to by circumstances, practices of which I write with close affinity in the current study. In this case, I find myself lost between the opportunistic and convert auto ethnographers. Culture is not about the individual auto ethnographer but practices that bind the group (Chang, 2016). I therefore consider Anderson's (2006) dualistic categorisation of auto ethnographers unnecessary because life experiences are an intersection of the personal and others (Reed-Danahay, 2017). Tedlock (2016) clarifies analytic autoethnography as the attempt to make the 'self' visible while maintaining the outward outlook on the world beyond the self and the tenet of ethnography of observing a cultural practice in a social context. The analytic aspect in autoethnography hence informs the conceptual understanding of relevant interventions into social concerns in a respective discipline.

The idea of evocative autoethnography brings me to a position that would alienate me from numerous encounters with primary and secondary data to question why we do research. I regard the question of 'why do we do research?' a little strange, particularly if I am inclined to answer it. Researching topics of interest enables us to acquire new knowledge. Quantitative research in healthcare or medicine is useful for demonstrating particularly the safety and effectiveness of pharmacological treatments when the primary aim is authentically maintained by the different stakeholders. Qualitative research in public health unmasks behavioural and cultural practices exposing people to risks of poor health and wellbeing (Isaacs, 2014). While an evocative narrative may disclose an individual's risks to poor health and wellbeing, a

narrative may as well be a novel based on true life stories when told in isolation of a conceptual framework.

Excavating personal experiences in autoethnography outside a cultural context becomes unwarranted to achieving a research purpose (Chang, 2016). The goodness of an evocative story would attract a range of readers some of whom may or not be interested in the topic. A story that connects the self to a cultural aspect of the social on the other hand will attract specific audiences including people directly affected by issues raised and action groups seeking to identify entry points for intervention. When approached with the notion of researching phenomenon in the social world, autoethnography requires a theoretical framework to enhance the wider understanding of issues identified. In a sense, my autoethnography acquired an analytic disposition that Tedlock (2016) distinguishes.

Ellis and Bochner (2006) postulate that evocation in autoethnography aims to seduce the reader into caring and empathising. Nonetheless, transformative writing is more concerned with discerning the experiences of those represented than the technologies of representation (Ebert, 2009). Occasionally, stories especially those wrapped around social problems carry the risk of degrading the status of others (Squire et al., 2014). For example, in their autopsy of analytic autoethnography, Ellis and Bochner (2006) attempt to narrate with emotion the suffering of a black man who lost everything during hurricane Katrina. The capacity to put oneself in another's position is founded on varying thoughts, mostly engrained in lived experiences of individuals. Personal emotions drawn from reading the text below capture Adam's (2016) insights into capitalism's organisation of empathy.

"If we were on sabbatical, or this was summer, we'd go there and help. Given our circumstances, we're left here to witness the witnesses. Their stories are a gift of living testimony. I feel obligated to accept that gift and to give some sign, however inadequate, that somebody is listening, somebody cares, somebody really wants to know." "I feel that way too, but it's almost too much to bear. Sometimes I feel as if I am there. And I can't help worrying that our own Florida Gulf Coast might be next" [Ellis and Bochner, 2006, p.430].

Narratives characteristically have a start, weave in others and draw in others when documented. Different readerships understand stories differently depending on whether a specific reader is more familiar with the context (Squire et al., 2014). Adam (2016) posits empathy in a capitalist world is an assumption on the internal experience with little bearing on caring. Cocooned in the melancholy of predictable language, the comfort states of a more privileged social class drive the moral obligation to show empathy and care. Ellis and Bochner (2006) refer to work commitments that distance them from acting on the disastrous happenings of hurricane Katrina. They express worries of what they might lose if they were to be hit by a similar natural disaster. How directly comparable is the imaginary storm in the Florida Gulf Coast to actual events of the devastating hurricane more than 6000 miles Northwest in New Orleans? Is this empathy or cynicism?

Evocative narratives emphasise story telling conveying meaning and analysis in the reader's interpretation of text. The meaning and purpose of the story is mispositioned and thus lost in translation in the absence of a direct link to the appropriate social context. The requirement of auto ethnographers to create an effect of reality to illustrate the complexity of human experiences (Ellis and Bochner, 2006) falls short of producing knowledge useful for perspectives into social phenomenon. I may not be a gifted storyteller constructing reality so precisely that the readerships' perceptions are congruent without any ambiguity. But I am also aware that focusing on the pursuit for hermeneutic perfection and the ability to thrill may obstruct my capacity to unmask deeper and core elements of my study. Denzin's (2016) summation of analytic and evocative autoethnography grounds life experiences in the past and present to critically examine and interpret events concluding with potential action. I followed a similar process beginning with questioning the physiology of humans, history of human practices and cultural conditions surrounding sleep to highlight present perspectives and advocate for a different viewpoint on contemporary sleep. This is analogous to what Boylorn and Orbe (2021) maintain is critical autoethnography seeking to tackle social injustice in a lived sphere.

I am not that autonomous individual whose life is freely chosen. The self-focused inquiry is aimed to create understanding of the context of a presumably wider social phenomenon (Mayor, 2016). Individual choices may vary in this realm of social

existence due to different predispositions. However, the core organising principles of society limit the extent of free choice (Reed-Danahay, 2017). Standard research processes of managing, analysing, interpreting and presenting research outcomes warrant practicalities of an analytical framework instead of merely sourcing data from and about others (Chang, 2016). The inquisitive and learning self finally settled with a critical autoethnography in the realm of subjectivism underpinned by Marxian and ACT–R theoretical frameworks. My tales about experiences of self-managing a primary insomnia needed to supersede the events and the relevance of sleep in a human life. Bochner and Ellis (2006) suggest that situating a narrative within existing literature changes the language of the story. However, locating a story in the literature follows the necessity to understand my tribe and whether events are transferable before underscoring the experience as a shared public concern that incites not simply emotion, but pragmatic action.

Employing autoethnography in research goes a step further than storytelling to incorporate cultural analysis and interpretation. Autoethnographic research orients in ethnography culturally in its interpretation of self-narratives of life experiences (Chang, 2016). Critical autoethnography, and I with it, committed to recounting personal experiences in a way that conveyed possibilities for a difference in circumstances. As Reed-Danahay (2017) suggests, I was en route to integrating critical theory and autoethnography to interrogate and explain the social positioning of a personal account to underscore interests of the cultural group the personal narrative serves. The critical aspect was a pathway to becoming, tracking possibilities of the transformation I advocated for as Holman Jones (2016) would recommend. The Marxian paradigm bridged the understanding of my sleep experiences with wider understanding of interactions in the social world and any differences emerging. Culture is pluralistic because it entails several forms and a myriad of definitions (Boylorn and Orbe, 2021). Data collected are systematically collated to attain relevant cultural understanding through framing the self-narrative in the context of the wider cultural or societal events. Culture does not bind individuals, but culture is non-existent without the individuals who make it up (Chang, 2016).

I had established so far that my study assumed an identity of a critical autoethnography. The choice of critical autoethnography for a research strategy

enabled me to primarily employ personal narratives to accomplish my study. Narratives about actual events in people's lives were fascinating to me since I had never written any about myself. The most recurring comment from my secondary school English teacher was that I needed to be more creative in writing credible stories than I presented myself at the time. Ordinarily, writing stories was not my point of strength, but what did autoethnographic narratives represent? At least I understood well that mining imaginations in the readership's minds was not the core of my narratives. I aimed to demystify the ever-increasing belief in the ideology of buying sleep through penning my own experiences of this journey. What follows in the next section is my general encounter with constructing narratives.

4.4 Constructing narratives in autoethnography

Narratives in qualitative research are tales or written text accounting events experienced and linked in a chronological way (Creswell and Poth, 2016). I had discovered earlier on that narratives take on different forms for example, biographies written by a researcher about the individual's life; autobiographies that constitute self-written accounts of the individual's life; life history covering the person's whole life; or accounts of personal experiences of a single or several episodes of events positioned in some context. Squire and colleagues (2014) offer a broad definition of a narrative to denote a set of signs which may be performed, signalled or presented as written symbols, verbal or acoustics. Events recounted in narratives are often tied to the human perception of time and they are qualitatively described based on the nature of the experience in focus (Bruner, 1991). The process of constructing a narrative involves selecting events from one's memory and representing these in a format of choice. Simply put, a narrative about the 'self' is a story describing personal experiences (Miller and Salkind, 2002).

Woźnia (2018) suggests it is significant to clarify the focus of the 'self' as either a metaphysical or phenomenal approach in narratives. The metaphysical self is a condition of being engrained in subjectivity. The 'I' is the subject in metaphysics whereas phenomenology focuses on experiences of the self as an object (me). Me in this case is a conscious representation of mental content experienced, which invokes possibilities of a range of emotions and sensory experiences (Woźnia, 2018). I would

quickly interject here that while narratives may elicit sensory experiences, the centre of a true story is to relay events, which may be common experiences of others in a cultural group. Autoethnographic research integrates the metaphysical 'I' (subjective existence) with phenomenal 'me' (experience of self) to recognise the self as an extension of a community as opposed to an independent self (Chang, 2016). However, another individual in the community would not be able to represent what it is like to be me objectively, because an objective experience of subjectivity is so far non-existent. Autoethnography thus presupposes a lack of objective truth, but simply the existence of narrative truths (Mayor, 2016).

Narratives in general terms may not be research oriented and they can be assigned to any text describing phenomenon (Creswell, 2007). Personal narratives are therefore not synonymous with autoethnographic research, unless they carry a research purpose with a sociocultural connection directed by the author (Wall, 2008). Personal narratives recounted for a research purpose offer enduring access to intimate data that would ideally be inaccessible through merely studying others (Gorichanaz, 2017). Nevertheless, Bruner's work (1991, 1994, 2004) on the conception of the 'self,' entails a behavioural focus, portraying a vindictive character in constructing meaning about personal experiences. I am not suggesting that these issues should be ignored, but they are perspectives sitting heavily on one end of the truth spectrum. For example, Bruner (1994) suggests humans have a tendency of portraying themselves as reactive agents in narratives. That is, narrators represent themselves as victims of others who have the power to force their will on them. I perceive this to be an attack on critical paradigms seeking to transform some practices to achieve a balance between individuals and society.

Society constitutes numerous layers of power relations. Drawing on Hegel's notion of being and becoming and Maslow's hierarchy of needs, the mutual interaction with and in society is a requirement for advancing or social mobility for the under privileged communities. Archer (2000) suggests that the mutual interaction of humans and the world limits variations in the concept of humanity. This is because nature's composition maintains the precision of humanity in humans from different eras and fortifies moral responsibilities for the existence of the humankind in the world. Unfortunately, Archer (2000) delineates this point of view from the enlightenment model of rational humans.

I agree to an extent with Archer's notion of limitations in human forms, but limitations only regulate and fail to terminate instinctual transformations as humans adapt to their surroundings.

Bruner's (1994) supposition of self-representation as a victim undermines the purpose of the different types of narratives and social positions as well as positionings that curve possibilities for individuals. Autobiographies for example are assessed critically for failing to incorporate the social space in which a life is lived (Reed-Danahay, 2017). Some people will accept domination as their social space due to limitations in opportunities in their social sphere. Nevertheless, views about the 'self' characteristically presenting as a subject or topic of oppression should not make me feel guilty for pointing to the perceived injustice in my view of the social world. Factors of social existence such as class and political positions held bestow individuals with more powers than others and stories about living in such realms are bound to exhume horrors in the underlings' experiences. Nature also confers difference in individuals for example, in physical traits and abilities both carrying varying degrees of power in society. Archer's (2000) view of postmodernists as propagators of a human existence chocking on social forces is not unprecedented after all, wherein antihumanism is a reconstruction of a human 'self'. Otherness has a role in representation of the self in the social that the 'self' partakes because the self cannot simply create for self's sake. Did I have to be concerned about the dark circles around my eyes if I was convinced that the patient-like look did not go beyond my mirror?

Humans develop and adapt to their environments, some with capacities to adapt easier than others. On reflecting on parameters of social belonging, some humans dehumanise others to enhance their own means of survival in a respective environment. Agency is thus bound by context and individuals adjust their actions to the needs of emerging circumstances (Emirbayer and Mische, 1998). The structural context of agency considers morals, the law, personal identification and physical constraints many of which are products of human practices. Bruner's (1994) hypothesis of self-representation is therefore incomprehensive without considering class and power relations in society.

Bruner (1994) and (2004) also suggest remembering the self in narratives tends to portray consistency in life stories eliminating some experiences and highlighting turning points such as divorcing a bully. In a similar vein, Bruner (1994) condemns the self for presuming commonness in experiences and behaviour with the other. Nonetheless, Nancy (2000) posits meaning is reflected in togetherness. Narratives agreeably have a purpose, and a narrative inquiry seeks to investigate the discrepancy between an existing situation and what it ought to be. A narrative method is consequently context bound arched around research questions, eliminating tales that neither the storyteller nor the researcher considers relevant to the individual's perceived meaning attached to the experience (McAlpine, 2016).

Narrative research differs from life history research given the wider social, historical and cultural interests of life history rather than individual experiences (Hatch and Newsom, 2010). The number of primary schools I attended before joining secondary school is a detail that I consider irrelevant to my experiences of sleep in adulthood. The contention that reconstruction of reality changes with intellectual development (Bruner, 1991) is true to the extent that the changes are realised in the language instead of the subjective meaning. Some life experiences are so distinctive that neither intellectual advancement nor social values would change the storyteller's meaning. This I hold true to my perception of acts of unkindness.

A polygynous father takes his six-year-old daughter to live with one of his wives. Brought up as a catholic, the girl attends church every Sunday and catechism classes on Saturdays to prepare for her first holy communion. She eventually passes the test one Saturday and skips all the way home, eager to break the news about receiving first communion the following Sunday. She can barely contain her excitement about wearing a new white lacy dress, a white pair of shoes and a tiara for the ceremony. She sometimes speaks to her father in the morning at breakfast, but the household protocol requires children to discuss their needs with her father's wife. The girl's stepmother asks for a written note to reaffirm the good news, which the little girl obtains from the catechist the following Saturday after rehearsals for the event taking place the next day. The little girl is confident that her first holy communion attire is pending evidence confirming the event. Producing the evidence however earns the little girl a clean-shaven look instead. An older stepsister finds her crying hysterically with a shaven head

and promises to put something together from her wardrobe for the little girl to wear the next day. The little girl gratefully wears the wiggly itchy wig and ill-fitting dress as she drags around canoe like shoes all day that leave bruises on her small feet.

Intellectual development may change the adult's description of the little girl's experience from bad to despicable, but the connotation surrounding the happening remains the same. Bruner (2004) argues that memories are often victims in reconstructing the self, for the self is both a conscious and physical existence. The above account may not constitute a story about any auto ethnographer's experiences with sleep and they may consider it irrelevant to research question(s) if there is no perceived contribution to specific behaviour in adulthood. Like many qualitative methods, narrative inquiries are iterative, oscillating between collecting and analysing evidence to ratify stories as resources and clarifying their interpretation (Polkinghorne, 2007). While the self may constantly reconstruct to adapt to the environment, my perception of premeditated acts of unkindness accentuates memory of distinctive events that other life experiences cannot taint. Temporal changes of the individual from 'childhood' to 'adulthood' may have wider social and cultural meaning such as acts performed on children that would not be applied to fully functioning adults. However, the overall meaning does not link to relativism informed by social or cultural practices. While stories are accounts of life experiences, their purpose is not necessarily to endorse the accurate description of events, but the meaning people experience (Polkinghorne, 2007).

My encounters with constructing narratives were thought provoking. I ardently disagreed with the belief that narratives of the self are vindictive devices for soliciting pity as Bruner's (1994, 2004) work suggests. However, I learned that the aim of the research shapes personal narratives for qualitative inquiries such as an autoethnography. The current study is a naturalist take on recounting personal experiences deeply rooted in the capitalist ideology of the inferred fair monetary exchanges and my wake from this falsely organised consciousness. Narratives engrained in the naturalist perspective seek to detail events and their meaning while highlighting complex actions and their assessment (McAlpine, 2016). A naturalistic study thus resourcefully maintains the organic composition of experiences and modes of exploring these (Athens, 2010). However, I sense contention in dichotomising

narratives into naturalist and constructionist perspectives, one concerned with observing and describing external reality and the other examining the construction of meaning in relation to the social respectively (Squire, 2014). External reality that also includes a social element, influences both perspectives wherein meaning is investigated as a collective. Perhaps the disagreement is reflective of the overlap in defining narratives where epistemic divisions then become cumbersome in their use. However, the context cautiously bestows logic to constructing personal narratives of experiences embedded in social interactions.

I could have been ready to proceed with penning tales after the inspiring encounters with constructing narratives in autoethnography. Nonetheless the auto was incomplete without a definitive cultural link. Dealings of a community of practice are the outcome connecting a group to qualify the cultural lens of the group (Chang, 2016). The section that follows explores my connection to the social space and a community of practice in the self-management of the primary insomnia.

4.5 The context beyond the surroundings of my story

I carry several identities that position me in social structures, some of which predispose me to outcomes I am happy with, while others are a hindrance to opportunities in life. For example, I am a researcher in my work, a wife and mother in my nuclear family and belong to the working class because I earn a wage that affords me some of society's produce. Clarifying the setting of my study accentuates the social space in which another person in a comparable environment views events in their life course as Reed-Danahay (2017) highlights. My study underscored experiences of managing a self-diagnosed insomnia that was not related to other known illnesses. The active search for a remedy to restore normal functioning is one of the moralities of people with primary insomnia that drive consumption in the expanding sleep market. I use the term 'normal function' in the sense that one can follow the usual routine involving going to bed at a time willed and falling asleep with ease for an opportune period.

The critical autoethnography I embarked on situated studying my experiences within a cultural context. Locating the self within a cultural position presented the opportunity

to bridge the knowledge gap between insider and outsider understanding of experiences and the social structures that mould experiences (Boylorn and Orbe, 2021). However, the insider-outsider configuration seemed insufficient. I could have assumed an identity of a native anthropologist examining the culture of a consumer tribe retrospectively but having relinquished my membership made me an outsider to the community of practice. The insider-outsider dilemma has been discussed at length particularly in ethnographic studies where researchers espouse participants' cultural identities (Maydell, 2010; Kerr and Sturm, 2019; Crean, 2020; Shai, 2020). Narayan (1993) challenges the notion of a perfectly aligned or native insider because culture is not homogeneous. Emphasising the dualistic and inflexible either insider or outsider does not recognise the complexity of society and the fluidity of social identities. For example, ontological positions assumed in academia distance individuals from the cultures they identify with, whereas demographic traits predispose individuals to differences in opinions and/or the decisions they make in life. Dwyer and Buckle (2009) also challenge the researcher's insider-outsider dichotomy and instead advocate for occupying the space between to embrace broader ways of knowing and understanding ourselves and others. I espoused the same conclusion to position myself between members of the tribal group whose culture I knew almost too well, and the quitter of practices that initially qualified me for the identity of the group.

I had informally referenced a consumer tribe as a community of practice, but I felt a strong compulsion to designate an official identity for the social group I once fully associated with. Achieving my goal of de-commodifying the self-management of what society refers to as primary insomnia required a party to clarify the proletariat's cause for overthrowing capitalism. Why? Because obstacles to class consciousness stemming from subcategories such as petty bourgeois and racial divisions between the proletariat and the bourgeois exist (Merleau-Ponty, 1969). I chose the term 'primary insomnia consumer tribe' to represent the group of people entwined with their experiential world of perpetually buying and using goods and/or services marketed to provide guaranteed results for tackling the primary insomnia.

Culture constitutes the context within which the group associated with the culture navigates the intricacies of everyday life (Draper, 2015). Similarly, consumer tribes usefully describe shared experiences of consumption behaviours different to the

subcultures of communities that consume specific brands (Goulding, Shankar and Canniford, 2013). Membership of the primary insomnia consumer tribe points to people who unconsciously submit to the control exerted by the sleep niche market. The unconscious aspect of the membership is formed by the building blocks of human social life located in multiple social groupings that we are knowingly or unknowingly part of in everyday lives (Cova et al., 2007). Like my newly designated social group, members of consumer tribes possess the means to engage in both buying and using of 'things' (Warde, 2005; Shove et al., 2007). The goals and moralities of the practice usually drive consumption, which makes acquisitions merely a subcomponent of practice (Shove, Pantzar and Watson, 2012). The influence on activities may be deeper, opening the guiding framework to further developments in grasping the social world of the primary insomnia consumer tribe.

The critical element in my autoethnography featured a personal account potentially representative of others in the primary insomnia consumer tribe. My assumption of common experiences with others in the tribe aligned well with the current exponential growth of the sleep market, generously fuelled by a large population. The consumption of goods and services distributed through markets differentiate consumer tribes from the conventional anthropological tribes (Cova et al., 2007). Nonetheless, globalisation has shaped forms of contemporary tribes whereby tribalism is currently considered primitive and divisive (Vismara, 2018). Even then, belonging to a tribe still pertains to a form of social organisation that does not necessarily account for political interests. I considered my attempt of identifying a suitable label for the social group whose culture I loosely and yet strongly connected with a success. However, clarifying the characteristics of my non-political party ought to justify the plausibility of overthrowing capitalism's encroachment on human sleep.

Boylorn and Orbe (2021, p. 3) present culture as "pluralistic, subjective, personal and potentially inclusive". On the other hand, Chang (2016) emphasises that culture is a collective, but individual autonomy in espousing characteristics of a cultural group brings about the diversity in the culture. The primary insomnia consumer tribe constitutes a community of practice whose common actions bind the collective as a cultural group through which members acquire knowledge and share experiences of reality. Membership in the primary insomnia consumer tribe is self-selecting and

purported free will influences the development and rejection of the group's identity. The primary insomnia consumer tribe constitutes active agents in creating the value of commodities. Their socialisation does not pivot around consuming a particular brand, but comparable experiences and shared activity in consuming a range of brands. Consumer tribes are often short lived and characteristically lack loyal responsibilities to the cultural group (Goulding, Shankar and Canniford, 2013).

Membership to the consumer tribe is subject to continuous engagement in certifying activity. However, knowledge acquired through this activity is not static as individuals constantly examine the value of their participation in this specific community of practice. The social link in the primary insomnia consumer tribe is established goods and services to which members attach value and thus, the demand for commodities on the market declines with decreasing value (Cova, 1997). The conflict between failing to satisfy the needs of the consumer tribe (use value) and the fair value (estimate of price considering production costs) of the commodity stimulates a power balance between the consumer tribe and capital owners (Goulding, Shankar and Canniford, 2013). The poise in power relations emanates from the contradictory composition of a commodity that Marx (1996) distinguishes as exchange value and use value. Use value including that of the same commodity varies widely while exchange value is a constant (Harvey, 2014). Consequently, power relations fluctuating between manipulation and emancipation explicate the short-lived temperament of groups such as the primary insomnia consumer tribe since members, individual preferences, knowledge, resources and market commodities keep changing. The turbulence of all these factors offers an opportune landscape for disbanding the social group.

Personal narratives should constantly be probed for the ultimate benefit the research and writing seek to attain (Reed-Danahay, 2017). The critical therefore pulls apart contexts that engender predicaments particularly cultural identities constructed under the influence of power relations (Boylorn and Orbe, 2021). Delving into managing a primary insomnia in a growing sleep market using a critical autoethnographic lens mapped the path to demystifying commodified sleep. Critical autoethnography offered the suitable study design for analysing narratives about the self to reveal identities and the dynamism in the overall cultural community of practice. Having identified my social

group did not warrant a direct link of my narratives to cultural practices of the primary insomnia consumer tribe. How did I proceed with linking myself to the primary insomnia consumer tribe considering the proceedings from my encounters with critical autoethnography?

4.6 Using other sources of data in critical autoethnography

Lee (2019) writes about the pursuit of data in an intriguing case of a retrospective autoethnographic study. The various data sources were useful for assembling the chronology of events in Lee's (2019) narrative work. However, the writeup barely linked the overall research to experiences of a social group espousing a similar identity and did not explain why it was important to pen the exacting experiences. Reading Lee (2019) left me wondering whether the author sought any form of change from highlighting the impact of ideas structuralism has established.

Experiences are lived within a context that subjectivity endeavours to connect to (Chang, 2016). This does not necessarily require data from and/or about other people, because the hard pursuit of data can temper the auto existing alongside the ethnography. Data external to personal narratives offers an additional lens to the analysis of subjective experiences of the social world. However, I recognised a skewed understanding in the literature of types of data that can serve this purpose. I surprised myself here that I was propelled to revisit the evocative versus analytical debate in autoethnography. I agreed with Vryan (2006) that continuing the debate was mostly counterproductive, serving no purpose besides degradation in a bid to simulate positivism. I believe much confusion surrounding external data emanates from integrating the auto with the ethnography. Moreover, proponents of analytical autoethnography value including data from and about other people to append analysis to a supposedly evocative narrative.

Opening the access gates to the inner depth of both physical and cognitive experiences undiscoverable through in-person interviews is unique to and sufficient for autoethnography as a research process and product. The analysis that can also be applied to evocative narratives, is simply part of the process for any inquiry seeking to answer pre-set question(s) (Vryan, 2006). Experiences do not take place in a

vacuum devoid of the social and the auto stays intact with the ethnography when delving into the inner self while connecting to a social identity and the culture. Ethnography relies heavily on memory since memory also shapes the sense and language of field notes (Coffey, 1999). But most auto ethnographers defy relying explicitly on memory and usually seek hard data to support their assertions (Wall, 2008). Nonetheless, it is not a requirement in other research methods where similar but possibly shallower information is likely to be gathered if another person interviewed me on a similar topic of interest. If the 'other' like me is interesting enough to become a subject of research, so am I. Wall (2008) argues that the unnecessary pursuit for hard data in autoethnography mirrors a positivistic era of thought wherein information is objectified to hold value. Personal narratives offer the autonomy to express the self from a specific position of possible expressions (Eriksson, 2010). The critical element of my autoethnography was a personal mental space of how I perceived my experiences with night-time sleep plus joining and eventually surrendering membership to a consumer tribe for people with primary insomnia.

I had planned to connect my experiences with those of the primary insomnia consumer tribe using the literature published in academic journals. I discovered that experiences of insomnia in the literature, including samples exposing a degree of compulsive consumption (Cheung 2014; Rezaie, Khazaie and Yazdani, 2016; Mazandaran et al., 2017) are fragmented. Experiences are reported from the authors' interpretation of events. Interpretations without causal analyses generate partial realities with immaterial meaning, which is the perfect domain for the survival of capitalistic tendencies (Ebert, 2009).

I collected newspaper articles some of which I stumbled on through uncoordinated searches while some were recommendations from my first mentor. The six narratives published in the UK newspapers that I stored to consider within my critical autoethnography highlighted practices identifying commodified sleep. However, I chose three stories published between 2016 and 2021 to reflect the period between my experiences of a primary insomnia and the deep embeddedness into my research project respectively. Chapter 6, which presents my narrative analysis and synthesis details my involvement in the tug of war for connecting the 'I' to the community of practice for people with primary insomnia and the link to the pursuit for hard data. I

integrated visual inspirations in my critical autoethnography to simply exemplify the existence of a significantly sizable clientele base for the baits of profit maximisation in the sleep market.

Visual inspirations

Visual research methods entail the use of images to understand contexts in the social world (Hartel and Thomson, 2011). The visual sense of humans enables appreciation of images. Using images to raise public awareness to social concerns with reform agendas dates to the early nineteenth century when a series of photographs were used to show misery. However, images used in research should add value to answering research questions (Eberle, 2018). Visual data strengthen narratives and illuminate issues discussed for the enhanced understanding of human experiences. For example, photographs are visual tools that elevate voices to describe experiences, some of which would remain unheard minus the photography (Kim, 2016). I photographed tempting and perceptively unsafe spaces, particularly for a person full of regard for the ideology of buying sleep. Some of the photos were of the spaces I had spent time, carefully reading and locating the perfect sleep commodity. I took photos of material things in physical spaces (n=13) devoid of consumers but meant for the consumer, and online platforms portraying my sleep commodity consumption activity (n=11).

Interpreting photographs entices different knowledges of contents in the image (Banks and Zeitlyn, 2015). This would ideally involve apportioning descriptive labels to objects and spatial layouts, but narrative data consolidates one's understanding of the experiences accounted. Aligning visual data with textual data connects for example, the people at risk of succumbing to capitalists' ideologies about night-time sleep and the wider community of individuals who are hooked on the pursuit for better night-time sleep. I used photographs of the marketplace to demonstrate the lures and the role that consumerism plays in sustaining the involuntary membership to the primary insomnia consumer tribe. Presuming more than 90% of the information the human brain processes daily is visual (Manic, 2015), photographs were an opportune source to recreate my vulnerability to some of the market lures. Given that my study took on a retrospective design, the choice of photographs reflected sentiments of the

compelling ideology for discovering something I yearned to find externally instead of within my physiological make up.

Marketers use visual content to humanise and enhance how people relate to products on the market. Photographs consequently clarify the context of narratives and the problem the research seeks to address (Marquard, Moen and Brennan, 2006). Photographs also offer data that are contextually holistic, accessible and stimulate action for fairer practices (Hartel and Thomson, 2011). Schwartz (1989) supposes photographs are records of reality that stimulate unmediated and unbiased visual interpretation. At first, I took these assertions for their own sake and the task of applying them in practice took a diversion from the high road as explained later in section 6.1 of Chapter 6. While some of the online photographs I chose represented evidence of my irrepressible urges, records of reality do not always entice unbiased visual interpretation. Photojournalism is often practiced with intent inclined towards headlines that would perfectly grab the attention of the masses. For example, whether Kevin Carter (1960-1994) should have shooed off the vulture waiting in the wings for the famine-stricken child to die before taking the photograph entuses debate. The photo that captured one still moment earned Kevin Carter the Pulitzer award in 1993 (Shahghasemi, 2020). Unlike the ambiguity that may surround prospects of academic awards, the Pulitzer Prize has direct financial gains attached.

Images are also thought to embody blurred epistemological lines oscillating between the boundaries of realism and interpretivism (Hartel and Thomson, 2011). Realism presumes possibilities of obtaining reality independent of the mind. Critical realism on the other hand supposes uncertain, incomplete and truthlike scientific knowledge (Niiniluoto, 1991). The interpretative paradigm posits a lack of one objective truth and existence of several truths, contingent on the context (Draper, 2015). Consequently, meaning linked to the visual is actively constructed within the image, which lends the image to various interpretations. The image of the famine-stricken child that led Kevin Carter to fame and three months later to despair and death (Shahghasemi, 2020) stillly captured one story. For this reason, judgements made are fallible and no one judgement assumes authority simply from being made (Papineau, 1985).

Context shapes the data and in autoethnography, the context is the reflection in the mirror portraying the auto ethnographer (Pitard, 2016). The emotional density expressed in still snapshots is an accurate reality imposed by the photographer (Schwartz, 1989). Conversely, Muncey (2005) contends photographs are deceptive still moments in time, conveying subjective truths masking emotions laden deeply in the auto ethnographer. The critical realism approach embedded in my narrative synthesis allowed for truthlike knowledge, tackling the emerging polarity between imposed reality and masked truths in the still snapshots I used as an extra source of data.

4.7 Evaluating the quality of my study: Validity, generalisability and reliability

I was faced with the check (validity, generalisability and reliability), which I had to address for doctoral research, lest the readers' confidence in my storied text was questionable. Verifying the validity, generalisability and reliability of an autoethnographic study using positivistic criteria is equivalent to fitting a square peg in a round hole as Allen-Collinson and Hockey (2005) iterate. My first thoughts were inclined on Polkinghorne's (2007) advice to relay practicalities of attending to some of the limitations encountered in narrative research to enhance the reader's confidence in my claims. However, considering how the triad applied to a critical autoethnography persistently popped in mind like a jack in the box. I knew from previous small studies that validity, generalisability and reliability carried different meanings for qualitative and quantitative research and that some arguments called for different terms when demonstrating rigour for each inquiry. Never did I think that I would ever have to give the whole contention committed focus. So how do they differ?

Objective truths are measurable, reliable if they produce the same results, valid if measurements target what they are intended to measure and generalisable if results are applicable to groups beyond entities of the study's participants (Golafshani, 2003). Conversely, validity and reliability in qualitative research are a cry for substantiating the credibility of an inquiry, mostly stemming from the accurate representation of participants' views (Creswell and Miller, 2000; Morse, 2015). Guba and Lincoln (1989) advocate for addressing the dependability, confirmability and transferability of a

qualitative inquiry, while Morse (2015) argues that qualitative researchers should revisit the use of rigour, reliability, validity and generalisability. The general agreement about the contentious use of concepts validity and reliability in qualitative research is with the rigour embedded in the processes of conducting an inquiry to ratify its quality. On the other hand, Polkinghorne (2007) suggests, validity concerns acceptable evidence bearing in mind different forms of knowledge require different evidence to ratify claims researchers put forward.

Accounts of engaging in autoethnographic research (Holt, 2003; McIlveen, 2008; Moore, 2013; Denshire, 2014; Campbell, 2016) portray a plethora of insecurities mostly around the rigour of inquiries and opportunities for publishing research outcomes, especially for people in academia. Validity in paradigms with a critical perspective is particularly questioned due to the researchers' presumed assumptions underlying social reality (Creswell and Miller, 2000). For critical theorists, written narratives must be heavy handed on demonstrating their contribution to the field of study. Morse (2015) posits reliability and validity make up the rigour of an inquiry and that theory development from qualitative studies facilitates the application of research outcomes to other settings. On the contrary, theory development is not a pre-set outcome for all qualitative research. Moreover, the implication here is that all inquiries nestled in grounded theory are generalisable. It follows that most inquiries underpinned by grounded theory simply clarify concepts and fall short of an all-embracing model describing and predicting phenomena (Timonen, Foley and Conlon, 2018).

The colonial violence in academia complicates decolonising processes of generating knowledge through autoethnography (Dutta, 2018) and the push-pull between rigour and autoethnographic research is relentless. The standing critic of autoethnography in the literature is self-indulgence due to employing the self to provide data for further analysis in the research process (Holt, 2003; Allen-Collinson and Hockey, 2005; Ellis, Adams and Bochner, 2011). The ongoing struggle for doctoral students is producing knowledge considered authentic in academic circles, as the muddle between self-indulgence and self-knowing often becomes appealing (Freeman, 2015). As explained earlier, personal accounts can be about experiences that are not necessarily research orientated. Research aimed at answering specific questions to generate viable

knowledge should include a methodical way of undertaking the research. Nonetheless, context is crucial for any form of generalisability to apply to subjective experiences such as night-time sleep challenges. For example, the minority of individuals with the autonomy to sleep anytime in 24 hours may have no inkling of night-time sleep difficulties.

Muncey (2005) illustrates the emancipation found in the use of autoethnography because mainstream avenues of generating evidence did not accurately represent the author's real-life experiences. Muncey (2005) used photography, artifacts, metaphors and documentary analyses jointly to portray emotional bewilderment and clarify experiences of teenage motherhood. More so, Muncey (2005) justified the use of multidimensional methods as fulfilling a requirement to conform to the hegemonic culture of the academic world of generating scientific knowledge. Triangulation, a technique involving use of different types of information is believed to be cogent for connecting the self to others and demonstrating rigour of a qualitative inquiry (Creswell and Miller, 2000). Could the theoretical perspectives, visual inspirations and the published literature incorporated throughout my critical autoethnography be the safety net for the rigour required of my study?

People organise their memory of events through narratives and the credibility of a narrative is contingent upon the person relating to the experience instead of the statistical authenticity of phenomenon (Bruner, 1991). Reader generalisability that Misco (2007) infers seemed pitiful, particularly without warranting that the right audience will have read other cases in addition to my work to trust my knowing as a reality. Individuals wear unique lenses of interpretivism, with lived experiences being the curvature in the uniqueness of a person's lens. Could my critical autoethnography of managing self-diagnosed primary insomnia transcend the context of a working-class mother required to be up at specific times to align with society's organising structures?

Historical realism posits the ability to know events from perceiving them and acknowledges limitations in the accuracy of this knowledge because the entire context of events cannot be perceived (McCullagh, 1980). The context that generalisability is assumed to hold (Guba and Lincoln, 1981) is begotten by the designation primary

insomnia, which carries a magnitude of inaccuracy embedded within contextual influences. I was confident about matters of the generalisability and transferability of my study at this point, until I thought about concerns of the autoethnographic illusion of truth and relying on the nebulous temperament of memory. What did it mean to truthfully write oneself?

Although it is through narratives that we understand human experiences of the world (Moen, 2006), the reliability of the human memory in organising life experiences is often questioned. This form of questioning for a retrospective autoethnography somewhat corroded the self-assurance I had developed in the credibility of my narratives. I became hopeful after reading about the human experience of life events as a domain inaccessible to validation, a distinction that reformed social science research (Polkinghorne 2001). Husserl (1970) also argued that objective logical theory does not overcome subjectivity because it is through subjective interpretations of the humankind that validity is evidenced.

Personal narratives depend on their constituting parts for holistic viability (Bruner, 1991). The 'I'(auto) in ethnography confers ownership of the experiences and legitimises my presence in the group I speak for. I echo Low's (2012) supposition that the past exists in my ambiguous presence and my recollections of it is obtainable from the dense accumulation of experiences of the world. I had access to objective evidence such as electronic bank statements of my activity in the primary insomnia consumer tribe that could verify my narrative. However, I was cautious of privileging versions of reality through promoting specific products or suppressing others with legitimate interests. Electronic bank statements of my consumer activity maintained an open window for triangulating the external with internal impressions if my memory stumbled in the process of recounting events.

Reflexivity is fundamental to autoethnography to enable constant awareness of influences from experiences of interacting with a culture or possessing a specific cultural identity (Ellis, Adams and Bochner, 2011). Bruner (1987) contends reflexivity may misrepresent what the storyteller may have in mind, when a criterion of self-rightness is enforced on inner perceptions. From Bruner's viewpoint, the objective truth is alienated from narratives because people acquire knowledge and

understanding through reflecting on and interpreting experiences of life. I acknowledged that the writing process about past experiences entailed careful thought of representing the self to others, which could influence representation of the truth as Wall (2008) observes. However, experiences are neither preconceived nor pondered as they are lived, and whatever is encountered in life is authentic to one experiencing it (Van Manen, 2016). I did not believe that people reflected on waking, eating and sleeping as core needs for existence and that every other aspect of life ranging from shelter to self-actualisation are needs for survival. Life is lived prospectively but it is only discernible retrospectively (Muncey, 2005). Events subjectively experienced are complex and the urge to resist concealing some aspects as lived is compelling (Polkinghorne, 2007). Nevertheless, I made a deliberate choice to recount my encounters with sleep spanning a specific period in my life. A sincere belief in the need to transform the contemporary gawk on human sleep underlain this choice. I maintained awareness of influences of self-representation to keep my narrative analysis closest to experiences as lived throughout the research process.

Autoethnography characteristically embraces the researcher's influence of the research process (Ellis, Adams and Bochner, 2011). The self as the subject of study cannot be separated from the researcher. I repeatedly recognised that this relationship raises concerns about the credibility of the study. Nonetheless, it was more beneficial to nurture the researcher – researched relation than to fantasise about its non-existence as Ellis, Adams and Bochner (2011) suggest. Autoethnography was borne from pluralistic ways of thinking about research and conducting research because truth in the social world is not evaluated using a customary denominator. Accepting claims made in narratives as evidence is contingent on the researcher's presentation and justification of ideas (Polkinghorne, 2007). In the place of validity, reliability and generalisability that conform to the positivist paradigm, I espoused credibility, dependability and potential transferability that Lincoln and Guba (1985) recommend for enhancing the trustworthiness of a qualitative inquiry. I accomplished the core activities that are amenable to critical autoethnography for producing credible interpretations. These encompass prolonged engagement, (self) observation and triangulation; and peer debriefing to check the research process (Lincoln and Guba, 1985). I invested sufficient time in understanding my consumption habits of sleep commodities and night-sleep experiences of other people that I spoke to or read

about in the media. I drew on various sources of information and a network of theories that I triangulated throughout my narrative analysis and synthesis to improve the credibility of my study. The photographs I took of the marketplace and consumption activity authenticated the context of an existing primary insomnia consumer tribe, contributing to the growth of the sleep market.

Peer debriefing exposes the researcher to analytic sessions to probe for biases, methodological stance and significance of the study that may not be explicit if the researcher does not speak of them (Lincoln and Guba,1985). I attended research seminars where I presented the design and the philosophical underpinnings of my study. In addition to regular mentorship sessions that often subjected me to reflective and searching questions, I used journaling to document lessons I learned about myself and the development of the research process. While the electronic statements of accounts were a secure audit trail of my sleep commodities consumption habits, I described the steps I followed at each stage of the research process, highlighted reasons for the choices I made and recognised the limitations my critical autoethnography. Through documenting the various steps of the research process, I demonstrated transparency and consistency to ratify the dependability of my study.

Lincoln and Guba (1985) underscore that the magnitude to which study findings can be applied to other settings is not necessarily a mental construction of the researcher. Instead, the onus is on the researcher to detail social positions and positionings to clarify the context of the inquiry. I emphasised contextual comparison throughout the thesis, particularly in Chapter 1 section 1.5.1 addressing my understanding of reality. I highlighted that even within the same social structures, temporal and spatial elements may be different for the social processes that bind individuals. Descriptions of my identity in the sum of social relations and aspects of social existence that I could not change during the quest for good night-time sleep may enable others to make judgements about potential transferability.

I entirely shouldered the duty to produce sufficient evidence and sound arguments to facilitate the reader to accept the plausibility of assertions I made. My accounts are open to limitations of language used to describe phenomena, which sometimes assumes unfettered author-reader understanding controlling the depths of

descriptions. To my advantage, the tone and disposition reflected in written text are largely my own. The core task I carried was to limit the distance between my night-time sleep encounters in a complex setting and what I documented throughout my pursuit for a doctorate degree award.

4.8 Ethical considerations

I am not secluded from the social context and thus, I attended to the ethics of an autoethnography, however innocent I presumed my study to be. People we interact with influence experiences and stories we tell, a situation technically referred to as relational ethics (Campbell, 2017). Others sneak or overtly weave into the stories autoethnographers consider as their own and yet, events may change relationships that we hold with others to challenge the ethics of penned tales (Denshire, 2014). The scenario of fixed characters in narratives is typical with assigning identities such as drunkard to individuals who find room in our stories – identities they may surrender with time (Sikes, 2015). The deep immersion of oneself in the passions of a topic of research may taint the ability to sense the ethical sensibilities of a stories (Wall, 2008). Sleep is as intimate as relations in a nuclear family. My significant others are so easily identifiable that fictionalisation and pseudonymisation do not simply fix issues with relational ethics if these arose. Writing about the position I occupy in the line of six siblings because I sense a relevance to my story does not help to camouflage the sibling the text could be referring to. I keenly maintained awareness of how my significant others appeared in my narratives throughout the research process. I obtained consent as it is required (Campbell, 2017) to use narratives about proximate others, including cases where I perceived no harm. My autoethnography opened and identified my intimate relations to the world as Ellis, Adams and Bochner (2011) note. Protecting myself and others was a responsibility I pursued ethically all through the research process.

The contention, in this case that I would react to sleep as an object of my study given my salient experiences as Lincoln and Guba (1985) point out, holds true. The resurfacing of sleep anxieties was an undeniable possibility, leave alone the curiosity of experimenting with known maladaptive behaviours to justify documenting previous experiences as absolute truths. Lincoln and Guba (1985) posit it is unethical to assume

robotic existence in processes of naturistic inquiries and that this situation is not existent in objective inquiries unless they concern physical substance. Even then, developing affinities to nature such as trees and flowers that do not show direct interaction eventually occurs in humans. My immediate apprehension was delving into thoughts of poor sleeping patterns that perpetuate the pattern. For example, Chatham-Carpenter (2010) assumed control over the illness and personal image when embarking on a painful subject that constituted the author's doctoral programme, but the struggles with the relapse to anorexia are portrayed as consuming. The text reveals an 'ownership' relationship between Chatham-Carpenter (2010) and the anorexia, which bred the condition. On the contrary, I was at a stage where I knew and understood that it was not my insomnia and referring to it as a mental content did not make it more of my experience than it already was. Was I being defensive? I believed in the cognitive power acquired from past experiences to carry me past specific idiosyncrasies and through the journey encompassing my doctoral research.

Autoethnography utilises experiences of the self, but the self is located within other structures involving numerous interactions (Sikes, 2015). Chatham-Carpenter (2010) emphasises that protection in autoethnography should include the storyteller beyond others included in the stories told, considering the cost of the steep chase up the academic ladder. The process of autoethnographic research culminates into making several choices around boundaries that can be crossed and those that should be protected. I relied on the consent of authors to publish their experiences in the media at the time I considered incorporating any of their stories in my study. Nonetheless, knowledge acquisition is a tour, unique to individuals and as Wall (2008) recommends, it was my duty to present my work in a respectful way. While I anticipated minimal or no relational concerns, I constantly bore in mind the risks of those dimensions throughout the research and writing process. I sought and obtained ethical approval (ref: ETH1920-0244) from the Faculty of Medicine, Health and Social Care Ethics Committee at Canterbury Christ Church University. Researching personal management of primary insomnia within a growing sleep market largely focused on personal consumer practices, the story of which I uncover in Chapter 5.

4.9 Conclusion

While its origins are inaccurately presented in the literature and its style plus purpose variable, autoethnography as a method or research approach carries the writer's preference of how to present credible propositions. However, this does not acquit autoethnographic researchers from demonstrating the consistency of their research. The auto ethnographer who now understood the complexities of using personal narratives reflexively and had explored other sources of data to complement a story was ready to narrate and illustrate the experiences of purchasing sleep. At this point, the focus was on the 'I', keeping the context beyond the immediate surroundings of my story at bay. However, images included in my narratives roped in assumptions of an existent sleep market I had once loyally contributed to sustaining. While it was necessary to link the images to the text, integrating my voice with the thought process of capturing and arranging my visual inspirations coherently was not straightforward. Entrenched in my interpretation of events, Chapter 5 comprises the story of my experiences with managing a self-diagnosed primary insomnia while Chapter 6 presents my journey of getting to grips with the narrative analysis and synthesis for my study.

Chapter 5: Capitalism domesticates the untamed sleeper

Introduction

Chapter 5 presents my story about sleep experiences before and after events that led to a self-diagnosis with a primary insomnia. I also reflect on these experiences to counterpoise the existing definition for primary insomnia. I analyse some of my experiences in the context of the literature on human sleep. I do not often take pleasure in talking about myself, particularly when I am in a large group of people. I anxiously mutter the shortest sentence I can come up within a round of introductions to quickly transfer the spotlight to someone else. I sometimes feel that I express myself better when I write. I do not write with ease, but writing offers me the chance to edit myself to convey clearer messages. That is what I think. However, I do not relish writing within circumscribed limits. One of the academic papers I enjoyed writing involved critiquing power backed opinions perceived as truths in healthcare. The positions of opinion bearers in the professional hierarchy upheld the numerous contradictions in the published literature that informed medical practice. I liked the autonomy of unearthing the impasses mystifying a health condition.

My story 'capitalism domesticates the untamed sleeper' elucidates the influence of producing material life conditions on my sleep and eventually the behavioural pursuit for sleep. Capitalism in this context refers to any social formation in which processes of capital circulation and accumulation are hegemonic and dominant in providing and shaping the material, social and intellectual bases for social life (Harvey, 2014, p.7). I herewith revisit my research questions to focus the next steps of demonstrating the personal and wider sensibilities of the fragility of sleep in a capitalist society.

- What were my experiences of managing a self-diagnosed primary insomnia in a mixed economy?
- What role did consumerism play in the changes in my experiences over time?

Consumerism, especially the one that debates of modernity accelerate, is an impractical concept due to the simple focus on self-centred acquisitions of material goods, sidestepping services plus other perceived needs to consume relentlessly (Trentmann, 2004). Different motives back the purchase and use of goods and services and thus, the term consumerism may take on a definition based on the motive for consumption. For example, buying a car to travel to work in the countryside where opportunities for frequent public transport are limited is consumption to social order. I therefore use consumerism to imply the compulsive consumption from a myriad of goods and services marketed to serve the same purpose of self-aligning with social order. While perceptibly simplistic, the devised definition considers the behavioural practices entwined with social relations of production. Chapter 5 traces my experiences of self-diagnosing with a primary insomnia, self-management and changes in behavioural trends informed by the persistent purchase and use of sleep goods and services marketed freely to induce night-time sleep.

5.1 The untamed sleeper

I lived through the so-called Ugandan 1981 – 1986 bush war, but I never lost sleep over some of the traumatic experiences I witnessed as a young person. Running randomly alongside strangers through dense dark forests and jumping over victims of landmines and stray bullets did not thwart sleeping whenever the opportunity arose. Too young to care for the politics behind the bush war or any other political antagonisms before that, I relished every chance I got to sleep. Space and time were of little account as sleeping sometimes occurred behind shrubs that shielded us from night patrolling male soldiers searching for possible recruits and women to disrespect. Challenges that come with experiencing life are unending, with each carrying a different level of intensity. I would like to think that I am sufficiently resilient since most life's challenges have tested my skill to cope with adversity.

Reflecting on the cause of problems with my sleep encounters draws me to the convulsion closest to the start of these events. It was time for the family holiday, which was an opportune bout to relax after submitting major revisions for an academic paper that was being considered by an esteemed journal for publication. This specific publication was significant to me because it was the first paper I had drafted and

submitted independently. I still have not abandoned the habit of checking emails while I am off work, with the Microsoft outlook app cunningly located on the first page of my smartphone. The email about the paper I had submitted quickly appeared in my inbox, which I checked anxiously without any guilt of paying attention to work whilst on holiday with my family. The paper had been accepted for publication with a request for minor changes and a very narrow window to review and submit proofs. The time difference between my holiday spot in Europe and the location of the editor in America caused me the most agony. I partitioned my time between partaking in outdoor activities with my family and attending to the editor's requirements for the paper to appear online within two days.

I was up most of the two nights working towards what I identified as a significant achievement at the time. I was very moody during the day, which made it less desirable for my family to be around me than the usual times when work stretched me. The overall holiday mood improved after I had dealt with the resubmission of the article, but I had developed an anxiety about my need for sleep. I was incessantly worried about sleeping well at night so that the daytime experiences would not resemble events of the previous days. I slept relatively well for the rest of the time we were away from home. While my thoughts were no longer focused on the holiday experiences, I seemed to have carried my anxieties about sleep on returning home. Meanwhile, I did not at all ascribe the family holiday nightwork shift and mystified daytime strains to the journey I had embarked on.

I went to bed as usual, but laid awake, tossed and turned uncomfortably as my mind transitorily raced through my anxieties unceasingly for a about a week. I first suspected a hormonal imbalance as this frequently happened to me pre or post menses, although minus the cognitive activity. I either felt extremely sleepy or overly alert at night and clumsy about a week before or after menses. I waited for what felt like a very long time for a change in my night-time experiences before concluding that I had been tolerating a health problem. I had developed a new routine of going to bed at night not expecting much of a restful night.

I had previously enjoyed sleeping, especially as a young person. I always allocated a minimum of 15 minutes of my lunch hour to a nap throughout my six years in

secondary school as a boarding student. My napping pattern only started to change at university because the lunchtime hour was never consistent. Overrunning lectures, seminars or student-supervisor liaison sessions interrupted the 'normal' 1.00pm lunchtime hour. The wakeup calls to sleep time loss and the economics in a society were implicated in my struggles with the afternoon slump during the first office chair bound placement as a social work student. The organisational supervisor caught me red handed a few times with my head on the desk and a total lack of awareness of my environment. Such events incited opportunities for me to join field-based teams, working with older adults living with river blindness. The fieldwork experience, which usually started as early as 8.00am until dusk was mostly exciting, without a dull moment. I participated in numerous activities ranging from focus group-like discussions about the side effects of ivermectin (drug for treating river blindness) to witnessing training sessions for destroying the parasitic worm that causes river blindness. The tightly scheduled field activities were a realistic foundation for responsibility and adulthood. The lunchtime naps I had previously enjoyed in a regular fashion totally disappeared. However, I could still bank on my sleep pleasures at night.

I had cried myself to sleep when I was sad, yet my worries drifted to another place at night even in circumstances when I was anxious about something else other than sleep. I considered myself relatively fit and healthy, and bouts of winter colds did not sway this state of mind. It seemed rather strange that the sleep I had always enjoyed with so much ease had disappeared. I had never had to think hard about sleep or the loss of it. The term insomnia possibly went in one ear and out the other before my experience with night-time sleep disturbances. The odds that it could have been any other condition such as alkaptonuria (black urine disease), that one does not pay attention to unless the diagnosis is close enough were high. I included my symptoms in an online search engine, and I discovered descriptions for a range of sleep problems. One thing I was sure of, was that I did not suffer from any other ailments known to me. This was comforting because then, my problem seemed somewhat easy to resolve, particularly through the world wide web. This marked the beginning of my search for at least one good night's sleep.

5.2 Attempts with diminishing returns

I undertook a quick internet search of 'how to get a good night sleep', results of which were overwhelming. I was keen to try what I deemed to be the simplest methods first. My first point of call was commonplace knowledge about a restful night's sleep. My aim of mentioning some of the remedies I tried is not to discredit their utility, but to illustrate how my behaviour unfolded during the pursuit for night-time sleep. I had read about the calming effects of a warm glass of milk before going to bed and that it was sure to give anyone including infants a restful night. I boiled the milk on the hob instead of just adding hot water to cold milk to make sure that the heat was adequately authentic to bring home the sought good night rest. I laid awake that night not only waiting to fall asleep but also thinking about what the next trial solution would be. I made a trip to the shops the next day to buy a malt mix that I had heard children and older adults liked for its high content in magnesium and calming effects. The hot cup of the malt mix that I had before going to bed that night was pleasant. However, the indigestion and endless waiting to close my eyes did not work well with the supposedly miracle drink.

I decided not to ingest anything for a while and resorted to tactics that I thought could either relax my body and/or distract my thoughts. I counted sheep, recited numbers backwards, took timed breaths (in-hold-out) but nothing was boring enough to throw me into slumber. My thoughts were actively searching for the next trick that would work. While talking about my sudden happenstance of sleep concerns, a work colleague suggested a physical work out for my eyelids. The work colleague advised me to wink repeatedly numerous times while in bed and that this would make the eyelids so tired that I would not be able to keep my eyes open. I used the tactic for about three consecutive nights, changing the speed and combining the winking with counting sheep during the other two nights of eyelids gymnastics to no avail.

I read a lot of dos and don'ts that were freely available online. The National Health Service webpage on how to get to sleep (NHS, no date) includes a wealth of tips plus a signpost to a sleep station website that constitutes numerous articles and resources. I opted to practice the recommended sleep hygiene, which to the best of my knowledge felt clean enough to enable me to sleep at night. I got on my bike every

evening after work and rode fifteen times around the block of twenty maisonettes. I was eager to wear myself out to the extent of 'I can't wait to go to bed'. I would fall into deep asleep every five o'clock in the morning having gone to bed at 10pm. I could barely get up at 6am to complete my normal morning routine and make it to work in good time. The problem was becoming sore, and I realised that I needed to change my strategy of getting to sleep at night. I made the decision to look for something more appropriately designed than the traditional beliefs to tackle the night-time sleep struggles I was experiencing.

5.3 The herbal medical practitioner

I preferred to try something that I perceived did not carry side effects. I was not new to herbal medicine because this was often the go to for coughs, colds and pain during my childhood. The aroma from the boiling pot of bark and leaves from eucalyptus and various fruit trees filled the air whenever coughing affected the household. Used both for preventing and treating coughs, each one of us in the family was required to have a swig of the bitter concoction. A quick internet search pointed me towards the benefits of herbal tea containing valerian root. I looked forward to a peaceful night after my first purchase. I felt a little drowsy the first time and fell asleep, but I was unable to sustain the sleep state throughout the night. The results of the first night of drinking the valerian root herbal tea were so encouraging that I continued taking the remedy for about five nights. However, I did not witness any further engagement with my dear friend sleep, plus the smell of valerian root herbal tea became repulsive. I then came up with a three-day rule. My previous experiences of trialling and erroring with acne remedial products replicated the three day rule. I was to start looking for another remedy if whatever I was trying did not work in three days.

While I was keen to avoid anything valerian root based, the next trial was a mixed herbal tea combining ingredients promising calmness and a peaceful slumber. I was very hopeful the two herbs mixed would help me to achieve the intended objective. I looked forward to the peaceful winks with excitement and could hardly wait to hit my pillow. Unfortunately, I observed a higher level of alertness during the night with my doubled-up portion of herbal tea than I had done the previous nights. I broke the three-day rule and paid a visit to the high street again, this time to a different shop with sales

advisors. I talked to the sales advisor about my concerns and asked what the sales advisor thought would work best for me. The sales advisor did not hesitate to pick up a box of organic sleepy tea with valerian root and explained while handing it to me, “most of our customers buy this”. My first buy of valerian root herbal tea was not organic, and perhaps that is where I had gone wrong. I believed I had found a gold mine, but with sleep, and that my night woes would be over with an organic non-caffeinated herbal product. I made my bedtime drink with pride and proceeded to the bedroom to witness my results. Too much of anything is bad, I thought to myself that night. I decided to give my search a break and wait for the herbal tea to get into the blood stream and do what it said on the box. The waiting yet again seemed like a very long time. My mornings started to feel lethargic, and daytime involved less focus on my work. I directed a lot of my attention and energy towards finding something, perhaps something herbal with supposedly no side effects.

A shop in my locality at the time specialised in herbal medicines ranging from treatments for flu to erectile dysfunction. Name it, they had it all! I was not afraid of talking about my difficulties with sleeping at night with anyone, even in the presence of other customers. I perceived the problem to be serious, but I discussed it lightly. The shop attendant handed me a solution in a 75ml bottle that cost about £22.00. I was slightly discouraged after reviewing the list of ingredients but thought to myself, the fact that the solution contained other ingredients in addition to valerian root extract was a good sign. Simply adding a few drops to a favourite warm drink was all I needed to do to reconnect with the sleep I had known in the past. The taste and smell of the solution in hot water were unpalatable, although I was determined to achieve my desired goal. I persevered for three more nights without getting the results I wanted. Until then, my observations of using the portion with the valerian root extract was that I was alert and felt less tired when I had to rise in the morning. I had made some form of progress, but I needed to be able to close my eyes and rest like any other normal person.

5.4 The market noises

I became less enthusiastic about what else I could find on the high street. The online search results on how to get to sleep were less overwhelming than the options for

improving sleep. The worldwide web offered various options that were also easy to acquire with next day guaranteed deliveries. A substantial balance in my account was the sole requirement for fuelling my acquisitions. I read reviews of products with more than 4.5/ 5-star ratings and settled on buying some food supplements and vitamin D. Online suggestions of potential causes of primary insomnia were so diverse that I felt like I had to find individual remedies for each proposed cause. A vitamin D deficiency for example was one of the causes associated with poor sleep quality, curtailed duration of sleep and insomnia. I was effortlessly convinced about a possible vitamin D deficiency. My issues with sleeping at night had possibly stemmed from the limited exposure to the sun, having been born and spent a huge part of my life in an equatorial country.

Supplements were a good bet particularly if my encounters with sleep troubles were due to a mineral deficiency or hormonal imbalance. I acknowledged at the time that the supplements would not be an instantaneous solution to my night-time failings, but anything was worth a try. Sadly, my stomach could not digest the 5-Hydroxytryptophan capsules. The powder bobbed up back into my throat with a revolting taste. The cherry capsules sat like hot ashes burning the top of my stomach. After a week of supplements, I shelved the vitamin D and binned the capsules to get rid of the overall discomfort. The need for something else did not dissipate and hence my search for night-time sleep changed direction again. I sought something that did not involve oral digestion. It would have been easier if I knew exactly what I was looking for because my search was simply for something I was yet to find. Figure 5.1 represents a mind swarmed with options and an overflowing shopping basket.

Exploring something natural that did not involve oral consumption directed me to a white noise sound therapy machine. I felt comfortable with my choice after reading the reviews indicating that the sleep tone machine was safe and worked well for infants too. Regrettably, I did not benefit from listening to the different sounds.

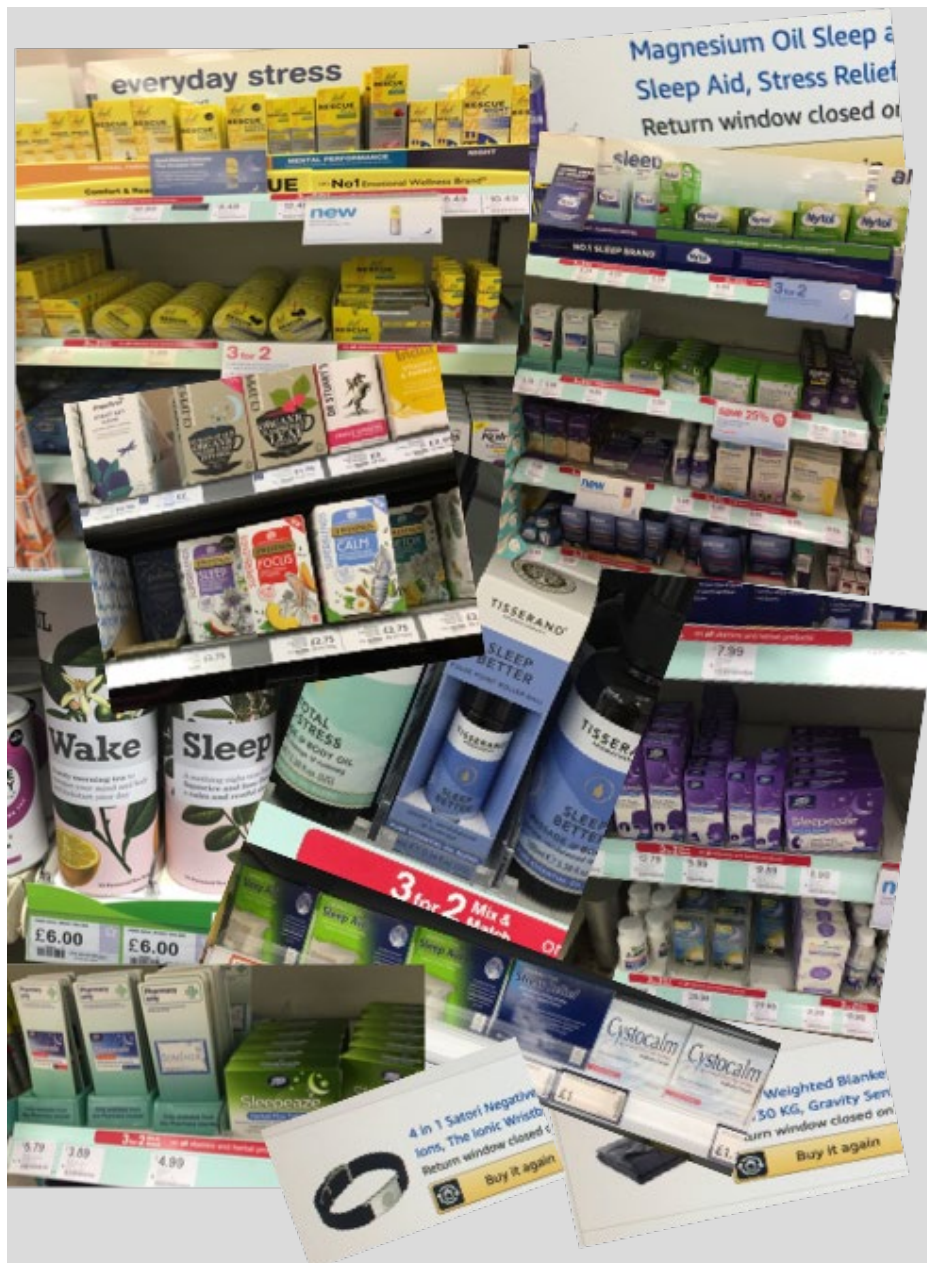


Figure 5.1 The sleep market noises

Figure 5.1 integrates photos of some of my internet purchases (n= 3) and photos taken in stores (n=8) to illustrate the clutter in the market and subsequently the night-time sleep seeking mind. The market presented me with ingestible and other commodities conveying caution 'for external use only'. The three for two mix and match promotions usually guarantee more commodities in the shopping basket irrespective of drug safety. No wrong is cited in the possibility of one getting herbal plus sleep-ease tablets and 5-Hydroxytryptophan capsules off the shelf as well as sleep-ease diphenhydramine hydrochloride from the prescriptions counter. How I use them is for whom it may concern. Each item approaches the sleep mystery using combined or distinct strategies. Stress aid, calm, sleep ease, stress and sleep aid, rest, relax, rescue, focus, sleep. Purchasing with intent is paramount to delineating trials, but the imaginary screams are overwhelming. Photos of some of my internet acquisitions are of items I did not return.

What was sold as soothing tones was noisy and distracting to my husband, with whom I shared a bed. I placed my sound therapy machine back in the original packaging and stored it away. I kept it because I had spent money on it, otherwise it was just the right size to fit in the bin for non-recyclables. I continued with my online quest and spotted a 'sleep and relax' magnesium oil that warranted ultimate stress relief by simply massaging the oil into the body. This I thought, would be worth every penny as magnesium oil was well rated for regulating muscle function, eradicating insomnia, joint pain and even restless leg syndrome. The tingling sensation I felt on the skin as warned in the directions for use was hardly bearable beyond five minutes, leave alone the recommended 20 minutes. Nevertheless, the pain in my tensed-up shoulders disappeared with every use. I tended to sit down in one position for prolonged hours while concentrating on my work. The magnesium oil was at least good for something albeit not the promoted sleep benefits.

My three-day product trial rule had struck the magnesium oil when I sat down in front of the computer again to search for something else. I found a portable night-time allegedly, natural sleep aid advertised to get rid of insomnia, anxiety and depression without medicine. Depression had not joined the list of my worries, and I did not suffer from any form of depression as far as I was concerned. The perceptibly nonintrusive device seemed like a perfect solution to address what was turning into a long term health burden. Every night then involved some form of therapy before going to bed. I applied the electrolyte gel supplied with the device and hooked the clips onto my earlobes according to the directions for use, sending a mild electric sensation through my head. I fell asleep easily the first night, but I was unable to maintain the deep sleep beyond what I felt was approximately two hours. I woke up with the hooks painfully hanging on my earlobes. I suppose instructions about taking the hooks off the earlobes would have been redundant for someone who was already asleep. Unluckily, I did not fall asleep with ease again that night as I had anticipated.

The 'natural sleep device' had three different settings for intensity. I decided to try the second setting during the second night of its use, hoping the results would be more lasting than the first night. The electric feeling was a lot more uncomfortable than the first setting, although I was determined to grin and bear it. It took me longer to fall

asleep the second night and I woke up earlier than the first night. I could barely resist the temptation of applying more gel and restarting the process at a milder setting. I reminded myself of the impractical need to ditch what had escalated to very painful earlobe hooks after dosing off. The device automatically turned off before I could fall asleep, and I also gave up on that night's chase. I was committed to trying again, hoping I would be third time lucky. My earlobes were slightly bruised, and I was less inclined to trying the third button of electric intensity on the third night than I was on the second night. Night three of using the purportedly natural sleep aid device was the most frustrating despite my optimism. I reapplied the gel and hooked the device back onto my ailing earlobes three times after every 45 minutes when the device was set to automatically turn off. I was reluctant to go through the same pain for another night. I had learned to keep some of the boxes for the relatively dear acquisitions. I reviewed the Amazon return policy and discovered I could recoup my £179.50 expense, since I was well within the return window for this order. I repackaged the device and sent it back to the seller. I spoke to my husband about the returned device, who retorted that he could not help me with my insomnia, and that I needed to seek professional help. I was upset about labelling the situation as an owned state of health, but those feelings did not linger as my focus was on the goal of reinstating my normal night-time sleep patterns.

5.5 Free healthcare for all people with primary insomnia

Experiences with the natural sleep aid device shook me to an extent of earnestly considering professional medical intervention. I called the surgery to make an appointment with a general practitioner (GP) with the hope of getting something that would eventually wipe me out, for at least one night. The receptionist who received the call asked whether my problem was urgent and advised that the doctor would ring me back if this was the case. Otherwise, the next appointment available was in more than two weeks. I was neither bed ridden nor bleeding profusely. I was not in any form of physical pain, neither did I have a high temperature. The two-plus weeks appointment that was being offered at the GP surgery fitted the description of the ailment I was desperate to discuss with a doctor. I may have had a wobble over the sleep device, but my belief in the ideology of producing sleep withstood and the determination to find something to ease my night-time experiences was not dazed.

I was certain that I could find something to help me sleep while I waited for the day when I would see a GP. The sleep market was lusciously tempting with varying products to choose from. I was determined to find something else to ease my problem in the intervening time. The next choice was an ion bracelet promoted to increase serotonin and boost energy levels. I was hopeful that the bracelet would keep me going until that doctor's appointment. I wore my negative ion bracelet 24/7 and felt more confident, alert and stable during daytime. The wrist band was advertised as a device that could collect more empowering negative ions than I would regularly breathe in from physical features such as mountains, the ocean, waterfalls, rivers and lakes. I placed a lot of faith in the apparently tasteless, odourless and invisible molecules to relieve my sleep snags and improve my mood.

The next destination for the family holiday was suitable for getting myself as healthy as I could be. I looked forward to collecting a lifetime of negative ions from the boat ride across the Mezquital river through the mangrove in Mexico. I felt calmer and immensely satisfied as we rode past the ecological reserve of Celestún while watching the pink flamingos. The experience of imaginary riches of negative ions and the perceived benefits that I held with such importance was second to nothing that I wished for at that time. Nevertheless, the perfect opportunity for my professed wealth of negative ions fell short of all expectations. The night after the boat ride could not have been anything else less than complete to finally get what I was after. I lay in bed, just as I usually did and waited to fall asleep, but nothing was different. I was getting used to this pattern. My wristband was useless, I thought. The negative ions failed to deliver on the nightly expectations of winks. I searched for more information about my silicon ion collecting bracelet in case I missed a step for its proper utilisation. The bad news from Mic, an American news and entertainment digital company did not warrant me looking elsewhere for more evidence about the effectiveness of the ion bracelet. My then recent acquisition was believed to produce ionising radiation equivalent to that of a nuclear explosion. The article written by Plenke on the 28th of January 2016 suggested ionising radiation was allegedly damaging my body tissue and impacting on my DNA. The health benefits I believed in with such sincerity were a high risk to cancer. I resentfully placed my once popular negative ion band in the bin, for I had not found the worth in keeping its packaging after I opened it.

I dreadfully needed that appointment with the GP after all. My morning lethargy continued and the perceived need for at least one night of sleep intensified as the doctor's appointment came closer each day that went by. I was keen to put my difficulties with sleep to rest when the day of the appointment with the GP finally came. The doctor asked me questions about my general health, some of which seemed to trace signs of ageing. At 42, menopause would have come early for me because folks close to my DNA did not get a whiff of the menopause until their 50s. The only sweat I got while I lay in bed was from the uncountable timed breaths that I supposed would enable me to fall asleep faster.

The GP prescribed diphenhydramine hydrochloride which I was instructed to get from the pharmacy co-located with the GP surgery. I was slightly frustrated because I had expected something more radical to change my experience. I could have bought diphenhydramine hydrochloride over the counter instead of waiting for more than two weeks to see a doctor simply for the dissatisfactory option. I reluctantly bought the medication, a route that I thought would be my last resort. It had finally happened and maybe this was the ultimate solution, as I consoled myself. The doctor advised me to not take the medication for more than five days. If the diphenhydramine hydrochloride failed to restore my normal sleep pattern, the GP's advice was for me to consider counselling and subsequently a referral to a sleep clinic. If the appointment with the GP took more than two weeks to secure, I wondered how long a referral to a sleep clinic would take. I had to shake the pessimism off, put my optimistic foot forward and trust that the 50mg of diphenhydramine hydrochloride would do the trick.

5.6 The synthetic state of being

I did not sleep on both ears the first night, but I shut my eyes properly to join the anticipated dreamland. I felt like I was halfway there though, a manufactured state of being that I had never felt before. I felt like I had been fixedly suspended in the air, neither going further up nor falling to the ground. I can hardly find the right words to describe the morning after feeling of my first intake of diphenhydramine hydrochloride. My mouth was dry, and the taste on my tongue was both bitter and gummy. I scolded myself for not having had enough fluids with the medicine. I learned later that the

distaste in my mouth quickly disappeared after having a cup of tea in the morning. The full dose constituted five days and I thought it necessary to see it through if I was to heal completely. I experienced a transitional state between wakefulness and sleep with the first two pills that created a synthetic state of being. Perhaps this was better than being fully alert listening to the deep silence of the night. I fell asleep but woke up after about four hours on the night I would ordinarily have executed my three-day rule. With two days left to complete the dose, I decided to wean myself off the medication anyway and observe my progress.

My dispositional tendency to view my sleep experience as restorable to normal had gone up on the positivity scale. I had had some sleep, and I was positive my body was slowly learning 'how to' sleep again. The days that followed proved more challenging than I had expected. I relapsed to lying in bed and waiting for sleep as if I expected it to come through the door to my bedroom. The internet is rich in information, some of which can be somewhat confusing. I decided to follow some other advice I had read that I could get out of bed whenever I could not fall asleep because staying in bed awake at night would negatively condition my body to a constant state of wakefulness. I diligently followed the rules of the book and got out of bed twice every night and either read a book under a soft light for a half an hour or watched something on television. Whether I enjoyed what I read or watched on television did not matter since my attention was focused on the reason why I was up and how long precisely I needed to be up to get the desired result. I waited 30 minutes each time while I worried about the wakefulness that awaited my return to bed. I was doubtful that the amount of time I spent out of bed really mattered because I would still be awake anyway. Nonetheless, I was keen to act in accordance with the advice as I had read it with the hope that something might just fall into place.

Another resource I consulted alluded to some foods being better at enhancing sleep than others. I invested in regular purchases of cherries and cherry juice because the resource indicated that melatonin was one of the phytochemicals constituted in cherries. Even better, cherry juice provided good quality sleep and enhanced its duration. I started keeping a daily record of what I ate during this time especially for dinner and how I experienced sleep at night. But see, that did not work for me because my perceived problem was not less sleep, but no sleep at all. My record keeping became

irregular and I abandoned the diary after a month of having failed to observe anything interesting. I liked the taste of cherries only when they were in season. I take pride in my lack of a sweet tooth and hence the cherry concentrate felt like a clinical trial pending evidence of promoted benefits after two weeks of regular use.

I had read a lot about the sleep regulating hormone. I searched for the melatonin supplement online, but it was not something readily available in the United Kingdom. A work colleague told me about a steady supply of melatonin they obtained from America thanks to contacts established in the past during their adventures in the country. This work colleague confessed to long term sleep problems, but I did not probe for details about possible causes. My colleague kindly offered to share some of the regular supply of melatonin only if I was interested to try. My mother practiced nursing as a young woman and was she was always very strict about the idea of sharing medicines when we were growing up. Nevertheless, I was now a grown woman who could make my own decisions and this time, I could not resist the temptation of sharing medication. Have I sworn yet? I hope not! Because this is one of the other things that mother said I could avoid doing in life due to the potentially offensive effect blasphemy could have on the ears of people around me. How best then should I express feelings and perceptions of what I experienced with my work colleague's kind offer? Mildly put, it was a placebo! The taste, which I had to work hard at to get and effect on my sleep experience were next to nothing. I could not justify the need to ingest five more pieces of chalk-like substance after the five days of the melatonin tablets trial. The offer for another supply of melatonin was open and I simply needed to ask for more to fulfil a need. I stopped bringing up the subject on sleep in the presence of my kind melatonin supplier, lest I put my modesty up for a challenge.

5.7 Revisiting the sleep sanctuary: A contemplated pursuit?

I had always had a glass of wine with my dinner and occasionally two especially on Fridays and Saturdays when I did not have to hurry anywhere the next morning. I had once joined the bandwagon of dry January and what I could remember vividly was how well I slept during that time. The next clever step towards my journey of rediscovering sleeping in a natural way was to forego the alcohol. I did not have anything to lose but pennies to save on the purchase of especially the Belgium beer

that I occasionally enjoyed. Three consecutive weeks elapsed without ingesting a drop of anything alcoholic, yet evidence of encounters with the sleep I had known before was not yet in. I waited in bed night after night, thinking each night would be the night I would finally get what I was working towards – a restful night.

I casually spoke to an occupational therapist colleague at work who I thought would give me some constructive professional advice about getting a restful night. The occupational therapist colleague told me that I needed to be more positive about resting at night and that I needed to focus on resting my body instead of falling asleep each time I went to bed. Retuning my thoughts from a fight for satisfactory sleep that I had once tested to simply resting my body at night was a task set to be demanding. My type of work requires concentration to be able to process and present information coherently. I gave up getting out of bed to allow my body to rest, but my mind kept racing. Thoughts about resting my body at night did not take away the anxiety about possibilities of failing to function adequately the next day. I longed to shut my eyes with ease and drift off to sleep without thinking about it. I was able to shut my eyes with the diphenhydramine hydrochloride despite the unnatural experience of the results. With a lot of hesitation, I felt the urge for another intervention and hence revisited the sleep sanctuary (Figure 5.2).

I bought some diphenhydramine hydrochloride over the counter, this time opting for a smaller measure of 25mg, hoping for a more natural experience of the sleep state than I had felt with the 50mg dose. I convinced myself that this was a stopgap while I sought a permanent solution. Incidentally, I slept quite well with the first 25mg diphenhydramine hydrochloride pill. The morning grogginess was less prominent than I encountered with the higher dosage. Nevertheless, the bitter taste in the mouth was unmistakably the same. I made a pragmatic decision to double my dose on the third night after the second night of the 25mg of diphenhydramine hydrochloride generated what had become usual encounters with sleep.



Figure 5.2 The sleep sanctuary

One item or more from the collection provides safety from night-time sleep worries. What works and for whom? I ought to try them all to find out since the state of wellbeing resides somewhere within the sleep sanctuary.

Much aware of the unsustainable nature of the urgent remedy, I hit the online search again, this time looking for how best to calm my thoughts at night. I found a lot about potentialities of lavender in promoting calmness and wellness. I was all set for a calmer night after another visit to what had turned out to be one of my favourite one stop shops. I acquired a collection of lavender goodies including a pillow spray, a temple balm and shower gel. I did not resist buying the stress relieving chewing gum and the accompanying spray to repel any form of worrying off my pillow. While I did not record improvements in my sleep patterns, I noticed that I was more alert and less tired in the morning than I had been before turning to my lavender collection. I wondered whether I had had a few mysterious winks. Was there something magical in the lavender collection (Figure 5.3)? The changes in my morning alertness were sometimes confusing because I rarely stuck with the same therapy long enough to distinctively

make positive evaluative judgements. I felt a need to find out more about the morning alertness following a night of drenching myself in the lavender merchandise.

I bought a reasonably cheap sleep tracker to measure the number of hours I slept, if any. The sleep tracker was embedded in a wrist band which I wore before going to bed at night. The tracker required a connection to a smartphone that I had decided to keep in the kitchen instead of the usual bedside table. I had thus far become paranoid about possibilities of absorbing different forms of radiation and the alleged influence of a blue light on wakefulness. I observed results for a week and documented a different number of hours slept at night each day. This is how I thought I would understand sleeplessness, an experience objectively captured by an electronic device. The sleep tracker indicated that I had an average of four hours of sleep every night during the first week of its use. So, had I been lying to myself all along that I did not have any sleep for months? Thoughts of my largely sleepless nights whether real or seeming were baffling. I could only think of one situation, something was inaccurate! I embarked on a mission for closer observations to link the results of the sleep tracker to my actual experience in bed at night. Each time I lay in bed without turning was recorded as sleep on my tracker. I searched for more information about the specific model of sleep tracker and the reviews gave it away. Product reviewers highlighted the sleep tracker's inability to collect and collate information accurately. I had used the sleep tracker for only 8 days and thus it was still within the return date. I repackaged the sleep tracker, sent it back to the Amazon UK seller and demanded a full refund of the amount I had spent on it.



Figure 5.3 #No really

Figure 5.3 typifies consumerism offering several options with a disclaimer of the results being promoted. The expense on the disgusting tastes; the time, emotion and physical effort incorporated in the pursuit for sleep; even the aromatherapeutic smells now repulse me. Does it work? I missed the fine print on the board advertising the several new ways to help me sleep – hashtag not really.

5.8 The savvy consumer

I had become quite accustomed to the convenience the online platform assured, offering a range of relatively ‘harmless’ product choices with secured next day deliveries and possibilities of returns. I ignored some of the other results from my new search and decided to explore something outside my custom one stop shop. I discovered and read about a Swiss Philip Stein sleep bracelet that warranted any human being a restful night through natural frequency technology. The video advertising the bracelet was not only persuasive but also guaranteed positive results

or else the vendor refunded the full purchase amount. I had to discuss this acquisition with my husband for this time, the cost was higher than the agreed threshold of £200.00 allotted to normal purchases without questions, never mind the cumulative costs of previous buys. That night, I got out of bed and went downstairs to the study room to obtain more information about the sleep bracelet. The more I read about the Philip Stein sleep bracelet the more I was persuaded that I had finally found my treasure and that my long-term search for something to end my night-time sleep struggles would soon be over. The magic of the sleep bracelet had been endorsed in one of Oprah Winfrey's show, and published results of a randomised control trial by NeuroTrials Research highly rated its effectiveness (Whelan, 2009; Hooper et al., 2020).

The ultimate solution to my concerning experiences with sleep, although quite costly was on the screen right in front of me. I needed it, and I was determined to get it, even if that meant I would become the high end consumer depicted in Figure 5.4. A little concerned that I had tried several products and that the problem seemed to be ongoing, my husband did not hesitate to recommend using the credit card if I felt the bracelet would work best for me. I whispered "yes!" as I rolled my eyes to thank the heavens above for the essential support I had obtained with such ease. I sat in front of the computer as soon as I left the dinner table and ordered the sleep bracelet. I was too desperate to choose standard shipping, which would have taken me up to two weeks to receive my packaged sleep. The next day delivery option by federal express cost me more money, although I discovered later that this was not helpful because it was already 9pm when I placed the order.

My nightly thoughts shifted focus from chances of sleeping to the potentials of my new acquisition. I imagined and relished the end of sleepless nights while I lay in bed that night. I wondered if I would miss them. The hope and excitement about the revered sleep bracelet that was yet to be delivered presented with a level of uncertainty. Catching winks using a prop had seemed like beating the wind – all for naught. However, falling asleep simply with the help of a bracelet embellished with advanced technology sounded effortless.

Shipping Information:		Shipping Method:	
Anne Martin [REDACTED] United Kingdom		Select Shipping Method - Standard Shipping (5 to 10 Working Days) - FREE	
Item	SKU	Quantity	
Classic Sleep Bracelet-Rose Gold Case	SLPRG-BR-USDBR	1	
Watch			
1 x Classic Sleep Bracelet-Rose Gold Case	SLPRG-BR	£230.00	
Strap			
1 x Dark Brown Micro-Fiber Strap	USDBR	£35.00	
Shipped By		Tracking Number	
Federal Express		#7785 4155 0568	
Thank you for shopping with Philip Stein			

Figure 5.4 The high end consumer

The Swiss sleep bracelet finally arrived basking in its glory of a rose gold case. Nonetheless, night one did not bear any fruit and neither did night fourteen. I had become astute about matters of satisfaction from my long-term consumption habits as demonstrated in Figure 5.5. Much as I wanted to be patient with the product, I was also wary of the expiry of the return date in case I deemed it necessary to return my precious possession. I had 30 days to make that decision. After no satisfactory results in week three I returned the sleep bracelet via the Royal Mail’s next day delivery option in case the delay in postage meant that I could not recoup the cost.

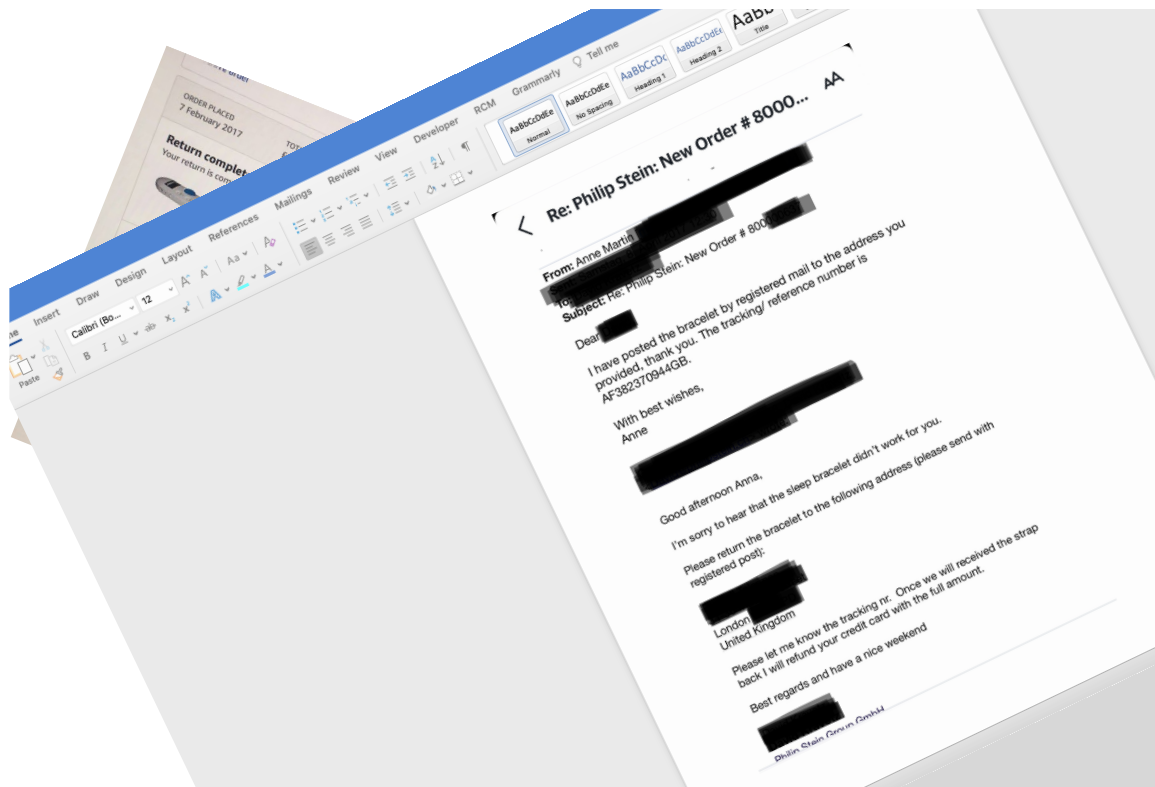


Figure 5.5 The savvy consumer

Figure 5.5 embodies consumption empowered not by accurate knowledge of the product but by the guaranteed return and refund policy.

5.9 Corporate versus customer loyalty

I once believed that conviction arose from the heart and at the time, the depth of my heart held true that something that would work to restore my normal sleep patterns existed somewhere out there. I simply needed to find my perfect sleep reconnector from a myriad of options on the sleep market. A discussion about sleep problems with another colleague at work culminated into a recommendation for a renowned clinical hypnotherapist. I had not yet ventured into this type of medicine, an option that I thought was worth considering. The hypnotherapist that my work colleague suggested was a long way away from my house so, I decided to first explore similar services nearest to me.

I remembered a health and wellness place I had seen on the high street as I walked home from the train station one day. It was worth trying before trekking more than 25 miles to pursue a treatment for a primary insomnia. It was a Saturday when I visited the high street wellness venue. The shop owner was a very pleasant woman who I

reckon was in her early 50s. The shop was fully equipped with a variety of products in different forms ranging from oils, dried leaves, dark liquids filled in bottles of various shapes and sizes to soaps, gels, creams and balms. The smell of aromatherapy materials holistically drew me and my imaginary wellness in. The shop attendant asked me to pay an upfront fee of £26 for consultation/ registration before I could ask any questions. After receiving payment, the woman was cheerier while recalling and providing testimonies of the number of people she had successfully supported to beat chronic insomnia. I suspected that the voluntary tale about another person that had suffered with insomnia for over twenty years was meant to reassure me that my case would be simpler. I also believed that one portion was all I would need to restore normal sleep functions. I paid another £10 for the 75ml bottle of the very dark and somewhat slimy looking sleep portion offered without a list of any of the ingredients.

I had become numb to costs, receptive to opinions and desperate for an immediate solution to resolve my night-time restlessness, at least for one night. Instructions for using the portion were taking 20ml before bedtime. I could take another 10ml of the portion if I did not sleep in an hour. I had my 30ml the first night in my bed and fell asleep but woke up approximately three hours later. I got up with a headache thinking the taste of sleep tickled my hypothalamus, the little structure in my brain responsible for regulating sleep. Perhaps I simply needed more rest to get rid of the headache. I had made such great progress, and I was positive that the next day's dose would restore normal sleep patterns. As I took my second dose, I could not ignore the taste and smell of the amount left in the bottle and how drowsy I felt. The portion was sweet, a little icky to touch with a colour of the valerian root extract and strongly smelt of alcohol. Why did I not realise this was simply a liqueur with valerian root? Like the previous night, I slept for about three hours and got up to drink some water to avoid the morning headache. My optimism nosedived from the revelation of the contents of the sleep potion I had acquired from the high street wellness shop.

My thoughts meandered yet again to what else I could get from the one stop shop I had frequented following a few recommendations from the virtual sales advisors. The store card I scanned religiously after each in-shop purchase to perceivably earn savings on my acquisitions resulted in the appearance of virtual sales advisors (Figure 5.6). I trusted my store card would make my next shopping spree at least a pound

cheaper. Deceit smothered the thought that the corporation was giving something back for my faithful and yet uncontrolled custom.

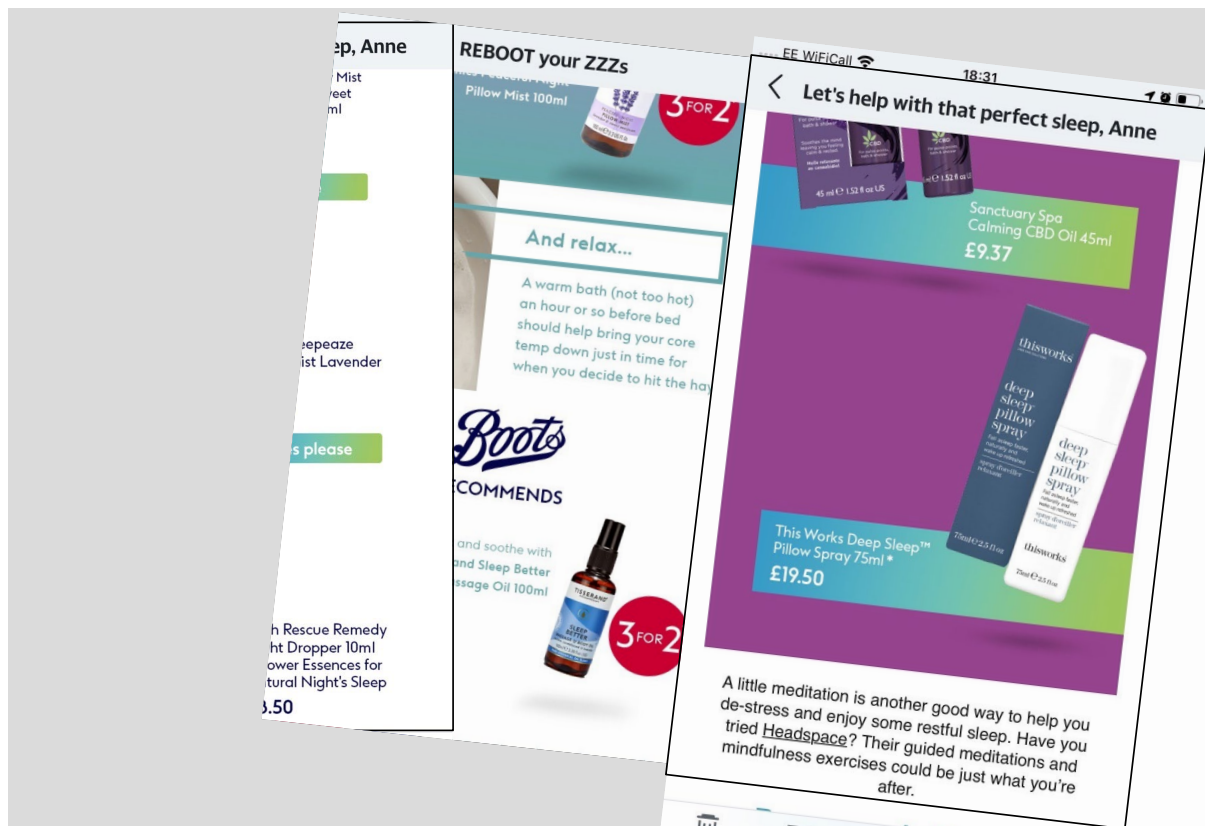


Figure 5.6 The virtual sales advisor: Corporate versus customer loyalty

Figure 5.6 demonstrates that some mechanism tracked my consumption habits to advise on what I might need next in case the last acquisition did not service my needs as [they] expected.

My virtual sales advisors' recommendation for meditation attainable through the online platform Headspace (Figure 5.6) involved subscription fees. The enticements failed to push my consumerism buttons that time. I felt very low for the rest of the week considering the energy I had put into what had now become a 'pursuit for sleep' project. I was hopeful about my acquisition from the wellness shop, but my condition did not improve post the sleep potion. The revelation about the ingredients in the sleep potion kept my thoughts about going back to the shop for an alternative treatment at bay. I had tried many products with valerian root and the smell and taste brought back various memories, including those of tossing and turning in bed aching for a genuine wink. I thought hard about the other ingredient in the bottle – the alcohol!

5.10 Enhancing the night-time experiences

While I enjoyed different types of alcohol, anything with an alcohol content of more than 12% had never satisfied my palate. I assured myself that the alcohol trial was going to be some form of therapy. My strategy was to try having a little more of what I enjoyed first before trying other brands of higher alcoholic content incrementally. I hypothesised that if a little more than the usual intake of alcohol was going to earn me a decent night and perhaps restore my normal sleep function, it was going to be instantaneous. The hypothesis about a little more than usual was a bluff as I did not have a beaker that would have determined the actual meaning of a little more. How was I to establish measures of 'a little more' to achieve the results I sought? The red wine that I drank to nourish a minor level of wooziness headed the alcohol trial. The 12% alcohol (alc) content by volume meant that I needed a larger amount than I would have if I tried something slightly higher in alcohol content. The little more also became incremental to the point that it was not sufficient if I laid down and the bed was not spinning. The 14% alc red wine reeled my death to the world as soon as I hit the hay. I would however wake up alert with a nasal congestion after about four hours.

The mornings seemed dull, and I constantly suffered with headaches. Some sleep was a good result although the fatigue and low mood were not worth continuing with the red wine trial. The nasal congestion I suffered when I changed to confining my racing mind to the white wine was unbearable and the trial did not make it beyond the second day of the confirmatory test. I switched my sleep nourishment to clear spirits, which seemed cleaner, and I perceptibly needed less of to get positive results. Neither vodka nor gin served as a good accompaniment for my dinners. I did not drink the clear spirits for pleasure since I did not value the taste. Drinking some vodka or gin before bedtime felt like I was fulfilling a devotional practice of an indescribable cult. My manufactured sleep state did not last long the few times I slept. The pattern of the feeling of natural sleepiness at 5am and having to wake up at 6am during the week resurfaced. This was not the case though at the weekends when the sleepiness only came on during the day amidst other activities. While my eyes almost disappeared behind their sockets, I felt tired and moody nearly all the time. I did not escape the migraines plus the social comments about the visible dark circles under my eyes. I recognised that I was trotting on an unaffordable road to the luxury of self-destruction.

I therefore decided that I could not sustain enhancing the night-time experiences with alcohol beyond three weeks.

I needed something else instead of the alcohol that spelt the affliction from my sleep hitches on my face. The compelling drive was to exhaust possibilities nearer to me before making the journey to the hypnotherapist. I searched the world wide web again and I came across an insomnia relief bracelet sold on eBay. The elastic string was embellished with crystal-like beads constituting different colours. My belief in something greater than physical experiences of the humankind had waned with age. However, I did not think that I had much to lose from believing in the healing powers of crystals just this once. I received my bracelet within two days with first class royal mail postage. Unfortunately, my racing mind was faster and more powerful than the perceived powers of the bracelet, which I stored in my bedside drawer after three days of committed use.

5.11 Time for a different form of alternative medicine

I continued with my light-hearted conversations about problems with sleep. A long term friend recommended acupuncture, which was supposed to be good for restoring health. I visited a shop near my workplace, which doubled as a clinic run by specialists in Chinese medicine. The acupuncturist prescribed a minimum of four sessions, each lasting 30 minutes. I scheduled my appointments for my lunch time hour during the week. I fell asleep during my first session and the feeling was incredibly good. However, I felt very drowsy and nauseated after the session. The results I witnessed on the acupuncture bed triggered some optimism within me. I believed that the acupuncture treatment was bound to take a little bit of getting used to, and that this also included the time associated with obtaining the full-blown positive results. I placed my head on my work desk after my second afternoon of acupuncture, unable to concentrate on anything. The lethargic and nauseated feeling lasted all afternoon, yet the night benefits were sluggish to manifest themselves. I felt so hopeless that I decided to align my third acupuncture session with my three-day rule. I cancelled the fourth appointment since I only paid per session. I did not think I needed to confront effects of hypnotherapy given my experience with the acupuncture. I had had enough of the fruit from the same poisonous tree!

My sleep patterns from there on varied; some nights were better than others, but I did not stop looking for ways of bringing back the perfect sleep I knew. I tried a range of shower gels sold to promote a feeling of relaxation; bought and used different aromatherapy candles to light during my baths; practiced sleep yoga; and even tried to control my body temperature before going to bed. Some of the products particularly the shower gels I indulged in, completely disappeared off the market. I can bear witness to the uplifting cherry blossom and peony shower gel that never appeared again in any of the physical or online stores. Was someone out there attentive to what I half-heartedly believed worked okay for me? The self-temperature control mechanism was an extravagant, agonising and yet fruitless option. I run a cold bath in which I soaked myself for a maximum of five minutes after having a hot shower. Two times of this undertaking were enough of the torture that I subjected myself to.

I kept wondering whether I was too old to sleep as well as I had done before my experiences of poor sleep began. My mind was slowly opening up to the thought that I had given the sleep pursuit project more attention and budget than was required. But one day while watching television on holiday abroad, I saw an advert for a weighted blanket promising to relieve stress and enhance sleep. I probably needed to try one more thing before giving up on this pursuit for sleep project all together. I made it what I deemed would be my last purchase for the sleep pursuit project when I returned from my holiday. I carefully placed the weighted blanket on my side of the bed and felt well snuggled and comforted underneath during the first night of its use. I fell asleep quite quickly but awoke midway through the night due to the heat, sweat and overall discomfort of the weight my body was carrying. I persisted with using my weighted blanket but gave up the idea when I relapsed into the waiting game. The rules of the game involved using the product and lying in bed waiting for the results to come to me. The weighted blanket was costly, but moral obligations persuaded me not to return it considering the amount of sweat it had absorbed from the few times I used it.

5.12 The capitalist upgrades



Illustrated by Stephanie McMillan 2014

Figure 5.7 The capitalist upgrades

The sharing economy illustrated in Figure 5.7 draws particularly on the ideology of information technology promoting supposedly shared production, supply and consumption of goods and services.

The relapse into waiting for sleep to happen was a backward step into convictions of my heart. I made a hefty annual subscription to audio books as I thought this would be a cheaper option in the long run if audio books were my only route out of the long term conundrum. After falling prey to the first bait of the capitalist upgrades illustrated in Figure 5.7, I bought and listened to audio books at bedtime to allow my mind to wander off the usual anxieties. I invested in a pair of comfortable headphones, ones that would not hurt my ears in case I fell asleep. I alternated between listening to what I considered boring and listening to interesting stories. While the former could not keep my mind off the main nightly thoughts, I spent more time alert listening to stories that captured my imagination.

The human mind is such a powerful composition that defies confusion when it is set on something. Considering developments of the 21st century, there was bound to be something that humans have created to race with the power of the mind. I downloaded a meditation app and eventually yielded to the in-app purchases, believing I would get to the end of the sleep expedition. I deleted the app after a few attempts due to the frustration of getting nothing positive from it. The voice of somebody asking me to relax and imagine things in my body was mechanistic, intrusive and annoying. I sort of surrendered the night-time sleep pursuit and it ceased to matter to me whether I slept, for as long as I was able to carry on normally during the day. In fact, I started looking forward to listening to the steadily fading traffic noise and the sudden silence of the night.

The mental health awareness week carried a significant presence in what was called the Faculty of Health and Wellbeing at the time. I picked up a flyer about a digital cognitive behavioural therapy programme from one of the mental wellbeing stalls. I had tried different things and hence I did not see any harm in giving this a chance. I signed up for the programme that promoted specialist techniques for mindfulness and diffusing negative thoughts. Registering for the programme was quite easy as I could hardly wait to start. The next email from 'The Prof' signposted a guide to all these wonderful techniques that I was about to uncover. I clicked on the guide icon which took me straight to the webpage for effecting payments. That detail was not included on the flyer that I picked up. The total cost for the digital cognitive behavioural therapy programme was more than the cost for the Swiss sleep bracelet. I considered the whole venture a rip off, especially because I could not return the programme if it did not deliver on my expectations.

Figure 5.8 exemplifies that everything about obtaining sleep costs something! The Prof's email was the finishing stroke. My next need was a shift in the conviction out my heart into my head. I developed an interest in human sleep because I was continuously baffled about how I was able to function when I felt that I did not sleep at all for most nights. I observed that many times I was practically awake thinking about the events that I was most worried about including not being able to sleep. I had had a glimpse of the 'thought locker' strategy on the Prof's email, and I decided to experiment with it in my own way. I practiced writing down my worrying thoughts on a

piece of paper before going to bed. The experiment was a perfect trial, quite a satisfying one ever since persuading myself that I cared less about not sleeping. This was not a regular exercise that I accomplished every night, although quite a calming one when I got around to doing it.

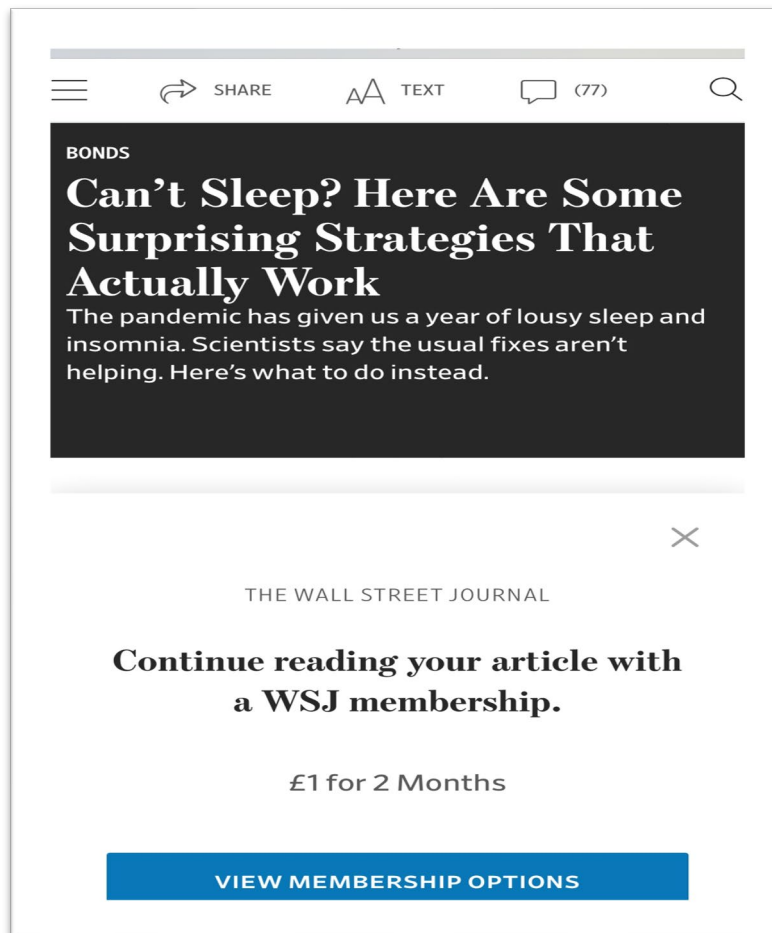


Figure 5.8 The devil in the detail

The cost of a membership beyond the plausibly affordable two months is cunningly disguised behind the membership options.

The curiosity about measures for manipulating sleep in humans was now part of me since developing the keen interest in human sleep. I regularly got stories from Pocket, an online bookmarking service for storing articles that subscribers find interesting and may wish to read at a convenient time. I clicked on the sleep story link, which took me to the page in Figure 5.8. I had freely accessed so many other stories, but it was not going to be the case for the one about obtaining sleep. To answer the burning question on any reader's lips right now: no, I did not pay to access the story about sleep

strategies that allegedly work. At this point, my relationship with the sleep market had witnessed a fundamental change.

5.13 Reflecting on my night-time sleep experiences

Statisticians informally use the bell curve to epitomise what is most likely to happen in the subjects under study whose real events are unknown. The bell curve is a normal distribution of continuous probability symmetrical on both sides of the average value (McLeod, 2019). I could somewhat plot events of my behavioural patterns associated with self-managing a primary insomnia in a mixed economy on a qualitatively inclined bell curve. Hope would lie at the left-hand side of the curve, peaking with desperation and subsequently despair before re-joining hope and confidence in my natural capabilities to sleep.

I shifted my attention and expenditure habits from the chase for night-time sleep to understanding possibilities of night-time sleeplessness as a project. Ebert (2009) argues that perceived knowledge of something without logical thought of what we know is an illusion protecting one from self-critical examination. How did I manage to lose sleep if my body is naturally bestowed with the capacity to sleep? One thing for certain was that I had experienced and continued to experience sleep in its natural entirety without any props or ingested enhancements irrespective of the sleep duration. The objective of my new quest was to establish the realities of previous night-time experiences. I also felt safe to experiment with events of an active brain since I had to some degree mastered the skill of switching off particularly unwanted thoughts.

My first observation was that I could easily fall asleep when I was not required to. I can hardly remember the number of times I fell asleep in front of the television when date night involved sitting on the sofa with my husband to watch a film together. A desired nap during the day was more enjoyable and it happened with ease whenever I had to be somewhere on time. That meant that I simply could not have any more sleep even if I wanted to. My second observation about previous experiences focused on my physiological reactions after I retired to bed with a compulsion to sleep. Holistically the body was ready for a peaceful slumber at bedtime, with a window of an hour of flexibility on either side of the 10.00pm usual time. I would close my eyes

in comfort, ready to take on the night's challenge. Nonetheless, lingering thoughts about not being able to sleep ignited an electric sensation that I mostly felt in the torso suddenly followed by a sense of wakefulness. The perception of wakefulness was so overpowering that I would forcefully open my eyes to verify the sense of being alert. The state of wakefulness would last for a while following my catnap and ensuing attention to the fact that I was failing to sleep. I compared this observation with the advice I once read online and practiced religiously- 'get out of bed if you cannot sleep'.

Getting out of bed was always accompanied with a series of yawns, which perhaps indicated a previous sleep state. Like sleep, yawning is a mystery with a range of assumptions about the functions it serves. The yawning following an episode of sleep is not the contagious type, but one that Baenninger (1997) suggests occurs due to requirements for arousal. I recognised the development of patterned cognition about wakefulness despite previous sleep onset. The perception lasted for the most part of the night whereby time in most cases did not seem realistic. A glance at the clock would sometimes make me wonder how time drifted by so fast from 10.00pm to 3.00am while I had been awake all the time. Thoughts often turned into faint dreams of empty spaces that irregularly disconnected and reconnected into concrete nothingness. The mind seemed to leave my sleeping body, but actively found ways of reconnecting to a wakeful state.

The times I laid down at night and waited to fall asleep were real experiences of wakefulness, but I also learned that these were intermittent. Harvey's (2002) cognitive model of primary insomnia references autonomic arousal and misrepresented time slept but fails to offer an integrative explanation of the cause of wakefulness after sleep onset. The scenario also challenges Bussye et al.'s (2011) supposition of synchronised existence of both wake and sleep like neural activity as people designated as people with primary insomnia take on the night-time task. I hypothesise that an oscillation of into and out of either state occurs as the focus on self-evaluating the existing state persists throughout night-time sleeping. An imbalance exists in the interplay between actual and perceived wakefulness. For me, perceived wakefulness carried stronger willpower than the sleep state to trigger an actual state of wakefulness. Unsuccessful tricks such as timed breaths aimed to restore sleepiness absorbed some of the sleep time that was available to me. The time and effort I had

applied to restoring uninhibited sleep every 24 hours of each new day created a recurrent cycle. The second deduction I generate here based on the supposed sleep stages, is that I possibly spent most time in REM sleep involving intense brain activity. But this would not be a problem because REM sleep is presumed to be core for memory consolidation plus stimulating critical thinking and emotional intelligence (Walker, 2017). It would be interesting to establish the dominant sleep type that people who suffer anxieties about night-sleep experience.

Alcohol was an instantaneous solution, but it offered a manufactured state which released wakefulness, perhaps as soon as the wooziness wore off. The nonauthentic sleep also applied to the effect that the diphenhydramine chloride of which, 25mg sustained the fleeting sensation of sleepiness and the 50mg managed to hold both ears down until the break of day. The artificial shut off is what Hammond (1869) refers to as stupor, which is an unconscious state that is not necessarily sleep. Nothing else that did not shut the mind off was ever set to work because the problem was not what society refers to as primary insomnia. The identity of a person with primary insomnia, efforts to resolve it and continuous evaluation of the sleep state at night perpetuated the primary insomnia.

Socialisation, like the historical changes in modes of reproducing society, frames and reframes individual beliefs. The untamed sleeper who valued every opportunity there was to sleep morphed into an anxious sleeper due to social obligations and established norms. The caption of a lasting primary insomnia was due to the belief and hope in the ideology that products paraded on the sleep market existed to fix any glitches in previously regularised night-time sleep patterns. I reflected on most of the past physiological experiences and related them to where I was then. I was inclined to use my head to think through pragmatic possibilities of producing sleep mechanistically and the dynamics of a human mind. The tendency to fall into deep asleep at five o'clock in the morning indicated a mind surrendering to the approaching hour of the start of the day. The cognitive activity combining both hope and fear is a nocturnal and diurnal process framing the behaviours of individuals.

Why did I not explore non-pharmacological interventions such as acceptance and commitment therapy or self-help books? My story is about my own experiences of the

search for the perfect good-night sleep and the commodities I came across via different platforms. I did not factor acceptance and commitment therapy or self-help books into the logic I used as I sought and tested the various options on the market. Besides, acceptance and commitment therapy only recently joined my overall English vocabulary. Autoethnography as a qualitative research strategy enabled me to reflect on and present my experiences as lived, instead of feigning them.

Considering my self-observations, an accurate definition of sleep would invariably clarify what sleep is not. However, an accurate definition of sleep is currently non-existent. Characterising a sleeping individual is inadequate for encompassing varying features individuals and other animal species may display when sleeping. For example, Walker's (2017) characterisation of a sleeping person as draping over whatever is supporting the person contravenes the sleep that is experienceable in a sitting position. Similarly, the criteria for diagnosing insomnia label daytime sleepiness as an impairment. Moreover, the definitions for insomnia by the Institute of Sleep Medicine (Altevogt and Colten, 2006) and the ICSD-3 (Zucconi and Ferri, 2014) both distinguish night-time as the only opportunity to sleep, leaving night shift workers to unduly fit the category of people with insomnia.

Humans are guaranteed to sleep at some point in 24 hours if homeostasis is an automatic process facilitating internal balances in response to changes in the environment (Saborido and Moreno, 2015). I do not believe that a wrong biological time for sleeping exists particularly if day light carries no direct influence over the regulation of sleep. Sleep can occur regularly during the day or in the night according to the individual's needs for balancing biochemical functions. The original connotation for insomnia was a total lack of sleep or the inability to sleep (Saddichha, 2010) coinciding with the Latin word 'insomnis' meaning sleepless. Insomnia would therefore be disordered wakefulness that would lead to death if it was left untreated just like the sleep deprived rats in Siegel's (2003) scientific experiment. The caveat for capitalism in the existing definition of insomnia distinguishing it as failing to initiate, consolidate or sustain sleep is the 'adequate opportunity to do so'.

Typically, dawn sleepers are unable to extend the opportunity to sleep as the social order bell beckons to them. This does not make dawn sleepers sufferers of perpetual

wakefulness. The scientific models explaining primary insomnia also focus on the constricted night-time activity without incorporating the role of homeostasis in the physiology of humans. Will the structures ordering society allow me to sleep during the day when night-time is no longer my pattern of sleeping? The answer to this question lies in examining whether my mind is my own. You and I both (Mraz, 2002).

*Was it you who spoke the words that things would happen but not to me?
Oh, things are gonna happen naturally
Oh, taking your advice, I'm looking on the bright side
And balancing the whole thing...*

*Cause you and I both loved what you and I spoke of
And others just read of and if you could see now
Well then, ... I'm almost..., finally out of words [Jason Mraz, 2002].*

Dare I ask why I repeatedly fell for the peddled rescues if the sleep I enjoyed at 5.00am was only frustrated by the external alarm clock? These reflections are illuminated in Chapter 7 covering the physiology and psychology of primary insomnia and capitalism, which steers the reproduction of society.

5.14 Conclusion

Chapter 5 captured my transformation from an untamed sleeper to a determined sleep hunter weighted down by the trials and tribulations of night-time drawbacks. The chapter addressed both of my research questions seeking to explore my experiences of managing self-diagnosed insomnia in a mixed economy and how consumerism influenced changes in my behaviour. I found that suffering with a self-diagnosed primary insomnia does not imply sleeplessness or an explained capacity to maintain the sleep state. It involves an oscillation between sleep and wakeful states stemming from constantly monitoring of the sleep state. The initially professed identity of a person with primary insomnia and the range of options on the sleep market fuelled the search for an effective solution to restore the orderliness of night-time sleep. The financial and emotional costs were not only overwhelming but also educational. How could I believe that sleep was something I could buy, even from the presumed free

NHS? This was a journey that necessitated trekking for me to learn everything I do not wish to undo. But what does it all mean in a social context?

Chapter 6: Narrative analysis and synthesis: The art of developing cohesive links

Introduction

Chapter 6 is set against the backdrop of the evocative versus analytic autoethnographic research qualms. Moreover, most auto ethnographers tussle with going past the narrative thematic analysis stage. Wall (2016) describes numerous encounters with thick descriptions of life experiences of individuals claimed to be autoethnographic research, but often presented in a vacuum. The details included in this chapter are aimed to support future autoethnographic researchers in assessing the needs of their projects, particularly when linking personal narratives to the culture of a social group— a luxury I yearned for. Cooper and Lilyea (2022) emphasise the significance of narrative synthesis in connecting personal accounts coherently to the cultural context. Centred around a conceptual framework, narrative synthesis enables combining, organising and making sense of findings, considering the purpose of the study, its importance, research questions and methods used in collecting data (Crawford, 2019). Chapter 6 examines how I made sense of my narratives, specifically in connecting the 'I' to the primary insomnia consumer tribe and society in general.

I present my struggles and triumphs in understanding and applying narrative analysis and synthesis in this chapter. Firstly, I provide background information that supported my narrative analysis and its application. I explain the process of embedding visual inspiration in my analysis before addressing the methods I used in synthesising my narrative analysis. I explore what narrative synthesis represented for my study followed with my journey of distinguishing a suitable approach for undertaking the synthesis, given a range of options exist. I detail the procedure of building my framework for synthesis and the subsequent steps I took to complete my narrative synthesis within the fully constructed conceptual framework. Each step includes descriptions of my understanding of the concepts embedded in the process and details of the series of actions I undertook to accomplish the various stages. I consider my approach of making cohesive links to be new developments in autoethnography that

may provide guidance to researchers evaluating the impact of commodifying human health and healthcare on the health of the population.

6.1 Narrative analysis

Research exploring other people's experiences of phenomenon analyses narratives to produce meaning of their stories. The process features two levels of interpretation including the participants' and researchers' interpretation of narratives. Conversely, the auto ethnographer's narrative is the main story with a single layer of interpretation connecting a series of events to make sense of the experiences told. Data collection and analysis then turn out to be a continuous process in autoethnography to complete and enrich all aspects of a study (Chang, 2016). I started to write a portion of my story before reading the literature about sleep and capitalism with the hope that I would avoid any form of bias during my narrative analysis. Anyone would presume that knowledge of the existing mode of production of a country is a given, but my university economics lecturer never mentioned Karl Marx when explaining inequalities in the distribution of wealth.

I had also had a stab at writing my data analysis section because I thought the simulated leap would be an excellent guide through the subsequent steps of my critical autoethnography. The decision was an illusion as I discovered through the writing process, which I can assertively liken to milking a bull. I instinctively dropped the act of objectivity through probing constantly for the questions my story sought to answer. Creswell and Poth (2016) boosted my confidence to get on board with the supposition of intuition, insight and impression in my critical autoethnography, which is generously value laden. I whole heartedly embraced autoethnography's power to locate me in the unique position of being accustomed to both researcher and researched settings of analysing my narrative. Developing the narrative analysis iteratively challenged my assumptions about predetermining research methods to enhance the rigour of a study. The norm from my experience of writing a few research protocols involves including all the data management procedures before data collection starts. A protocol guides the research team through the steps of the study. However, the nonlinear temperament of analysing qualitative data is seldom highlighted in well-knit qualitative research protocols.

Polkinghorne (1995) distinguishes two types of analyses for narrative inquiries comprising the analysis of narratives and narrative analysis. The procedure for analysing narratives involves categorising elements frequently appearing across various stories into descriptions of shared experiences (Kim, 2016). In contrast, narrative analysis confers a consistent and holistic explanatory account of events featuring characteristics of human actions (Polkinghorne, 1995). Narrative analysis is therefore built within the storyteller's focus on the topic of interest and understanding of events (Chang, 2016; Holman Jones, Adams and Ellis, 2016). My story featured the product of narrative analysis sustainably containing a coherent whole with a beginning, middle and an end (Polkinghorne, 1995).

Firstly, I wrote my narrative as I remembered events in a chronological order without reflecting on any possible themes. The result was a block of text I considered to be storied data without an obvious indication of how I was to move beyond the textual and writer's block. Just as I reflected on my theoretical companion Karl Marx, I endeavoured to contain my narrative within the realm of commodified sleep. I grounded my narrative analysis in my interpretation of Marxian analysis and thus excluded many other aspects embedded in the heuristic experiences of most people with primary insomnia. The second level of my narrative analysis involved incorporating visual images that inspired my thinking about historical materialism and the lures into the practices of the primary insomnia consumer tribe.

The task and struggle at this point involved moving beyond the block of text and images that embellished chunks of text. In addition to that, the uncertainty about linking my experience to other members of the primary insomnia consumer tribe still hovered over my head. I was keen to circumvent textual virtuality that Ebert and Zavarzadeh (2008) caution stimulates questions of truths in the written narratives. The virtual occupies the gulf of uncertainty between what is perceived and what is known (Choi, 2018). I wondered, as Jackson and Mazzei (2008) suppose, whether this kind of reflexivity was a limitation or an enabler for knowledge production in my case. I had delved into the thick description of my understanding of experiences of the so-called primary insomnia with loose thoughts about how I was to proceed to link myself to the primary insomnia consumer tribe. The theoretical perspectives guiding my study had

crept into the thick descriptions of understanding of experiences, but not in a methodical way. I felt the need to organise the presentation of my work instead of simply enjoying the found freedom of expression.

The dialectical method engrained in the Marxian paradigm involves abstraction, where thinking about reality lived is broken down into manageable parts to enable adequate understanding of phenomenon and the contradictions therein (Ollman, 2003). Abstracting does not constitute haphazard or imaginary wholes, but it concerns actual life situations including both existing and material conditions resulting from my activity as Paolucci (2001) asserts. Managing a self-diagnosed condition involves a myriad of social relations including happenings of other members of my community of practice. Disintegrating phenomenon in smaller parts and relating parts to society facilitates clarifying processes that shape and generate the phenomenon at hand (Thompson, 2017). The supposition is that specifics of a whole are too complex to understand reciprocally, within the limits of human ability to appreciate the multilayers of experiences in society (Paolucci, 2001).

As mentioned in Chapter 4, I had read and saved some articles of other people's stories about their struggles with night-time sleep published in the media. I selected and reread three stories (Godshalk, 2016; Woolf, 2018; Beddington 2021). I had read a lot more stories, although I chose to keep only those containing experiences that I could relate to. I carefully thought about the wording that could summarise my own experiences reflected in the three stories published in the media. The aim was to bring forth a practice framework offering descriptions within which members of the primary insomnia consumer tribe could locate their own experiences. The wording I chose at the time to summarise experiences focused on the content of stories instead of the syntax of descriptions in the stories as Riessman (1993) recommends. My thoughts about the chosen three stories oscillated like a pendulum, as I pondered including them in my narrative analysis.

The assumption in autoethnography is a self-assumed capacity to capture experiences of the 'I' that others we interact with in society also recognise (Jackson and Mazzei, 2008). Conversely, social constructivism's assumption of knowledge generated through mutual social interactions is debatable because drawing shared

experiences without establishing underlying mechanisms creates gaps in the knowledge of causes and effects associations (Bhaskar and Danemark, 2006).

I also questioned whether including stories from the media would reinforce the researcher-researched hierarchical disposition that autoethnography seeks to undermine. Was the 'I' insufficient without seeking the community construction of reality? Jackson and Mazzei (2008) suggest the numerous levels of interpretation distort pluralised meaning. The proposition instead is to handle written accounts governed by the 'I' as fallible narratives to transcend perceptions of experiences as self-evident foundations of knowledge.

I backtracked the procedure I thought would provide me with a direct link to my former community of practice, the primary insomnia consumer tribe. I erased the themes I had used to breakup my block of text and instead assigned categories using words that I felt most suitably described the different paragraphs of my story. I cannot deny the possible bias I may have carried from reading the experiences of others in assigning themes to my text. The end component of my narrative shouldered a crucial role in the synthesis leading to meeting the overall purpose of de-commodifying the self-management of the primary insomnia. I confided in my autoethnographic diary about another penny that had dropped. I felt like it at the time anyway, but that was far from the truth as I discovered when I set out to generate the meaning of my story. Moreover, I was still uncertain whether the themes I used to break up my account into smaller parts logically suited my visual inspirations.

Incorporating visual inspirations into my narrative analysis

Simply avowing that writing a critical autoethnography is a voyage is an understatement, as I was about to unearth. Visual images amongst other sources of data offer rich descriptions of experiences and an avenue of self-reflection (Keats, 2009). However, images must be linked with the words lest the visual and written words remain worlds apart from each other. I temporarily created or joined a wagon of researchers who cannot readily link images to a research question when I merely included my visual inspirations in my narratives where I saw fit. The meaning and motive for capturing and presenting images in my work were trapped in my thoughts devoid of linking my gaze to the message I was trying to portray. Images connected

to life experiences are more than simply signs due to their visual logic. I posed a few questions to my reflection in the mirror.

- What concerns is your research homing in on?
- What values or assumptions do you carry forward?
- What narrative does each photograph or illustration suggest?

The questions led me to scrutinise the photos (n=24) I chose to use plus the illustrations (n=5) most of which I borrowed with permission from Stephanie McMillan (n=3). I crosschecked my visual sense alongside the location of the images in the context of my narratives. Images produced by a group of participants about a specific topic can be interpreted using participatory techniques, whether these include a group of researchers or participants working with researchers to derive common themes (Kanstrup, 2002). In autoethnography on the other hand, the researcher's visual inspirations carry an inherent interpretation embedded in the motif and message the researcher seeks to put forward.

I cut the images out of my story and pasted them in a clean word document. While some types of analysis privilege the chronology of events (Keats, 2009), my analysis placed function and context at the fore. For example, images of the marketplace often embody a social modality framing the economic ideologies. Ownby (2013) posits three sites through which meaning is derived from images including creating the image, its content and spectators. After looking closely at the content of my visual inspirations, I devised two categories comprising the explanatory (n=5) and supplementary (n=24). The explanatory category suited the visual inspirations complementing some of the theoretical explanations included in my work. The supplementary category constituted images that were tantamount to the depth of my story.

Following Ownby's (2013) site of spectators in deriving meaning from images, the identity of the other viewing the image matters. While a good sleeper may gloss over the contents in the image, the fitful sleeper may look closely at either familiar or speculatively helpful items. I assumed that market research had already identified possible beliefs, myths and consumer values at the time of taking photographs of the

marketplace. The contents in the photographs were literal commodities and not metaphors symbolising some hidden meaning waiting to be encoded via various interpretations. Meaning of the image as interpreted by a spectator besides myself may thus depend on a range of factors, personal experiences being one of them.

As earlier observed, my images of choice may induce parallel emotions in a person who has been down the perfect night-time sleep quest lane. I cropped some of the photos with the objective of retaining only the necessary information for the function I intended when taking and choosing the photographs to include in my narrative analysis. I arranged the images in line with my interpretation of the growing sleep market. The overlap arrangement signified uncontrolled consumer behaviour spurred by the market frenzy and the great desire for optimal results, a facet consumers and marketeers share on opposite sides of the same coin. My drive for the overlapping arrangement did not involve dimensional antics to give my visual inspirations a lively shape. I aimed to capture the reality of the commodities in respective localities and the cognitive activity of the consumer. I incorporated text describing my interpretation of the visual inspirations in my story to link narrative accounts with images and deepen the meaning of my story. I reinserted the images in the explanatory category in the suitable sections of my thesis and crosschecked the logic of the connecting text. Next, I put the supplementary images back in my story to match the suitable themes and added captions depicting the themes the images featured. Chapter 5 comprises my story and the analyses embedded.

What did my completed narrative analysis mean to the primary insomnia consumer tribe? I deemed it necessary to understand the process of bringing together the key facets of my narrative analysis and synthesis intelligibly to de-commodify the self-management of a primary insomnia. Section 6.2 provides details of connecting my narrative analysis to the primary insomnia consumer tribe via narrative synthesis.

6.2 Narrative synthesis

Syntheses build onto analyses and each analysis consequently needs a synthesis to be evaluated against any experiences recounted (Ritchey, 1991). While analytics break phenomena into parts, dialectics go beyond the breakdown to discern how parts

relate and influence each other when investigating social problems (Thompson, 2017). Marxian analyses typically employ historical materialism on one hand to unmask the ideologies sustaining an existing mode of production to champion the inexorable march towards transforming exploitative human practices. On the other hand, dialectical materialism offers the tool for synthesising phenomenon through illuminating power relations shaping the experiences of individuals and social groups. How? Incorporating relations between various facts into a dialectical framework reveals unstable elements in assertions of social reality to give facts significance and meaning (Dahbour, 2017).

Bleakley (2005) equates the hybrid technique of narrative analysis and synthesis to a lock and key which appear different when examined separately. However, a lock and fitting key carry significant use value when they are put together. Similarly, narrative synthesis, often used in reference to systematic reviews concerns bringing together different pieces of evidence to develop holistic understanding instead of simply aggregating evidence (Noblit and Hare, 1988). Narrative synthesis draws on techniques of storytelling to assemble compelling evidence (Popay et al., 2006) as to why for instance, sleep should not be packaged as a commodity to aid individual or policy decisions on transforming practice. The narrative analysis I had completed offered a model of how primary insomnia is self-managed despite the risk of losing the sentimental aspects of the story through theming textual data. However, I went a step further to identify patterns in the integrated whole and locate mechanisms underpinning cultural practices of the primary insomnia consumer tribe.

Constructing meaning is a performative act addressing the question of why an auto ethnographer selectively tells one story out of the numerous life experiences (Jackson and Mazzei, 2008). Other disciplines may encounter different rules specific to the training and practice (Kuhn, 2012), but autoethnography necessitates an association with a cultural group. My first attempt of establishing a direct link between my narrative analysis and the culture of existing members of the primary insomnia consumer tribe aimed to fulfil the requirement for autoethnographic research. I needed a different direction after abandoning the strife of using other people's stories to connect the 'I' to my former community of practice. Jackson and Mazzei (2008) propose focusing intently on the 'I' that is becoming to explore meaning in the fragmented narrative and

distinguish how others in mutual social groups or communities may follow the footsteps of becoming. My subsequent quest thus entailed finding the most suitable approach for synthesising my themed, fragmented and presumably to this point, fallible narratives. Documenting my journey offers guidance to future auto ethnographers on the choices and the pitfalls embedded in some approaches in light of the aims of individual research projects.

6.2.1 Exploring methods for synthesising my narrative analysis

My research proposal outlined ideas for my study, but it did not prepare me for the tasks I was to encounter at different stages of the research. Having chosen the Marxian paradigm to guide my presentation of ideas did not connote existence of a full set of discoverable rules. Individuals are seldom able to clearly explain knowledge acquired from experiences (Kuhn, 2012). Paradigms constitute assumptions characterising a scientific tradition within which knowledge is produced, whereas accounts of experiences only clarify the application of concepts and theories.

Lincoln, Lynham, and Guba (2011) left the question of whether reality exists externally to the experiences of humans open, since science has no access to human subjectivity and its absolute truth is open to debate. Compensating for the limitations in precise knowledge derived from narrative analysis required me to explore a systematic approach for building a unified whole, integrating the social world with my experiences (Ritchey, 1991). First, I came across the biographic narrative interpretive method (BNIM). I mused on the composition of the name of the method, despite the reassurance that research employing the BNIM does not necessarily have to be of a biographic temperament. The BNIM's aim of excavating the structure of a story to differentiate between the real and implied author of the story (Wengraf, 2011) was not well aligned to the objectives of my study. I left the task of mining my narratives in such a manner to the readership that may perhaps bear interest in the BNIM and/or the contemporary subject of buying the physiology of the humankind. The BNIM constituted a breeding ground for interpreting experiences as purely events in life and thus a far cry from de-commodifying society's designated primary insomnia.

Barnett-Page and Thomas (2009) feature other possibilities in their critical review of the different methods for synthesising qualitative research. I oscillated between the interpretative and explanatory mechanisms of various strategies for synthesis. I was tentatively swayed by refutational synthesis originally devised by Noblit and Hare (1988). Refutations are interpretations aimed at reversing other perspectives through critique. I presumed refutational synthesis would be plausible for my study since narrative inquiry gurus (Chang, 2016; Denzin, 2016; Kim, 2016) highlight the existence of interpretation at every stage of autoethnography. However, Ebert (2009) lays emphasis on explanatory instead of interpretative approaches for any synthesis focused on changing social struggles. The reasoning behind is that interpretation clouds the boundaries of reality, with simulations concealing the underpinning structures of social relations. Barnett-Page and Thomas (2009) distinguish framework synthesis as the most likely approach for achieving the intended goals of a synthesis.

A systematic review of the different approaches to framework synthesis concluded that choosing the suitability of a specific approach should be based on the theory adopted and its level of development (Brunton, Oliver and Thomas, 2020). One would think framework synthesis to this point would have been the obvious choice for me without exploring other methods given my adoption of the Marxian base–superstructure model for organising my ideas. However, my theoretical perspectives incorporated other friends beyond my close companion Karl Marx. I was drawn to Booth and Carroll's (2015) best fit framework for synthesis due to the flexibility embedded in combining theories and practice frameworks into a single framework, and the ability to accommodate primary and secondary sources of data. Originally developed as a framework for conducting systematic reviews (Carroll, Booth and Cooper, 2011), a lot of emphasis was placed on generalisable and actionable findings. The rationale is that theory and practice driven approaches clarify mechanisms for achieving desirable outcomes in different settings (Booth and Carroll, 2015). Whilst the best fit framework is setup to contain a priori categories, it can further be developed to include concepts accommodating evidence that does not readily fit in the original framework. I was confident in the choice of framework synthesis by virtue of the element of enhancing the framework into a best fit for subsequent steps beyond my narrative analysis.

As identified in Chapter 2, realism slithered into my study soon after I encountered the concept of false consciousness in the Marxian paradigm. I considered reflecting realism in my best fit framework since I was eager to avoid methods of narrative synthesis involving reciprocal translation and the associated interpretation. Reciprocal translation entails using concepts from one study to encompass findings of other studies included in a narrative synthesis (Sattar et al., 2021). Ebert (2009) refers to such interpretation as an aggressive representation of the social world, impelling researchers to cherry pick reality to present a contingent reality eliminating the depths of the structure of social relations. Noblit and Hare (1988) also caution against simplistic applications of reciprocal translations in exploring social ills due to their complexity and the vying explanations.

I got closer to the explanatory strength of critical realism while analysing frontline staff experiences of supporting the discharge to assess model during the COVID-19 pandemic (Martin and Hatzidimitriadou, 2021). There was no better way of unearthing the power, domination and agency that influenced decision making at the different levels of organisations. Non-negotiable hospital discharges of older adults to community care facilities with limited concerns of patient acuity or COVID-19 cross infections was a form of tyranny. Idealists suggest truths dependent solely on the mind, while realists posit existence of realities independent of the mind itself (Wild, 1947). Words lingered both as thoughts and loosely typed text as I pondered the bond between the critical element of my autoethnography and the framework for synthesis on one hand. On the other hand, I contemplated the influence of critical realism on narrative synthesis. Was it going to be a realist synthesis of a critical autoethnography or a critical realism framework for synthesis for this stage of my thesis? Quite frankly, I could not shake off the question about the difference between the two methods for exploring causal mechanisms underpinning social reality.

While searching for the key differences between critical realism and realist synthesis, I encountered De Souza (2022) who integrates both approaches in examining Singapore's restructured education system and associated outcomes. De Souza (2022) uses critical realism as a compensatory measure for shortfalls cited in realist evaluation, particularly in handling culture, agency and structure, plus considering agency as secondarily instead of primarily influential. Nevertheless, De Souza is

reluctant to engage with the confutation that Porter (2015) supposedly sufficiently addresses. I searched for Porter (2015) not specifically to applaud the battle, but to discern the difference between critical realism and realist synthesis to inform my option of a best fit synthesis framework. I established that proponents of realist evaluation and critical realism both agreed on the significance of theory in explanatory synthesis to tackle social complexity. Porter (2015) highlights further agreement on the persistence of underpinning mechanisms, and that physical and social sciences are constantly evolving due to human influences. However, lumping agency and structure into social mechanisms in realist evaluation disregards contextual influences of experiences at the empirical level. Individuals are social beings although localised factors such as childhood experiences, social class and sex may influence perceptions of reality.

Porter (2015) argues that the human capacity to think rationally or irrationally when making choices differentiates agency from structure despite the mutual influence. I enjoyed gaining more insight into critical realism versus realist evaluation excluding the esoteric arguments. Porter (2015) mostly clarified the need for me to develop clear understanding of the location of agency and structure in my framework for synthesis. The subsection that follows explores my understanding of agency and structure in line with the production and consumption of sleep commodities.

6.2.2 Locating agency and structure in my framework for synthesis

Hays (1994) elucidates structure and agency to avoid the quagmire of conceptual bewilderments separating human action from human thought, frequently draining meaningful content from market societies. Structures are stratified intentional and nonintentional human creations that both enable and constrain human thought and action. On the other hand, agency is human action geared towards conscious or unconscious choices among options that enabling factors of structures avail and actualise by the structural constraints (Hays, 1994). According to Hays' (1994) description, agency is not often concrete will or complete freedom, but the autonomy simultaneously facilitated and restricted by structure. The choices different agents make can carry a transformative effect on the structures and thus agency and structure mutually interact to reform or stabilise themselves. For example, power hierarchies

are a brewing conflict between autonomous tendencies and capitalism as the inequalities both stabilise and challenge capitalism (Jacobs, 2010). Capital owners are often caught between the prospects of maximising profits to hold onto their positions in society and making sure that the market for processing their capital has a continuous presence (Varoufakis, 2017).

Hays (1994) illuminates the extent of the autonomy of individuals in society. However, I still questioned how the autonomy of individuals inhibited by the convoluted social structures feature in consumption behaviours under capitalism. Dissecting this question was crucial for understanding the drive behind practices of the primary insomnia consumer tribe to place agency and structure in my framework for synthesis. Individualism assumes explicit individual action whose choices are influenced by self-determined preferences without social conditioning (Morselli, 2014). Nonetheless, capitalism being the dominating structure constricts labour's choice between free and contingently free action where labour is compensated to obey capital (Vrousalis, 2021). While resource availability may guide production under a socialist system, profit maximisation heads capitalism, and the exploitation of humans by humans herein is unescapable.

One would question whether the assumption of influences of the social structure relegates humans to objects without rational thought, and whether Marxian analysis denies the function of the individual agent. I could if I had to, but responding to the myriad of Karl Marx's critics is not the remit of my critical autoethnography. Context in explanatory research matters, and declaring human behaviour as a product of individual instincts influencing how reality is perceived to steer preferences (Morselli, 2014) is one-dimensional. Structures shape individual agency and collective agency influences structures to adapt and continue surviving. Thus, individualism does not explain all human consumption behaviour as instinctual in determining preferences. Structures avail the material conditions for human actions concerning consumption.

Darwin's theory of evolution supports the evolutionary institutionalism conception, which presumes that human actions precede institutions and that human behaviours drive institutions (Fürstenberg, 2016). In contrast, morphogenesis supposes that structures exist before human behaviour and human behaviour can change the form

of structures from historical to elaborated forms (Archer, 2000). Thus, a single statement of individualism as a causal factor for consumer behaviour cannot explain all matters in varying contexts because individuals lack fixed, coherent and absolutely rational preferences (Fürstenberg, 2016). For instance, capitalism carries the profit motive as a collective trait, but it does not constitute shared agency because every other sect is exposed to the structural domination capitalism confers (Vrousalis, 2021).

The existence of a sleep commodity precedes the individual's desire to consume it and thus the structure powered by the mode of production leads human action to consume sleep commodities in this context. The capitalist's sleep loss is over sustaining the upward gradient of the profit-making mechanism, while the labour's lost sleep is due to the obsession of sleeping sufficiently to serve capitalism gainfully. I like to use the example of the catnapping parliamentarian in the palace of Westminster to question individualism and the supposed eternally intentional human behaviour. Some members of the House of Commons would possibly prefer to be elsewhere in the afternoon when the slump of a heavily subsidised hot canteen meal hits to avoid the ensuing public embarrassment. Beneath the irresistible nod off is the structure demanding the presence of the parliamentarian to debate important matters concerning the country, irrespective of the parliamentarian's temporal environmental unawareness and hence cognitive absence.

Considering the matters above illuminated the location of structure and agency in my framework for synthesis. I was then ready to advance the building blocks of my framework into an enhanced best fit framework for synthesis.

6.2.3 Finalising elements of the best fit framework for synthesis

I had gleaned common values from domains of realist synthesis and critical realism as explained in section 6.2.1. The urge thus far of bringing together shared elements between realist synthesis and critical realism to enrich my best fit framework for synthesis was endearing. As Wild (1947) observed, mental or any other generic classification of existence cannot comprehensively represent the subject of being. However, realism is an all-embracing concept acknowledging the existence of both materialism and idealism only to the extent that they can be evidenced empirically. I

found Fletcher (2017) and Jagosh (2019) very useful when assembling the building blocks for my framework for synthesis because of the components they share. Jagosh's (2019) realist synthesis and Fletcher's (2017) critical realism frameworks presuppose a mind independent reality analogous to the supposition of false consciousness, whereby knowledge of what is real is partial. For example, is primary insomnia an ailment or a name for a physiology that sometimes fails to adhere to the demands of the clock external to the human body?

Both frameworks for synthesising research evidence (Fletcher, 2017; Jagosh, 2019) use the iceberg metaphor to illustrate the false consciousness at the tip underpinned by unobservable mechanisms. Using metaphors entails referring to something with the help of words suggestive of something else (Lewis, 1996). For instance, sleeping like a log is commonly used to mean sound and peaceful sleep. Metaphors, deeply rooted in aspects of linguistics are illustrations of epistemic access to a unified explanation of stratified reality, using what is known to unveil the unobservable mechanisms influencing behaviour (Lewis, 1996). Realists borrowed the iceberg metaphor from the American writer Ernest Miller Hemingway (1899-1961), who used the omission technique in written stories to enhance the depth of meaning derived (Kandilatkhan, 2022). Parts of the story omitted had to be known facts, lest the story acquired descriptors such as patchy and meaningless.

A close examination of illustrations by Fletcher (2017) and Jagosh (2019) stimulated a stinging debate within me about the general application of the metaphor. While the former is inclined on critical theory and the latter on appraising programme effectiveness that may assume any other theoretical framework, both illustrations depict realism. I was quick to assume that Fletcher (2017) was a better fit for my study than Jagosh (2019) due to the direct link to critique. However, Jagosh (2019) underscored the significance of the context, which is key in formulating causal inferences. For instance, a dawn sleeper may be affected differently if the time requirements to attend to social obligations are negotiable. The urgency to squeeze sleeping time between 10.00pm and 7.00am is easily wavered. The supposition of latent mechanisms remaining so until the conducive context activates them drew me back to Fletcher's (2017) stratified reality, because the analysis and synthesis concerned an active phenomenon. The assumptions underpinning Fletcher (2017) are

distinct from synthesising mechanisms that may remain inactive until a conducive context activates them. Nonetheless, it is worth considering that the conditions for commodified sleep are in place for the good night-time sleepers should their internal mechanisms sway or have a change of mind.

Fletcher's (2017) illustration of the iceberg metaphor assumes a stratified reality of the different levels working in tandem due to the active generative mechanisms underpinning the experiences of the Canadian farm working women. However, I substituted the phrase 'real level of reality' with 'material level of reality' to suit the purpose of my study. I borrowed elements from each of the illustrations to enhance the application of the framework to my synthesis of experiences of self-managing a primary insomnia in a mixed economy. I arose from the compounded muddle of critical realism and realist synthesis with a critical realist synthesis.

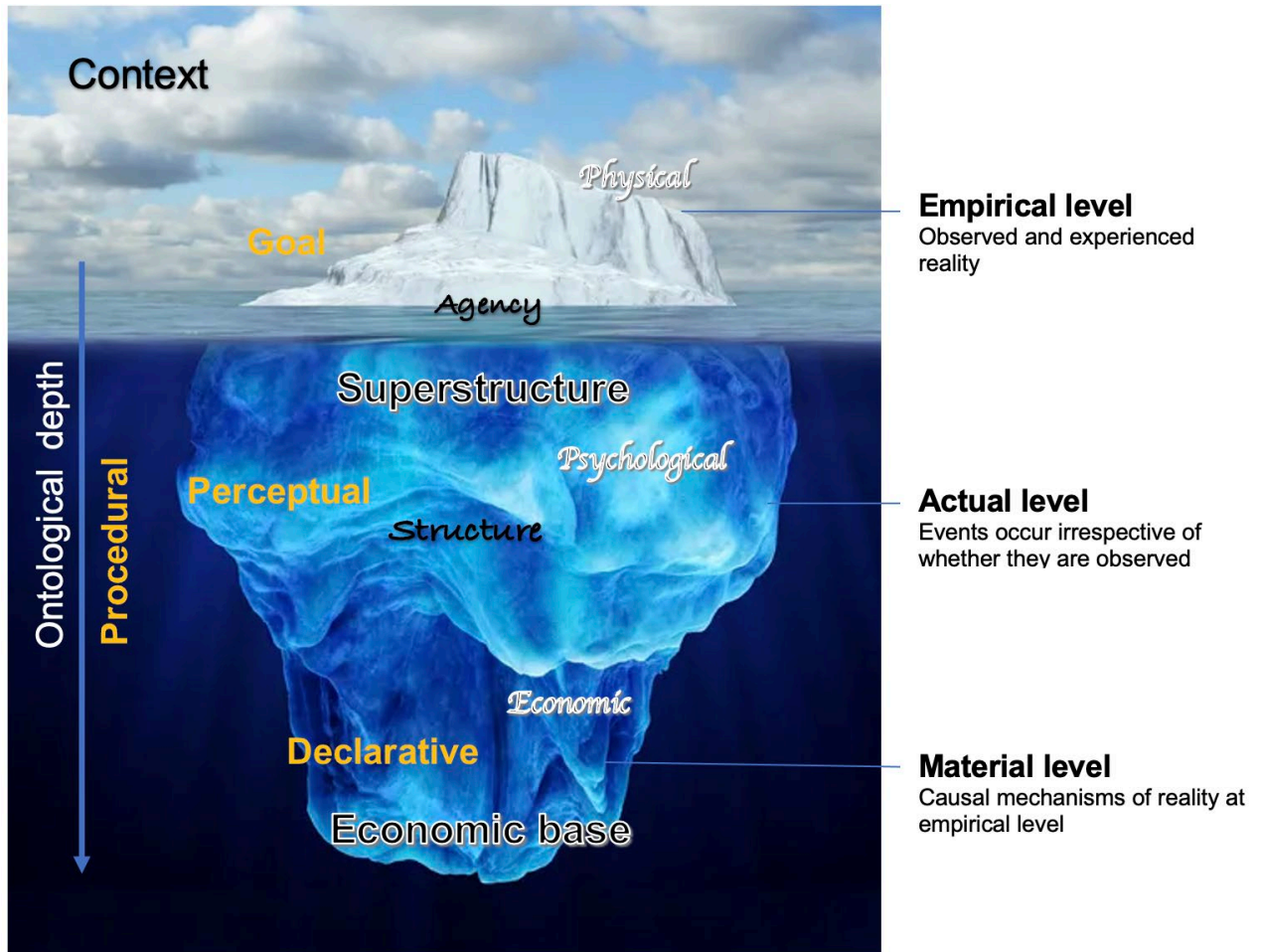
With a nonlinear disposition, the critical realist framework for synthesis involves three most important steps. These include identifying demi-regularities, abduction and retroduction (Fletcher, 2017). Demi-regularities are frequently occurring events which cannot be explained solely based on their tendency to occur (Jagosh, 2019). For example, I identified determination, haste in acting, a constant search for information, hope and despair as some of the demi-regularities in my narrative analysis. However, apportioning the initially identified demi-regularities to individual agency is turning a blind eye to the possibility of contextual factors underpinning the consumption behaviour of individuals. I considered the application of abduction to build my theoretical frameworks into the iceberg metaphor constituting the a priori framework for synthesis.

Abduction

Abduction incorporates the use of theoretical concepts to redescribe the themes organising data. A conceptual framework therefore includes a network of theories used to examine the meaning of phenomenon (Eastwood, Jalaludin and Kemp, 2014). The critical realist synthesis iceberg provided the a priori framework underpinned by three levels of reality. Within that, I integrated Marxian's historical materialism (base-superstructure) and the adaptive control of thought –rational to form and test a meta best fit framework for synthesis. The theories I chose for analysing information were

based on rational evaluation of the phenomenon examined to identify the mechanisms behind events as (Fletcher, 2017) would recommend. My study aimed to de-commodify self-managing the primary insomnia. Thus, discarding the awareness of class in social struggles I sought to change could have turned into a space for varied interpretations incubating a cultural safety for capitalism as Ebert (2009) echoes. Class differences influence one's negotiating power within social structures. The higher the position one occupies in the autocratic structure of the division of labour the more control one has over availing time to others. Similarly, contexts separating the base from the superstructure usually culminate into fragmented representations, which cannot be fully understood without the linkage to material conditions (Needham, 2010). The ACT-R (Anderson et al., 2004) clarifies how cognitive power is exhumed in sidestepping the sleep market that has acquired a legitimate place in society.

The critical realist framework for synthesis was my final piece for a conceptual framework, which oriented aspects of the study and illustrated the knowledge contribution of the study to the subject of night- time sleep struggles. That is, investigating the physiological, psychological and socioeconomic aspects of sleep in the sum of social relations. Figure 6.1 illustrates the iceberg metaphor of the ontological depth of waking up to the realities of sleep in a world colonised by capitalism.



Adapted from Fletcher (2017) and Jagosh (2019).

Figure 6.1 The conceptual framework for managing a self-diagnosed primary insomnia in a mixed economy

Critical paradigms embrace the obscurity of human knowledge and imperfections in the knowledge of objects as a starting point of the inquiry into objects. The ontological depth in Figure 6.1 comprises three levels of reality. These include experiences at the empirical level, the actual level where events occur irrespective of whether these are observed and the material level which consists of mechanisms with causal powers (Eastwood, Jalaludin and Kemp, 2014). Each level of reality is distinct, although interactions may occur between immediate neighbouring entities to generate new mechanisms, a condition known as liability in critical realism (Fletcher, 2017). The causal levels of reality accommodate metatheoretical perspectives like Marxian analysis, making inferences about the nature of the world and our knowledge of it. For example, an object is a commodity only if it has an exchange value irrespective of its use value which is indeterminable at the point of consumption (Marx, 1904). I can

attest to having bought winter coats that required me to wear numerous layers underneath to get the intended effect of a winter coat.

For critical realists, what is real is not reducible to how we know it because our knowledge of what is real is only a small fraction of what can be known about phenomenon (Fletcher, 2017). For example, models that attempt to clarify primary insomnia are fragmented explanations of night-time cognitive activity failing to capture events outside of the bed or bedroom context. Appropriate theories are therefore essential conduits for getting close to truths through distinguishing the composition of elements interacting (causal mechanisms) to manifest behavioural patterns. Table 6.1 shows the logic I used in mapping my narrative themes into the conceptual framework. Narrative themes did not simply depend on the frequency of words in the text, but the representation and the contribution themes made to answering the research questions as Braun and Clarke (2006) highlight.

My too many ideas syndrome frequently tempered my reasoning, but not at this point of my study. However, jotting down my thoughts sensibly became less and less of a personal forte as logical ones, at least I believed to be, churned trapped in my head. I herewith give putting into words the rationale of embedding narrative themes into the conceptual framework a chance. I positioned the psychological element alongside the actual level of reality in the framework for synthesis because thoughts are subjective experiences that individuals may not be aware of. However, the psychological and physiological elements closely intertwine in the behaviour of how thoughts are framed. Positive thoughts can manifest externally as a smile. The conditions presenting at the first, second and third levels of reality comprised of sleep difficulties, the range of commodities on the sleep market and the emergent (becoming) sleeper respectively.

Table 6.1 Mapping narrative themes into the conceptual framework

Experiences and the role of consumerism	Integrated theory of the mind	Critical realism	Historical materialism
Narrative analysis themes	ACT-R	Level of reality	Marxian analysis
The untamed sleeper	Goal module	Empirical level Observed and experienced reality	The superstructure and associated ideologies
The synthetic state of being			
Attempts with diminishing returns			
Free healthcare for all people with primary insomnia	Perceptual motor system	Actual level Events occur irrespective of whether they are observed	
The herbal medical practitioner			
The market noises			
Time for a different form of alternative medicine			
Enhancing the night experiences			
The capitalist upgrades			
Revisiting the sleep sanctuary: A contemplated pursuit?	Declarative memory	Material level Casual mechanism of reality at empirical level	
Corporate versus customer loyalty			
The savvy consumer			

Agency and structure denoted the context for the various conditions, strategically positioned to demonstrate the influence of each on the respective level of reality. Themes categorised under the goal module of the ACT–R theory involved the physical aspect of humans, whose goal is to perform a natural function including circumstances where this is manipulated. The ability to initiate different responses to situations is contingent on the knowledge of the goal for the response and one’s ability to sustain logic to achieve the goal. I considered the range of options available on the sleep market, including the capitalist upgrades as ideologies and thus located these in the superstructure.

The perceptual motor system of the ACT–R theory facilitates the focus on objects through which the perceptual motor system request identifies the location of a particular object. The themes carried by the declarative memory component of the ACT–R theory represent the consumer’s capacity to store information to enable coherence in a problem-solving situation. On the other hand, the procedural component facilitates generating the rule with the most valuable use such as, ‘experience shows that nothing works’, using knowledge from the declarative memory component. For example, savvy consumption, corporate versus customer loyalty and contemplating the pursuit of night-time sleep are themes representing the awareness of the commercial dealings of sleep, which may have affected the profit margin of sleep peddlers. This is the material level of reality corresponding to the economic base of Marxian analysis.

While linking verbal accounts and visual inspirations to theory, I reconsidered the aptness of theory in explaining the images with their respective themes. I examined whether the perceptual mode and superstructure suited the image capturing market noises through integrating various photos of the physical and online sleep markets. The perceptual motor system linking cognition and action, enabled me to scour physical and online stores and to take time to choose my next acquisition as I trialed and errored during my pursuit for perfect night-time sleep.

Cause-effect relationships facilitate flexible explanations of intended and unintended outcomes to tackle complexity in social problems (Eskin, 2013). Merely considering night-time sleep experiences is an epistemic fallacy, disregarding deep seated mechanisms framing individual actions. Mechanisms are parts, which when put together produce consistent cause-and-effect relations (Brady, 2011). The subsection that follows covers how I discerned the process of generating explanatory statements of the cause and effect relationships in managing a self-diagnosed primary insomnia.

6.2.4 Exploring cause-and-effect relationships for managing a self-diagnosed primary insomnia

It is the view of positivist or empiricist that only experiments generate causal links through systematically comparing situations with and without the presumed causal factors (Maxwell, 2004). Qualitative research is then assigned and limited to descriptions of phenomena. However, explanatory synthesis enhances the credibility of statements generated from research when grounded in the theoretical understanding of causal inferences (Maxwell, 2004). De Souza (2022) cites a paucity of attempts to locate explanatory research in historical and contextual conditions influencing experiences particularly for studies inclined on realism.

Explanation holistically synthesises cause and effect to propagate coherent social relations embedded in materialism (Ebert, 2009). Cause and effect represent the relationship between two phenomena, one of which presents the reason for why the other exists (Wahed and Hsu, 2010). For example, sleeplessness can lead to fatigue wherein sleeplessness is the cause and fatigue is the effect. Nevertheless, the cause-effect relation needs a mechanism to qualify the sleep-fatigue causal relationship. As demonstrated in Figure 6.1, critical realists presuppose that a true cause-effect relationship cannot be evaluated based on observable events alone (Dalkin et al., 2015). The primary insomnia consumer tribe's' relentless purchases exhibited in statements of personal accounts would readily explain sleep anxiety as an emergent property of commodified sleep. However, the statements of personal accounts are not what is invariably depicted in night-time dissatisfactory sleep and/or diurnal behaviour of the primary insomnia consumer tribe. Therefore, I scrutinised the structure of logical relationships to establish truths as Wild (1947) recommends.

A dynamic world with numerous interactions constitutes transitory objects with features defined by their causal powers (Ellis, 2000). That is, the characteristics determining the role of objects in the interactions they partake in define the probability of a cause generating an effect. Neurologists have cautiously used sleep deprivation to establish the effect of sleeplessness and the daily functioning of humans. However, the ontological question of what causality is presents other forms of questioning (Brady, 2011). For instance, is causality regular and thus normalised as common knowledge such as fatigue causes sleepiness, or is it simply manipulatable causation

like going to bed early affords one more sleep? The superstructure carries several implications in the role of human agency in causality, whether deterministic in cases where nightfall implies bedtime or probabilistic whereby going to bed at night might involve wakefulness. The epistemological inquiry then becomes how I know logically whether fatigue causes people to sleep at night, where the possibility of wakefulness exists. The simulation below depicts how the primary insomnia consumer tribe gets onboard the sleep commodity consumption community train.

Waking up to social order (O) intrinsic to capitalism (Co) makes me buy a sound machine (M) to force sleeping at night to the wake of capitalism (C). It is safe to declare that O applies a C force of a specific level in the direction of M. The C force is not explicit, but my actions are. C simply quantifies the action generated with respect to causal power of Co on M minus any other actions that may be taking place at the time. Causal laws are therefore the analytic explanations of the initiation process and action of the C forces (illustration adapted from Ellis, 2000).

Critical realism's flexibility in establishing causality facilitates a case-by-case analysis of underlying mechanisms of social phenomenon (Bhaskar and Danemark, 2006). However, displays of a specific causal power are similar because the same power must bear the same law of action, whether the law of action causes a determined or probable display (Ellis, 2000). For example, the store card points system is a paltry reward for the corporation's analysis of consumer behaviour furnishing aggressive advertisements with brandings of primary benefits of commodities pushing the haste of their consumers. Nevertheless, characteristics that qualify humans as such a kind, are an absolute necessity for predetermined consumption to fall in line. Humans sleep is a universal principle, an intrinsic property defining the naturalness of human beings. Historical or external factors that may shape the identities of individuals do not change their intrinsic properties of being human. Hence, decoding the human thought opens possibilities for new markets when capitalists are pushed to the brink of the tough competition in free market economies.

I was eager to circumvent the valuation of David Hume (1711-1776) particularly the disbelief in a single causation and yet causal laws may not follow a predictable pattern.

David Hume suggests a lack of evidence for cause and effect and that instead events are represented through psychological sequencing of the stimulus and response, precedence and regularity (Brady, 2011). The critical realist framework for synthesis does not conform to regularity because actual events and material mechanisms may be contingent on other factors. For example, I participate in the process of reproducing society to earn a wage. My purpose for participating contributes to processes of maximising profit, which is not my aim but a requirement for my activity. My narrative analysis pertaining to the first level of reality might have identified seemingly causal factors for the primary insomnia. However, these did not comprise causal law due to the influences of various social interactions.

The relentless consumption of sleep related goods and services to obtain satisfactory sleep at night does not fully explain the cause for the compulsive behaviour. The themes identified during my narrative analysis therefore constituted the demi-regularities, describing patterns of behaviour, which may differ by case due to the variations in context as Jagosh (2019) observes. To assume that all members of the primary insomnia consumer tribe become savvy consumers is a misleading notion. The savvy consumption may be the typical outcome of trying several sleep commodities, but not always without an adequate explanation as to why. Demi-regularities hence constituted partial knowledge of events that could only be illuminated through exploring aspects underpinning manifestation of reality in the manner it does at the tip of the iceberg.

The earlier simulation of the how and why behaviour of the primary insomnia consumer tribe demonstrated that causal powers involve numerous displays and can be identified from the dispositions they create. Having somewhat grasped the essence of drawing cause-effect relationships from which I was to obtain inferences brought me to the action-oriented stage of my conceptual framework. That is, the next step in critical realist synthesis concerned with making causal inferences.

6.2.5 Retroduction: Making causal inferences

Critical realist synthesis employs retroduction to unveil the causal mechanisms for specific contextual conditions (Fletcher, 2017). As Olsen (2007) observes,

retroduction does not comprise specific steps of undertaking the process but, it involves an ethical inquiry and logical explanation of conditions necessary for outcomes to manifest in the manner that they do. The challenge at this stage was for me to move along the ontological depth to distinguish the mechanisms lying beneath observable experiences and explain how they interact. Bhaskar (1993) used the term *transfactual* to denote powers, potentialities and liabilities that may exist without being necessarily actualised but can be isolated when investigated closely.

Minds can be trapped into contradictions whereas logic cannot. Figure 6.2 depicts the thought process of applying retroduction to synthesising my narrative themes using my conceptual framework of managing a self-diagnosed insomnia. The conceptual framework (Figure 6.1) combined Marxian analysis of the influence of the economic base on the superstructure; critical realism's stratified levels of perceiving social reality; the ACT–R concerned with developing problem solving skills through coherent reasoning; the operational facets of free will within the social realm; and the physiological and psychological aspects of humans. Figures 6.1, 6.2 and Table 6.1 are connected descriptions of the stages of my narrative synthesis. While Figure 6.2 simplifies Figure 6.1 to show associations between specific elements and their links to the theoretical network, Table 6.1. demonstrates how narrative themes fit into the overall conceptual framework.

Figure 6.2 is a positive contribution to Marxian analysis of the influence of ideologies on consumption behaviours. Anyone who has ever embarked on a journey of achieving 'typically' flawless skin may relate to the influence of market options on both consumption behaviour and the state of the skin. I once maintained a retail-like shelf filled with skin products of different brands marketed for acne prone skin despite my negative reaction to the key ingredient –salicylic acid.

One of the crucial features of the critical realist synthesis framework pertinent to my study was the transitive temperament of knowledge. Misconceptions about and partial knowledge of phenomenon change as entities and the knowledge, misgivings, or ignorance of them change (Haigh et al., 2019).

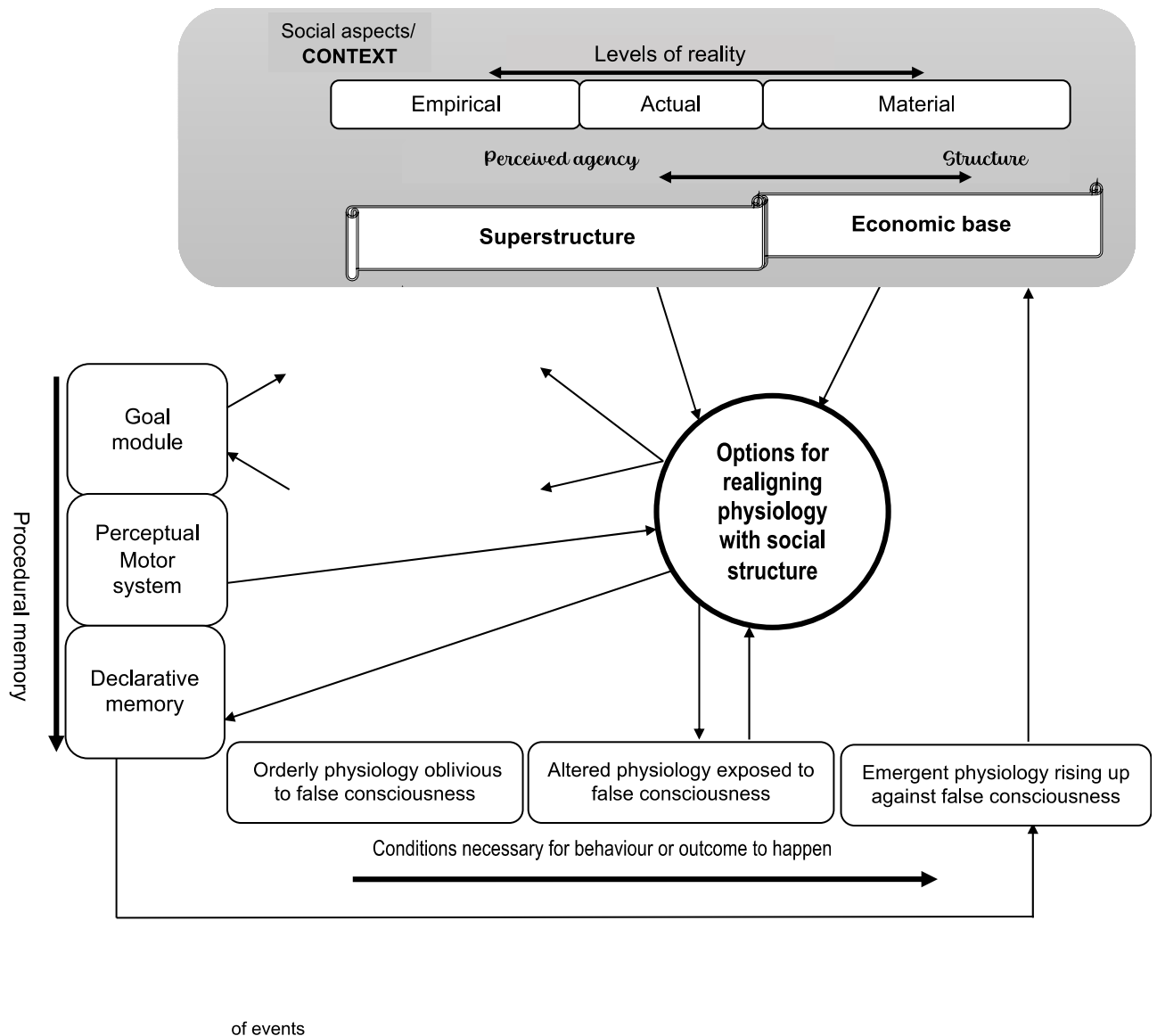


Figure 6.2 Applying retroduction to the narrative analysis using the conceptual framework for managing a self-diagnosed insomnia in a mixed economy

Retroduction enabled me to interrogate my assumptions about sleep being innate to humans to make grounded claims in line with my experiences. The law of contradictions is not a law of thought, but a valid thought of the way reality presents itself (Wild, 1947). Dialectical materialism was therefore resounding in examining whether primary insomnia was an extension of social relations of production, a consequence of the material world or a health condition vying for mystical intervention. I distinguished gains and losses stemming from the moving parts of change. As Haigh et al. (2019) recommend, I observed tendencies in occurrences, differences in them

and/or the absence of links in events within the behavioural context of the primary insomnia consumer tribe.

6.3 Conclusion

Exploring narrative synthesis, a step beyond narrative analysis guided me through different strategies that finally led me to the best fit framework for synthesis. Drawing on the iceberg metaphor for demonstrating the complexity of social reality in critical realism, I integrated theoretical perspectives and narrative themes into the critical realist framework for synthesis. While I was keen to avoid engulfing myself in the heated debate between critical realism and realist synthesis, separating structure and agency was essential for distinguishing sleep as a private involuntary but also controlled activity. Narrative synthesis building on the narrative analysis involved triangulating and integrating the various forms of knowledge to generate results I considered to be more meaningful than presenting each form of knowledge separately. The critical realist framework for synthesis I developed as my conceptual framework eased the task of combining different sources of data to explore patterns that were to facilitate generating all-encompassing explanations for observed phenomena. I discovered that the components of a best fit framework for synthesis cannot be simply assumed without demonstrating how each piece of the puzzle fits together to generate causal links. To the best of my knowledge, using a conceptual framework linking theory, personal experiences to the social or a cultural group is an original contribution to autoethnographic research. This contribution is useful to future auto ethnographers synthesising tales of self-managing illness and analyses of the impact of commodifying human health and healthcare on the overall health of the population. One of the contradictions about commodified sleep that stood out for me was commodities competitively marketed to fulfil the same goal without use value have a short-term effect on consumer behaviour. In line with the goal of de-commodifying the self-management of primary insomnia, Chapter 7 provides explanations for tendencies observed, emphasising the mechanisms inclined to generating events.

Chapter 7: Understanding experiences of self-managing a primary insomnia

Introduction

Chapter 5 presented my story of managing the self-diagnosed primary insomnia as well as reflections on my night-time experiences. Chapter 6 detailed the procedures of my narrative analysis and synthesis to identify physical, psychological and socioeconomic patterns within the incidence and self-managing the so-called primary insomnia in a mixed economy. Chapter 7 consolidates the narrative synthesis and the literature with explanatory statements of mechanisms underpinning the occurrence and sustenance of what society designates as primary insomnia to weigh up the caption “is my mind my own”. I maintain the three levels of reality in presenting the mechanisms influencing dissatisfactory night-time sleep including the empirical (physiological), actual (psychological) and material (socioeconomic) levels. According to the information I have come across so far, my approach is a new contribution to understanding sleep and night-time sleep difficulties that are not underlined by another health condition.

Section 7.1 presents the empirical level of the stratified reality reflecting the physiological expression of psychological processes. Each of the sections in this chapter plots my experiences as well as consumerism’s responsibility in behavioural drifts in managing a self-diagnosed primary insomnia to address the research questions recapped below:

- What were my experiences of managing a self-diagnosed primary insomnia in a mixed economy?
- What role did consumerism play in the changes of my experiences over time?

Section 7.1 explains the influence of consuming sleep commodities and other substances on the physiological and psychological experiences of primary insomnia.

I present explanatory statements about the functioning of the autonomic nervous system due to its core function of regulating involuntary reactions, and alcohol because of the contradictory effects alcohol has on the quality of labour. Linked to reflections in section 5.13, I established that one continues to monitor the sleep state as soon as the sedative effects of substances ingested wear off. The anxiety about night-time sleep culminates into a hypersensitive autonomic nervous system, unceasingly on edge whenever darkness falls.

As Hays (1994) observed, structure which individuals may be conscious or unconscious of simultaneously facilitates and constrains agency. Section 7.2 presenting the actual level of reality, includes explanatory statements about individual agency and structure mediating to influence the psyche and physiology in the sum of social relations. I established that the involuntary temperament of sleep becomes fragile due to ideologies including words from powerful social models, mindless desires and most importantly, the controls ordering society. Section 7.3 positioned at the third level of reality, includes explanations of managing the so-called insomnia in a mixed economy, with sub sections on capitalism as the underpinning mechanism. I found that, perceived illness emanates from the interaction between ideologies about what ought to be, and the commodities offered on the market for fixing perceived ill-health and enhancing wellbeing. The final section of Chapter 7 concludes with the consciousness arising from consuming sleep commodities without use value, and the proletarian's opportunity to ruin the sleep market. It was impossible to disentangle capitalism from the subsections of my work, due to its overall influence on the ideologies observed in the superstructure.

7.1 Understanding the physiology and psychology of the primary insomnia

Struggles with night-time sleep manifest empirically, irrespective of whether the psychological and/or material aspects powering the symptoms of disturbed sleep are recognised. The brain, which converts inputs into outputs within the complexity of its structure and functions, houses the mind (Pandya, 2011). I present the physical and psychological jointly because of the interactional relationships that are holistically

embedded in a human being. The nature of the psychological domain is incomprehensible without understanding the physical domain of a human.

Despite the lack of consensus on why we sleep, the physiological effects and behavioural changes stemming from sleep deprivation demonstrate the significance of sleep in various animal species (Siegel, 2003). Experiences of sleep disturbances for a couple of nights become a perpetual cycle and consequently a lifestyle for the people with primary insomnia trapped under the rubble of capitalism's flaws. Freeman (2015) poses the stimulating question: what makes you believe that your mind is your own? The mind has the capacity to shape reality, however, one's mindset reinforces the form of reality developed. Alluding to singular causation may be viewed as a simplistic way of explaining matters. However, the series of events stemming from capitalism do not necessitate complex models for imputing them. Figure 7.1 illustrates my experiences of recurrent night-time sleep anxiety and the underpinning mechanisms.

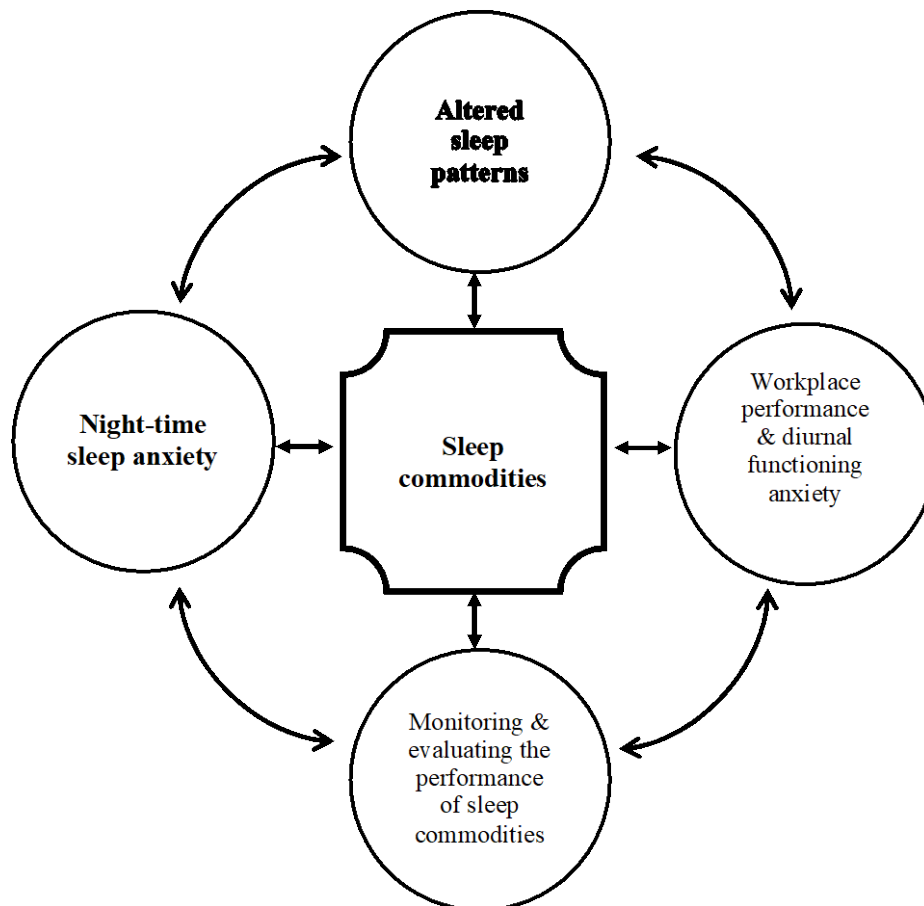


Figure 7.1 Experiences of recurrent night-time sleep anxiety

Workplace performance appraisals of an individual's contribution to the organisation and opportunities for a raise in wages underlie constant self-evaluations. Worrying about not sleeping at night and failing to perform optimally during the day triggers consumption of sleep inducing and enhancing commodities; lying awake waiting for sleep enhancements to work consumes one's actual sleep time; and hoping for utopian success from subsequent purchases maintains growth of the sleep market and perpetuates night-time sleep anxiety.

Beckert's (2009) analogy of the order of markets illuminates the micromanagement of human sleep in capitalist economies. Beckert (2009) asserts that markets require coordination. Actors align their actions with the expected behavioural responses of consumers to allow market exchanges to occur. Political entities also prioritise increasing consumer spending to boost economic growth, which sometimes turns into psychological-behavioural consumerism supporting the wealth of a few individuals (Duignan, 2022). I would not have perceived problems with night-time sleep if I had the opportunity to continue with my experiences of natural sleep that mostly occurred when my mind recognised the need to get up in an hour. While my mind actively shaped realities of my night-time sleep experience, the order of the sleep market aligned its actions with the expected behavioural responses of people with primary insomnia.

Sleep and alcohol

People with primary insomnia are often alcohol drinking practitioners due to the temporary relief ethanol offers from the dynamic cognitive activity. I found that wakefulness after a sufficient dose of night-time alcohol is often induced by the release of histamines. Alcohol and histamine have a common metabolic pathway, sharing enzymes aldehyde dehydrogenase and aldehyde oxidase and hence the synergetic relationship between the hypersecretion of histamine and mucus (Zimatkin and Anichtchik, 1999; Kang et al., 2017). This may explain experiences of nasal congestion, an allergic response to the release of histamine from mast cells and basophils when the body detects a toxic substance and/or an injury (Hayashi et al., 2012; Borriello, Iannone and Marone, 2017). The metabolism of high levels of alcohol is a slow process, which interrupts the metabolism of histamines, consequently increasing histamine in the brain regions and plasma. It is plausible that the body

prioritises metabolising the high concentration of alcohol over excessive histamines to minimise damaging the liver tissue through which most of the metabolic process for alcohol occurs.

Nursing the alcoholic aftermath cheated time from my fragile night-time winks. A ticklish feeling at the back of my throat sometimes jolted me from the booze induced wooziness. I got up every morning looking more of a patient than I perceived myself to be. Using alcohol as a sedative was a counterproductive measure that I discontinued to reclaim my night-time sleep. On the contrary, people with primary insomnia are largely alcohol dependants despite its impact on the quality of sleep (Stein and Friedman, 2006; Britton, Fat and Neligan, 2020). Capitalism works within the illusions of satisfying desires and lifestyles and yet compulsive alcoholism consumes these illusions away (Hellman, 2010). On class and alcohol, the unemployed homeless spend handouts on meth to escape the intolerable reality of the competitiveness of a private propertied society (Lawrence, 2016). In better states of comfort, the working class spend on wines to force their bodies to submit to the material conditions ordering society. The survival of capitalism requires hard working and thrifty labour (Lawrence, 2016). Nevertheless, the value of the compulsive alcohol consumers deteriorates when they cease to function as expected in the capitalist economy – a contradiction resting in the ideology of labour as a source of value.

Sleep and the functioning of the autonomic nervous system

The sympathetic, parasympathetic and enteric systems make up the autonomic nervous system, which functions without deliberate control (McCorry, 2007). The autonomic nervous system contributes significantly to maintaining the human body's stable conditions essential for survival. However, the automated capacity of nature to function is compromised when the internal structure of humans is commodified. I explain the interplay between the sympathetic and parasympathetic components of the autonomic nervous system due to their vital roles in handling stress and rest. As observed in Chapter 2, primary insomnia is associated with prolonged stress on the autonomic nervous system (Bonnet and Arand, 2012).

Despite originating factors for night-time sleeplessness, worrying about not being able to sleep and what one can do to improve the night-time sleep experiences take up a

large share of one's cognitive activity. The sympathetic and parasympathetic systems have opposing effects in which one is degraded to allow the activity of the other to control the functioning of body tissues and coordination of organs. While the sympathetic system regulates fight-or-flight reactions, the parasympathetic system predominates during relaxed and restful conditions. The parasympathetic system is downgraded, and the sympathetic system takes over once the fear of not being able to sleep sets in. The 3-P model by Spielman, Saskin and Thorpy (1987) hints on this trend, but dwells on excessive time in bed as a perpetuator for long term primary insomnia. The sympathetic system prepares the body for intense physical activity as the mounting anxiety causes tension in the muscles and blood is redirected away from metabolic processes to the contracting muscles (McCorry, 2007). I would have never tried the wig fashion, ever in life if my hair grew as healthy and fast as my fingernails. However, that is not the point. My nails often dug painfully at my palm with a clenched fist on the hand supporting my head. The other hand lay clasped between my legs, as I impatiently waited for sleep to come to me at night. Regular sleep anxiety sensitised my body to night-time sleeping in that, the sympathetic system was often on edge and hence easily activated as Weeks (1972) observes.

In the self-help audio book 'Freedom from Nervous Suffering', Weeks (2012) presumes that the daytime fatigue attributed to unsatisfactory sleep is a result of muscle tensions comparable to those acquired after a long walk. The extreme activation of the sympathetic system and low activation of the parasympathetic system create an imbalance in the autonomic nervous system to increase risks of cardiovascular diseases and metabolic disorders in sleep worrisome communities (Wulsin, Herman and Thaye, 2018). It is worth noting here that cardiovascular diseases are not necessarily due to fewer hours of sleep as Walker (2017) presumes. A few hours of sleep do not guarantee cardiovascular diseases particularly if the total time slept does not involve any form of anxiety about one's sleep quality. In view of the experiences of the untamed sleeper, I derived some explanations of the physical and psychological experiences of the primary insomnia nuisance. I established that using alcohol to induce sleep and worrying about sleep quality and quantity strain the functioning of the autonomic nervous system.

The impact associated with the prevalence of primary insomnia and the ensuing growth of the sleep market are mostly recognised in the West where ideologies change rapidly to create the demand for advancements. For example, research addressing the significance of melatonin (Lockley et al., 2022) makes deductions favouring social order instead of presenting facts about the physiology of humans. Why would one consider sleep disordered because it occurs in a polyphasic manner? As observed in Roth (2007), pharmaceutical companies mostly fund research associating insomnia with severe psychiatric disorders. While individuals bear the cost of pursuing block night-time sleep in the short term, ageing with numerous comorbidities characterises a degenerating society. Unwarranted healthcare utilisation in a nation with an ageing population (Raymond et al., 2021) is not an indicator of a cost-effective healthcare system. However, the forewarning for healthcare shaped by capitalism with scattered tenets of collectivism is that the cost is the individual's own. For what it is worth, England's underfunded social care sector largely appropriates costs for old age support to individuals despite long-term contributions to national tax revenue. Section 7.2 elucidates human sleep's social controls, which must exist to facilitate the rapid processing of capital.

7.2 Primary insomnia, structure and perceived agency

Public health messages creating structure through ideologies such as the time necessary for healthy sleep, consequently, govern individuals' perceptions about sleep. The dichotomy of good and bad sleep and the associated healthism (Ogeil et al., 2021) indicate that sleep requires constant evaluation. Enhancements are available at the individual's discretion whenever sleep assessment falls short of the perceived good, even without a standard measure for good sleep. Standard indicators for pathologized sleep are developed without precise boundaries. Definitions of the primary insomnia are constantly modified to suit market trends. Individuals are assigned the responsibility of overseeing perceptions of disordered sleep within structural inequalities, rendering sleep a fragile commodity for subsistence. I concede to Meadows et al.'s (2021) idea of sleep as a negotiated process when viewed within structures organising society. Sleep becomes a choice to forfeit when one succumbs to a felt need for time for leisure. However, I refute the bourgeois considerations of the environment in terms of street noises, snoring partners and/or spaces for night-sleep

to happen. Such discussions brew exuberant market ideas and blur the injustices emanating from class differences.

A supreme system of slavery arises from the greed entrenched in the appetite of individuals. There are nights when I poke my bed companion in the hope that the relaxed throat tissues tense up to turn down the volume in the nasopharynx. Nonetheless, such attention is now and then on me when I am oblivious to the noisy expression of the joy of deep sleep. Nearly everyone snores, with men (57%) more susceptible to snoring than women (40%) (Schwab, 2022). The manufactured fragility of sleep has turned snoring into a form of oppression that many seek to emancipate themselves from via using different sleeping spaces and requiring snorers to solve the problem by any means (Zarhin, 2020). Need I go on about the several treatments on the market aimed at designing the perfect sleep specifically for shared sleeping spaces?

What I see in socioeconomic structures masks the realities of capitalism. I perceive possession of an element of power that reinforces a degree of my voluntary actions. I buy a commodity because I have the purchasing power and creditors are keen to help me to make further purchases when I run out of liquid money. I feel supported if I take it all in at face value. However, my next pay cheque signals a potential crisis should I choose to ignore what motivates my purchases and the regular repayments with the interest that I signed up for.

Owners of capital do much to sustain the class they hold in society, including reckless innovations into new markets to keep the power and silent domination of non-capital owners. Critical questioning of 'why' illuminates the 'how' and the emancipatory means for the desirable outcomes (Hunt, 2004). While it appears to naked eyes that independent will backs my behaviour for pursuing restorative sleep, I am vulnerable to the ideology of sold sleep appearing in a myriad of forms, all of which promise great results. Rossi (2010) cites Hegel's supposition found in *The Phenomenology of the Spirit*, that the in-depth knowledge of phenomena or objects transforms individuals. Examining sleep in its physiological existence, within social developments and pathways into sleep loss freed me to reclaim ownership of my mind from distorted perceptions that society established as norms.

Sleep is not a behaviour that requires voluntary or involuntary action and hence sleep related agency is constricted (Meadows et al., 2021). I found myself cringing at the presumption by Meadow and colleagues that sleep should not be assessed for its own sake, but based on activities of waking because sleep is not directly experienceable. How can I relinquish expressing the joy that radiates from within due to the lucky nights when mother nature's endowment functions gracefully like a full moonlight in a clear night sky? I refer to these episodes as lucky nights because they are never planned based on activities. Planning the quality and quantity of sleep based on the next day's activities overly exerts pressure on the plausibility of yet another lucky night.

The American sleep health organisation currently compartmentalises up to 80 sleep disorders (Altevogt and Colten, 2006). The sleep deemed as an unmet need, and hence a public health problem is featured in the citation below:

Fitful sleep, restless nights, hitting the alarm clock button for an additional 10 minutes of sleep – are all familiar manifestations of the interactions of life with one of the frontiers of science and clinical practice- somnology and sleep medicine [Altevogt and Colten, 2006, p.20].

Somnology concerns the study of the physiology of sleep while the medicine branch is assigned the responsibility of diagnosing and treating chronic sleep loss and sleep disorders. The power is assigned to medicine to determine disease irrespective of the context in which the purported condition is experienced. The pressure that social order inflicts on one's sleep incites perceptions of illness. Labels such as primary insomnia generate identities influencing the actions of individuals in enhancing the way they interact with society. While invisible pain is usually relegated to hypochondria, a change in night-time sleep patterns requires intervention to realign individuals with labour markets.

The alarm clock and its functions overtly exhibit the social controls of sleep. I would probably come across as finicky if I questioned whether humans must sleep at night. Anyone with pets will testify to the innumerable and probably unplanned naps some animals have in twenty four hours. I use pets as examples because observing them is

not as resource intensive as the untamed animal species. Although Siegel (2003; 2005) would point out the different sleep needs for different animals due to variations in size of animal species. Regardless of Siegel's scientific distinctions, I would be more satisfied with maximum use of natural daylight as the explanation of why night-time sleep is preferred to daytime sleep instead of the melatonin production sermon. Based on my experiences of managing the primary insomnia, my agency flimsily laid in the night-time struggles and my diurnal actions focused on reliving satisfactory sleep.

7.3 The dialectics of self-managing primary insomnia: An investment in snake eggs

Discourses about social problems highlight a specified pattern beginning with a social difficulty stemming from failing to abide by customary practice, followed with an explanation of consequences (Frank, 1994). In so far as we are prepared to sleep better, shall we overcome the insomnia and risks associated with rugged looks, psychiatric disorders, diabetes and cardiovascular illnesses. Commodification assigns a condition to an object that is not inherent in the object's fundamental properties (Castree, 2003). As observed earlier, sleep is an involuntary but also controlled human function. The marketplace is ready to bail out anyone experiencing difficulties with fitting sleep within social controls, offering a range of products to establish conformity. The contradictions surrounding turning sleep from a physiological reoccurring phenomenon into something that can be manufactured, sold and bought as a fair exchange for the vendors and consumers may not require theoretical explanations. Hereto, my experience with purchasing and indulging in sleep commodities distinguish a vicious cycle characterised by snake eggs. While the unhatched egg symbolises hope for rebirth, the hatchling introduces a dangerous relationship typified by falsity (Hallett and Garley, 2009).

Sleep is a fragile commodity peddled freely particularly on online platforms with loose controls over what an entrepreneurial mind has to offer. The presumed natural device that mutilated my earlobes would not have made it on the market if the necessary regulator functioned as expected. Free markets give the working class a slither of the economic pie. The presumption of free interplay of market forces, free choice and participation of individuals extinguishes boundaries of what can be commodities. I read

Shuttleworth's (2020) piece on 'sleeplessness in Victorian professional life' with keen interest. Two out of the several self-managing insomnia cases presented stood out because of their drive for inducing sleep, distinguished as extremism in a fashioned free market economy. A medical doctor and an artist depended on chloral, a sleep inducing remedy stocked in most prominent London superstores in the mid – 19th century, to enhance their economic productivity. The doctor resigned the healthcare role after a series of serious medical errors and a severe breakdown in mental health due to the chloral addiction. The artist's physiological capacities ceased to function all together. Where is the value in a sleep commodity that exterminates instead of enhancing labour's productivity?

A commodity in its simplest form only constitutes the value of using it. The old fabric I sewed and filled with cottonwool to make play dolls for the eight-year-old girl I was, formed commodities with an emotional use value. The dolls would have assumed a level of complexity had I employed others for a low wage that would earn me profits through producing for large scale consumption in a different locality. The source of materials, physical effort, time spent on producing the dolls and how buyers afford the price of the dolls are divorced from the things that acquire the exchange value. What intrigued Karl Marx about the commodity neither stemmed from its use value nor from the factors determining its value. However, Karl Marx found the translation of the social relations between capitalists and proletarians to a relation between things with exchange value peculiar.

Labour's relations of production take on a material shape, a relation between things with exchange value. Knowledge here encapsulates knowing the cause of the cause. I may have considered it important to be part of a well slept and fully functional workforce. However, perpetually purchasing snake eggs alienated me from a natural endowment – sleep. I invested my meagre earnings in manufacturing my physiology without returns. The snake egg promised hope. However, the hatchling created a bondage to snake eggs and magnified the bedtime anxiety of awaiting the delivery of sleep from my acquisitions. A commodity is an external object that can be exchanged for money or bartered for another with an equivalent of higher exchange value to satisfy some form of a need or want (Tyson, 2014). The negation is whether sleep qualifies to be a commodity. What use are sleep commodities that confer neither use

nor exchange value post first hand acquisition? Capitalists would quickly respond that the idea of commodified sleep empathises with people's needs.

Empathetic capitalism

In addition to the four most recognised types of capitalism including oligarchic, state guided, corporate and entrepreneurial capitalism (Baumol, Litan and Schramm, 2012) is empathetic capitalism. Adams (2016) maintains empathetic capitalism is the current trend penetrating social life to maintain a motivated psyche for labour's optimal productivity. For instance, I feel the compulsion to return the compassion and complete a task outside of working hours when the manager asks about the progress of my children at school to show concern. Mason's (2019) post capitalism view postulates that a workforce afforded wages for a smartphone, linking operational systems such as google pay or apple pay cuts back on time spent in labour to increase leisure time. Pigs might fly when smartphones become universal entitlements increasing the standard of living without dismantling inequalities stemming from the labour hierarchies. While it has social connectivity benefits, information technology is a revived form of imperialism extending filaments of exploitation into labour's leisure space. Besides maintaining a hook onto office operations through emails, mechanisms such as meditation apps with seductive in-app purchases promoted as stress mitigators are simply bloodsuckers of the proletarian's hard earned wage.

Patnaik and Mortensen (2009) present another side of empathetic capitalism surviving off giving customers what they want and not simply what the capitalist has. Profits are accumulated through designing commodities that would simplify the life of a particular group of consumers such as the elderly and/or people with disabilities that the rest of the world rarely designs for. For example, Keen & Able are so considerate of the ordeals of the primary insomnia consumer tribe that they make their preoccupation less cumbersome for them (Figure 7.2). The sleep that I have known as part of the physiology of humans for the largest part of my life can now be delivered to my home.



Excellent ★★★★★ 3,861 reviews on ★ Trustpilot

Figure 7.2 Sleep delivered to your home

A substantial number of people (3,861) favourably rated the company delivering sleep to the homes of individuals as exceptional. Haste is often embedded in the impulse to buy sleep. Given such reassurance, most members of the primary insomnia consumer tribe would be keen to have their pursuit delivered to them in the comfort of their homes. Common practices binding people with primary insomnia as a social group are encouraged by the selfish lures packaged as going the extra mile for the consumer but rigged with the aim of expanding profits. The approach of doing good to do well is blinding when profits from such undertakings are not ploughed back into making commodities affordable for the identified consumer group. I argue that Patnaik and Mortensen's (2009) form of empathetic capitalism promotes novelties into new markets to accelerate the accumulation of wealth. The unsustainable use of natural resources and saturated markets are demanding of the capitalist's tact and the yield is painstakingly low and slow due to the stiff competition indicated in free market economies.

Arbitrary analyses of the value of sleep by schools of economics (Biddle and Hamermesh, 1990) have encouraged mechanistic forms of well slept citizens.

Allocating sleep in a demand model ascertains that consumers of sleep regulate their consumption behaviour in relation to one's income. The more one sleeps the less one earns, and the reverse is hypothesised to be true. I would not expect Biddle and Hamermesh to shy away from expressing how outlandish these assumptions are. Natural selection determines one's social class if it holds true that the amount of sleep needed varies from person to person. Should we all practice Buddhism to curtail the constant wanting inherent in humans? The innate desire for the social climb would compel those who need more sleep than others to allocate time to sleep sparingly. Conversely, Biddle and Hamermesh's (1990) sleep demand model is not bizarre after all, with the culture of 24-hour markets relying on pharmacotherapy for the sleep deprived humans to keep markets unceasingly going.

The capitalism that comes under the guise of philanthropy chips away at the autonomy of global health organisations that could potentially rebuke the idea of selling and buying sleep. The Bill and Melinda Gates Foundation once required World Health Organisation to reform disease control and vaccination programmes into public-private partnerships (Baru and Mohan, 2018). I witnessed the impact of such policies first hand in low-income countries. I was privileged to co-author one of the studies exploring the security of reproductive health commodities (Chattoe-Brown and Bitunda, 2006) and I was one of the research assistants who worked on the study by Nabyonga and colleagues (2005). Healthcare was profoundly commercialised through abolishing user fees while maintaining private wings in public health facilities and thus widening inequities in accessing healthcare. Private healthcare privileged service users with the full benefit of a physician and medication while public healthcare limited the service to seeing a healthcare worker of some sort. Drug stocks for public healthcare were characteristically low and service users had to buy prescriptions at drugstores when the money became available. Most drugstores were private businesses owned by healthcare workers employed in public health facilities. The drugstores lacked sufficient drug storage mechanisms at the time when risks of medication errors were at their heights. Buying only a portion of what one could afford was sometimes advisable as the nature of the business permitted the practice without due consideration to the plausible catastrophes from truncated treatments. Similarly, most people ration measures of pharmacotherapy for satisfactory night-time sleep for fear of becoming dependant on pills (Wolf-Meyer, 2011; Cheung et al., 2014). The

non-adherence to the full course of treatment as prescribed by a physician is also linked to condition deterioration and increased pressure on healthcare systems (Jimmy and Jose, 2011). Would a prescribed dosage for five days be sufficient to treat primary insomnia if it is a biological disfunction necessitating intervention?

The advice given by some organisations with merit to raise awareness about matters of public health is sometimes confounding. Mind UK, a mental health charity organisation's (2021) advice about sleeping pills for primary insomnia points to short-term prescriptions. While the short-term period is not defined, prolonged use is discouraged due to risks of drug tolerance and the caution against regular use is the likelihood of developing a drug dependency. For the primary insomnia consumer tribe, short-term, regular and prolonged use are free-floating terms subject to an assortment of interpretations. The compelling desire for satisfactory sleep and the felt need to control the risk of side effects lead to interrupted series of self-medication with continuous evaluation of the quality of sleep. The likely outcome is either prolonged or variable use of sleep medication, which may explain the steady growth in the pace of the medication segment of the sleep market that Arizton (2021) observes.

The notion of 'free markets' witnessed in both autocratic and democratic systems of governance explains the fluidity of frameworks for controlling market forces, diluted quests for social fairness and the constant antagonism in democratic schemes (Rousseau and Cranston, 1968). The political face of neoliberalism uses authority to impart and control ideologies to an extent that ideologies become unquestionable common sense without viable systems to critically examine the logical base for specific decisions (Lee Mudge, 2008). For example, the underfunding plus scarce and strained human resources often characterising the UK's NHS disguise ills of a healthcare system in a mixed economy. The UK healthcare system permits duplicative access through both public and private insurance unlike other high-income countries with exclusionary or complimentary insurance policies (Papanicolas et al., 2019). One can resort to private healthcare particularly under circumstances involving long waits for basic healthcare in the NHS.

Capital needs labour to multiply itself. However, systems driven by capitalism expose labour to predatory practices resulting in minimal returns on efforts put into

reproducing society. Sleep is a natural barrier to the 24/7 caprice of capitalism (Crary, 2013). Configuring sleep and wakefulness for increased productivity through avoiding interruptions in the markets blurs the human physiology of waking and sleeping. While commodified sleep plays on the 'sleep more for good health' slogan, primary insomnia is the resultant effect reducing the productivity of labour. Someone along the social reproduction chain is at a loss if labour's pursuit for a good night does not enhance workplace performance as expected. Ekirch (2016) illustrates the freedom humans found in fragmented sleep habits under earlier modes of producing substantive means before the surplus. Globalisation, which mostly capitalises on wakefulness irrespective of time-based differences in various regions around the world, imposes on the synchronicity of bodily functions and distorts the cultural diversity of sleep. Does capitalism incorporate a sustainability plan to make sure that the exploitation of labour is consistently cost effective?

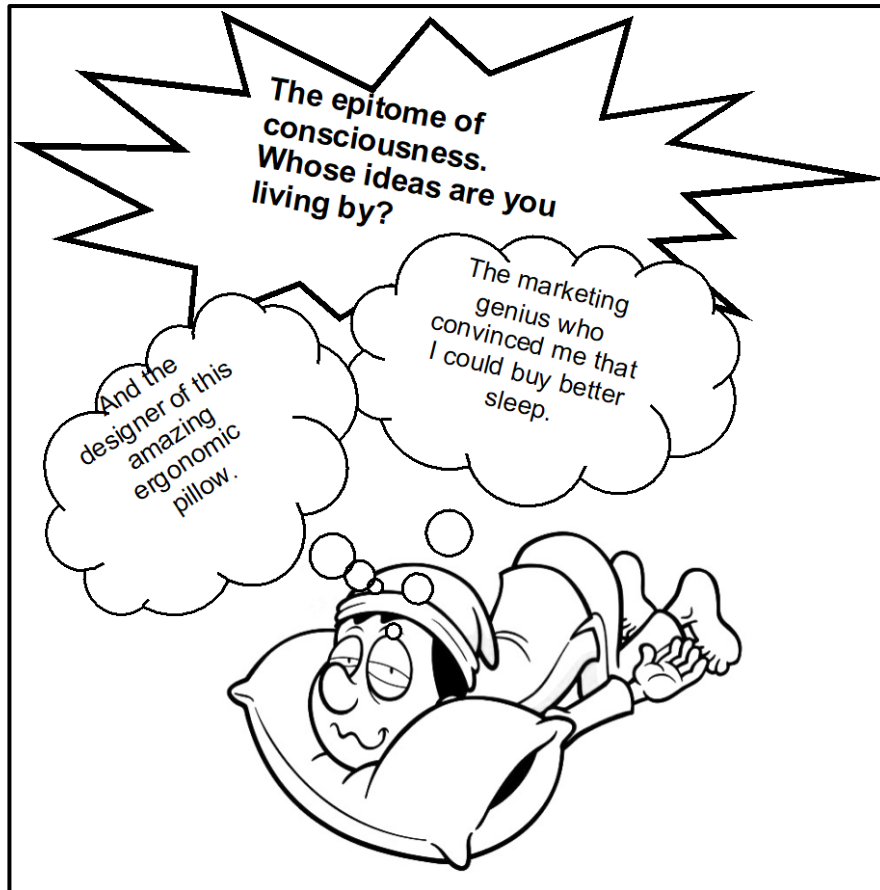
Empathetic capitalism is a camouflage for selfishness and greed, which are innate traits of humans. In the critical analysis of capitalist production, Marx (1889) sought to elucidate possible social consequences emanating from the interactions between capital, labour and commodities. Marx supposed a capitalist society would be challenged by the working class, eventually refraining from production to reorganise systems of capital ownership. Marx is often gravely criticised from a literal perspective of this claim since capitalists and their subordinates keep their positions to date. Nonetheless, Marx had indicated in the critique of Proudhon's system of economical contradictions that in view of historical events, a balance between monopoly and competition would never be achieved in any economic system (McLellan and Feuer, 2022). Inclined on the belief that presupposing deity is equivalent to denying divinity, Proudhon's (1888) explanation of how use value changed into exchange value omitted the role of demand in informing the production and supply of commodities (Marx, 1955). Assessing society's needs based on the unknown guaranteed neither scarcity nor abundance to generate exchange or use values respectively as Proudhon assumed (Marx, 1955). Proudhon supposed a simple form of exchange that did not consider the reason behind exchanging labour for a wage. Historical events had demonstrated that relations of production regulated social order and society's developments as opposed to deeper considerations of the experiences of others to improve their circumstances. The ambition to climb the social class ladder conditions

the behaviour of many individuals and social groups to the extent that fulfilling basic needs eventually takes on an ostentatious slant.

Primary insomnia and consumer capitalism

Human led developments since the invention of fire to the current advancements in technology signify progress in the mastery of nature for comfort and longevity (Hofstetter, 2016). Consumers of sleep commodities refocus judging the most use value obtainable from the range of options on the market from the need to be satisfied to an affinity with the aesthetics of the option of choice (Cerni, 2007). I could not readily find a concrete definition for consumer capitalism. However, Lewis (2014) alludes to deliberately organising and manipulating consumption patterns to sustain capitalist economies. Use value is usually downgraded to desire to glorify materialism (Ebert, 2009). For instance, the people of China cherished hard objects as headrest and trusted the porcelain glazed pillow to provide comfort during sleep particularly in the summer (Ying, 2019). Ergonomic foam designs replacing the medieval treasures are now competing to find the right balance linking coolness in the summer, comfort and appropriate head support for the best quality of sleep one can ever imagine. Figure 7.3 depicts a waking from the chains of consumer capitalism.

Humans impose on nature and themselves through self-directed assumptions and beliefs in a space of organic existence. It goes without saying that sacrificing whoever for individual survival is the norm. The secular exploitation of the environment for profit maximisation has led to degrading natural resources indiscriminately (Castree, 2003) including ourselves. The technical manipulation of the human body promises a reintroduction of slavery holistically forfeiting the body to monetary exchange not withstanding ethical claims.



Adapted from 'we are the embodiment of consciousness' illustration by Stephanie McMillan, 2014

Figure 7.3 A proletariat waking from the chains of consumer capitalism

I accumulated substantial points on my store card when my consumption habits of sleep commodities peaked, through which I received an offer for a personal virtual shopper. I doubt it is common knowledge as Hofstetter (2016) distinguishes that keeping consumers under electronic surveillance is an autocratic approach store card systems use to abuse human rights. The critical aspects in Marxian analysis emphasise the importance of clarifying ideologies ordering societies to repossess agency over the physical nature of humans (Tucker, 1978). The Mary Shelley (1797 – 1851) horrific imagination of Victor Frankenstein's scientific uncanny creation, which led to a series of unfortunate events may come to life if boundaries of exploiting humans are not set in stone. The birds that fell prey to research activity at Madison and Wisconsin Universities in the United States of America led attempts to clone non-sleeping humans (Crary, 2013). However, the cloned non-sleeping humans were to retain their usual interactions with normal sleeping humans. Alienating nature from itself is conspicuously and inevitably present in developments such as virtual reality

(Hofstetter, 2016). Likewise, aids for inducing sleep and promoting wakefulness for optimal performance in the reproduction of society distract humans from appreciating the natural context of how we have known physical and psychological functions. Sleep is a basic necessity for survival. Nonetheless, a set number of hours for night-time sleep designates even functional sleep to healthism to colonise minds of the working class and create markets for processing capital rapidly.

Harvey (2016) recognises the power consumption bears over capitalism. The primary insomnia consumer tribe comprises genuine members rightly protected by the return policy wherever this is possible. The rate at which capital is processed is deaccelerated when savvy members of the consumer tribe exercise the return policy right after experiencing the utility value of purchases. However, the return policy is not amenable to most commodities appearing in Figures 5.1 and 5.2 that crowd the sleep market. I would be looked at with a lot of concern if I turned up at a supermarket's customer service desk with a half-empty box of sleep tea to demand for a refund. A sigh indicating the loss of the battle to resist the oppression of labour cannot be ignored in other works (Adams, 2016; Leader, 2019). The complexity of non-returnable sleep commodities makes the battle against commodified sleep slightly convoluted. Nevertheless, a lot of power still lies with the primary insomnia consumer tribe, despite labours' ongoing convenient consumption habits sustaining corporate capitalists such as Amazon.

The primary insomnia consumer tribe uses commodity fetishization as an insurance against self-alienation, to develop hierarchical consumption determined by the perceived risks of their acquisitions. Fetishism is an obscured appearance of something other than itself (Castree, 2003). Cheung et al. (2014) found that evaluating strategies for improving the quality and quantity of sleep unceasingly drives experimenting with new commodities ranging from internet-based information sources to health food stores and yoga centres. While the magic of a pill is often persuasive, the primary insomnia consumer tribe is usually keen to circumvent drugs despite their desperation for a good night's sleep.

A review of insomnia treatments highlights that my over-the-counter option diphenhydramine, a histamine blocker, is notorious for rapid tolerance leave alone its

minimal effect on inducing a stupor (Lie et al., 2015). Benzodiazepines (BZD) present risks of tolerance and dependence among other negative side effects such as cognitive impairment and motor retardation. The non-BZDs introduced to counteract such side effects carry more precautionary measures than BZDs within risks of cognitive deterioration. For example, Eszopiclone a non-BZD approved for long term treatment of insomnia can only be used by people who can have a minimum of seven hours of passivity within their schedule of other obligations. Like Zaleplon, onset of unconsciousness is slow when taken with or within a constricted period of a heavy meal, substantially impacting on how individuals allocate time to social activities. On the other hand, the clinical efficacy and safety of herbal treatments are presumed unpromising (Lie et al., 2015). Despite the knowledge of possibly grave side effects of sleep enhancements, the drug cocktails sustain the existence of many people in the West contributing to the growth of the multimillion dollar industry. Individual convictions such as 'I will take the pill this one time to diminish the excessive fatigue' result in variable yet regular use patterns.

Primary insomnia described as a great loss (Rezaie, Khazaie and Yazdani, 2016) imprisons people in the search for remedies to reconnect with the sleep they experienced before the start of the night-time sleep hitches. The desperation pitches towards trying anything, be it eating parts of the human self, such as nails just to experience natural sleep (Andrews et al., 2013). The consumption of perceivably less risky sleep commodities on the market becomes the order of the day until one realises their instrumental value. Objects with instrumental value satisfy needs and/or wants. Nonetheless the shared caption among members of the primary consumer tribe is that nothing works. Emma Beddington (2021) relives the deep sleep quest with a trial of 11 so called popular products concluding with an appeal for knowledge of whether any of them really work. The quest for deep natural sleep negates its presence, resulting in some of the following outlined common experiences of the primary insomnia consumer tribe:

"...I just decided about a year ago—to go off all drugs. Nothing seemed to be working. I mean, nothing worked for a long time without side effects...It took about six months to get totally weaned off everything..." [Wolf-Meyer, 2011, p. 877].

“I really needed to sleep so I was willing to try anything at that stage to get that sleep and you become pretty desperate ... so I just felt well I’ll just keep going through all these different things and hopefully one of these things will sooner or later start to work ...” [Cheung et al., 2014, p.112].

“Um so I tried lots of things, but nothing really worked. It might work one night but it wasn’t sustainable ...” [Cheung et al., 2014, p.113].

“I have done everything for my problem; I took brewed herbal drinks. One of them was bitter. My friend advised me to drink a mixture of milk and honey every night; I did but it had no effect ...” [Rezaie, Khazaie and Yazdani, 2016, p.182].

“So, what’s left? I suppose I could still try...dog’s earwax, which was apparently the Beauty Sleep Hyaluronic Mist of the 16th century. For now, my most restful nights are the ones when I convince myself that it doesn’t really matter” [Beddington, 2021].

The Guardian publishes articles about people’s experiences of struggling with night-time sleep nearly once a year. At least the articles I came across carried that level of frequency. I was excited to see the 2022 article by Camilla Stoddart cautioning against trying to get a good night’s sleep. The secret is to stop trying. At last, “someone else gets it”, I thought. Sleep effort is actively punished instead of being rewarded. All was going well until Stoddart (2022) introduced techniques to improve opportunities for night-time sleep. Smiling more, wind-down routines and late nights all fuel the sleep preoccupation syndrome perpetuating the undesirable cycle.

The ACT-R (Anderson et al., 2004) is a learning theory that best describes the experiences of the primary insomnia consumer tribe cited earlier. The ACT-R presents a unified learning model of the memory of a human being when using different strategies to resolve dissatisfactory night-time sleep. False consciousness eggs the desperation for the perfect sleep to carry on, but the moment of enlightenment leans on the shared revelation among the primary insomnia consumer tribe... ‘does anything

work?’ Manufacturing, selling and buying ‘sleep’ is an ideology that takes possession of the minds of the primary consumer tribe. Ideologies about self-governed healthy sleeping increase the demand for sleep commodities on the market. However, the effects of long-term consumption practices culminate into emergent sleepers accepting the form of sleep obtained as a lifestyle or a personal characteristic. Karl Marx’s prophecy of the proletarians rising against capitalism is not far from the truth in this case. The consumers’ revolution against this edge of the sword of capitalism may gradually trample the sleep market when potential joiners of the consumer tribe take heed of discoveries of former tribe members. Is the revolution against selling sleep about to hit important city streets around the globe?

7.4 The revolution against sold sleep

A revolution overthrows the ruling class to substitute it with the power of the conquering social group and its ideas (Eagleton, 2018). I neither plan any city exhibitions nor do I anticipate canisters of tear gas slung at me, for I only speak of my experiences of living with the idea that sleep can be acquired through commercial dealings. How did I come to the realisation that obtaining sleep through market transactions is impossible? The ACT–R theory presumes the goal module keeps track of the purpose of the different options I tried to reconnect with natural night-time sleep experiences. My daily and nightly thoughts plus related consumption habits were all focused on one goal of getting satisfactory night-time sleep. The ACT–R posits that I had knowledge of where objects could be found in the environment including some of their characteristics (Anderson et al., 2004). The perceptual motor system enabled me to locate commodities both virtually and physically.

While young people are presumed to champion the adoption of new technologies, older generations swoop in to make sure that their interests are met (Hartmann, 2003). The world wide web made it easy for me to cautiously identify preferred therapies. I used a range of sleep commodity options, experiences of which my declarative module stored. I can still remember the taste and smells of sought therapies and how I evaluated each one of them. I could have kept my active consumption behaviour going if there was a degree of use value achieved from the commodities I acquired. However, the patterns in the information stored demonstrated too many successive

failures to facilitate continuity with the sleep commodity consumption habit. My procedural memory worked in unison with the goal module, perceptual motor system and declarative module to enlighten my false consciousness to pursuits of capitalists. Taking the move to relinquish my membership to the primary insomnia consumer tribe was hence not a sudden realisation of the necessity to succumb to the detrimental effects on my bank account. It was a learning process of how the strategies I used to rediscover sleeping without any thought of how to sleep at night worked. For example, I cautiously tried rejuvenating shower gels when the products associated with calming me down before bedtime made me alert. Hartman (1973) highlights the reversal effect, which is an illusionary perception of the ability to have full control over human sleep.

Leader (2019) critically examines capitalism's grip on some aspects of sleep and positively locates the role of psychoanalysis in tackling sleep disturbances. Can psychoanalysis explain and address the behaviour of the primary insomnia consumer tribe considering the assumption that unconscious feelings back human actions and reactions? Psychoanalysis seeks to release the conscious from the unconscious mainly of repressed emotions about perceived traumatic experiences. If personality means stable aspects of behaviour influenced by invisible elements from within (Ewen, 2003), the behavioural trend of consuming sleep commodities is far from a stable personality. Sigmund Freud (1856 -1939), the founder of psychoanalysis suggests humans are not masters of their own minds because unconscious processes habitually underpin human behaviour (McLeod, 2018). The iceberg metaphor is often used to illustrate Freud's notion of the submerged conscious repressing, fear, irrational desires and undesirable experiences (Green, 2019). However, an in-depth explanation is unwarranted to justify that a primary insomnia is none of the aforementioned. Psychoanalysis has a place where fear, irrational desires and/or undesirable experiences are the causes of fitful sleep or sporadic sleeplessness. Psychoanalysis is less suitable for situations where one can transcend repressed emotions without conquering the primary insomnia beast.

The fear of not sleeping at night because of social order and performance evaluation is not justly comparable to the fear of being attacked by an unpredictable character at night in a secluded alleyway. We used pit latrines in the night when I was growing up. I cannot claim the heroism of no fear of the dark, but I went outside whenever I needed

to use the toilet, yet this did not impact on my night-time sleep in any way. Cautionary measures to avoid breaking up night-time sleep are more likely to cause the night-time sleep trauma necessitating the psychoanalyst's intervention than the fear of the dark. The [NHS sleep hygiene](#) factsheet lists a lot of 'do nots' including avoiding napping in the day, eating and drinking less before bedtime to maximise the time for block sleeping. While biphasic sleep is a normal expression of human biology that most people experience to date, ideologies have revolutionised it into an anxiety on which the sleep market thrives.

Mysteries existent about sleep are enough evidence that sleep in humans cannot be completely colonised. The critical realism approach I used to clarify this postulation carries benefits beyond simply accumulating knowledge. Knowledge gained through critic follows logical reasoning to justify or challenge practices and transform units in human systems, with strong relations formed through mutual influences (Thompson, 2017). The more attention we pay to sleep the more vulnerable sleep gets to disappearing. The belief in unmodified physiological capabilities can emancipate us from the defeatist tradition, but it is individuals who can break the chain by reclaiming the mind as one's own. Otherwise, we continue to believe that we are at the mercy of wealth seekers at our cost, a decree for helplessness.

'Sleep (is like) a dove which has landed near one's hand and stays there as long as one does not pay any attention to it; if one attempts to grab it, it quickly flies away' [Espie et al., 2006, p.215].

7.5 Conclusion

Based on a critical realist framework for synthesis, Chapter 7 presented the meaning of my narrative analysis and the link to my former community of practice within social relations. I argued that what society designates as primary insomnia is associated with the material conditions of social existence. Capitalism, the mode underlying the social reproduction influences the structures for maintaining social order. A change in night-time sleep patterns results in a series of individual actions fuelled by the false confidence in the ideology that sleep can be bought to realign oneself with the operation of social structures. The individual's psyche is drawn and attached to the

mechanical design of perfect sleep, disconnecting the mind from diurnal events for a block of the prescribed eight hours. Operations of a mixed economy, to a greater degree empathetic capitalism ascertain that systems are in place for capital to maximise gains from labour. Labour has no option but to fall into the nets of capitalism lest the risks of losing substantive materialism set in. However, capitalism's downfall is implied in the negations within itself, engrained in the limitless endeavours for the maximum multiplicity of capital. Sleep in humans exemplifies nature's resistance to absolute mastery and colonisation. While technological advancements support human activity in changing nature, a lack of knowledge and understanding of nature's basic systems decelerates its mastery. It is high time sleep was omitted from utopian suppositions, which trigger human suffering.

Chapter 8: Reflections and conclusions

I have done this before – written summaries of research reports and articles for academic journals. I have suddenly lost my confidence in the skill I thought I had mastered. I feel knots in my stomach thinking about the content for what I presume will be my last chapter. My stomach turns as I force myself to push past this feeling and outline topics that I think will help me to reflect on my research. My hands are shaking while I struggle with composing clever thoughts. I cannot visualise the text beyond the existing contents of my thesis. It suddenly hits me that I am experiencing writer's block. It is not the first time this has happened to me, but the feeling on this occasion is different ... "Type whatever ideas come to mind and try different ways of presenting them", my mentor replies when I speak of my writer's block. I receive a free ticket to productive stupidity! I am thrilled! Productive stupidity empowers one with the confidence to ask and tackle important questions with voluntary ignorance (Schwartz, 2008). "That is liberating", I think. I shall go on and just do that, even if it means simply stating what I am planning to have for dinner. How is this related to my study? It is emancipatory.

Introduction

Primary insomnia is perceived to be an illness affecting the wellbeing of all age groups. I explained experiences of self-managing sleep anxieties in a mixed economy and the mechanisms that underpin the behavioural trends of the primary insomnia consumer tribe in Chapter 7. Chapter 8 concludes the study with reflections on achieving the purpose, experiences with autoethnography and the value of the study for the lay person and the sleep science community. A short conclusion identifies areas that the sleep research community can investigate to enlighten some of the grey areas in the human sleep literature.

8.1 Goals and encounters

Someone once asked me what I envisaged would be the final product of my research. "I do not know", I responded. I set out to de-commodify the self-management of what society currently refers to as primary insomnia and I feel that I have achieved the goal. I illuminated practices of managing a self-diagnosed insomnia and identified the effect of sleep commodities that lack use value on consumption behaviour. I explored the mysteries of sleep to acquire basic knowledge about human sleep and to examine

possibilities of pathological wakefulness. I found out that death is inevitable where pathological wakefulness is untreated in a living being. Ultimately, everyone sleeps irrespective of whether sleep is disordered by a health condition, or the health condition is the disordered sleep itself. Actual sleep disorders that were not the focus of my study exist. For example, sleepwalking (somnambulism) is one of the severe sleep conditions that may require medical intervention to safeguard individuals and others from harm. On the other hand, the dynamics entailed in the necessity for society to reproduce itself drive and accelerate experiences of the primary insomnia.

Sleep research is beset with uncertainties and reading it alongside narratives from opponents of capitalism slows the mind searching for a cursory perspective into sleep ideologies. At the beginning of my study, I had foot in two camps, one that considered primary insomnia as a health condition and the other that viewed it as a social construct based on social order. However, my critical questioning grew, and perspectives steadily changed as I reflected on what I observed about myself when I hit the despair stage, and my focus shifted to a keen interest in human sleep. Insights into the basic elements of sleep drew me in. While self-observations did not require a laboratory setup, the attempts I made after deciding to undertake a critical autoethnography of managing a primary insomnia in a mixed economy were enlightening. I had a real fear of relapsing into ‘the anxiety of not sleeping at night’, but that cognitive setup was probably fallible given some of the knowledge I had at the time. I also learned that conditioning the mind to focus on something provided the opposite effect. Involuntary sleep is a unique and priceless experience. Sleep stealthily took my mind to dreamland whenever I went to bed focused on observing how long I would stay awake for if I kept my thoughts on the possibility of failing to sleep. I would wake up to refocus on the task, but it was not the same. My perspective about night-time sleeplessness changed as I observed that it is not absolute sleeplessness but recurring sleep anxiety.

“How are you getting on with the PhD studies?” The question was directed at me during a networking session at a lunchtime research seminar. “What are you researching?” Another was shot at me before I could answer the first one. “I feel like an eight month expectant mother exercising a lot of patience to maximise opportunities of delivering a healthy child, but also keen to get it over with”. Laughter preceded remarks about being at a good stage in the whole

doctoral degree seeking journey. The colleague who had raised the question about my research topic looked at me with an expectant expression. I am working on sleep as a contemporary subject. “That is interesting because we teach sleep hygiene in public health”. “That is the problem”, I replied. “I can understand the objective of promoting healthy habits. Is it necessary to have predetermined content of a course without exploring each cohort’s sleep experiences first?”, I asked. The conversation did not continue as my colleague in academia quickly joined another group discussing a different topic.

People who do not consider themselves to have primary insomnia casually use sleep commodities without realising their attachment to the props. Informal conversations with people in work and social circles revealed actual phobias of night-time sleeplessness should one forget to embellish the pillow with a supposedly sleep-inducing spray. People in this category simply get attached to the sleep enhancing commodity like a transitional object without constantly evaluating its effectiveness. Despite carrying different symptoms of anxiety, the goal shared with the primary insomnia consumer tribe is to have good night-time sleep for optimal daytime performance. One could argue that the reasoning behind it all is justifiable. However, the issue to consider is whether people who are dependent on sleep enhancing commodities are truly autonomous in making their decisions. Which reminds me of what I believe is a good question. Is your mind your own? Why does the sleep market overwhelm the populace with the notion of buying sleep to obtain or enhance it? Commodified sleep controls the actions of individuals because the notion of buying sleep transforms the context for making choices. Sold sleep is a fictitious commodity with an incapacity to meet human needs. The absence of use value is a double-edged sword for exploiting labour in the totality of social reproduction. I repeatedly pointed to society’s designation of night-time struggles with sleep as the so-called primary insomnia or the primary insomnia. To this point, I would also expect myself to suggest if not a definition, at least a conclusive explanation.

8.2 Refocusing primary insomnia

Social systems often shape the meaning of phenomenon instead of the inherent properties of the phenomenon itself (Conrad and Barker, 2010). Meaning of what is deviant from normal is defined based on social controls that introduce physical and

social limitations. What is intrinsic about primary insomnia? Based on experiences of the primary consumer tribe, primary insomnia is the cyclic anxiety triggered by ongoing evaluation of the quality of sleep against consumed sleep inducing and enhancing commodities for socially ordered accomplishments. Primary insomnia is therefore a perceived illness since it is self-diagnosed and empirically self-perpetuated under the influence of the material forces of social existence. Social order powered by capitalism constrains the freedom of the expression of sleep that is part of the physiology of the humankind.

Stress usually involves an externally or internally perceived threat to the homeostasis of an organism (Schneiderman, Ironson and Siegel, 2005). Organisms including animals adapt to respond to stressors. Conversely, anxiety concerns persistent worrying that goes beyond the actual presence of stressors. Stress triggers lasting more than three months are said to present breeding grounds for chronic insomnia (Zucconi and Ferri, 2014). Nevertheless, a known stress trigger is not what lingers in primary sleep anxiety, but the coping mechanisms that culminate into prolonged anxiety instead of the initial stress. The mind would eventually get bored if sleep anxiety pivoted around simply the fear of unsatisfactory or no sleep without focusing on sleep inducing commodities. Elpidorou (2017) posits a bored mind regulates behaviour through encouraging thoughts to meander towards a new goal that better suits one's objectives than the thoughts initiating boredom. The mind has no space for boredom while one continuously evaluates how well newly acquired sleep commodities work toward achieving good night sleep and optimal daytime performance.

Any revisions of the international classification of sleep disorders ought to consider the scrupulous evaluation of sleep commodities against one's quality and quantity of sleep if the commodification of sleep continues at the current pace. Reflecting the assessment of sleep commodities aims to steer away from misperceptions of night-time sleeplessness, to indicate intermittent sleep due to the sleep anxiety that overpowers the sleep state to generate wakefulness. The intervention for primary sleep anxiety affecting the wellbeing of individuals does not lie in medicine, but in changing sleep ideologies and related behaviours in a modern society.

8.3 Disbanding the primary insomnia consumer tribe: An open letter

Consumers are active creators of market value and consumption habits control the levels of production and market prices. The primary consumer tribe is not a natural-born community, but one that learns how and what to acquire (Goulding, Shankar and Canniford, 2013) from the variety of sleep commodities. While cognitive abilities of individuals facilitate the sorting and coding of information, the primary insomnia consumer tribe shares experiences and emotions from consuming various products and services in pursuit for good night-time sleep. The primary insomnia consumer tribe's position as creators of market value ought to be a strong weapon for destroying the sleep market. The consumer tribe is transient since habits become unpredictable and emancipatory from both the identity and market dependence.

I wrote a letter to the closest acquaintance encountered during my exploration of others' experiences of natural sleep disturbances. This letter is deeply inspired by Eagleton's (2018) Chapter 4 addressing the critique of Marxian analysis as a dream of utopia. The indignity and alienation of humanity from its kind will prevail for as long as the contradictions inherent in capitalism remain unresolved. History depicts a capitalism morphing to regenerate all nature, including humans to a complete commodity form (Harvey, 2014). I addressed the open letter specifically to Emma Beddington (2021) in whose narratives about experiences with a variety of sleep commodities I closely traced my encounters.

Emma Beddington

The primary insomnia consumer tribe

September 2022

Dear Emma,

Firstly, permit me to accomplish something typically British. It is unusually cloudy today with a September chilly breeze gently ruffling through the wilted plants in the garden. I am not much of a gardener, but the recent ban on the hose following a lengthy dry spell in the southeast introduced an unusual garden look that is difficult to overlook. I am doubtful whether mentioning the changing season is equally representative of the 'Brits' ways of being. However, I live in hope that each season comes with opportunities for doing something differently. I look forward to what is yet to come.

I read your narratives published in The Guardian on the 6th of July 2021 with a lot of enthusiasm. Your experiences with the 11 products you tried to enhance your sleep put a bewildering smile on my face. I was unsure whether I was glad that I had had similar experiences or that readers of The Guardian belonging to the primary insomnia consumer tribe would also question the value of sleep commodities. We air our vulnerabilities in public to reclaim private natural activities such as sleeping, one we have once known simply as our own. Nonetheless, I do not underestimate the parallels we make through telling of our differences and failures. Unfortunately, you had to go through the torment of trialling several sleep commodities to get to the curious stage, raising your consciousness to human activity oblivious to self-alienation. The process was inevitable since capitalism's grave is itself. The consumption habits you took on with hope, assuming you paid something for each trial including the lettuce you infused in water, have brought you to the pivotal stage. You have reached the emancipation stage now that you have started to question whether anything works.

Our consciousness is often tardy because we plunge headfirst into the material world. Consuming sleep commodities relentlessly is a crisis that lasts longer than necessary. Political departments functioning to maintain economic activity create a platform for the complexity of such crises. Assuming that you too get the chance to read about my experiences with the trial and error sleep commodity tactics, you will note that the so

called natural sleep device was a close call. I was lucky that my earlobes only got wounded instead of falling off in the name of technological advancements wherein consumer protection controls could have prevented such calamities from happening.

The past taints the present but it also provides an anchor for future possibilities. I have recently acquired basic understanding of my physiology, which freed me from social misconceptions and the vicious human practices suckling on my hard earned wages. I am keen to stimulate new ideas about sleep as a natural endowment if it is simply the anxiety about material life that prevents it from automated expression. My hope is that different ways of thinking create instability in the currently growing sleep market. I do not claim power or absolute knowledge of the future like the loan sharks who will give you a final settlement figure with variable interest rates. Moreover, paying the necessary national insurance contributions does not warrantee receiving a state pension during an economic crunch such as national bankruptcy as Varoufakis (2017) observes. How is this relevant? Well, we all need somewhere to sleep and those without the power that owning capital confers suffer what they must.

Owners of capital do not hold a special meeting and agree to come after you via peddling sleep commodities. Nevertheless, the temperament of a class society epitomises the in-built greed and selfishness of humans. Many people are not only keen to survive, but also to attain the bourgeois status irrespective of who is sacrificed in the process. The social organisation of labour regulates material life, but the organising practices evolving overtime create scarcity including that of our sleep. I will not solicit for disbanding social structures if they embed virtues keeping the idiosyncrasies of the human character at bay. My preference is for an organising system that creates equal opportunities for you and me to flourish to the best of our abilities, but that is just me. You and I are the not the same person although, the ground should be levelled to avail equal opportunities for developing individual talents. I think that I should have the same right to negotiate for a late morning start as others benefiting from my surplus labour.

The catchphrase of sleep more for good health unnecessarily consumes a lot of physical and mental energy. I will resist telling you what the right thing to do is here. Your sleep expectations should thus be based on the realities of the present to avoid

getting caught up in the evils of limitless desiring. It would be ridiculous for you to think that you will sleep soundly tonight after reading my letter to you. My experiences would plausibly have been different if I had not chosen to carry an intense period of labour into my leisure entitlement. Ignoring this event strains the limits of conceptualising my experiences. While you and I may have had different causes of sleep anxiety, self-interests cannot be denied here. I can only speak for myself because I am not truly sure of the triggering circumstances on your part. An academic publication positioned me in a better place for an incremental raise in my wages. Keen to bite the carrot dangling from the system regulating my material life, I wanted the publication at any cost. Repercussions included unremitting purchases of sleep commodities to calm the perceived deranged natural sleep capabilities plus a lot of learning.

This is not the end, but the beginning of a new you, who is choosing to reclaim the power of your biology since the mechanistic way has failed. Your future to reclaiming sleep in its natural entirety begins with the realisation of the lack of worth in its pursuit. Your paradise sleep is far from a bed of fluffy roses as most roses have thorns. Karl Marx was not a fortune teller but a logician who talked about the pattern of things in view of historical events. Existing socially would have been perfect beyond feudalism if only things were to exude greatness in a euphoric world. Advancements, inequalities and suffering epitomise the material world. Similarly, your sleep experiences will vary due to many other factors society will present you with. Some nights will be better than others and seeing that you identify as a female, your biology will do other things to make your night-time sleep experiences different sometimes. You would be lucky to forge your subsistence means while allowing yourself to sleep whenever your body expresses the readiness to do so. The contradictions inherent in consuming sleep commodities explain the elements obstructing your preferred position. The consciousness you have acquired from depending on sleep commodities presented in different forms is your trekking pole, a powerful accessory on the pathway to returning to mother nature.

Given that you still have many years of actively contributing to social reproduction ahead of you, you will always be required to wake up at a time that is less convenient for you. The temptation of revisiting the over the counter instant solutions will be overpowering sometimes to escape the worries of a rugged look at the Monday

morning meeting. You will always think twice about the effects of alcohol on your body, even when it is a social drink with friends or family or just when it is needed to calm the nerves of social frustrations. That is only if you have not joined the healthism cult. I met a few people with insomnia including Godshalk (2016), Minsky (2019) and Woolf (2018) during my exploration of others' experiences with night-time sleep anxieties. Godshalk's case was intriguing, having transformed from a night owl while in college into a night-time combatant against sleep after acquiring a job at a law firm. Unlike you and I, the evaluations of others' sleep disturbances included some clinical presentations. I could guess from their narratives that the drug hooks were still anchored. Nevertheless, I will not dwell much on those other experiences because their narratives do not provide me with the details of originating conditions for the permanently inscribed identity of people with insomnia.

Lastly, I would like to share a joke from Eagleton's (2018) writings of why Marx was right to throw more light on the anxieties of social existence. Can you attribute the French revolution to biochemical reactions in the brains of the French people due to eating a lot of cheese? Events symbolising leisure rarely grace the pages of history books. On the other hand, the aggression displayed in public events included in written history comprise a pattern, with material interests as a unifying factor. Capitalism influences and sets limits to politics, family, ideas, culture and education, not forgetting your sleep. I trust you shall hold the truths uncovered dear to your heart to free your mind from forms of domination that you have the power to control.

Yours truly,

Anne Martin

Ex dedicated member of the primary insomnia consumer tribe.

8.4 Autoethnography: A polarity of undertaking research in academia

Carrying out autoethnographic research is a pathway often referred to as an adventure short of a clear destination (Muncey, 2005). The vision of ending up with a critical autoethnography was far from the wildest of my imaginations. I exhibited a lack of confidence in situating the 'I' in the 'we' during the initial steps of building up the overall undertaking. I contacted a work colleague at the beginning of my research project to ask for their willingness to be a participant in the study. Auto ethnographers call this specific approach collaborative autoethnography (Chang, 2016a). I considered passive collaboration via using other people's stories appearing on online news platforms to connect myself to the cultural practices of the primary insomnia consumer tribe. The numerous criticisms of autoethnography as a research approach that I encountered during the exploratory phase of my study were overwhelming. My enthusiasm to undertake a study acceptable in the academic world repeatedly fuelled feelings of self-doubt, as I shifted from considering one autoethnographic approach to another.

I value critique, even when others do it just for the sake of critiquing. Critique usually offers me the opportunity to reflect on the way I present my ideas. I almost had a panic attack when a reviewer pointed out that the article (Martin, 2019) about diagnosing and managing Ehlers Danlos syndrome hypermobility type was too critical. This comment stopped me in my tracks! I seemed willing to do anything possible to please the reviewers just to get my paper published. However, I had combed through the literature, and I was confident that half of the problem was the lack of full understanding of the condition and hence its poor management. I thanked the reviewer for the insightful comment, but I resisted changing the critique style of the paper simply to get it published. My response to the reviewer explained that the critical approach was a cautious choice aimed at stimulating debate about assumptions on which an international classification of a condition yet to be fully understood was built.

Autoethnography is frequently critiqued as a lazy self-indulgent biased and a rigour omitting route to research leading nowhere (Poerwandari, 2021). I had been part of studies comprising large samples from which outcomes were generalised. Seeking

acceptance from the social group that deems personal accounts fallible for scientific research ceased to be my goal. Considering my research experience and reasons for choosing the topic for my study boosted my confidence. I viewed myself as resourceful for both sleep and autoethnographic research. Using the Marxian paradigm with equally several critiques was a bold decision, seeing that someone once said to me, “you can always change your theoretical framework if it does not work”. I am proud to have thrown myself into this painstakingly intricate and yet emancipatory process of the study. Examining the physiology, psychology and socioeconomic aspects of primary insomnia using a network of theories culminated into a novel approach that incites debates about social and individual perceptions encompassing night-time sleep difficulties.

The trajectory of my study moving from simply a narrative inquiry using autoethnography as a method for collecting data to the critical autoethnography was unpredictable to say the least. I learned a lot from research seminars in spite of my numerous encounters with the awkward moments of a developing researcher. I wished I could command the ground to open and swallow me up after I nonchalantly mentioned critical autoethnography as the methodology for my PhD thesis at a postgraduate students’ research seminar. The blunder helped me to reflect on the reality of autoethnography as a methodology as it is often presented. Without the intention to ruffle feathers, I concluded that beyond the method of collecting data, when used for research purposes, autoethnography is a strategy like other qualitative approaches.

While it may seem that I chose critical autoethnography after exploring the various ways of producing knowledge, I toyed with the idea of using autoethnography as a method of collecting data for a long time. One may inevitably wonder when the critical comfortably meshed with the autoethnography. Questioning myself whether I was sufficient to represent the cultural practices of the primary insomnia consumer tribe had a profound effect on me. The fact that this was my research project was liberating. I had to garner every ounce of confidence to take control of my study. I had adopted a network of theories with the ACT–R, Marxian analysis and critical realism in the mix. I was comfortable with my choice of theoretical companions, since explaining social problems is difficult to compound in a single theory due to the complexity of social

relations as Miller (1976) notes. However, the pathway to conducting autoethnographic research with a critical perspective meandered into directions I had not planned.

While standing at crossroads, I followed intuitions from my previous training in research methods. That is, narratives about experiences of social pathologies are good, but not sufficient without delving into their meaning in the context of social relations. I was acutely self-aware of the preoccupation with demonstrating consistency at various stages of conceptualising my work. The mission was to decide my research strategy based on some form of rigour as I looked for the common denominator in the grand scheme of things. Critique was the primary element bringing critical autoethnography, Marxian analysis and critical realism together in de-commodifying the self-management of night-time sleep anxieties while the 'I' carried it all. Critical autoethnography underpinned by Marxian analysis and the ACT–R theory superseded. The iceberg metaphor was a close-knit framework for integrating my theoretical perspectives. Constructing the best fit framework for synthesis to make sense of my encounters with the sleep market was a challenge I shall never cease to relish. The process of assembling my framework for synthesis brought home some truths about the human art of existing socially. Incorporating every aspect of sources of data was both thought-provoking and rewarding. This was the point when the critical started to feel comfortable being married to autoethnography.

Research protocols can be both enabling and constraining. Nevertheless, writing a research protocol for an autoethnography can be an illusion, unless the protocol is based on guidance from previous research. I can now understand why Anderson (2006) was reluctant to provide concrete steps for the so called analytic autoethnography. I supposed full knowledge of events appearing in my narratives because they had already occurred. However, going through the various ways of generating knowledge iteratively changed my beliefs and perspectives. For example, while I argued strongly against the pursuit of external sources of data to substantiate a personal account, I struggled with convincing myself that I was enough. I went back and forth with editing myself before I accepted myself as ample, with a definite structure to represent myself as such.

Structure as a social order concept features frequently throughout my thesis. However, structure and struggle are words that repeatedly materialised on the pages of my auto ethnographer's diary. Weatherall (2019) tears the formulaic structure of a PhD thesis to shreds, highlighting the constraints to autoethnographic accounts. Would I have changed the procedure of writing my critical autoethnography after reading Weatherall's (2019) assertions? My response is a firm 'no', because our inspirations for writing styles of a doctoral thesis may be different. My interest in undertaking research was nurtured and somewhat developed before I met autoethnography. One may quickly retort that I am stuck in my old ways. Perhaps I am. I prefer to keep a sense of logic in ideas I generate and put forward. This is not to imply that other styles of presenting autoethnographies fall short of logic. However, the auto is so embedded within the individual that we may all get to the same destination with different gaits. I believe my critical autoethnography subtly tackled the evocative versus the analytic ethnographic debate, particularly for projects with a transformation element embedded in the study. While a suitable paradigm defines the methodology for autoethnographic research, incorporating a conceptual framework consolidating all elements of the research is a fundamental step that autoethnographic researchers ought to consider.

Detailing my struggles and the techniques I explored, which I suppose are shared experiences of auto ethnographers, has advanced autoethnographic research by providing guidance on a possible structure at the start of the research. Autoethnography challenged me in numerous ways, and I am contented that I embraced the opportunity to go through the research process. While I struggled with structuring my study, the learning and practice of presenting ideas methodically are aspects that I valued. Keen to start and get past my literature review section, I asked one of my mentors to guide me through structuring an autoethnography during one of our early meetings. I was fleetingly elated when my mentor picked up a thick spiral bound book and said, "I have recently examined a good one". I opened a clean page of my notebook and waited patiently to capture the guidance as my mentor flipped through the pages of the thick book. The words that accompanied the expression of surprise on my mentor's face thwarted my excitement. "Oh no, I wouldn't do that. You will find your own stride". I discovered the exploratory way that the structure of my autoethnography was to materialise as my own. The more I sought guidance the more

stranded I felt, without any concrete ideas to progress the structure of my work. I learnt a lot throughout the critical autoethnographic study about myself, the concept of sleeping in humans and people as social beings.

What wrong have they done?

I am up and at my desk by 7.30am, determined to make every passing minute of the Sunday count. My attention span oscillates as doors to bedrooms swing open to the rising sun. I quickly scribble a note 'do not disturb' and pin it on the front of the door to my home office. Five minutes later, the door swings open followed by a cheery good morning. "Did you not see the note on the door?" I mutter under my breath with a false smile. The household dweller competently and swiftly reads the room and disappears with words, "I just came in to say good morning". I somehow manage to dispel the bounty of guilt torturing my consciousness. Twenty minutes later, a different household dweller surfaces asking about the plans for the day. I put up my hand to signal I am busy and cannot be interrupted at this moment. "What happened to the note on the door?" I question myself. My household dweller persists with talking to me since Sunday's plans must be made concrete in the morning. I resign the day's strength of mind to progress my writing as frustration presides over other emotions. But what wrong have my cherished household dwellers done?

Strengths and limitations of my critical autoethnography

My experience of undertaking an autoethnographic study carried numerous strengths in the context of pursuing qualitative research, a definite counterpoise to researcher-researched power relations. The strengths distinguished address the imbalance in power relations between the researcher and researched; time pressures inflicted on respondents by the presence of researchers; skills requirements to observe respondents' behaviour; and the knowledge of things at one point in time. Limitations of the study span concerns of representation, the plausibility of omissions in autoethnography and the lack of controlled experiments to substantiate the explanatory statements that I made about sleep.

Understanding the purpose of the study clearly facilitates gathering data that is relevant to the research questions. My understanding of the purpose of the study shaped access to in-depth information, which other research approaches may not be able to elicit. The narrative analysis and synthesis accomplished in my study did not

impose a secondary level of interpretivism since the views and interpretations embedded in the story were my own. Also, qualitative research necessitating the duo presence of the researcher and researched involves interactions carrying time limitations to gather the required information. On the other hand, the auto ethnographer's mental space is distanced from the usual demands to articulate responses in the presence of a researcher. I documented some of my emotions and physical experiences of panic strikes when the writing got tough. Nonetheless, I did not have extra demands on my tact to observe another person's body language to assess the impact of their demeanour on the quality of the data gathered. While the proficiency in conducting face to face interviews may be judged on how well one can decode the accuracy of information obtained, interest in and/or experiences of phenomenon may also cloud one's interpretation lens.

Time is not static and life experiences change along with our knowledge of them. Researching other people's experiences is different from autoethnographic research in that, information collected about others at one point in time cannot be changed despite possible changes in people's understanding of their own experiences over time. Autoethnography provides the power to edit oneself as the knowledge of events changes. For instance, I initially perceived primary insomnia as a health problem as opposed to a social construct of perceived illness. Sleeping during the day and not at night does not conform to socially acceptable standards of healthy sleep. How can sleeping at a different time from the majority of people in society constitute poor health if disease concerns the disfunction or deformity of an organ or more in a human body? In this case, disease is defined according to social functioning for material conditions as opposed to the way the human body functions to avoid death. Autoethnography gave me the chance to reconceptualise my understanding of the social construct – primary insomnia.

Despite the numerous methodological strengths, my autoethnography did not navigate the barricades of its nature in undertaking academic research without limitations. The primary insomnia consumer tribe I constructed assumed a shared cultural identity of a social group represented by a single account. My account about night-time sleep anxiety constitutes a single story, which is susceptible to perceptions of inadequacy without perspectives from others with similar experiences. The navel gazing may omit

whatever else lies out there about the unit of analysis. However, the excerpts from other people's lived experiences plus established cognitive and social theories that I drew on, embraced a wider view of my findings and minimised this form of bias.

While autoethnography provided access to my inner world, I also wrote and presented content that I was happy to put in the public domain. This implies auto ethnographers can omit parts of an account that may be vital for understanding the complexity of social phenomenon. The reflexivity I exercised throughout was crucial for protecting the dignity and respect of my significant others included in my tales. However, reflexivity in autoethnography may not be sufficiently profound to protect every aspect of all the others who weave into a story. Last but not least, my autoethnography scoured and offered explanatory statements about some physical aspects of human sleep minus a laboratory setting to put my observations to the test. Nonetheless, my observations open up the field for curious minds in the sleep science community to venture into confirmatory undertakings.

This study contributes to advancements in autoethnographic research as well as the broader understanding of the physiology, psychology and current socioeconomic aspects of human sleep. Reflecting on my sleep experiences cemented some of the underdeveloped ideas in the literature such as the physiology and psychology of night-time sleep anxiety and most importantly, night-time sleep anxiety within the sum of social relations. Considering these findings, the definition of sleep, its mechanisms and models explaining intermittent sleep leave much to be desired. My research is a valuable contribution not only to sleep science, but also to the average Joe starting to question the essence in the idea of selling and buying sleep.

8.5 Conclusion

Originating factors for night-time sleep anxiety rest at the individual level within the sum of social relations. Structures ordering society predispose individuals to perceptions of ill health characterised by successive anxieties, which fuel the rapid processing of capital. Capitalists in the sleep market benefit from the accumulation of profits from the expanding market. However, greater losses are experienced along the chain of social reproduction. Wages that should not necessarily be spent on buying

sleep plus the diurnal preoccupation with the next solution chip away at one's productivity time and effort. My study highlights gaps in the sleep literature and provides a foundation for practical next steps in sleep research. While the sleep research community grapples with establishing consensus on matters to do with sleeping, sleep difficulties and mechanical existence, my study identified a few other areas for their occupation.

- Considering the two types of sleep (N-REM and REM), do people with cyclic sleep anxiety predominantly experience REM sleep?
- What proportions do cognitive activity and biochemical reactions constitute out of the intense brain activity during REM sleep of people with sleep anxiety perpetuated by the sleep market?
- Does the stupor state that follows high levels of alcohol consumption signify an automated process to degrade toxic substances?
- What is the impact of commodified sleep on the health and wellbeing of a populace?

For now, I shall keep visualising joining a sleep research community that might engender more gratifying experiences than the cyclic sleep anxiety of a primary insomnia consumer tribe.

References

Adams, T. E., Ellis, C., and Jones, S. H. (2017) *Autoethnography*. In J. Matthes (Ed) *The International Encyclopedia of Communication Research Methods*. Hoboken, NJ: John Wiley & Sons, pp. 1–11.

Adams, T. (2016) *The Psychopath Factory*. London: Watkins Media Limited.

Adler, P. A., and Adler, P. (1987) *Membership roles in field research*. Newbury Park, California: Sage.

Aeschbach, D., Sher, L., Postolache, T.T., Matthews, J.R., Jackson, M.A. and Wehr, T.A. (2003) A Longer Biological Night in Long Sleepers Than in Short Sleepers. *The Journal of Clinical Endocrinology and Metabolism*, 88(1), pp.26–30.

Agar, N. (2006) Designer Babies: Ethical Considerations. *Global Ethics Repository*. Available at: <http://hdl.handle.net/20.500.12424/450836> (Accessed 26 April 2023)

Airhihenbuwa, C.O., Iwelunmor, J.I., Ezepue, C.J., Williams, N.J. and Jean-Louis, G. (2016) I sleep, because we sleep: a synthesis on the role of culture in sleep behavior research. *Sleep Medicine*, 18, pp.67–73.

Aldawod, A., and Day, J. (2017) *A critical reflection upon the postmodernist philosophical positions and issues relevant to entrepreneurship research*. In *British Academy of Management Conference*, University of Warwick, September 5–7, Coventry.

Altevogt, B. M., and Colten, H. R. (Eds) (2006) *sleep disorders and sleep deprivation: an unmet public health problem*. Washington DC: Institute of Medicine.

Althusser, L., Balibar, E., Establet, R., Macherey, P., and Rancière, J. (2016) *Reading capital: The complete edition*. Translated by B. Brewster. London: Verso Books.

American Academy of Sleep Medicine (2005). *International classification of sleep disorders: diagnostic and coding manual*. 2nd edn. Westchester: AASM.

American Psychiatric Association (2013) *Sleep – wake disorders*. In *Diagnostic and Statistical Manual of Mental Disorders*. 5th edn. Washington DC: American Psychiatric Publishing, pp. 361–422.

Ameriks, K., and Clarke, D. M. (2000) *Aristotle: Nicomachean Ethics*. Cambridge University Press.

Andersen, M. L., and Tufik, S. (2015) Sleep and the modern society. *Journal of Sleep Disorders and Therapy*, 4(05), pp.2167–0277.

Anderson, J. R., Bothell, D., Byrne, M. D., Douglass, S., Lebiere, C. and Qin, Y. (2004) An Integrated Theory of the Mind. *Psychological Review*, 111(4), pp.1036–1060.

Anderson, L. (2006) Analytic autoethnography. *Journal of Contemporary Ethnography*, 35(4), pp. 373–395.

Anderson, L and Glass-Coffin, B (2016) *I learn by going*. In S. H. Jones, T. E. Adams and C. Ellis (Eds) *Handbook of autoethnography*. New York: Routledge, pp. 57–83.

Andrews, L. K., Coviello, J., Hurley, E., Rose, L., and Redeker, N. S. (2013) “I’d eat a bucket of nails if you told me it would help me sleep.” Perceptions of insomnia and its treatment in patients with stable heart failure. *Heart & Lung*, 42(5), pp.339–345.

Archer, M. S. (2000) *Being human: The problem of agency*. Cambridge: Cambridge University Press.

Arizton (2021) Sleep Market Size to Reach Revenues of USD 137.16 Billion by 2026. *Bloomberg*, 13 Jul. Available at: <https://www.bloomberg.com/press-releases/2021-07-13/sleep-market-size-to-reach-revenues-of-usd-137-16-billion-by-2026-arizton> (Accessed 26 November 2021).

Arthur, C. J. (1986) *Dialectics of labour: Marx and his relation to Hegel*. Oxford: Blackwell.

Aschoff, J. (1965) Circadian rhythms in man: a self-sustained oscillator with an inherent frequency underlies human 24-hour periodicity. *Science*, 148(3676), 1427–1432.

Aspers, P., and Corte, U. (2019) What is qualitative in qualitative research. *Qualitative Sociology*, 42(2), pp. 139–160.

Atalay, A. S., and Meloy, M. G. (2011) Retail therapy: A strategic effort to improve mood. *Psychology and Marketing*, 28(6), pp. 638–659.

Athens, L. (2010) Naturalistic inquiry in theory and practice. *Journal of Contemporary Ethnography*, 39(1), pp. 87–125.

Attarian, H. P., and Perlis, M. L. (2010). *Defining insomnia*. In Attarian, H. and Schuman, C. (Eds) *Clinical Handbook of Insomnia*. Totowa: Humana Press, pp. 3–12.

Aubert, V., and White, H. (1959) Sleep: A sociological interpretation. I. *Acta Sociologica*, pp. 4(2), 46–54.

Baenninger, R., 1997. On yawning and its functions. *Psychonomic Bulletin & Review*, 4(2), pp. 198–207.

Baghramian, M., and Coliva, A. (2020) Relativism in E.N. Zalta (Ed) *The Stanford Encyclopaedia of Philosophy*, Fall edn. Available at: <https://plato.stanford.edu/entries/relativism> (Accessed 27 November 2021).

Baldwin, D. A. (2015) Misinterpreting Dahl on power. *Journal of Political Power*, 8(2), pp. 209–227.

Baldwin, J. (1985) *The Price of the Ticket: Collected Nonfiction: 1948-1985*. New York: St Martin's Press.

Banks, M., and Zeitlyn, D. (2015) *Visual methods in social research*. California: Sage.

Barbara, A., and Philips, R. L. G. (2006) Sleep-wake cycle: its physiology and impact on health. Washington, DC: National Sleep Foundation

Barbee, H., Moloney, M.E. and Konrad, T.R. (2018) Selling slumber: American neoliberalism and the medicalization of sleeplessness, *Sociology Compass*, 12(10), pp. e12622.

Barnett-Page, E., and Thomas, J. (2009) Methods for the synthesis of qualitative research: a critical review. *BMC Medical Research Methodology*, 9(1), pp. 1–11.

Baru, R. V., & Mohan, M. (2018). Globalisation and neoliberalism as structural drivers of health inequities. *Health Research Policy and Systems*, 16(S1).

Bates, T. R. (1975) Gramsci and the Theory of Hegemony. *Journal of the History of Ideas*, 36(2), pp. 351–366.

Baumol, W. J., Litan, R. E., and Schramm, C. J. (2012) *The four types of capitalism, innovation, and economic growth*. In D. C. Mueller (Ed) *The Oxford Handbook of Capitalism*. New York: Oxford University Press.

Beauchemin, K. M. (1997). *Nocturnal psychopathology: sleep dreaming and light-therapy in bipolar disorder*. Available at:

<https://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/nq22949.pdf> (Accessed 24 August 2020).

Beckert, J. (2009). The social order of markets. *Theory and Society*, 38(3), pp. 245–269.

Beddington, E. (2021) My deep sleep quest: I tried 11 popular insomnia cures. Do any of them actually work? *The Guardian*, 26 July. Available at: <https://www.theguardian.com/lifeandstyle/2021/jul/26/my-deep-sleep-quest-i-tried-11-popular-insomnia-cures-do-any-of-them-actually-work> (Accessed 26 July 2021).

Bengtsson, M. (2016) How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2(2), pp. 8–14.

Benington, J. H. (2000) Sleep homeostasis and the function of sleep. *Sleep*, 23(7), 959–966.

Benson, P., Chik, A., and Lim, H. Y. (2003) *Becoming autonomous in an Asian context: Autonomy as a sociocultural process*. In D. Palfreyman, and R. C. Smith (Eds) *Learner autonomy across cultures*. London: Palgrave Macmillan, pp. 23–40.

Berendzen, J. C. (2009) Max Horkheimer. *Stanford Encyclopedia of Philosophy*. Available at: <https://plato.stanford.edu/entries/horkheimer/>. (Accessed 24 Jul 2020)

Berg, J. M., Tymoczko, J. L., and Stryer, L. (2002) *Glycolysis is an energy-conversion pathway in many organisms*. Biochemistry. 5th edn. New York: WH Freeman.

Bhaskar, R., and Danermark, B. (2006) Metatheory, interdisciplinarity and disability research: a critical realist perspective. *Scandinavian Journal of Disability Research*, 8(4), pp. 278–297.

Bhaskar, R. (1993) *Dialectic: The pulse of freedom*. New York: Verso.

Biddle, J. E., and Hamermesh, D. S. (1990). Sleep and the Allocation of Time. *Journal of Political Economy*, 98(5, Part 1), pp. 922–943.

Bien, J. (1973) *Translator's introduction: Adventures of the Dialectic*. Evanston: Northwestern University Press.

- Bjorness, T. E., and Greene, R. W. (2009) Adenosine and sleep. *Current Neuropharmacology*, 7(3), pp. 238–245.
- Blackburn, S. (1996) *The Oxford dictionary of philosophy*. Oxford University Press Oxford.
- Blackledge, P. (2018) *Historical materialism*. In M. Tidal, T. Smith, T. Rotta, and P. Prew (Eds) *The Oxford Handbook of Karl Marx*. Oxford: Oxford University Press, pp. 1–22.
- Bleakley, A. (2005). Stories as data, data as stories: making sense of narrative inquiry in clinical education. *Medical Education*, 39(5), pp. 534–540.
- Blouin, A. M., Fried, I., Wilson, C. L., Staba, R. J., Behnke, E. J., Lam, H. A., Maidment, N.T., Karlsson, K.A., Lapierre, J.L. and Siegel, J. M. (2013) Human hypocretin and melanin-concentrating hormone levels are linked to emotion and social interaction. *Nature Communications*, 4(1), p.1547.
- Blume, C., Garbazza, C., and Spitschan, M. (2019). Effects of light on human circadian rhythms, sleep and mood. *Somnologie*, 23(3): 147–156.
- Bonnet, M.H and Arand D.L. (2012) *Overview of insomnia* In T. J., Barkoukis, J. K. Matheson, R. Ferber, K. and Doghramji (Eds) *Therapy in Sleep Medicine*. Philadelphia: Elsevier, pp. 143 – 150.
- Booth, A., and Carroll, C. (2015) How to build up the actionable knowledge base: the role of ‘best fit ‘framework synthesis for studies of improvement in healthcare. *BMJ Quality & Safety*, 24(11), pp. 700–708.
- Borbély, A. A., Daan, S., Wirz-Justice, A., and Deboer, T. (2016) The two-process model of sleep regulation: a reappraisal. *Journal of Sleep Research*, 25(2), pp.131–143.

Borman, D. A. (2017) *Materialism in Critical Theory: Marx and the Early Horkheimer*. In M. J. Thompson (Ed.) *The Palgrave Handbook of Critical Theory*. New York: Palgrave Macmillan.

Borriello, F., Iannone, R., & Marone, G. (2017) *Histamine release from mast cells and basophils*. In Y. Hattori, and R. Seifert (Eds) *Histamine and Histamine Receptors in Health and Disease: Handbook of Experimental Pharmacology*. Switzerland: Springer, 121–139.

Boylorn, R. M., and Orbe, M. P. (Eds) (2021) *Critical autoethnography: Intersecting cultural identities in everyday life*. 2nd edn. New York: Routledge.

Bradby, H. (2012) *Social Theory and the sociology of Health and Medicine*. In H. Bradby (Ed) *Medicine, Health and Society*. London: Sage Publications, pp. 22–40.

Brady, H. E. (2011) *Causation and explanation in social science*. In R. E Goodin (Ed) *The handbook of political science*. Oxford Academic, pp. 1054–1107. Available at: <https://doi.org/10.1093/oxfordhb/9780199604456.013.0049> (Accessed 2 March 2022).

Braun, V., and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), pp. 77–101.

Brightman, E. S. (1933) The definition of idealism. *The Journal of Philosophy*, 30(16), pp. 429–435.

Bringmann, H. (2018) Sleep-active neurons: conserved motors of sleep. *Genetics*, 208(4), pp. 1279– 1289.

Britton, A., Fat, L. N., and Neligan, A. (2020) The association between alcohol consumption and sleep disorders among older people in the general population. *Scientific Reports*, 10(1), p.5275.

Brookfield, S. D. (2014) Foundations of critical theory. *Advances in Developing Human Resources*, 16(4), pp. 417–428.

Brown, M. (2019) Tracey Emin: I regret backing 'terrible' Blair and Cameron. *The Guardian*, 4 February 2019. Available at: https://www.theguardian.com/artanddesign/2019/feb/04/tracey-emin-blair-and-cameron-did-the-most-terrible-things?CMP=Share_iOSApp_Other (Accessed 12 September 2019).

Bruner, J. (1987) Life as narrative. *Social Research*, 54(1), pp. 11–32.

Bruner, J. (1991) The narrative construction of reality. *Critical Inquiry*, 18(1), pp. 1–21.

Bruner, J. (2004) *The narrative creation of self*. In L. E Angus and J. McLeod (Eds) *The handbook of narrative and psychotherapy: Practice, theory, and research*. California: Sage Publications, pp. 3–14.

Bruner, J. (1994) *The “remembered” self*. In U. Neisser, and R. Fivush, (Eds). *The remembering self: Construction and accuracy in the self-narrative*. Cambridge: Cambridge University Press, pp. 41 – 54.

Brunton, G., Oliver, S., and Thomas, J. (2020) Innovations in framework synthesis as a systematic review method. *Research Synthesis Methods*, 11(3), pp. 316–330.

Buckingham, W., Burnham, D., Hill, C., King, P., Marenbon, J., and Weeks, M. (2011) *The philosophy book*. London: Dorling Kindersley Publishing.

Bugrimenko, E. A., and El'konin, B. D. (2001) Sign mediation in processes of formation and development. *Journal of Russian & East European Psychology*, 39(4), pp. 20–33.

Business in the Community and Public Health England (2019) *Sleep and recovery: a toolkit for employers*. Available at: <https://www.bitc.org.uk/toolkit/sleep-and-recovery-toolkit/> (Accessed 31 October 2021).

Buysse, D. J. (2014) Sleep health: can we define it? Does it matter? *Sleep*, 37(1), pp. 9–17.

Buysse, D. J., Germain, A., Hall, M., Monk, T. H., and Nofzinger, E. A. (2011) A neurobiological model of insomnia. *Drug Discovery Today: Disease Models*, 8(4), pp. 129–137.

Cahn, M.A., and O'Brien, R. (1996) *Thinking about the environment: Readings on politics, property and the physical world*. New York: Routledge.

Cakal, E. (2019) Befogging reason, undermining will: understanding the prohibition of sleep deprivation as torture and ill-treatment in international law. *Torture Journal*, 29(2), pp. 11–22.

Campbell, E. (2017) Should I share my journal entry with you? A critical exploration of relational ethics in autoethnography. *Departures in Critical Qualitative Research*, 6(4), pp. 4–22.

Campbell, E. (2016) Exploring Autoethnography as a Method and Methodology in Legal Education Research. *Asian Journal of Legal Education*, 3(1), pp. 95–105.

Campbell, S. (2016) Perspectives: Method and methodology in nursing research. *Journal of Research in Nursing*, 21(8), pp. 656–659.

Campfield, L. A., Smith, F. J., Rosenbaum, M., and Hirsch, J. (1996) Human eating: evidence for a physiological basis using a modified paradigm. *Neuroscience & Biobehavioral Reviews*, 20(1), pp. 133–137.

Canadian Paediatric Society's Adolescent Health Committee (2008) Teens and sleep: Why you need it and how to get enough. *Paediatrics & Child Health*. 13(1), pp. 69–72.

Cannon, W. B. (1929) Organization for physiological homeostasis. *Physiological Reviews*, 9(3), pp. 399–431.

Carskadon, M.A., 1990. Patterns of sleep and sleepiness in adolescents. *Pediatrician*, 17(1), pp. 5–12.

Carroll, C., Booth, A., and Cooper, K. (2011) A worked example of "best fit" framework synthesis: a systematic review of views concerning the taking of some potential chemopreventive agents. *BMC Medical Research Methodology*, 11(1), pp. 1–9.

Cash E. and Toney-Butler T. J. (2022) *Social relations*. Treasure Island FL: StatPearls Publishing. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK436023/> (Accessed 22 April 2022).

Cassidy, T. M. (2014) Book Review: Simon J Williams, The politics of sleep: governing (un) consciousness in the late modern. *International Sociological Reviews*, 29(5), pp. 475–477.

Castillo, J., Goparaju, B., and Bianchi, M. T. (2014) Sleep–wake misperception in sleep apnea patients undergoing diagnostic versus titration polysomnography. *Journal of Psychosomatic Research*, 76(5), pp. 361–367.

Castree, N. (2003) Commodifying what nature? *Progress in Human Geography*, 27(3), pp. 273–297.

Cavanna, A. E., and Trimble, M. R. (2006) The precuneus: a review of its functional anatomy and behavioural correlates. *Brain*, 129(3), pp. 564–583.

Cerni, P. (2007) The age of consumer capitalism. *Cultural Logic: A Journal of Marxist Theory & Practice*, 14, pp. 1–28.

Challet, E. (2007) Minireview: entrainment of the suprachiasmatic clockwork in diurnal and nocturnal mammals. *Endocrinology*, 148(12), pp. 5648–5655.

Charmaz, K. (2014). *Constructing grounded theory*. 2nd ed London: Sage

Chang, H. (2016). *Autoethnography as method*. New York: Routledge.

Chang, H. (2016a) *Individual and collaborative autoethnography as method: a special scientist perspective*. In S. Holman Jones, T. E. Adams and C. Ellis (Eds) *Handbook of autoethnography*. New York: Routledge, pp.107–122.

Chapman, J. L., Comas, M., Hoyos, C. M., Bartlett, D. J., Grunstein, R. R., and Gordon, C. J. (2018) Is metabolic rate increased in insomnia disorder? a systematic review. *Frontiers in Endocrinology*, 9, 374.

Chapman, T. K. (2011) *Critical race theory*. In S. Tozer, B. P. Gallegos, A. M. Henry, M. B. Greiner and P. G. Price (Eds) *Handbook of research in the social foundations of education*. New York: Routledge, pp. 220–232

Chatham-Carpenter, A. (2010) 'Do thyself No Harm': Protecting Ourselves as Autoethnographers. *Journal of Research Practice*, 6(1), M1.

Chattoe-Brown, A., and Bitunda, A. (2006) *Reproductive Health Commodity Security Uganda Country Case Study*. Department for International Development (UK) and the Netherlands Ministry of Foreign Affairs. Available at: <https://www.heart-resources.org/wp-content/uploads/2012/10/Reproductive-Health-Commodity-Security-Uganda.pdf> (Accessed 13 June 2022).

Cherniak, C. (1986) Limits for knowledge. *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition*, 49(1), pp. 1–18.

Cheung, J. M., Bartlett, D. J., Armour, C. L., Glozier, N., and Saini, B. (2014) Insomnia patients' help-seeking experiences. *Behavioral Sleep Medicine*, 12(2), 106-122.

Cheung, J. M., Bartlett, D. J., Armour, C. L., Laba, T. L., and Saini, B. (2018) To drug or not to drug: a qualitative study of patients' decision-making processes for managing insomnia. *Behavioral Sleep Medicine*, 16(1), pp. 1–26.

Choi, H. (2018) *Made with Words: Textual Virtuality in Modernism*. A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy. The University of Wisconsin-Madison. Available at: <https://www.proquest.com/openview/ed66d04f64b9c4127906b3fa3d319c58/1?pq-origsite=gscholar&cbl=18750> (Accessed 20 November 2022).

Christiansen, I. (2017) Commodification of healthcare and its consequences. *World Review of Political Economy*, 8(1), pp. 82–103.

Cipolla-Neto, J., Amaral, F. G., Afeche, S. C., Tan, D. X., and Reiter, R. J. (2014) Melatonin, energy metabolism, and obesity: a review. *Journal of Pineal Research*, 56(4), pp. 371–381.

Clandinin, D. J., and Huber, J. (2010) *Narrative inquiry*. In B. McGaw, E. Baker, and P. P. Peterson (Eds), *International Encyclopedia of Education*. 3rd edn. New York: Elsevier, pp. 436–441.

Coffey, A. (1999) *The ethnographic self: Fieldwork and the representation of identity*. London: Sage.

Cohen, G. A. (2000) *Karl Marx's theory of history: A defence*. Oxford: Clarendon Press.

Collins, H. (1965) Sociology of Emancipation. *Phylon*, (1960-), 26(2), pp. 148–161.

Collinson, J. A., and Hockey, J. (2005) *Autoethnography: Self-indulgence or rigorous methodology*, In M. McNamee (Ed) *Philosophy and the sciences of exercise, health and sport: Critical perspectives on research methods*. London: Routledge, pp.187–202.

Collins, P. H. (1986) Learning from the outsider within: The sociological significance of Black feminist thought. *Social Problems*, 33(6), pp. s14–s32.

Colten, H. R., and Altevogt, B. M. (2006) *Functional and economic impact of sleep loss and sleep-related disorders*. In H. R., Colten an B. M. Altevogt (Eds), *sleep disorders and sleep deprivation: An unmet public health problem*. Washington DC: National Academies Press, pp.137–172.

Conrad, P., and Barker, K. K. (2010) The social construction of illness: Key insights and policy implications. *Journal of Health and Social Behavior*, 51(1), pp. S67–S79.

Cooper, R., and Lilyea, B. (2022) I'm Interested in autoethnography, but how do I do It? *The Qualitative Report*, 27(1), pp. 197–208.

Cova, B. (1997) Community and consumption: Towards a definition of the “linking value” of product or services. *European Journal of Marketing*, 31(3/4), pp. 297–316.

Cova, B., Kozinets, R. V., & Shankar, A. (Eds) (2007) *Consumer tribes*. Oxford: Elsevier.

Crary, J. (2013) *24/7: Late capitalism and the ends of sleep*. New York: Verso.

Crawford, R. (1980) Healthism and the medicalization of everyday life. *International Journal of Health Services*, 10(3), pp. 365–388.

Crawford, L. (2019) *Conceptual and theoretical frameworks in research*. In K. A. Cox, G. Burkholder, L. Crawford and J. H. Hitchcock (Eds) *Research design and methods: An applied guide for the scholar-practitioner*. California: Sage Publications, pp. 35–48.

- Crean, M. (2020) Minority scholars and insider-outsider researcher status: Challenges along a personal, professional and political continuum. *Forum: Qualitative Social Research*, 19(1).
- Creswell, J. W., and Miller, D. L. (2000) Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), pp. 124–130.
- Creswell, J. W., Hanson W. E., Clark Plano, V. L., and Morales A. (2007) Qualitative research designs: Selection and implementation. *The Counseling Psychologist* 35(2), pp. 236-264.
- Creswell, J. W., and Poth, C. N. (2016) *Qualitative inquiry and research design: Choosing among five approaches*. 4th edn. California: Sage publications.
- Crick, F., and Mitchison, G. (1983) The function of dream sleep. *Nature*, 304(5922), pp. 111–114.
- Crook, T. (2008) Accommodating the outcast: common lodging houses and the limits of urban governance in Victorian and Edwardian London. *Urban History*, 35(3), pp.414-436.
- Dahbour, O. (2017) *Totality, Reason, Dialectics: The Importance of Hegel for Critical Theory from Lukács to Honneth*. In M. J. Thompson (Ed) *The Palgrave Handbook of Critical Theory*. New York: Palgrave Macmillan.
- Dahl, R. A. (1957) The concept of power. *Behavioral Science*, 2(3), pp. 201–215.
- Dalkin, S. M., Greenhalgh, J., Jones, D., Cunningham, B., and Lhussier, M. (2015) What's in a mechanism? Development of a key concept in realist evaluation. *Implementation Science*, 10(1), pp. 1–7.
- Davis, A. (1978) *With my mind on freedom: An autobiography*. New York: Bantam Books.

de Lecea, L., Carter, M. E., and Adamantidis, A. (2012) Shining light on wakefulness and arousal. *Biological Psychiatry*, 71(12), pp. 1046–1052.

Daley, M., Morin, C.M., LeBlanc, M., Grégoire, J. and Savard, J. (2009) The economic burden of insomnia: direct and indirect costs for individuals with insomnia syndrome, insomnia symptoms, and good sleepers. *Sleep*, 32(1), pp. 55–64.

Dement, W. C. (1998) The study of human sleep: a historical perspective. *Thorax*, 53(2 Supplement), pp. S2-S7.

de Nava, A.S. and Raja, A. (2019) *Physiology, Metabolism*. Treasure Island FL: StatPearls Publishing. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK546690/> (Accessed 12 April 2020).

Denshire, S. (2014) *Looking like an occupational therapist:(Re) presentations of her comportment within autoethnographic tales*. In B. Green and N. Hopwood (Eds) *The body in professional practice, learning and education: Professional and practice based learning*. Switzerland: Springer Publishing, pp. 227–242.

Denzin, N. K. (2017) Critical qualitative inquiry. *Qualitative Inquiry*, 23(1), pp. 8–16.

Denzin, N. (2016). *Interpretive autoethnography*. In S. Holman Jones, T. E. Adams and C. Ellis (Eds) *Handbook of autoethnography*. New York: Routledge, pp. 123–142.

Denzin, N. K., and Lincoln, Y. S. (Eds) (2011) *The Sage handbook of qualitative research*. 4th edn. California: Sage Publications.

De Souza, D. E. (2022) A critical realist approach to systems thinking in evaluation. *Evaluation*, 28(1), pp. 72–90.

Deurveilher, S., Rusak, B., and Semba, K. (2009) Estradiol and progesterone modulate spontaneous sleep patterns and recovery from sleep deprivation in ovariectomized rats. *Sleep*, 32(7), pp. 865–877.

Dodgson, J. E. (2019) Reflexivity in qualitative research. *Journal of Human Lactation*, 35(2), pp. 220–222.

Donne, J. (1987) *Mediation 17*. In A. Raspa (Ed) *Devotions upon emergent occasions*. New York: Oxford University Press, p. 86.

Douglas, K., and Carless, D. (2016) *A history of autoethnographic inquiry*. In S. Holman Jones, T. E. Adams and C. Ellis (Eds) *Handbook of autoethnography*. New York: Routledge, pp. 84–106.

Dowding, K. (2012) Why should we care about the definition of power? *Journal of Political Power*, 5(1), pp. 119–135.

Draper, J. (2015) Ethnography: Principles, practice and potential. *Nursing Standard*, 29(36), pp. 36–41.

Dres, M., Younes, M., Rittayamai, N., Kendzerska, T., Telias, I., Grieco, D. L., Pham, T., Junhasavasdikul, D., Chau, E., Mehta, S., Wilcox, M.E., Leung, R., Drouot, X. and Brochard, L. (2019) Sleep and pathological wakefulness at the time of liberation from mechanical ventilation (SLEEWE). A prospective multicenter physiological study. *American Journal of Respiratory and Critical Care Medicine*, 199(9), pp. 1106–1115.

Dubrovsky, B. (2018) Sleep Deprivation Vs. Insomnia: Not recognizing the distinction may prevent you from sleeping better. [online] *Psychology Today*, 27 June. Available at: <https://www.psychologytoday.com/gb/blog/psychology-sleep/201806/sleep-deprivation-vs-insomnia> (Accessed 20 March 2020).

Duffy, J. F., and Czeisler, C. A. (2009) Effect of light on human circadian physiology. *Sleep Medicine Clinics*, 4(2), pp. 165–177.

Duignan, B. Consumerism (2022) [online] *Encyclopedia Britannica*, 8 April. Available at: <https://www.britannica.com/topic/consumerism>. (Accessed 27 February 2023).

Dutta, M. J. (2018) Autoethnography as decolonization, decolonizing autoethnography: Resisting to build our homes. *Cultural Studies↔ Critical Methodologies*, 18(1), pp. 94–96.

Dwyer, S. C., and Buckle, J. L. (2009) The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, 8(1), pp. 54–63.

Eagleton, T. (2018) *Why Marx Was Right*. United Kingdom: 3rd edn. New Haven: Yale University Press.

Eastwood, J. G., Jalaludin, B. B., and Kemp, L. A. (2014) Realist explanatory theory building method for social epidemiology: a protocol for a mixed method multilevel study of neighbourhood context and postnatal depression. *SpringerPlus*, 3(1), pp. 1–12.

Ebenhöh, O., and Heinrich, R. (2001) Evolutionary optimization of metabolic pathways. Theoretical reconstruction of the stoichiometry of ATP and NADH producing systems. *Bulletin of Mathematical Biology*, 63(1), pp. 21–55.

Eberle, T. S. (2018) *Collecting images as data*. In E. Flick (Ed) *The SAGE handbook of qualitative data collection*. London: Sage Publications.

Ebert, T. (2009) *The task of cultural critique*. Urbana: University of Illinois Press.

Ebert, T., and Zavarzadeh, M. (2008) *Class in culture*. Colorado: Paradigm Press.

Edlow, B. L., Takahashi, E., Wu, O., Benner, T., Dai, G., Bu, L., Grant, P.E., Greer, D.M., Greenberg, S.M., Kinney, H.C., and Folkerth, R. D. (2012) Neuroanatomic connectivity of the human ascending arousal system critical to consciousness and its disorders. *Journal of Neuropathology & Experimental Neurology*, 71(6), pp. 531–546.

Edenberg, H. J. (2007) The genetics of alcohol metabolism: role of alcohol dehydrogenase and aldehyde dehydrogenase variants. *Alcohol Research & Health*, 30(1), pp. 5–3.

Ekirch, A. R. (2016) Segmented sleep in preindustrial societies. *Sleep*, 39(3), pp. 715–716.

Ekirch, A. R. (2001) Sleep we have lost: pre-industrial slumber in the British Isles. *The American Historical Review*, 106(2), pp. 343–386.

Ellis, B. (2000) Causal laws and singular causation. *Philosophical and Phenomenological Research*, (61)2, pp. 329–351.

Ellis, C., Adams, T. E., and Bochner, A. P. (2011) Autoethnography: an overview. *Historical Social Research/ Historische Sozialforschung*, pp. 273–290.

Ellis, C. S., and Bochner, A. P. (2006) Analyzing analytic autoethnography: An autopsy. *Journal of Contemporary Ethnography*, 35(4), pp. 429–449.

Emirbayer, M., and Mische, A. (1998). What is agency? *American Journal of Sociology*, 103(4), pp. 962–1023.

Eriksson, T. (2010). Being native–distance, closeness and doing auto/self-ethnography. *ArtMonitor*, 8, pp. 91–100

Eskin, M. (2013) *Cognitive components of Problem Solving*. In M. Eskin (Ed), *Problem Solving Therapy in the Clinical Practice*. London: Elsevier.

Espie, C. A., Broomfield, N. M., MacMahon, K. M., Macphee, L. M., and Taylor, L. M. (2006) The attention–intention–effort pathway in the development of psychophysiologic insomnia: a theoretical review. *Sleep Medicine Reviews*, 10(4), pp. 215–245.

Ewen, R. B. (2003) D. Riegert (Ed) *An introduction to the theories of personality*. 6th edn. London: Lawrence Erlbaum Associates.

Felluga, D. (2002) Modules on Althusser: On ideological state apparatuses. *Introductory Guide to Critical Theory*. [online] *Marxism*, 17 July. Available at: <http://www.purdue.edu/guidetotheory/marxism/modules/althusserISAs.html> (Accessed 18 December 2022).

Fernandez-Mendoza, J., Calhoun, S. L., Bixler, E. O., Karataraki, M., Liao, D., Vela-Bueno, A., Ramos-Platon, M.J., Sauder, K.A., Basta, M. and Vgontzas, A. N. (2011) Sleep misperception and chronic insomnia in the general population: the role of objective sleep duration and psychological profiles. *Psychosomatic Medicine*, 73(1), 88–97.

Ferro, B. (2013) The return from Otherness: Hegel's paradox of self-consciousness in the phenomenology of spirit. *Otherness: Essays and Studies*, 4(1), 1–21.

Flaskerud, J. H. (2015) The cultures of sleep. *Issues in Mental Health Nursing*, 36(12), pp. 1013–1016.

Fletcher, A. J. (2017) Applying critical realism in qualitative research: methodology meets method. *International Journal of Social Research Methodology*, 20(2), pp. 181–194.

Flew, T. (2014) Six theories of neoliberalism. *Thesis Eleven*, 122(1), pp. 49–71.

Foster, H. J. (1976) Partners or Captives in Commerce? The role of Africans in the slave trade. *Journal of Black Studies*, 6(4), pp. 421–434.

Foucault, M. (1970) The archaeology of knowledge. *Social Science Information*. 9(1), pp. 175–185.

Foucault, M. (1973) *The birth of the clinic: an archaeology of medical perception*. Translated by A. M. Sheridan Smith. New York: Routledge.

Frank, L. K. (1944) What is social order? *American Journal of Sociology*, 49(5), pp. 470–477.

Freeman, J. (2015) Trying Not to Lie... and Failing: Autoethnography, Memory, Malleability. *The Qualitative Report*, 20(6), pp. 918–929.

Freud, S. (1913) *The interpretation of dreams*. Translated by A. A. Brill. New York: Macmillan.

Freudenberg, N. (2021) *At what cost: modern capitalism and the future of health*. New York: Oxford University Press.

Friedrich, E. (1987) *Anti-Dühring* In *Karl Marx and Frederick Engels*. Collected Works, 25. London: Lawrence and Wishart.

Frigg, R., and Hartmann, S. (2006) Models in science. In E. N. Zalta (Ed) *The Stanford Encyclopaedia of Philosophy*. Available at: <https://plato.stanford.edu/entries/models-science/> (Accessed 10 November 202).

Fuchs, C. (2015) *Critical theory*. In G. Mazzoleni (Ed) *The international encyclopedia of political communication*. Chichester: Blackwell.

Fürstenberg, K. (2016) Evolutionary institutionalism. *Politics and the Life Sciences*, 35(1), pp. 48–60.

Gajjala, R. (2004) *Cyberethnography: reading South Asian digital diasporas*. In K. Landzelius (Ed) *Native on the net*. New York: Routledge.

Gall, C.M., G. Lynch, and G. Lauterborn, J.C. (2009) *Neurotrophic factors. Activity-Regulated BDNF Expression: Contributions to Synaptic Plasticity and Neuroprotection*. In P. A. Schwartzkroin (Ed) *Encyclopedia of Basic Epilepsy Research*. Amsterdam: Academic Press.

Garvey, J., and Stangroom, J. (2012) *The great philosophers*. London: Arcturus Publishing.

Gerber, J. D., and Gerber, J. F. (2017) Decommodification as a foundation for ecological economics. *Ecological Economics*, 131, pp. 551–556.

Geggel, L. (2017) Booze snooze: Why does alcohol make you sleepy, then alert? What is behind this weird effect. Life's Little Mysteries. [online] *Live Science* 6 May Available at:

<https://www.livescience.com/58990-why-drinking-alcohol-makes-you-sleepy.html> (Accessed 21 April 2021).

Gelman, A., and Guzey, A. (2020) Statistics as squid ink: How prominent researchers can get away with misrepresenting data. *CHANCE*, 33(2), pp. 25–27.

Gibson, M., and Shrader, J. (2014) Time use and productivity: The wage returns to sleep. [online] *eScholarship*. Available at: <https://escholarship.org/uc/item/8zp518hc> (Accessed 18 November 2021)

Gillette, M., and Abbott, S. (2005). *Fundamentals of the circadian system*. In M. Opp (Ed) *Basics of sleep guide*. Illinois: Sleep Research Society.

Giroux, É. (2016) (Ed) *Naturalism in the philosophy of health: Issues and implications*. Switzerland: Springer Publications.

Global Tenders (2021) Economy of United Kingdom and business opportunities. Available at: <https://www.globaltenders.com/economy-of-united-kingdom.php> (Accessed 21 July 2021).

Godshalk, D. (2016) Facing my fear: my insomnia almost drove me crazy. Then I got help. *The Guardian*, 29 July. Available at: <https://www.theguardian.com/commentisfree/2016/jul/29/insomnia-drove-me-crazy-help-sleep-facing-my-fear> (Accessed 21 February 2021).

Golafshani, N. (2003) Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), pp. 597–607.

Goldman, D. (2017) Investing in the growing sleep-health economy. Private Equity and Principal Investors Practice. McKinsey & Company. Available at: <https://www.mckinsey.com/~media/mckinsey/industries/private%20equity%20and%20principal%20investors/our%20insights/investing%20in%20the%20growing%20sleep%20health%20economy/investing-in-the-growing-sleep-health-economy.ashx> (Accessed 02 July 2024)

Goldstone, J. A. (2002) Efflorescences and economic growth in world history: rethinking the "Rise of the West" and the Industrial Revolution. *Journal of World History*, 13(2), pp. 323–389.

Gompf, H. S., and Anaclet, C. (2019) *NREM sleep regulation from neuronal assembly to ion*. In H. C. Dringenberg (Ed) *Handbook of Sleep Research*. London: Elsevier Academic Press.

Goodwin, P. (2018) Where's the Working Class? *TripleC: Communication, Capitalism & Critique*, 16(2), pp. 535–545.

Gorichanaz, T. (2017) Auto-hermeneutics: A phenomenological approach to information experience. *Library & Information Science Research*, 39(1), pp. 1–7.

Gorski, P. S. (2013) What is critical realism? And why should you care? *Contemporary Sociology*, 42(5), pp. 658–670.

Goulding, C., Shankar, A. and Canniford, R. (2013) Learning to be tribal: facilitating the formation of consumer tribes. *European Journal of Marketing*, 47(5/6), pp. 813–832.

Grandner, M.A. (2018) The cost of sleep lost: Implications for health, performance, and the bottom line, *American Journal of Health Promotion*, 32(7), pp. 1629–1634

Gras, N. S. (1942) Capitalism—Concepts and History. *Business History Review*, 16(2), pp. 21–34.

Gravem, S. A., Bachhuber, S. M., Fulton-Bennett, H. K., Randell, Z. H., Rickborn, A. J., Sullivan, J. M., and Menge, B. A. (2017) Transformative research is not easily predicted. *Trends in Ecology & Evolution*, 32(11), 825-834.

Green, C. D. (2019) Where did Freud's iceberg metaphor of mind come from? *History of Psychology*, 22(4), pp. 369–372.

Guba, E. (1981) Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal*, 29(2), pp. 75–91.

Guba, E.G., and Lincoln, Y.S. (1994) *Competing paradigms in qualitative research*. In N.K. Denzin and Y.S. Lincoln (Eds), *Handbook of qualitative research*. California: Sage Publications, 105–117.

Guba, E., and Lincoln, Y. (1989) *Fourth generation evaluation*. California: Sage Publications.

Guédon, J. C. (1977) Michel Foucault: the knowledge of power and the power of knowledge. *Bulletin of the History of Medicine*, 51(2), 245-277.

Guest, G., Namey, E. E., and Mitchell, M. L. (2013) *Collecting qualitative data: A field manual for applied research*. California: Sage Publications.

Guzel, A. (2019) Why can't we sleep? *Psychodynamic Practice*, 25 (4), pp. 383–392.

Habermas J. (1970) *Knowledge and Interest*. In D. Emmet and A. MacIntyre (Eds) *Sociological Theory and Philosophical Analysis*. London: Palgrave Macmillan, pp. 36–54.

Haigh, F., Kemp, L., Bazeley, P., and Haigh, N. (2019) Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. *BMC Public Health*, 19(1), pp. 1–12.

Hallett, J., and Garley, M. (2009) Figurative Language: Cross-cultural and cross-linguistic Perspective. *Journal of Pragmatics*, 41(8), pp. 1675–1678.

Hammarberg, K., Kirkman, M., and De Lacey, S. (2016) Qualitative research methods: when to use them and how to judge them. *Human Reproduction*, 31(3), 498-501.

Hammond, W. A. (1869) *Sleep and its derangements*. Philadelphia: J B Lippincott.

Hammond, W. A. (1866) *On wakefulness*. Philadelphia: J B Lippincott.

Hancock, P. (2008) Cultures of sleep: Organization and the lure of dormancy. *Culture and Organization*, 14(4), pp. 411–424

Hansen, K. (2022) The year trade unions came back. [online] *TRIBUNE*, 31 December. Available at: <https://tribunemag.co.uk/2022/12/strikes-industrial-action-labour-movement-2022> (Accessed 12 January 2023).

Hardy, J. (2016) Sleeping In: A short history on sleep before the industrial revolution. *History Cooperative*, 14 September. Available at: <https://historycooperative.org/sleeping-in-a-short-history-on-sleep-before-the-industrial-revolution/> (Accessed 26 September 2019)

Harrison, F. (2012) *Historical materialism*. In E. Wiebe, G. Durepos and A. J. Mills (Eds) *Encyclopedia of Case Study Research*. California: Sage publications, pp. 440–441.

Hartel, J., and Thomson, L. (2011) Visual approaches and photography for the study of immediate information space. *Journal of the American Society for Information Science and Technology*, 62(11), pp. 2214–2224.

Hartmann, E. (1973) *The functions of sleep*. London: Yale University Press.

Hartmann, M. (2003). The web generation? The (de) construction of users, morals and consumption. Available at:
<http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.195.2347> (Accessed 2 May 2023).

Harvey, A. G. (2002) A cognitive model of insomnia. *Behaviour Research and Therapy*, 40(8), pp. 869–893.

Harvey, D. (2005) *A brief history of neoliberalism*. New York: Oxford University Press.

Harvey, D. (2016) Neoliberalism is a political project. *Jacobin Magazine*, 23 July. Available at: <https://jacobin.com/2016/07/david-harvey-neoliberalism-capitalism-labor-crisis-resistance/> (Accessed 20 February 2021).

Harvey, D. (2014) *Seventeen contradictions and the end of capitalism*. New York: Oxford University Press.

Haslanger, S. (2017) I—Culture and critique. *Aristotelian Society Supplementary Volume*, 91(1), pp.149–173.

Hatch, J.A., and Newsom, S.K. (2010) *Life History*. In P. Peterson, E. Baker, and B. McGaw (Eds.) *International Encyclopedia of Education* (3rd edn). Oxford: Elsevier Science, pp. 430–435.

Hauri, P. J., and Olmstead, E. M. (1989) Reverse first night effect in insomnia. *Sleep*, 12(2), pp. 97–105.

Hayano, D. M. (1979) Auto-ethnography: Paradigms, problems, and prospects. *Human Organization*, 38(1), 99–104.

Hayashi, D., Li, D., Hayashi, C., Shatos, M., Hodges, R. R., and Dartt, D. A. (2012) Role of histamine and its receptor subtypes in stimulation of conjunctival goblet cell secretion. *Investigative Ophthalmology & Visual Science*, 53(6), pp. 2993–3003.

Hays, S. (1994) Structure and agency and the sticky problem of culture. *Sociological Theory*, 12(1), pp. 57–72.

Heidegger, M. (1962) *Being and time*. Translated by J. Macquarrie and E. Robinson. Oxford: Blackwell.

Hellman, M. (2010) Book Review: Where There Is Capitalism, There Shall Be Addiction. *Nordic Studies on Alcohol and Drugs*, 27(3), pp. 280–284.

Henry, D., Knutson, K., and Orzech, K. (2013) Sleep, culture and health: Reflections on the other third of life. *Social Science & Medicine*, 79, pp. 1–6.

Henry, D., Rosenthal, L., Dedrick, D., and Taylor, D. (2013) Understanding patient responses to insomnia. *Behavioral Sleep Medicine*, 11(1), pp. 40–55.

Hiller, R. M., Johnston, A., Dohnt, H., Lovato, N., and Gradisar, M. (2015) Assessing cognitive processes related to insomnia: A review and measurement guide for Harvey's cognitive model for the maintenance of insomnia. *Sleep Medicine Reviews*, 23, pp. 46–53.

Hillman, D., Mitchell, S., Streatfeild, J., Burns, C., Bruck, D. and Pezzullo, L. (2018) The economic cost of inadequate sleep, *Sleep*, 41(8), pp. zsy083.

Hindmoor, A., and McGeechan, J. (2013) Luck, systematic luck and business power: Lucky all the way down or trying hard to get what it wants without trying? *Political Studies*, 61(4), pp. 834–849.

Hoff, S. (2015) Locke and the nature of political authority. *The Review of Politics*, 77(1), pp. 1–22.

Hofling, C. K., Brotzman, E., Dalrymple, S., Graves, N., and Pierce, C. M. (1966) An experimental study in nurse-physician relationships. *The Journal of Nervous and Mental Disease*, 143(2), pp. 171–180.

Hofstetter, Y (2016) Information capitalism – the ideology behind digitization. [online] *T Company* 13 September. Available at: <https://www.telekom.com/en/company/digital-responsibility/details/information-capitalism-the-ideology-behind-digitization-435968> (Accessed 15 June 2022).

Holley, A. B. (2016) Perceiving the misperception. *Journal of Clinical Sleep Medicine*, 12(9), pp. 1211–1212.

Holman Jones, S. (2016) Living bodies of thought: The “critical” in critical autoethnography. *Qualitative Inquiry*, 22(4), pp. 228–237.

Holman Jones, S., Adams, T., and Ellis, C. (2016) *Coming to know autoethnography as more than a method*. In (Eds) *Handbook of Autoethnography*, New York: Routledge, pp.17 – 47.

Holt, N. L. (2003) Representation, legitimation, and autoethnography: An autoethnographic writing story. *International Journal of Qualitative Methods*, 2(1), pp. 18–28.

Honneth, A. (2004) Recognition and justice: Outline of a plural theory of justice. *Acta Sociologica*, 47(4), pp. 351–364.

Honneth, A. (2014) *The I in the we: Studies in the theory of recognition*. Translated by J. Ganahl. Cambridge: Polity Press

Hooper, S., Lynch, T., Coyle, K., Hooper, D., and Hausenblas, H. A. (2020) Effectiveness of NexQuest Natural Frequency Technology® on sleep and mood of adults with insomnia symptoms: a randomized, double blind and placebo controlled crossover trial. *Sleep Science*, 13(1), 84–87.

Horkheimer, M. (1995) *Between philosophy and social science: Selected early writings*. Cambridge: MIT press.

Horkheimer, M. (1972) *Traditional and critical theory. Critical theory: Selected essays*. Translated by J. O'Connell and Colleagues. New York: Continuum.

Howell, K. E. (2016) *Paradigm of inquiry: Critical theory and constructivism*. In K. Howell, and M. Sorour (Eds) *Corporate governance in Africa: Assessing implementation and ethical perspectives*. London: Palgrave Macmillan, pp. 29–36.

Hsu, E. L. (2012) The Politics of Sleep: Governing (Un) consciousness in the Late Modern Age. *Contemporary Sociology: A Journal of Reviews*, 41(5), pp. 681–682.

Huault, I., Perret, V., and Spicer, A. (2014) Beyond macro-and micro-emancipation: Rethinking emancipation in organization studies. *Organization*, 21(1), pp. 22–49.

Hudelson, R. (1980) Popper's Critique of Marx. *Philosophical Studies*, 37(3), pp. 259–270.

Huelin, R., Iheanacho, I., Payne, K., and Sandman, K. (2015) What's in a name? Systematic and non-systematic literature reviews, and why the distinction matters. *Evidera*, May. Available at: <https://www.evidera.com/resource/whats-in-a-name-systematic-and-non-systematic-literature-reviews-and-why-the-distinction-matters/> (Accessed 8 January 2023).

Huffington, A. (2014) A brief history of sleep. *World Economic Forum*, 19 November. Available at: <https://www.weforum.org/agenda/2014/11/a-brief-history-of-sleep/> (Accessed 15 November 2020).

Hughes, S. A. (2008) Maggie and me: A black professor and a white urban school teacher connect autoethnography to critical race pedagogy. *The Journal of Educational Foundations*, 22 (3/4), pp. 73–95.

Hughes, S. A., and Pennington, J. L. (2016) *Autoethnography: Process, product, and possibility for critical social research*. California: Sage Publications.

Hunt, A. (2004) Getting Marx and Foucault into bed together! *Journal of Law and Society*, 31(4), 592-609.

Hurka, T. (1993) *Perfectionism*. New York: Oxford University Press.

Husserl, E. (1970) *The crisis of European sciences and transcendental phenomenology: An introduction to phenomenological philosophy*. Translated by David Carr. Illinois: Northwestern University Press.

Hutley, F. C. (1937) The Moscow Trials. *The Australian Quarterly*, 9(2), pp. 77–86.

Irving, W. (1995) *The Legend of Sleepy Hollow and Rip Van Winkle*. Minneapolis: Abdo Publishers.

Isaacs, A. N. (2014) An overview of qualitative research methodology for public health researchers. *International Journal of Medicine and Public Health*, 4(4), pp. 318–323.

Jackson, A. Y., and Mazzei, L. A. (2008) Experience and “I” in autoethnography: A deconstruction. *International Review of Qualitative Research*, 1(3), pp. 299–318.

Jacobs, L. R. (2010) Democracy and Capitalism: Structure, agency, and organized combat. *Politics & Society*, 38(2), pp. 243-254.

Jagosh, J. (2019). Realist synthesis for public health: building an ontologically deep understanding of how programs work, for whom, and in which contexts. *Annual Review of Public Health*, 40(1), pp. 361–372.

James, W. (1892) *Psychology: Briefer course*. London: MacMillan.

Jimmy, B., and Jose, J. (2011) Patient medication adherence: measures in daily practice. *Oman Medical Journal*, 26(3), pp. 155–159.

Johnson, R. B., and Onwuegbuzie, A. J. (2004) Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.

Jones, J. (2017) It's time to put the tired Spanish siesta stereotype to bed. *BBC Worklife*, 6 September. Available at: <https://www.bbc.com/worklife/article/20170609-its-time-to-put-the-tired-spanish-siesta-stereotype-to-bed> (6 December 2020)

Jossa, B. (2018) Is historical materialism a deterministic approach? The democratic firm and the transition to socialism. *Review of Radical Political Economics*, 50(1), pp. 82–98.

Jung, C. M., Melanson, E. L., Frydendall, E. J., Perreault, L., Eckel, R. H., and Wright, K. P. (2011) Energy expenditure during sleep, sleep deprivation and sleep following sleep deprivation in adult humans. *The Journal of physiology*, 589(1), pp. 235–244.

Kain, P. J. (1980) Marx's dialectic method. *History and Theory*, 19(3), 294-312.

Kalmbach, D. A., Cuamatzi-Castelan, A. S., Tonnu, C. V., Tran, K. M., Anderson, J. R., Roth, T., and Drake, C. L. (2018). Hyperarousal and sleep reactivity in insomnia: current insights. *Nature and Science of Sleep*, 10, pp. 193–201.

Kandilatkhan, I. (2022) “The Iceberg Theory” in Ernest Hemingway’s Literary Creativity. *International Journal of Development and Public Policy*, 1(8), pp. 54–58.

Kang, J. W., Lee, Y. H., Kang, M. J., Lee, H. J., Oh, R., Min, H. J., Namkung, W., Choi, J.Y., Lee, S.N., Kim, C.-H., Yoon, J.-H., and Cho, H. J. (2017). Synergistic mucus secretion by histamine and IL-4 through TMEM16A in airway epithelium. *American Journal of Physiology-Lung Cellular and Molecular Physiology*, 313(3), pp. L466–L476.

Kanstrup, A. M. (2002) Picture the practice—Using photography to explore use of technology within teachers' work practices. *Forum Qualitative Sozialforschung*, 3(2), pp. 1–16.

Kastrup, B. (2017). An ontological solution to the mind-body problem. *Philosophies*, 2(2), 10, pp. 1–18.

Kautzer, C. (2017) *Marx's Influence on the Early Frankfurt School*. In M. J. Thompson (Ed.) *The Palgrave Handbook of Critical Theory*. New York: Palgrave Macmillan, pp. 43–65.

Keats, P.A., (2009) Multiple text analysis in narrative research: Visual, written, and spoken stories of experience. *Qualitative Research*, 9(2), pp.181-195.

Kenyatta. J. (1938). *Facing Mt. Kenya*. London: Mercury Books.

Kerr, R., and Sturm, D. (2019) Moving beyond “insider or outsider”: The ethnographic challenges of researching elite sport facilities in New Zealand. *Qualitative Inquiry*, 25(9–10), pp. 1137–1147.

Kim, J. H. (2016) *Narrative data analysis and interpretation: Flirting with data*. In J. H. Kim (Ed), *Understanding Narrative Inquiry*. Los Angeles: Sage Publications, pp. 185–224.

Kim, J. (2013) The myth of nonreductive materialism. *The American Philosophical Association Centennial Series*, 641-658.

Kincheloe, J. L., and McLaren, P. (2011) *Rethinking critical theory and qualitative research*. In J. L. Kincheloe (Ed) *Key works in critical pedagogy*. Boston: Brill Sense, pp. 285–326.

Kleitman, N. (1963) *Sleep and wakefulness*. 2nd edn London: The University of Chicago Press.

Klikauer, T. (2015) Marxism inside critical theory. *Critique*, 43(2), pp. 295–300.

Koen, J., Wassenaar, D., and Mamotte, N. (2017) The ‘over-researched community’: An ethics analysis of stakeholder views at two South African HIV prevention research sites. *Social Science & Medicine*, 194, pp. 1–9.

Korsch, K. (1931) *A non-dogmatic approach to Marxism*. In D. Kellner (Ed), *Revolutionary theory*. Austin: University of Texas, pp. 274–280.

Kristensen, D. B., Lim, M., and Askegaard, S. (2016) Healthism in Denmark: State, market, and the search for a “Moral Compass”. *Health*, 20(5), pp. 485–504.

Kryzhanovsky, G. N. (2004) Some categories of general pathology and biology: health, disease, homeostasis, sanogenesis, adaptation, immunity: new approaches and notions. *Pathophysiology*, 11(3), pp. 135–138.

Krzyżanowski, M. (2020) Normalization and the discursive construction of “new” norms and “new” normality: discourse in the paradoxes of populism and neoliberalism. *Social Semiotics*, 30(4), pp. 431–448.

Kuhn, T. S. (2012) *The structure of scientific revolutions*. 4th edn. Chicago: University of Chicago Press.

La Berge, S. P., Nagel, L. E., Dement, W. C., and Zarcone Jr, V. P. (1981) Lucid dreaming verified by volitional communication during REM sleep. *Perceptual and Motor Skills*, 52(3), pp. 727–732.

Larsson, J., and Holmström, I. (2007) Phenomenographic or phenomenological analysis: Does it matter? Examples from a study on anaesthesiologists’ work. *International Journal of Qualitative Studies on Health and Well-being*, 2(1), pp. 55–64.

Lawrence, P. (2016). Alcohol numerous. [online] *Marxists Archive*. Available at:

<https://www.marxists.org/archive/lawrence/1966/alcoholics.htm> (Accessed 15 January 2023).

Leader, D. (2019) *Why Can't We Sleep? Understanding our sleeping and sleepless minds*. London: Penguin.

Lee, C. (2019) Capturing the personal through the lens of the professional: The use of external data sources in autoethnography. *Methodological Innovations*, 12(1), pp. 1–9.

Lee Mudge, S. (2008) The State of the art: What is neo-liberalism? *Socio-Economic Review*, 6(4), pp. 703–731.

Lehrer, K. (1990) *Theory of Knowledge*. Boulder: Westview Press.

Lewis, P. A. (1996) Metaphor and critical realism. *Review of Social Economy*, 54(4), pp. 487–506.

Lewis, P. A., and Durrant, S. J. (2011) Overlapping memory replay during sleep builds cognitive schemata. *Trends in Cognitive Sciences*, 15(8), pp. 343–351.

Levers, M. J. D. (2013) Philosophical paradigms, grounded theory, and perspectives on emergence. *Sage Open*, 3(4), pp. 1–6.

Lie, J. D., Tu, K. N., Shen, D. D., and Wong, B. M. (2015) Pharmacological treatment of insomnia. *Pharmacy and Therapeutics*, 40(11), pp. 759–711.

Lima, S. L., Rattenborg, N. C., Lesku, J. A., and Amlaner, C. J. (2005) Sleeping under the risk of predation. *Animal Behaviour*, 70(4), pp. 723–736.

Lincoln, Y., and Guba, E. (1985) *Naturalistic inquiry*. California: Sage Publications.

Lincoln, Y. S., Lynham, S. A., and Guba, E. G. (2011) *Paradigmatic controversies, contradictions, and emerging confluences*. In N. Denzin and Y. Lincoln (Eds), *The Sage handbook of qualitative research*. California: Sage, pp. 97–128.

Lisiecki, M. (2015) Does the change have to be revolutionary? August Cieszkowski's philosophy of future. *Scientia et Fides*, 3(1), pp. 213–226.

Littleton, C. S. (2005) *Gods, Goddesses, and Mythology*. New York: Marshall Cavendish.

Lockley, S. W., Arendt, J., and Skene, D. J. (2022) Visual impairment and circadian rhythm disorders. *Dialogues in Clinical Neuroscience*, 9(3), pp. 301–314.

Lovejoy, C.O. (1988) Evolution of human walking. *Scientific American*. 259(5), pp. 118–125.

Low, D. (2012) Merleau-Ponty, Ontology, and Ethics. *Philosophy Today*, 56(1), pp. 59–77.

Lukács, G. (2009) *Lenin: A study on the unity of his thought*. London: Verso Books.

Lugaresi, E., and Provini, F. (2001) Agrypnia excitata: Clinical features and pathophysiological implications. *Sleep Medicine Reviews*, 5(4), pp. 313–322.

Lyamin, O.I., Manger, P.R., Ridgway, S.H., Mukhametov, L.M. and Siegel, J.M., (2008) Cetacean sleep: An unusual form of mammalian sleep. *Neuroscience & Biobehavioral Reviews*, 32(8), pp.1451–1484.

Lynch, M. A. (2004) Long-term potentiation and memory. *Physiological Reviews*, 84(1), pp. 87–136.

Macdonald, B. J. (2017) Traditional and critical theory today: Toward a critical political science. *New Political Science*, 39(4), pp. 511–522.

MacLure, M. (2015) *The 'new materialisms': a thorn in the flesh of critical qualitative inquiry?* In G. Cannella, M.S. Perez and P. Pasque (Eds) *Critical Qualitative Inquiry: Foundations and Futures*. California: Left Coast Press. pp. 93–112.

McLeod, S. (2019) Introduction to the normal distribution (bell curve). [online] *Simply Psychology*. Available at: <https://www.simplypsychology.org/normal-distribution.html> (Accessed 15 June 2022).

Malik, V., Smith, D., and Lee-Chiong, T. (2012) Respiratory physiology during sleep. *Sleep Medicine Clinics*, 7(3), pp. 497–505.

Mandel, E. (2002) *An introduction to Marxist economic theory*. Chippendale: Resistance Books.

Manic, M. (2015) Marketing engagement through visual content. *Bulletin of the Transilvania University of Brasov Economic Sciences*, 8(2), pp. 89–94.

Marks, J. (Ed) (1986) *The ways of desire: New essays in philosophical psychology on the concept of wanting*. Illinois: Precedent Publishing.

Marquard, J. L., Moen, A., and Brennan, P. F. (2006) Photographic data—an untapped resource to explore complex phenomena such as health information management in the household (HIMH). *Studies in Health Technology and Informatics*, 122, pp. 58–62.

Martin, A. (2019) An acquired or heritable connective tissue disorder? A review of hypermobile Ehlers Danlos Syndrome. *European Journal of Medical Genetics*, 62(7), pp. 103672–103678.

Martin, A., and Hatzidimitriadou, E. (2021) Optimising health system capacity: A case study of community care staff's role transition in response to the coronavirus pandemic. *Health and Social Care in the Community*, 30(5), pp. e2147–e2156.

Martin, R. (1995) Cohen versus Gouldner: historical materialism as a determinism. *South African Journal of Sociology*, 26(1), pp. 26–34.

Marx, K. (1904) *A Contribution to the Critique of Political Economy*. Translated by N. I. Stone. Illinois: Charles H. Kerr Publishing Company.

Marx, K. (1889) *Capital: A critical analysis of capitalist production*. F. Engels (Ed). Translated by S. Moore and E. Aveling. New York: Appleton & Company.

Marx, K., and Engels, F. (1888) *The Communist Manifesto*. Translated by S. Moore. London: Penguin.

Marx, K. (1996). *Marx: Later political writings*. Cambridge: Cambridge University Press.

Marx, K. (1955) *The poverty of philosophy: answer to the philosophy of poverty by M. Proudhon*. Translated by the Institute of Marxism Leninism. Moscow: Progress Publishers.

Maslow, A. H. (1968) *Toward a psychology of being*. 2nd edn. New York: Van Nostrand.

Mason, P. (2019) Time for postcapitalism. [online] *Social Europe* 1 July. Available at: <https://socialeurope.eu/time-for-postcapitalism> (Accessed 7 November 2022).

Mattick, P. (2020) *Marx and Keynes: the limits of the mixed economy*. Bradford: Pattern Books.

Maxwell, J. A. (2004) Causal explanation, qualitative research, and scientific inquiry in education. *Educational Researcher*, 33(2), pp. 3–11.

Maydell, E. (2010) Methodological and analytical dilemmas in autoethnographic research. *Journal of Research Practice*, 6(1), M5.

Mayor, X. M. (2016) Analytic or evocative: A forgotten discussion in autoethnography. *Forum: Qualitative Social Research*, 17(3), 12.

Mazandarani, A. A., Aguilar-Vafaie, M. E., Esmaeilinasab, M., Farahani, H., and Cheung, J. M. (2017) Perceptions of Insomnia among an Iranian Population: Causes and Responses. *Journal of Sleep Sciences*, 2(1-2), pp. 46–54.

McAlpine, L. (2016) Why might you use narrative methodology? A story about narrative. *Estonian Journal of Education*, 4(1), pp. 32–57.

McCall, S. (2016) Land, memory, and the struggle for indigenous rights: Lee Maracle's "Goodbye Snauq". *Canadian Literature*, (230-231), pp. 178–195.

McCorry, L. K. (2007) Physiology of the autonomic nervous system. *American Journal of Pharmaceutical Education*, 71(4), 78.

McCullagh, C. (1980) Historical Realism. *Philosophy and Phenomenological Research*, 40(3), pp. 420–425.

McKee, M., and Stuckler, D. (2012) The crisis of capitalism and the marketisation of health care: the implications for public health professionals. *Journal of public health research*, 1(3), jphr-2012.

McLaren, P., and Jaramillo, N. E. (2010) Not neo-Marxist, not post-Marxist, not Marxian, not autonomist Marxism: Reflections on a revolutionary (Marxist) critical pedagogy. *Cultural Studies ↔ Critical Methodologies*, 10(3), pp. 251–262.

McLellan, D. T., and Feuer, L. S. (2022) Karl Marx. *Encyclopedia Britannica* 23 August. Available at: <https://www.britannica.com/biography/Karl-Marx> (Accessed 14 October 2022).

McLeod, S. A. (2018) What are the most interesting ideas of Sigmund Freud? *Simply Psychology*, 05 April. Available at: www.simplypsychology.org/Sigmund-Freud.html (Accessed 14 October 2022).

McIlveen, P. (2008) Autoethnography as a method for reflexive research and practice in vocational psychology. *Australian Journal of Career Development*, 17(2), pp. 13–20.

McMillan, S., (2014) *Capitalism Must Die! A basic introduction to capitalism: what it is, why it sucks, and how to crash it*. Haiti: Idées Nouvelles Idées Prolétariennes.

Meadows, R., Nettleton, S., Hine, C., and Ellis, J. (2021) Counting sleep? Critical reflections on a UK national sleep strategy. *Critical Public Health*, 31(4), pp. 494–499.

Mereless, K. L. (2008) *Autoethnography of paint talks: Questioning the beautiful collision between visual communication and fundamentalist Christian churches*. Master of Arts dissertation, Texas Tech University.

Mergenthaler, P., Lindauer, U., Dienel, G. A., and Meisel, A. (2013) Sugar for the brain: the role of glucose in physiological and pathological brain function. *Trends in Neurosciences*, 36(10), pp. 587–597.

Merleau-Ponty, M. (1969) *Humanism and terror: An essay on the communist problem*. Translated by J. O'Neill. Boston: Beacon Press.

Mertens, D. M. (2017) Transformative research: personal and societal. *International Journal for Transformative Research*, 4(1), pp. 18–24.

Miles, S. (1998) *Consumerism: as a way of life*. London: Sage Publications.

Miller, J. (1976) Merleau-Ponty's Marxism: between phenomenology and the Hegelian absolute. *History and Theory*, 15(2), pp. 109–132.

Miller, R. W. (1981) Productive forces and the forces of change: A review of Gerald A. Cohen, Karl Marx's theory of history: A defense. *The Philosophical Review*, 90(1), pp. 91–117.

Miller, D. C., and Salkind, N. J. (Eds) (2002) *Narrative research*. In D. C. Miller and N. J. Salkind (Eds) *Handbook of research design and social measurement*. 6th edn. California: Sage Publications, pp. 148-151

Miller, K. (2023) *Mapping the darkness: The visionary scientists who unlocked the mysteries of sleep*. London: Oneworld Publications.

Mind (2021) Sleeping pills and minor tranquilisers. *Mind Publications*, April. Available at: <https://www.mind.org.uk/media/8086/sleeping-pills-and-minor-tranquillisers-2021.pdf> (Accessed 21 August 2022).

Minsky, C. (2019) My insomnia is a desperately lonely experience. *Metro*, 18 August. Available at: <https://metro.co.uk/2019/08/18/my-insomnia-is-a-desperately-lonely-experience-10572194/> (Accessed 21 02 2021).

Misco, T. (2007) The frustrations of reader generalizability and grounded theory: Alternative considerations for transferability. *Journal of Research Practice*, 3(1), M10.

Moen, T. (2006) Reflections on the narrative research approach. *International Journal of Qualitative Methods*, 5(4), pp. 56–69.

Momodu, S. (2017) The Baptist War (1831-1832). *BlackPast.org*, 22 July. Available at: <https://www.blackpast.org/global-african-history/baptist-war-1831-1832/> (Accessed 10 July 2022).

Monk, T. H. (2010). Enhancing circadian zeitgebers. *Sleep*, 33(4), pp. 421–422.

Moore, I. S. (2013) “The beast within”: Life with an invisible chronic illness. *Qualitative Inquiry*, 19(3), pp. 201–208.

Morin, C. M., Bélanger, L., LeBlanc, M., Ivers, H., Savard, J., Espie, C. A., Mérette, C., Baillargeon, L. and Grégoire, J. P. (2009). The natural history of insomnia: a

population-based 3-year longitudinal study. *Archives of Internal Medicine*, 169(5), pp. 447–453.

Morrow, R. A., and Brown, D. D. (1994) *Critical theory and methodology*. California: Sage Publications.

Morse, J. M. (2015) Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative Health Research*, 25(9), pp. 1212-1222.

Morse, J. M. (1995) Exploring the theoretical basis of nursing using advanced techniques of concept analysis. *Advances in Nursing Science*, 17(3), pp. 31–46.

Morselli, A. (2014) The mutual interdependence between human action and social structure in the evolution of the capitalist economy. *Microeconomics and Macroeconomics*, 2(1), pp. 6-11.

Mraz, J. (2002) *You and I both*. On J. Alagia (Producer) *Waiting for my rocket to come* [CD]. California: Elektra Records.

Muncey, T. (2005) Doing autoethnography. *International Journal of Qualitative Methods*, 4(1), pp. 69–86.

Murphy, R., and Brennan, I. (2020). *Hollywood*. Netflix, 1 May. Available at: <https://www.netflix.com> (Accessed June 2020).

Murphy, M., Huber, R., Esser, S., A Riedner, B., Massimini, M., Ferrarelli, F., Felice Ghilardi, M. and Tononi, G. (2011) The cortical topography of local sleep. *Current Topics in Medicinal Chemistry*, 11(19), pp. 2438–2446.

Nabyonga, J., Desmet, M., Karamagi, H., Kadama, P. Y., Omaswa, F. G., and Walker, O. (2005) Abolition of cost-sharing is pro-poor: evidence from Uganda. *Health Policy and Planning*, 20(2), pp.100–108.

Nakamura, M. (2017) *Emancipation in postmodernity: political thought in Japanese science fiction animation*. Doctoral Thesis, Leiden University, Netherlands.

Nancy, J. L. (2000) *Being singular plural*. California: Stanford University Press.

Narayan, K. (1993) How native is a “native” anthropologist? *American Anthropologist*, 95(3), pp. 671–686.

National Health Service (no date) Better health: Every mind matters. NHS. Available at: <https://www.nhs.uk/every-mind-matters/mental-wellbeing-tips/how-to-fall-asleep-faster-and-sleep-better/> (Last accessed 10 November 2023).

National Institute for Health and Care Excellence (2022). Insomnia: How common is it? Available at: <https://cks.nice.org.uk/topics/insomnia/background-information/prevalence/> (Accessed 06 01 2023).

Needham, T. (2010) Base/Superstructure. *The Encyclopedia of Literary and Cultural Theory*. 1, pp. 72–75.

Nettle, D. (2006) The evolution of personality variation in humans and other animals. *American Psychologist*, 61(6), 622–631.

Niiniluoto, I. (1999) *Critical scientific realism*. New York: Oxford University Press.

Noel, L. A. (2016) *Promoting an emancipatory research paradigm in Design Education and Practice*. In P. Lloyd and E. Bohemia (Eds) *Future focused thinking*. Design Research Society 50th Anniversary Conference. Brighton, pp. 455–469.

Noblit, G. W., and Hare, R. D. (1988) *Meta-ethnography: Synthesizing qualitative studies*. Newbury Park: Sage Publications.

Nunn, C. L., Samson, D. R., and Krystal, A. D. (2016) Shining evolutionary light on human sleep and sleep disorders. *Evolution Medicine and Public Health*, 2016(1), pp. 227–243.

Ogeil, R. P., Nguyen, M. T., Savic, M., and Lubman, D. I. (2021) Assembling a 'good' and 'bad' night's sleep: A multifactorial proposition. *Lifestyle Medicine*, 2(4), e48.

Ollman, B. (2003) *Dance of the dialectic: Steps in Marx's method*. Chicago: University of Illinois Press.

Olsen, W. (2007) Critical realist explorations in methodology. *Methodological Innovations Online*, 2(2), pp. 1–5.

Ormston, R., Spencer, L., Barnard, M., and Snape, D. (2014) *The foundations of qualitative research*. In J. Ritchie, J. Lewis, C. M. Nicholls and Ormston, R. (Eds) *Qualitative research practice: A guide for social science students and researchers*, 2nd edn. Los Angeles: Sage Publications, pp. 2–25.

Grant, C., and Osanloo, A. (2014) Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house". *Administrative Issues Journal: Connecting Education, Practice, and Research*, 4(2), pp. 12–26.

Osilla, E. V. and Sharma S. (2019) Physiology, temperature regulation. In: StatPearls, *Treasure Island (FL): StatPearls Publishing*, 8 May. <https://www.ncbi.nlm.nih.gov/books/NBK507838/> (Accessed 20 March 2020).

Ownby, T. (2013) Critical visual methodology: Photographs and narrative text as a visual autoethnography. *Online Journal of Communication and Media Technologies*, 3(2013 Special Issue), pp. 1–24.

Pace, N. R. (2001) The universal nature of biochemistry. *Proceedings of the National Academy of Sciences*, 98(3), pp. 805–808.

Pandya S. K. (2011) *Understanding Brain, Mind and Soul: Contributions from Neurology and Neurosurgery*. In A.R. Singh and S.A. Singh (Eds) *Brain, Mind and*

Consciousness: An International, Interdisciplinary Perspective. Mumbai: Mens Sana Research Foundation, pp. 129–149.

Paolucci, P. (2001) Assumptions of the dialectical method. *Critical Sociology*, 27(3), 116-146.

Papanicolas, I., Mossialos, E., Gundersen, A., Woskie, L., and Jha, A. K. (2019) Performance of UK National Health Service compared with other high income countries: Observational study. *BMJ*, 367, 16326.

Papineau, D. (1985) Realism and epistemology. *Mind*, 94(375), pp. 367–388.

Park, S. (2014) Socialisation and the liberal order. *International Politics*, 51(3), pp. 334–349.

Patnaik, D., and Mortensen, P. (2009). *Wired to care: How companies prosper when they create widespread empathy*. New Jersey: FT Press.

Patton, M.Q. (2002). *Qualitative research and Evaluation Methods*. 3rd edn. California: Sage Publications, Inc.

Patton, P. (2001) *Postmodernism: Philosophical Aspects* In N. J. Smelser and P. B. Baltes (Eds) *International Encyclopedia of the Social & Behavioral Sciences*, Oxford: Elsevier Science, pp. 11872–11877.

Penzin, A. (2016) Alexei Penzin in conversation with Maria Chekhonadsikh: *The only place to hide? The art and politics of sleep in cognitive capitalism*. In W. Neidich (Ed) *Psychopathologies of cognitive capitalism. Part Two*. Archive Books. pp.221–244

Perlis, M. L., Giles, D. E., Mendelson, W. B., Bootzin, R. R., and Wyatt, J. K. (1997) Psychophysiological insomnia: the behavioural model and a neurocognitive perspective. *Journal of Sleep Research*, 6(3), pp. 179–188.

Peuhkuri, K., Sihvola, N., and Korpela, R. (2012) Diet promotes sleep duration and quality. *Nutrition Research*, 32(5), pp. 309–319.

Phelps, E. A. (2006) Emotion and cognition: insights from studies of the human amygdala. *Annual Review of Psychology*, 57(1), pp. 27–53.

Pierce, D. E. (2003) *Occupation by design: Building therapeutic power*. Philadelphia: FA Davis company.

Pippin, R. (2004) Critical inquiry and critical theory: A short history of nonbeing. *Critical Inquiry*, 30(2), pp. 424–428.

Pitard, J. (2016) Using vignettes within autoethnography to explore layers of cross-cultural awareness as a teacher. *Forum: Qualitative Social Research* 17 (1), 11.

Plenke, M. (2016) Bad news: Those popular negative ion bands are secretly sending radiation into your body. *MIC*, 28 January. Available at: <https://www.mic.com/articles/132638/bad-news-those-popular-magnet-therapy-bands-are-secretly-sending-radiation-into-your-body> (Accessed 29 August 2017).

Poerwandari, E. K. (2021) Minimizing bias and maximizing the potential strengths of autoethnography as a narrative research. *Japanese Psychological Research*, 63(4), pp. 310–323.

Polkinghorne, D. E. (1995) Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education*, 8(1), pp. 5–23.

Polkinghorne, D. E. (2001) *The self and humanistic psychology*. In K. J. Schneider, J. F. T. Bugental and J. F. Pierson (Eds) *The handbook of humanistic psychology: Leading edges in theory, research and practice*. California: Sage Publications, pp. 81–99.

Polkinghorne, D. E. (2007) Validity issues in narrative research. *Qualitative Inquiry*, 13(4), pp. 471–486.

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K., and Duffy, S. (2006) *Guidance on the conduct of narrative synthesis in systematic reviews: A product from the ESRC methods programme*. ESRC.

Porter, S. (2015) The uncritical realism of realist evaluation. *Evaluation*, 21(1), pp. 65–82.

Postma, J. (1992) *The dispersal of African slaves in the West by Dutch slave traders, 1630–1803*. In J. E. Inikori and S. L. Engerman (Eds) *The Atlantic slave trade: Effects on economies, societies, and peoples in Africa, the Americas, and Europe*. North Carolina: Duke University Press, pp. 283-300.

Poulantzas, N. and Miliband R. (1972) *The problem of the capitalist state*. In R. Blackburn (ed.) *Ideology in social science: Readings in critical social theory*. New York: Pantheon Books, pp. 238–262.

Poulos, C. N. (2021) *Essentials of autoethnography (Essentials of qualitative methods)*. Washington, DC: American Psychological Association.

Pratt, V. (2006) *Philosophy and the Social Sciences*. 2nd edn. New York: Routledge.

Proudhon, P. J. (1888) *System of economical contradictions: Or the philosophy of misery*. Translated by B. R. Tucker. Cambridge: Cambridge University Press.

Provensi, G., Costa, A., and Passani, M. B. (2018) *Histaminergic modulation of recognition memory*. In A. Ennaceur and M. A. de Souza Silva (Eds) *Handbook of object novelty recognition*. London: Elsevier Academic Press, pp. 415–445.

Public Health England (no date) Sleep – Year 6 lesson plan. Public Health. Available at: <https://campaignresources.phe.gov.uk/schools/resources/sleep-year6-lesson-plan-pack> (Accessed 12 June 2024).

Pulvermüller, F., Garagnani, M., and Wennekers, T. (2014) Thinking in circuits: toward neurobiological explanation in cognitive neuroscience. *Biological Cybernetics*, 108(5), pp. 573–593.

Quercia, A., Zappasodi, F., Committeri, G., and Ferrara, M. (2018) Local use-dependent sleep in wakefulness links performance errors to learning. *Frontiers in Human Neuroscience*, 12, 122.

Qutoshi, S. B. (2015) Auto/ethnography: A transformative research paradigm. Dhaulagiri: *Journal of Sociology & Anthropology*, 9 (1), pp. 161–190.

Ratner, C. (2014) Emancipation, Overview. In T. Teo (Ed) *Encyclopedia of Critical Psychology*. New York: Springer, pp. 536–539.

Rattenborg, N. C., Voirin, B., Cruz, S. M., Tisdale, R., Dell’Omo, G., Lipp, H. P., Wikelski, M., and Vyssotski, A. L. (2016) Evidence that birds sleep in mid-flight. *Nature Communications*, 7, 12468.

Raymond, A., Bazeer, N., Barclay, C., Krelle, H., Idriss, O., Tallack, C., and Kelly, E. (2021) Our ageing population: how ageing affects health and care need in England. [online] *The Health Foundation*, December. Available at: <https://www.health.org.uk/publications/our-ageing-population> (Accessed 30 December 2022).

Redding, P. (2018) *Georg Wilhelm Friedrich Hegel*. In D. Hedley, C. Meister and C. Taliaferro (Eds) *The History of Evil in the Eighteenth and Nineteenth Centuries: 1700–1900*. London: Routledge pp. 136–149.

Reed-Danahay, D. (1997) *Auto/ethnography: Rewriting the self and the social*. Oxford: Berg Publishers

Reed-Danahay, D. (2017) Bourdieu and critical autoethnography: Implications for research, writing, and teaching. *International Journal of Multicultural Education*, 19(1), pp. 144–154.

Reiss, B. (2017) *Wild nights: how taming sleep created our restless world*. New York: Basic Books.

Rennie, D. L. (2008) Two thoughts on Abraham Maslow. *Journal of Humanistic Psychology*, 48(4), pp. 445–448.

Riessman, C. K. (1993) *Narrative analysis; Qualitative research methods*. California: Sage Publications.

Rechtschaffen, A. (1998) Current perspectives on the function of sleep. *Perspectives in Biology and Medicine*, 41(3), pp. 359–390.

Reeves, S., Kuper, A., and Hodges, B. D. (2008) Qualitative research methodologies: Ethnography. *BMJ*, 337, a1020.

Reibling, N., and Bleckmann, L. (2023) *The biopsychosocial welfare state: A theoretical framework*. In N. Reibling, and M. Ariaans (Eds) *Toward a biopsychosocial welfare state: How medicine and psychology transform social policy*, Switzerland: Springer Nature, pp. 23 – 54.

Reynolds, J. (2001) Maurice Merleau-Ponty (1908—1961). *Internet Encyclopedia of Philosophy*. Available at: <https://iep.utm.edu/merleau/> (Accessed 28 Jan 2022)

Rezaie, L., Fobian, A. D., McCall, W. V., and Khazaie, H. (2018) Paradoxical insomnia and subjective–objective sleep discrepancy: A review. *Sleep Medicine Reviews*, 40, pp. 196–202.

Rezaie, L., Khazaie, H., and Yazdani, F. (2016) Exploration of the experience of living with chronic insomnia: A qualitative study. *Sleep Science*, 9(3), pp. 179–185.

Riemann, D., Baglioni, C., Bassetti, C., Bjorvatn, B., Dolenc Groselj, L., Ellis, J.G., Espie, C.A., Garcia-Borreguero, D., Gjerstad, M. and Gonçalves, M. (2017)

European guideline for the diagnosis and treatment of insomnia, *Journal of Sleep Research*, 26(6), pp. 675–700.

Riemann, D., Spiegelhalder, K., Feige, B., Voderholzer, U., Berger, M., Perlis, M., and Nissen, C. (2010) The hyperarousal model of insomnia: a review of the concept and its evidence. *Sleep Medicine Reviews*, 14(1), pp. 19–31.

Riedner, B. A., Goldstein, M. R., Plante, D. T., Rumble, M. E., Ferrarelli, F., Tononi, G., and Benca, R. M. (2016) Regional patterns of elevated alpha and high-frequency electroencephalographic activity during nonrapid eye movement sleep in chronic insomnia: a pilot study. *Sleep*, 39(4), pp. 801–812.

Ritchey, T. (1991) Analysis and synthesis: on scientific method—based on a study by Bernhard Riemann. *Systems Research*, 8(4), pp. 21–41.

Rockmore, T. (1996) Merleau-Ponty, Marx, and marxism: The problem of history. *Studies in East European Thought*, 48(1), pp. 63–81.

Rohlf, M. (2010) Immanuel Kant. *Stanford Encyclopaedia of Philosophy*, 20 May. Available at: <https://plato.stanford.edu/entries/kant/#LawGivNat> (Accessed 8 May 2020)

Rosekind, M. R., and Gregory, K. B. (2010) Insomnia risks and costs: health, safety, and quality of life. *The American Journal of Managed Care*, 16(8), pp. 617–626.

Rosenau, P.V. (2001) *Postmodernism: Methodology*. In N. J. Smelser and P. B. Baltes (Eds) *International Encyclopedia of the Social & Behavioral Sciences*, Oxford: Elsevier Science, pp. 11868-11872.

Robertson, C. J. (1930) Cane-sugar production in the British Empire. *Economic Geography*, 6(2), 135-151.

Robinson, D. and Groves, J. (2012) *Introducing political philosophy: A graphic guide*. 3rd edn. London: Icon Books Ltd.

Rossi, M. (2010) Hegelianism. [online] *Encyclopaedia Britannica*. Available at: <https://www.britannica.com/topic/Hegelianism> (Accessed 12 May 2020).

Roth, T. (2007) Insomnia: definition, prevalence, etiology, and consequences. *Journal of Clinical Sleep Medicine*, 3(5 Supplement), pp. S7 – S10.

Rousseau, J. J., and Cranston, M. W. (1968) *The Social Contract*: Translated by M. Cranston. London: Penguin Books.

Rummel, R. J. (1976) *Understanding conflict and war: The conflict helix*. California: Halsted Press.

Russell, B. (1926) Theory of knowledge. *The Encyclopaedia Britannica*. Available at: <https://www.marxists.org/reference/subject/philosophy/works/en/russell1.htm> (Accessed 12 May 2020)

Ryan, A. B. (2006) *Post-positivist approaches to research*. In M. Antonesa (Ed) *Researching and writing your thesis: A guide for postgraduate students*. Maynooth: National University of Ireland. pp. 12–26.

Ryan, J. (2021) 50 super successful college dropouts. *CBS News*, 18 March. Available at: <https://www.cbsnews.com/pictures/50-super-successful-college-dropouts/3/> (Accessed 16 February 2022).

Saborido, C., and Moreno, A. (2015) Biological pathology from an organizational perspective. *Theoretical Medicine and Bioethics*, 36(1), pp. 83–95.

Saddichha, S. (2010) Diagnosis and treatment of chronic insomnia. *Annals of Indian Academy of Neurology*, 13(2), 94–102.

Sandoval, C. (2013) *Methodology of the oppressed: Theory out of bounds*. Minneapolis: University of Minnesota Press.

Sateia, M. J. (2014). International classification of sleep disorders. *CHEST*, 146(5), 1387-1394.

Sattar, R., Lawton, R., Panagioti, M., & Johnson, J. (2021) Meta-ethnography in healthcare research: a guide to using a meta-ethnographic approach for literature synthesis. *BMC Health Services Research*, 21, 50.

Schenck C. H. (2017) Book Review of *Wild Nights*. *Journal of Clinical Sleep Medicine*, 13(6), 851–852.

Schmidt, M. H. (2014) The energy allocation function of sleep: a unifying theory of sleep, torpor, and continuous wakefulness. *Neuroscience & Biobehavioral Reviews*, 47, pp. 122–153.

Schneiderman, N., Ironson, G., & Siegel, S. D. (2005). Stress and health: psychological, behavioral, and biological determinants. *Annual review of clinical psychology*, 1, 607.

Schnellmann R. G., and Covington M. D. (2010) *Calcium and proteases*. In C. A. McQueen (Ed) *Comprehensive toxicology*. Amsterdam: Elsevier, pp. 587–608

Schulz, H., and Salzarulo, P. (2016) The development of sleep medicine: a historical sketch. *Journal of Clinical Sleep Medicine*, 12(7), pp. 1041–1052.

Schwab, R. J. (2022) Snoring. *MSD Manual Professional Version*, May. Available at: <https://www.msmanuals.com/professional/neurologic-disorders/sleep-and-wakefulness-disorders/snoring> (Accessed 14 June 2022).

Schwartz, M. A. (2008) The importance of stupidity in scientific research. *Journal of Cell Science*, 121(11), pp. 1771.

Schwartz, D. (1989) Visual ethnography: Using photography in qualitative research. *Qualitative Sociology*, 12(2), pp. 119–154.

Scott, J. (2006) *Social theory: Central issues in sociology*. London: Sage Publications.

Sejnowski, T. J., and Destexhe, A. (2000) Why do we sleep? *Brain Research*, 886(1-2), pp. 208–223.

Semple, A. (2008) What influences baby-sleeping behaviour at night? A review of evidence. *New Digest*, 42, pp. 25–30.

Shahghasemi, E. (2020) *Pornography of poverty: Celebrities' sexual appeal at service to the poor*. In *Proceedings of the 2nd international conference on future of social sciences and humanities*. Prague: Diamond Publishing, pp. 14 – 29.

Shai, P. N. (2020) A local researcher's experiences of the insider–outsider position: An exercise of self-reflexivity during ethnographic GBV and HIV prevention research in South Africa. *International Journal of Qualitative Methods*, 19, pp. 1-14.

Shapiro, C. M., and Flanigan, M. J. (1993) ABC of sleep disorders. Function of sleep. *BMJ*, 306(6874), pp. 383 – 385.

Shapps, G. (2023) Government invites unions to return to the table and call off strikes. *GOV.UK*, 5 January. Available at: <https://www.gov.uk/government/news/government-invites-unions-to-return-to-the-table-and-call-off-strikes> (Accessed 19 February 2023)

Shen, J. and Shapiro, C. M (2013) *Sleep problems in obsessive–compulsive disorder*. In C. A. Kushida (Ed) *Encyclopedia of sleep*. London: Elsevier Academic press, pp. 272–274.

Shepherd, J. (2017) The experience of acting and the structure of consciousness. *The Journal of Philosophy*, 114(8), pp. 422 – 448.

Shilling, C. (2012) *The body & social theory*. 3rd edn. Los Angeles: Sage.

- Shove, E., Pantzar, M., and Watson, M. (2012) *The dynamics of social practice: everyday life and how it changes*. London: Sage Publications.
- Shove, E., Watson, M., Hand, M., and Ingram, J. (2007) *The Design of Everyday Life*. Oxford: Berg.
- Shuttleworth, S. (2020) Fagged out: Overwork and sleeplessness in Victorian professional life. *Interface Focus*, 10(3), 20190088.
- Siclari, F., and Tononi, G. (2017) Local aspects of sleep and wakefulness. *Current Opinion in Neurobiology*, 44, pp. 222–227.
- Siegel, J. M. (2005) Clues to the functions of mammalian sleep. *Nature*, 437(7063), pp. 1264 – 1271.
- Siegel, J. M. (2003) Why we sleep. *Scientific American*, 289(5), pp. 92–97.
- Sikes P. (2015) Book Review: Stacy Holman Jones, Tony E. Adams and Carolyn Ellis (Eds), *Handbook of Autoethnography*. *Qualitative Research*, 15(3), pp. 413–416.
- Solomon, R. C. (2010) *The philosophy of emotions*. In M. Lewis, J. M. Haviland-Jones and L. Feldman Barret (Eds) *Handbook of emotions*. 3rd edn. New York: Guilford Press.
- Song, D. (2010) *Retrospective study*. In N. J. Salkind (Ed) *Encyclopedia of research design: SAGE research methods*. California: Sage Publications, pp. 1283–1284.
- Sørensen, E., and Triantafillou, P. (2009) *The politics of self-governance*. London: Routledge.
- Spielman, A. J., Saskin, P., and Thorpy, M. J. (1987) Treatment of chronic insomnia by restriction of time in bed. *Sleep*, 10(1), pp. 45–56.

Squire, C., Andrews, M., Davis, M., Esin, C., Harrison, B., Hyden, L. C., and Hyden, M. (2014) *What is narrative research?* London: Bloomsbury Publishing.

Stahlke Wall, S. (2016) Toward a moderate autoethnography. *International Journal of Qualitative Methods*, 15(1).

Stalin, J. (1949) *Dialectical and historical materialism*. Moscow: Foreign Language Publishing House.

Statista (2024) Sleep Aids – United Kingdom. Available at: <https://fr.statista.com/outlook/hmo/otc-pharmaceuticals/sleep-aids/united-kingdom> (Accessed 02 July 2024)

Steinberg, S. R., and Kincheloe, J. L. (2010) Power, emancipation, and complexity: Employing critical theory. *Power and Education*, 2(2), pp. 140–151.

Steinvorth, U. (2008) On critical theory. *Analyse & Kritik*, 30(2), pp. 399–423.

Stepelevich, L. S. (1974) August von Cieszkowski: From theory to praxis. *History and Theory*, 13(1), pp. 39–52.

Sternberg, E. (2015) Defining Capitalism. *Economic Affairs*, 35(3), pp. 380–396.

Stoddart, C. (2022) Want to get a good night's sleep? First of all, stop trying. Self and wellbeing, life and style. *The Guardian*, 24 September. Available at: <https://www.theguardian.com/lifeandstyle/2022/sep/24/want-to-get-a-good-nights-sleep-first-of-all-stop-trying> (Accessed on 26 September 2022)

Stone, A. (1985) The place of law in the Marxian structure-superstructure archetype. *Law & Society Review*, 19(1), pp. 39–68.

Strauss, A. (1978) A social world perspective. *Studies in Symbolic Interaction*, 1(1), pp. 119–128.

Streatfeild, J., Smith, J., Mansfield, D., Pezzullo, L. and Hillman, D. (2021) The social and economic cost of sleep disorders, *Sleep*, 44(11), pp. zsab132.

Strydom, P. (2011) *Contemporary critical theory and methodology*. Milton Park: Routledge.

Suh, S., Yang, H. C., Fairholme, C. P., Kim, H., Manber, R., and Shin, C. (2014) Who is at risk for having persistent insomnia symptoms? A longitudinal study in the general population in Korea. *Sleep Medicine*, 15(2), pp. 180-186.

Sulkunen, P. (1978) Individual consumption in capitalism. An exercise in the logic of capital. *Acta Sociologica*, 21(1), pp. 35–46.

Sumant, O. and Kunsel, T. (2017) Insomnia market by therapy type (non-pharmacological therapy: hypnotherapy, cognitive behavioral therapy, medical devices, and other non-pharmacological therapy and pharmacological therapy: prescription sleep aids and over-the-counter sleep aids) - Global opportunity analysis and industry forecast, 2017-2023. *Allied Market Research*. Available at: <https://www.alliedmarketresearch.com/insomnia-market> (Accessed 17 February 2019).

Pant, B. P. (2019) An integral perspective on research: Methodological and theoretical journey of a teacher educator. In Taylor, P., and Luitel, B. C. (Eds) *Research as transformative learning for sustainable futures*, Leiden: Brill Sense, pp. 75–87.

Teagarden, J. R. (2021) Reading Foucault's *The Birth of the Clinic* in 2021: Does the gaze still dominate its masters? *Literature Arts & Medicine Magazine*, 20 July. Available at: <https://medhum.med.nyu.edu/magazine/archives/44903> (Accessed 30 July 2023).

Tedlock, B. (2016) *Braiding evocative with analytic autoethnography*. In S. Holman Jones, T. E. Adams and C. Ellis (Eds) *Handbook of autoethnography*. New York: Routledge. pp. 358–362.

Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A., and Varpio, L. (2015) Choosing a qualitative research approach. *Journal of Graduate Medical Education*, 7(4), pp. 669–670.

Terzano, M.G., and Parrino, L. (2011) *Neurological perspectives in insomnia and hyperarousal syndromes*. In P. Montagna, & S. Chokroverty (Eds) *Handbook of clinical neurology*. Amsterdam: Elsevier, pp. 697–72.1

Thakkar, M. M. (2011) Histamine in the regulation of wakefulness. *Sleep Medicine Reviews*, 15(1), pp. 65–74.

The Editors of Britannica Encyclopaedia (2019) Sympathetic nervous system. *Encyclopaedia Britannica*, 13 September. Available at: <https://www.britannica.com/science/sympathetic-nervous-system> (Accessed 7 April 2020)

Thompson, M. J. (2017) *Critique as the epistemic framework of the critical social sciences*. In M. J. Thompson (Ed) *The Palgrave Handbook of Critical Theory*. New York: Palgrave Macmillan, pp. 231–252.

Thorpy, M.J. (2012) Classification of sleep disorders. *Neurotherapeutics*, 9(4), pp. 687–701.

Timonen, V., Foley, G., and Conlon, C. (2018) Challenges when using grounded theory: A pragmatic introduction to doing GT research. *International Journal of Qualitative Methods*, 17(1).

Tononi, G., and Cirelli, C. (2006) Sleep function and synaptic homeostasis. *Sleep Medicine Reviews*, 10(1), pp. 49–62.

Trautman, L. J. (2016) Following the money: lessons from the Panama Papers: part 1: tip of the iceberg. *SSRN*, 26 May. Available at: <https://dx.doi.org/10.2139/ssrn.2783503> (Accessed 27 November 2022).

Traynor, R. J. (1957) Fact skepticism and the judicial process. *University of Pennsylvania Law Review*, 106 (5), pp. 635 – 640.

Trentmann, F. (2004) Beyond consumerism: new historical perspectives on consumption. *Journal of Contemporary History*, 39(3), pp. 373–401.

Trevors, J. T., Pollack, G. H., Saier, M. H., and Masson, L. (2012) Transformative research: definitions, approaches and consequences. *Theory in Biosciences*, 131(2), pp.117–123.

Triebel, E. (2012) In the hands of Morpheus: A critical discourse analysis of sleep. *Arbeiten aus Anglistik und Amerikanistik*, 37(1), pp. 95–118.

Tuli, F. (2010) The basis of distinction between qualitative and quantitative research in social science: Reflection on ontological, epistemological and methodological perspectives. *Ethiopian Journal of Education and Sciences*, 6(1), pp. 97–108.

Tuck, R. (2002) *Hobbes: A very short introduction*. Oxford: Oxford University Press.

Tucker, R. C. (Ed) (1978) *The Marx-Engels Reader*. 2nd edn. New York: W.W. Norton & Company.

Tyson, L. (2014) *Critical theory today: A user-friendly guide*. 3rd edn. London: Routledge

United Nations Habitat (2009) Fact Sheet No. 21 (Rev. 1): The human right to adequate housing. *United Nations*, 1 November.

Available at: <https://www.ohchr.org/en/publications/fact-sheets/fact-sheet-no-21-rev-1-human-right-adequate-housing> (Accessed 4 February 2022)

United States Department of Health & Human Services (2007) Alcohol Alert: Alcohol metabolism: an update. *National Institute on Alcohol Abuse and Alcoholism*, July.

Available at: <https://pubs.niaaa.nih.gov/publications/aa72/aa72.htm> (Accessed 4 February 2022)

Van Dongen, H., Maislin, G., Mullington, J. M., and Dinges, D. F. (2003) The cumulative cost of additional wakefulness: dose-response effects on neurobehavioral functions and sleep physiology from chronic sleep restriction and total sleep deprivation. *Sleep*, 26(2), pp. 117–126.

Van Hateren, J. H. (2017) A unifying theory of biological function. *Biological Theory*, 12(2), pp. 112–126.

Van Manen, M. (2016) *Researching lived experience: Human science for an action sensitive pedagogy*. 2nd edn. New York: Routledge.

Varney, J. (2018) Making the business case for good sleep. *Occupational Health & Wellbeing*, 70(5), pp. 18–19.

Varoufakis, Y. (2017) *Talking to my daughter about the economy: A brief history of capitalism*. London: Penguin Random House.

Venojärvi, M. (2009) *Metabolism of oxygen*. In O. O. P. Hanninen, and M. Atalay (Eds) *Physiology and maintenance*. Oxford: Eolss Publications, pp. 61– 81.

Vgontzas, A. N., Fernandez-Mendoza, J., Liao, D., and Bixler, E. O. (2013) Insomnia with objective short sleep duration: the most biologically severe phenotype of the disorder. *Sleep Medicine Reviews*, 17(4), pp. 241–254.

Villarreal, B.D. (2020) A critique of Hobbes's state of nature. *Philologia*, 12(1), pp. 20–24.

Vismara, E. (2018) The contemporary nature of tribalism. Anthropological insights on the Libyan case. *Chr Michelsen Institute*, December. Available at: <https://www.cmi.no/publications/6695-the-contemporary-nature-of-tribalism> (Accessed 27 March 2022).

Voss, U., Holzmann, R., Tuin, I., and Hobson, A. J. (2009) Lucid dreaming: a state of consciousness with features of both waking and non-lucid dreaming. *Sleep*, 32(9), pp. 1191–1200.

Vrousalis, N. (2021) Socialism unrevised: A reply to Roemer on Marx, exploitation, solidarity, worker control. *Philosophy & Public Affairs*, 49(1), 78-109.

Vrousalis, N. (2021) The capitalist cage: Structural domination and collective agency in the market. *Journal of Applied Philosophy*, 38(1), pp. 40–54.

Vryan, K. D. (2006) Expanding analytic autoethnography and enhancing its potential. *Journal of Contemporary Ethnography*, 35(4), pp. 405–409.

Wahed, S. W and Hsu, CY (2010) *Cause and effect*. In N. J. Salkind (Ed) *Encyclopedia of research design*. California: Sage publications, pp. 131–132.

Wadley, L., Esteban, I., de La Peña, P., Wojcieszak, M., Stratford, D., Lennox, S., D'errico, F., Rosso, D. E., Orange, F., Backwell, L. and Sievers, C. (2020) Fire and grass-bedding construction 200 thousand years ago at Border Cave, South Africa. *Science*, 369(6505), pp. 863–866.

Walker, J. M., and Berger, R. J. (1980) Sleep as an adaptation for energy conservation functionally related to hibernation and shallow torpor. *Progress in Brain Research*, 53, pp. 255–278.

Walker, M. P. (2009) The role of sleep in cognition and emotion. *Annals of the New York Academy of Sciences*, 1156(1), pp. 168–197.

Walker, M. (2017) *Why we sleep: The new science of sleep and dreams*. London: Penguin Books.

Wall, S. (2008) Easier said than done: Writing an autoethnography. *International Journal of Qualitative Methods*, 7(1), pp. 38–53.

Warde, A. (2005) Consumption and theories of practice. *Journal of Consumer Culture*, 5(2), pp. 131–153.

Wauquier, A., and Van Sweden, B. (1992) Aging of core and optional sleep. *Biological Psychiatry*, 31(9), pp. 866–880.

Weatherall, R. (2019) Writing the doctoral thesis differently. *Management Learning*, 50(1), pp.100–113.

Weeks, C. (1972) *Peace from Nervous Suffering*. Sydney: Augus and Robertson.

Weeks, C. (2012) *Freedom from nervous suffering*. Narrated by author. HighBridge Audio. Available at: <https://highbridgeaudio.com/freedomfromnervoussuffering.html> (Accessed 5 August 2022).

Wengraf, T. (2011) *Biographic narrative interpretive method (BNIM)*. In M. S. Lewis-Beck, A. Bryman and T. F. Liao (Eds) *The SAGE encyclopedia of social science research methods*. California: Sage Publications, pp. 69–70.

Whelan, S. (2009) Philip Stein Announces Results from Clinical Trial Showing Improved Sleep Quality through Natural Frequency Technology. *Technology Networks Drug Discovery*, 26 October. Available at: <https://www.technologynetworks.com/drug-discovery/news/philip-stein-announces-results-from-clinical-trial-showing-improved-sleep-quality-through-natural-frequency-technology-205349> (Accessed 20 February 2017).

Wickwire, E. M., Shaya, F. T., and Scharf, S. M. (2016) Health economics of insomnia treatments: the return on investment for a good night's sleep. *Sleep Medicine Reviews*, 30, pp. 72–82.

Wikman, A., Marklund, S. and Alexanderson, K. (2005) Illness, disease, and sickness absence: an empirical test of differences between concepts of ill health. *Journal of Epidemiology & Community Health*, 59(6), pp. 450–454.

- Wild, J. (1947) What is realism? *The Journal of Philosophy*, 44(6), pp. 148–158.
- Williams, J. (1996) *The problem with materialism*. In J. Palmer and M. Dodson (Eds) *Design and aesthetics: a reader*. London: Routledge, pp. 77– 86.
- Williams, S. J., and Boden, S. (2004) Consumed with sleep? Dormant bodies in consumer culture. *Sociological Research Online*, 9(2), pp. 1–12.
- Williams, S. (2011) *The politics of sleep: Governing (un) consciousness in the late modern age*. London: Palgrave Macmillan.
- Williamson, R. K. (1984) *An introduction to Hegel's philosophy of religion*. Albany: State University of New York Press.
- Williams, S. and Wolf-Meyer, M. (2013) Longing for sleep: Assessing the place of sleep in the 21st century, *Somatosphere: Science, Medicine and Anthropology*, 19, pp. 19–22.
- Wolf-Meyer, M. (2011) Natural hegemonies: Sleep and the rhythms of American capitalism. *Current Anthropology*, 52(6), pp. 876–895.
- Woods, A. (2016) What is historical materialism? *In defence of Marxism*, 14 January. Available at: <https://www.marxist.com/an-introduction-to-historical-materialism/all-pages.htm> (Accessed 25 August 2019).
- Woolf, N. (2018) The catastrophic madness of lifelong insomnia. *Medium*, 29 June. Available at: <https://medium.com/s/story/the-catastrophic-madness-of-lifelong-insomnia-5203a7244a08> (Accessed 21 02 2021).
- Worthman, C. M. (2010) The ecology of human development: Evolving models for cultural psychology. *Journal of Cross-Cultural Psychology*, 41(4), pp. 546–562.

Worthman, C. M., and Melby, M. K. (2002) Toward a comparative developmental ecology of human sleep. In M. A. Carskadon (Ed) *Adolescent sleep patterns: Biological, social, and psychological influences*. Cambridge: Cambridge University Press, pp. 69–117.

Woźniak, M. (2018) “I” and “Me”: the self in the context of consciousness. *Frontiers in Psychology*, 9, 1656.

Wulsin, L., Herman, J., and Thayer, J. F. (2018) Stress, autonomic imbalance, and the prediction of metabolic risk: A model and a proposal for research. *Neuroscience & Biobehavioral Reviews*, 86, pp. 12–20.

Yetish, G., Kaplan, H., Gurven, M., Wood, B., Pontzer, H., Manger, P. R., Wilson, C., McGregor, R., and Siegel, J. M. (2015) Natural sleep and its seasonal variations in three pre-industrial societies. *Current Biology*, 25(21), pp. 2862–2868.

Yin, R. K. (2017) *Case study research and applications: Design and methods*. 5th edn. California: Sage publications.

Ying, Z. (2019) A pillow's comforting history. [online] *Shanghai Daily*, 30 April. Available at: <https://www.shine.cn/feature/art-culture/1904303961/> (Accessed 22 January 2023).

Zarhin, D. (2020) “You have to do something”: Snoring, sleep interembodiment and the emergence of agency. *The British Journal of Sociology*, 71(5), pp. 1000–1015.

Zimatkin, S. M., and Anichtchik, O. V. (1999) Alcohol-histamine interactions. *Alcohol and Alcoholism*, 34(2), pp. 141–147.

Zion, M., and Klein, S. (2015) Conceptual understanding of homeostasis. *International Journal of Biology Education*, 4 (1), pp. 1–27.

Zucconi, M., and Ferri, R. (2014) *Assessment of sleep disorders and diagnostic procedures*. In C. L. Bassetti, Z. Đogaš and P. Peigneux (Eds) *European sleep medicine textbook*. Regensburg: European Sleep Research Society, pp. 95 –110