The Idea of the World

A multi-disciplinary argument for the mental nature of reality

Bernardo Kastrup

Foreword by Menas C. Kafatos,
Fletcher Jones Endowed Chair Professor of Computational Physics, Chapman University

Afterword by Edward F. Kelly,
Professor, Department of Psychiatry and Neurobehavioral Sciences, University of Virginia

BOOKS

Winchester, UK
Washington, USA

First published by iff Books, 2019
iff Books is an imprint of John Hunt Publishing Ltd., No. 3 East Street,
Alresford, Hampshire SO24 9EE, UK
office1@jhpbooks.net
www.johnhuntpublishing.com
www.iff-books.com

For distributor details and how to order please visit the 'Ordering' section on our website.

ISBN: 978 1 78535 739 8
978 1 78535 740 4 (ebook)
Library of Congress Control Number: 2017960354

A CIP catalogue record for this book is available from the British Library.

Design: Stuart Davies

Printed and bound by CPI Group (UK) Ltd, Croydon, CR0 4YY, UK

US: Printed and bound by Edwards Brothers Malloy 15200 NBN Way #B,
Blue Ridge Summit, PA 17214, USA

Contents

Other books by Bernardo Kastrup

Rationalist Spirituality: An exploration of the meaning of life and existence informed by logic and science.

Dreamed up Reality: Diving into mind to uncover the astonishing hidden tale of nature.

Meaning in Absurdity: What bizarre phenomena can tell us about the nature of reality.

Why Materialism Is Baloney: How true skeptics know there is no death and fathom answers to life, the universe, and everything.

Brief Peeks Beyond: Critical essays on metaphysics, neuroscience, free will, skepticism and culture.

More Than Allegory: On religious myth, truth and belief.

I must ask the reader to forgive me for having ventured to say in these few pages so much that is new and perhaps hard to understand. I expose myself to his critical judgment because I feel it is the duty of one who goes his own way to inform society of what he finds on his voyage of discovery. … Not the criticism of individual contemporaries will decide the truth or falsity of his discoveries, but future generations.
Carl Gustav Jung: *Two Essays in Analytical Psychology*.

Acknowledgments

Although this book is credited to a single author, tangible and intangible contributions from many others permeate it throughout. I would like to thank, first of all, the anonymous reviewers of the academic papers that constitute the core of this work. Peer-review is often a flawed process and I have not been spared many of its shortcomings. But I happily acknowledge that most of the papers collected in this volume have been significantly improved thanks to critical feedback and suggestions from anonymous reviewers.

I am also grateful to the editorial teams of the open-access journals that originally published my papers. Fully open-access publications—commercial and university journals alike—are often maligned for allegedly low-quality standards and poor editorial processes. While this may be the case for a number of unscrupulous journals, I am glad to bear witness to the fact that there are reliable, high-quality open-access options out there. Indeed, I believe strongly that the results of academic research and scholarship should *not* be hidden behind pay-walls. As such, I feel encouraged by the realization that a strong open-access movement is a growing reality in academic publishing. It is incumbent upon researchers and scholars alike to support this movement in every way we can.

The gracious support of David Chalmers has been instrumental in the months leading up to the completion of this work. Not only has David critically reviewed key parts of my material, he has also given me the opportunity to participate—with funding from the Global Institute for Advanced Studies of New York University, which I gratefully acknowledge—in a specialized workshop late in the spring of 2017. My participation in that event, although taking place at a time when the papers collected in this volume were already either published or completed in draft form, has helped me bring the various ideas together more effectively, so to assemble a more

compelling overarching argument.

Discussions I had with other colleagues have also been valuable. With the risk of leaving important names out, I would like to explicitly thank philosophers Itay Shani, Galen Strawson, Daniel Stoljar, Miri Albahari, Michael Pelczar, Barry Dainton, and Philip Goff. Neuroscientist Anil Seth has also been of much help by pointing out to me the relatively recent literature on so-called "no-report paradigms" in consciousness research.

Author and science journalist John Horgan, a valued pal, has graciously helped my ideas get visibility in the mainstream science media, despite his not necessarily agreeing with everything I have to say. This speaks volumes to John's integrity and intellectual honesty. I am also thankful to Michael Lemonick, Chief Opinion Editor at *Scientific American,* for his continuing trust.

The feedback and encouragement I received from researchers of the Division of Perceptual Studies (DOPS), University of Virginia School of Medicine, during my visit there in the spring of 2016—for which I also gratefully acknowledge funding—have been key to the effort that eventually resulted in this book. Indeed, in hindsight, I realize that it all began there, in Charlottesville. I am particularly grateful to Edward F. Kelly, not only for the visionary Afterword he wrote for this book, but also for his continuing encouragement and guidance. I am grateful too to other scholars informally associated with DOPS, for the interesting discussions we've had.

Some people have been cherished intellectual partners—fellow travelers of the same thoughtscapes I feel compelled to explore—since before the idea of this book germinated in my mind. They are comrades and friends: Rob van der Werf, Paul Stuyvenberg, Richard Stuart, Deepak Chopra, Rupert Spira, Neil Theise, Subhash Kak, Rudolf Tanzi, Jeffrey J. Kripal and many others. I am especially grateful to Menas C. Kafatos, not only for the Foreword he contributed to this volume, but also his invaluable endorsement of the ideas expressed in it.

Last but not least, those close to me know that, despite

appearances to the contrary, my inner life is not an easy ride. The loving and reassuring presence of my partner, Claudia Damian, has been the solid foundation upon which I have managed to remain centered and productive, notwithstanding my inner struggles and vulnerabilities.

Foreword by Menas C. Kafatos

The Idea of the World is an unusual and challenging book in many ways. Bernardo Kastrup pulls together previously peer-reviewed articles into a coherent new manuscript. This is not usual. However, due to the rigor pursued and the fact that the articles form a continuous and evolving set of ideas, it does make a lot of sense. It is hard to find a book that would not just repeat works already published but instead build on them and present a coherent whole. *The Idea of the World* does this marvelously.

As the author indicates, his previous approach in earlier books was to provide the readers with a "felt sense of the world" he was describing. But the present book goes in a different and, at this point, correct direction, building on his previous manuscripts to provide a philosophically sound and rigorous formulation of the idealism he espouses. Starting from many empirical facts, such as the correlations of brain activity with subjective experience (which current neuroscience, overextending itself in my view, assumes to hold a causal connection); the obvious fact that we all appear to share the same world; the fact that science is even possible and, specifically, that the laws of physics operate independently of subjective or personal wishes (but do they really?); and countless other examples that seem to point to an external, physical reality, Kastrup develops a clearly proposed ontology *based on parsimony, logical consistency and empirical adequacy*, to show that appearances are just that. Metaphors only serve a secondary role to emphasize points made.

The analytic approach may appeal especially to audiences that love precision but, I believe, does not restrict the wider appeal of the book. Coming myself from a background of scientific rigor, I believe that, in the end, it is precision and consistency that matter, even if it requires some 'hard work' on the part of the reader to follow the exquisite arguments that

Bernardo makes and not give up easily. As Bernardo notes, "the ontology formulated here is not an expansion, but in fact a subset of the ideas" he has tried to present in his earlier works. And quite right, the rigor is needed to counter the—seemingly—rigorous metaphysics of physicalism (I emphasize 'seemingly' because I also agree with Bernardo that physicalism just does not work, for many of the reasons that the book points out).

By articulating his ontology precisely, Bernardo builds a formidable castle of potent ideas to defend idealism and to show that it is not vague, empty or "new age stuff" as many detractors and cynics, often ignorant of philosophy, claim.

The book brings together ten different articles, each of them delightful to read and serious and deep. They were published, as stated above, in peer-reviewed academic journals. The editors of the journals did not necessarily know that the articles would eventually form a whole and improved manuscript, but indeed that is what they do, fitting and assisting each other in the development of the idealist ontology.

Besides the important aspects of rigor, consistency and of clearly demonstrating that idealism is in fact more precise and powerful than physicalism, there is another important goal that I would like to emphasize here that may be lost in the shuffle of rigorous arguments: the need to provide an ontology that *holds promise for humanity and the future,* as current physicalism has clearly failed to provide meaning to life and to bridge the gap of separation that humans experience. This is despite the success of science, which, I would claim, as Bernardo clearly claims as well, has ultimately led to observations—in the form of quantum mechanics—that do not fit the (classical) physicalist worldview.

The reader is encouraged to read the Overview to understand how the arguments are presented and build upon each other, before digging into specific chapters.

In view of the successful articulation of a modern form of the ancient ontology of idealism and the hope that it carries, and because this new book by Bernardo Kastrup is not just for

philosophers, quantum physicists and mathematicians-logicians, but also for the learned generalist who is looking for meaning in a world beset by strife and division, I pronounce, Bravo Bernardo, a job well done!

Menas C. Kafatos, PhD is the Fletcher Jones Endowed Chair Professor of Computational Physics at Chapman University, Orange, California, USA.

Note to readers of my previous books

Prior to the present volume, I have written six books elaborating on my views regarding the underlying nature of reality. Particularly in *Why Materialism Is Baloney* and *More Than Allegory,* in addition to a conceptual exposition I have also made liberal use of metaphors to help readers develop direct intuition for the ideas expressed. My intent was not to win a technical argument in a court of philosophical arbitration, but to evoke in my readers a felt sense of the world I was describing. As such, my work has had a character more akin to continental than analytic philosophy.

I have no regrets about it. Yet, I have also come to recognize the inevitable shortcomings of the approach. Some readers have misinterpreted and others over-interpreted my metaphors, extrapolating their applicability beyond their intended scope. Yet others have simply become overwhelmed or confused by the many metaphorical images, losing the thread of my argument. Perhaps most importantly—given my goal of providing a robust alternative to the mainstream physicalist metaphysics (Kastrup 2015: 142-146)—some professional philosophers and scientists felt they needed to see a more conceptually clear and rigorous formulation of my philosophical system before they could consider it.

The present work attempts to address all this. Starting from canonical empirical facts—such as the correlations between subjective experience and brain activity, the fact that we all seem to share the same world, the fact that the known laws of physics operate independently of our personal volition, etc.—it develops an unambiguous ontology based on parsimony, logical consistency and empirical adequacy. It re-articulates my views in a more rigorous and precise manner. It uses metaphors only as secondary aides to direct exposition. I have strived to make every step of my argument explicit and sufficiently substantiated.

This volume thus represents a trade-off: on the one hand, its mostly analytic style prevents it from reaching the depth and nuances that metaphors can convey. Parts II and III of my earlier book *More Than Allegory,* for instance, use metaphors to hint at philosophical ideas that can hardly be tackled or communicated in an analytic style. As such, the ontology formulated here is not an expansion, but in fact a subset of the ideas I have tried to convey in earlier works. On the other hand, the present volume articulates this subset more thoroughly and clearly than before, which is necessary if it is to offer—as intended—a credible alternative to mainstream physicalism.

Incomplete as the subset of ideas presented here may be, I shall argue that it is still more complete than the current mainstream metaphysics. This subset alone—as I elaborate upon in the pages that follow—should be able to explain more of reality, in a more cogent way, than physicalism. By articulating the corresponding ontology precisely, my intent is to deny cynics and militants alike an excuse to portray it as vague and, therefore, dismissible. If the price to achieve this is to write a book as if one were arguing a case in a court of law, then this book represents my case. You be the judge.

Preface

The main body of this work brings together ten different articles I published in peer-reviewed academic journals. Unbeknownst to the journals' editors, the articles were conceived, from the beginning, to eventually be collected in the volume you now have in front of you. Despite being self-contained, each was designed to fit into a broader jigsaw puzzle that, once assembled, should reveal a compelling, holistic picture of the nature of reality. This book presents the completed jigsaw puzzle. The resulting picture depicts an ontology that squarely contradicts our culture's mainstream physicalist metaphysics.

Indeed, according to the ontology described and defended here, reality is fundamentally experiential. A universal phenomenal consciousness is the sole ontological primitive, whose patterns of excitation constitute existence. We are dissociated mental complexes of this universal consciousness, surrounded like islands by the ocean of its mentation. The inanimate universe we see around us is the extrinsic appearance of a possibly instinctual but certainly elaborate universal *thought,* much like a living brain is the extrinsic appearance of a person's conscious inner life. Other living creatures are the extrinsic appearances of other dissociated complexes. If all this sounds implausible to you now, you have yet more reason to peruse the argument carefully laid out in the pages that follow.

Each of the ten original academic articles constitutes a chapter in this volume, organized so as to present an overarching argument step by step. I have added five extra preamble chapters, as well as an overview and extensive closing commentary, to weave the original articles together in a coherent storyline.

The choice to break up my argument into ten self-contained, independently published articles had three motivations. Firstly,

I have been criticized for not submitting my earlier work to the scrutiny of peer-review. I take this criticism only partly to heart: peer-review can be a prejudiced process that stifles valid non-mainstream views whilst overlooking significant faults in mainstream arguments (Smith 2006, McCook 2006, Baldwin 2014). As an author whose ideas systematically defy the mainstream, I had doubts about whether my articles would receive an impartial hearing. And indeed, often they didn't. Nonetheless, peer-review can also be constructive, insofar as it provides penetrating criticisms that help sharpen one's arguments. This was my hope and, as it turns out, several of my original manuscripts were significantly improved thanks to insightful comments from reviewers. In the end, peer-review has proven to be fruitful.

Secondly, specialized articles can reach more and different people in academia than a more generic book. The articles collected in this volume span fields as diverse as philosophy, neuroscience, psychology, psychiatry and physics, each with its own academic community. By publishing the articles in journals specifically targeted at their respective communities, I hope to have reached people who will probably never hear of —or be interested in—this book as a whole.

Thirdly, by having each part of my broader argument receive the specialist endorsement that peer approval represents, I hope to deny cynics and militants an excuse to portray the ontology presented here—antagonistic to current mainstream views as it is—as dismissible.

In the interest of achieving the three goals stated above, the articles collected in this volume were originally published in journals that, at the time of manuscript submission, met the following criteria:

1. Peer-review process;
2. Open-access policy (so to safeguard my ability to make the articles available to a wider, non-academic readership);
3. Their publishers were not included in Jeffrey Beall's list of potentially disreputable open-access publishers[1] (Beall

n.d.), as of its version of 12 January 2017;[2]

4. No transfer of copyright required from authors (so to safeguard my ability to republish the articles in this volume).

To the extent possible within these constraints, I have also sought broader geographical exposure for my work by publishing in journals spanning North America, Western, Central and Eastern Europe.

In order to preserve the integrity of the original peer-review process, I am reproducing the ten original articles here without any change of substance. I have only corrected the occasional typo and language inaccuracy, harmonized the terminology and ensured consistency—citation style, section and figure numbering, etc.—across the entire book. I have also consolidated all references in the bibliography at the end of this volume, so to reduce redundancy. Everything else is as it was originally published in the respective journals. Whenever I felt that an update of—or comment on—specific passages was called for, I have done so in the form of added footnotes, so to preserve the original text.

For this reason, and since the original articles had to be self-contained, some repetition of content occurs across chapters. Some readers may consider this annoying, but I think it has a positive side effect: it provides a regular recapitulation of key ideas and context throughout the book, helping the reader keep track of the overarching argument line.

Finally, because the main substance of this work can already be found in ten freely accessible articles, it is important to highlight that the value-add of this book consists in my effort to weave the articles together in a coherent storyline, building up to an overarching ontology. By downloading the original articles one can get the pieces of the jigsaw puzzle, but by reading this book one gets the overall picture the pieces form when properly connected together.

It is my sincere hope that this picture helps you come to new insights about the nature of reality.

1 A study published in *Science* (Bohannon 2013) concluded, "Beall is good at spotting publishers with poor quality control," although "almost one in five [of the journals] on his list did the right thing." So Beall erred on the side of being overly critical of the journals he evaluated. By contrast, the same study showed that the Directory of Open Access Journals (DOAJ), which seeks to list only credible publications, included many journals with poor quality control. Although I understand that the DOAJ has made several improvements to its processes since then, I have nonetheless elected to use Beall's 'black list' instead of the DOAJ's 'white list.'

2 This was the latest version of Beall's list available as of the time of this writing. Jeffrey Beall had then just stopped maintaining the list, so this is possibly the last version as well.

Overview

O poesy! For thee I grasp my pen
That am not yet a glorious denizen
Of thy wide heaven; yet, to my ardent prayer,
Yield from thy sanctuary some clear air.
John Keats: *Sleep and Poetry*.

This book is divided into five main parts: Part I makes explicit the main artifacts of thought—unexamined assumptions, fallacious logical bridges, etc.—that plague the contemporary philosophical outlook regarding the nature of reality. By pointing out these seldom-discussed artifacts, I hope to establish the need for a different approach to ontology, which Part II then attempts to fulfill by formulating an idealist hypothesis. According to this hypothesis, self and world are manifestations of spatially unbound universal consciousness or mind (throughout this book, I use the words 'consciousness' and 'mind' interchangeably, in the sense of phenomenal consciousness). Part III then reviews and refutes the objections most commonly leveled against idealism. With a view to empirically substantiating the central idea of the book, Part IV explores neuroscientific evidence that corroborates the idealist hypothesis discussed in Part II. Finally, Part V discusses the psychological motivations behind our culture's adoption of the physicalist metaphysics and the implications of idealism regarding our personal relationship with the world and the meaning of our life.

Part I lays the ground for what follows by rendering explicit the thought traps that characterize academic philosophy's most popular ontologies. Chapter 2 shows how a generalized tendency to try to replace concrete reality with mere thought abstractions lies at the root of much of our confusion today. Chapter 3 then explores the more specific consequences of this tendency: it shows that predicaments such as the 'hard

problem of consciousness' and the 'subject combination problem'—which have mobilized considerable intellectual effort for the past couple of decades—are illusions arising from the fallacious logico-conceptual structures of physicalism and bottom-up panpsychism, respectively.

Part II contains the book's core message: it elaborates on idealism both from a classical perspective—discussed in Chapter 5—and a quantum mechanical one—discussed in Chapter 6.

Chapter 5 starts from the assumption of a classical world of tables and chairs, wherein objects supposedly have whatever physical properties they have regardless of being observed. It then shows how a consciousness-only idealist ontology can account elegantly for this classical world. The argument in Chapter 5 reconciles idealism with our everyday intuitions about reality.

However, quantum theory and the recent experimental confirmation of its most counterintuitive prediction—that of *contextuality,* that is, the notion that the physical world depends on observation—contradict the classical view. According to quantum mechanics, the properties of tables and chairs exist *only insofar as they are observed.* Chapter 6 then shows how *essentially the same* idealist ontology discussed in Chapter 5 can make sense of this contextual quantum world. In doing so, it provides ontological underpinning for a parsimonious interpretation of quantum mechanics and opens up a new avenue of investigation for solving the so-called 'measurement problem.' More importantly, contextuality renders the mainstream physicalist metaphysics untenable, so Chapter 6 attempts to articulate a resolution to what is essentially a colossal—if seldom discussed—contradiction in our present-day understanding of reality.

Several objections are often raised against the idealist notion that all reality is mental or, more accurately, phenomenal (except for Chapter 9, wherein I define its usage differently, throughout this volume the word 'mental' is used as a synonym of 'phenomenal'). For instance, if there is no physically objective world outside mind, then reality is a kind of dream.

How can we all be having the same dream, then? Moreover, if mind extends into the universe as a whole, why can't we mentally influence the laws of physics? Finally, if the brain does not generate the mind, how can physical intervention in the brain—in the form of trauma, psychoactive drugs, etc.—change our mental states?

Part III addresses these objections and many other subtler ones. Chapter 8 argues that they are implicitly based on logical errors, such as conflation, circular reasoning and even outright misunderstandings of the implications of idealism. One particularly important line of criticism is more thoroughly refuted in Chapter 9: critics point out that, if all reality is in consciousness, then there can't be such a thing as an *un*conscious mental process. Yet, many recent experimental results indicate that seemingly unconscious mental processes are abundant in the human psyche. Chapter 9 bites this bullet and argues that we have good reasons—theoretical, clinical and experimental—to believe that all these processes are, in fact, conscious at some level, despite appearances to the contrary.

All viable ontologies must be consistent with *all* reliable empirical evidence. As discussed in Chapters 6 and 15, this is *not* the case for physicalism: recent experimental results in quantum mechanics seem to directly contradict it. Nonetheless, Chapter 5 charitably ignores this physical line of evidence and argues that idealism is *still* superior to physicalism based solely on internal logic, parsimony and explanatory power. Because quantum mechanics often seems so abstract and removed from everyday reality, I did not want my argument in Chapter 5 to rest upon it.

However, overlooking evidence from neuroscience is much less defensible—if at all. After all, the relationship between mind and brain is of daily significance for everyone. The problem is that physicalism leaves this relationship largely *undefined.* It does not specify how the brain allegedly constitutes or generates the mind, so it can in principle accommodate *any* neuroscientific observation. Indeed, even physicalist and self-proclaimed skeptic Michael Shermer has

gone on record admitting that "the neuroscience surrounding consciousness" is "nonfalsifiable" (2011). This means that physicalism manages to remain consistent with the evidence simply by *not* explaining the mind—primary fact of existence—to begin with. Its vague formulation prevents it from being pinned down by neuroscientific observations.

Be it as it may, we can still pose the following question: Which ontology—physicalism or idealism—makes *more sense* in view of the available neuroscientific evidence? In other words, is the evidence more consistent with what one would expect under physicalism or idealism? Part IV of this book makes the case that the observed correlations between brain activity and mental states are more consistent with idealism. In fact, some recent neuroscientific observations outright *contradict* physicalist expectations, whilst remaining elegantly in accord with idealist ones. Chapter 11 discusses a broad pattern of such observations. Chapter 12 then goes more in depth into one particular case: that of psychedelic trances. More than just showing how idealism can make more sense of psychedelic experiences, the chapter argues that physicalism—despite its vagueness—does have one *unavoidable* implication concerning the relationship between mind and brain. And this implication appears to have been experimentally contradicted by neuroimaging studies of psychedelic trances.

Having made explicit the thought-traps underlying today's academically fashionable ontologies (Part I), formulated a sound idealist alternative from both classical and quantum mechanical perspectives (Part II), refuted the main objections raised against this alternative (Part III) and then analyzed the neuroscientific evidence that seems to corroborate it (Part IV), in Part V I take a step back to contemplate how all this relates to us as individuals. Indeed, if—as I hope to demonstrate—it is fairly simple to see that idealism is superior to physicalism, why has our mainstream cultural narrative been dominated by physicalism for at least well over a century now? To answer this question, Chapter 14 explores the implicit psychological motivations behind the adoption of physicalism. Moreover, if idealism is our best explanation for what is going on, what are

its implications regarding the way we relate to life and the world? An attempt to tackle this question is made in Chapter 15.

Finally, the book closes with extensive additional commentary on the various ideas presented and an assessment of this work's place and role in our present cultural nexus.

An appendix reproduces an article on the implications of idealism regarding the after-death state, which didn't meet the criteria for inclusion in the main body of this work because it was an invited contribution to the journal wherein it first appeared.

Part I

What is wrong with the contemporary philosophical outlook

Contemporary methods employ predominantly dualistic procedures that do not extend beyond simple subject-object relationships; they limit our understanding to what is commensurate with the present Western mentality.
Jean Gebser: *The Ever-Present Origin.*

To learn more about mental aspects of the world … we should try to discover 'manifest principles' that partially explain them, though their causes remain disconnected from what we take to be more fundamental aspects of science. The gap might have many reasons, among them, as has repeatedly been discovered, that the presumed reduction base was misconceived.
Noam Chomsky: *What Kind of Creatures Are We?*

Chapter 1

Preamble to Part I

A natural and perhaps even necessary first step in a book that aims to offer an alternative account of reality is to highlight what is wrong with the current approaches. After all, why bother with alternatives if the *status quo* is fine? As such, my intent in the next two chapters is not to gratuitously attack my peers in science and philosophy, but to highlight the need and secure the intellectual space for what is later argued in Part II.

The fact is that the mainstream physicalist ontology fails rather spectacularly to account for the most present and sole undeniable aspect of reality: the qualities of experience (see the "hard problem of consciousness" in Chalmers 2003). Physicalism is also arguably irreconcilable with results now emerging from physics laboratories around the world (e.g. Kim et al. 2000, Gröblacher et al. 2007, Romero et al. 2010, Lapkiewicz et al. 2011, Ma et al. 2013, Manning et al. 2015, Hensen et al. 2015, etc.), unless one takes so many liberties with the meaning of the word 'physicalism' that its spirit is outright contradicted. So both in terms of its explanatory power and its consistency with empirical observations, our mainstream view of the nature of reality is found wanting. Academically popular alternatives, such as bottom-up panpsychism, face many of the same empirical challenges, as well as analogous limitations in terms of explanatory power (see, for instance, the "subject combination problem" in Chalmers 2016).

Yet, my purpose with the next two chapters is not to compile a long and tedious list of the empirical and philosophical challenges faced by current ontologies. These challenges are well known and recognized in scientific and philosophical circles, there being no need to further stress them. What I want

to attempt here is something more ambitious and—hopefully—ultimately more constructive: to point out the failures and internal contradictions *of the very thought processes* that led to these flawed ontologies in the first place. Only by understanding these failures and contradictions, as underlying causes of our present philosophical dilemmas, can we hope to reform our thinking and eventually solve the dilemmas.

In this context, Chapter 2 discusses what is perhaps the root of our contemporary philosophical ailment: the tendency to attempt to explain things by replacing concrete reality with abstractions. Such attempts consist by and large of mere word games, played in thought with a rich phantasmagoria of concepts, and represent perhaps the single greatest threat to our ability to remain grounded in reality in the 21st century. In a cultural environment that, because of the gap left open by the loss of religious myths, tacitly *expects* the latest scientific and philosophical theories to dazzle and boggle the mind (see Kastrup 2016a), scientists and philosophers alike seem ever more willing to lose themselves in a forest of abstractions highly prone to category mistakes.

This cultural legitimization of explanation by ungrounded abstraction is a hydra with many heads. Chapter 3 represents my attempt to identify these heads and diagnose the *specific* intellectual afflictions behind quandaries such as the "hard problem of consciousness" and the "subject combination problem." I hope to show that these quandaries are merely artifacts of unanchored thought, with no grounding in nonconceptual reality.

Later in the book, in Parts II to IV, I attempt to back up the legitimacy of the criticisms laid out in this Part I by offering an alternative way of thinking, as well as corresponding ontology, which overcome the intellectual afflictions alluded to above. As such, I hope to not only talk the talk, but also walk the walk. Insofar as I succeed in fixing the errors they point to, the criticisms in the next two chapters are given validation. May these criticisms thus be judged not by their incisiveness, but by my ability to demonstrate that a philosophical approach exists that does not fall prey to them.

Chapter 2

Conflating abstraction with empirical observation: The false mind-matter dichotomy

At the time of this writing, this article was scheduled to appear in *Constructivist Foundations,* ISSN 1782-348X, Vol. 13, No. 3, in July 2018. *Constructivist Foundations* is an interdisciplinary journal published by Alexander Riegler (Free University of Brussels) and thirty board members. It is indexed in Thomson Reuters's Arts & Humanities Citation Index (AHCI) and, in 2016, held the second highest ranking (Q2) in the Scimago Journal Rankings, a well-recognized measure of an academic journal's prestige.

2.1 Abstract

The alleged dichotomy between mind and matter is pervasive. Therefore, the attempt to explain matter in terms of mind (idealism) is often considered a mirror image of that of explaining mind in terms of matter (mainstream physicalism), in the sense of being structurally equivalent despite being reversely arranged. I argue that this is an error arising from language artifacts, for dichotomies must reside in the same level of abstraction. Because matter outside mind is not an empirical fact, but an explanatory model instead, the epistemic symmetry between the two is broken. Consequently, matter and mind cannot reside in the same level of abstraction. It becomes then clear that attempting to explain mind in terms of matter is epistemically more costly than attempting to explain matter in terms of mind. The qualities of experience are suggested to be not only epistemically, but also ontologically

primary. The paper highlights the primacy of perceptual constructs over explanatory abstraction on both epistemic and ontic levels.

2.2 Introduction

The (unexamined) assumption that mind and matter are jointly exhaustive and mutually exclusive concepts is pervasive today. In other words, many people implicitly take every aspect of reality to be either mental (e.g. thoughts, emotions, hallucinations) or physical (e.g. tables and chairs), mentality and physicality being polar opposites in some sense. Originating with Descartes and Kant (Walls 2003: 130), this dichotomy has been firmly entrenched in Western thought since at least the early nineteenth century. Eminent scholarly publications of the time, such as *The British Cyclopædia of Natural History,* lay it out unambiguously: "as mind is the opposite of matter in definition, the perfection of its exercise must be the opposite of that of the exercise of matter" (Partington 1837: 161). From the early twentieth century onwards, more nuanced formulations of the dichotomy were proposed. Alfred North Whitehead (1947), for instance, considered mind and matter *co-dependent* opposites. Even Henri Bergson, whose conception of an *élan vital* was meant to dilute the Cartesian split, was careful not to completely eradicate the dichotomy (Catani 2013: 94).

Indeed, this trend towards more nuanced formulations endures to this day. Philosopher David Chalmers, for instance, wrote that the "failure of materialism leads to a kind of *dualism:* there are both physical and nonphysical [i.e. mental] features of the world" (1996: 124). He speaks of *property* dualism (Ibid.: 125) to distinguish it from the discredited *substance* dualism of Descartes. Nonetheless, the essence of the dichotomy persists intact. Public endorsements of property dualism by influential science spokespeople, such as neuroscientists Christof Koch (2012a: 152) and Sam Harris (2016), lend academic legitimacy to it. Harris, for instance, claims that mind and matter each represent "half of reality" (Ibid.), making the implicit assumption that they have

comparable epistemic status (that is, that matter is as confidently knowable as mind). So pervasive is this assumption that it has become integral to our shared cultural intuitions.

Whilst a fundamental dichotomy between mind and matter is readily accepted by large segments of the population—perhaps for psychological reasons (Heflick et al. 2015)—in philosophical circles the corresponding dualism is properly regarded as unparsimonious. For this reason, philosophy has historically attempted to explain one member of the alleged dichotomy in terms of the other. The ontology of idealism, for instance, attempts to reduce "all sense data to mental contents" (Tarnas 2010: 335), whereas mainstream physicalism—perhaps better labeled as 'materialism,' but which I shall continue to refer to as 'mainstream physicalism' for the sake of consistency with some of the relevant literature—attempts to reduce all mental contents to material arrangements (Stoljar 2016). To be more specific, idealism entails that mind is nature's fundamental ontological ground, everything else being reducible to, or grounded in, mind, whereas mainstream physicalism posits that nature's fundamental ontological ground is matter outside and independent of mind, everything else being reducible to, or grounded in, matter.

The problem is that the ingrained cultural intuition that mind and matter have comparable epistemic status tends to creep—unexamined—even into philosophical thought, leading to the tacit conclusion that idealism and mainstream physicalism are mirror images of each other, in the sense of being structurally equivalent despite being reversely arranged. In the present essay, I contend that this tacit conclusion is false because it overlooks important epistemic considerations: we do *not*—and fundamentally *cannot*—know matter as confidently as we know mind. By incorrectly positing that idealism incurs epistemic cost comparable to that of mainstream physicalism in at least some important sense, the tacit conclusion undervalues idealism and overvalues physicalism. This confusion may be a key enabler of physicalism's success in underpinning our present-day mainstream worldview. Once the tacit conclusion is properly examined and rectified, as

attempted in this essay, idealism may emerge as a more plausible ontology than mainstream physicalism at least in terms of its epistemic cost.

Like Gilbert Ryle (2009), I argue that mind and matter do *not* form a dichotomy. My argument, however, does not depend—as Ryle's controversially does (Webster 1995: 483)—on equating mind with behaviors. Indeed, Ryle attempts to refute the alleged dichotomy by effectively relegating mind to the status of mere illusion (Ibid.: 461). My argument, instead, rests on the notion that mind and matter are not epistemically symmetric—a concept I shall formally define in Section 2.5—as members of a dichotomy must be. I do not deny mind, because it is epistemically primary: all knowledge presupposes mind.

That the notion of physically objective matter—that is, matter outside and independent of mind—is now largely taken for granted suggests cultural acclimatization to what is in fact a mere hypothesis. After all, physically objective matter is not an observable fact, but a conceptual explanatory device *abstracted from* the patterns and regularities of observable facts —that is, an *explanatory abstraction* (Glasersfeld 1987; more on this in Section 2.4). Indeed, there seems to be a growing tendency in science today to mistake explanatory abstraction for what is available to us empirically. This has been extensively documented before, but mostly in regard to clearly speculative ideas such as superstring theory and multiverse cosmologies (Smolin 2007). When it comes to the everyday notion of physically objective matter, however, many fail to see the same conflation at work.

To illustrate and highlight the conflation with an admittedly extreme example, Section 2.3 briefly reviews the ontology of pancomputationalism, which posits ungrounded computation as the primary element of reality (Piccinini 2015). Indeed, the idea of replacing physicalism with ontic pancomputationalism should provide a visceral demonstration of the epistemic cost of substituting explanatory abstraction for observable facts. In this context, my suggestion is that an analogous epistemic disparity exists between idealism and mainstream physicalism. In other words, if one is convinced that ontic

pancomputationalism is absurd in comparison to physicalism, then—and on the same basis—one has reason to question the plausibility of mainstream physicalism in comparison to idealism.

Section 2.4 then elaborates more systematically on the different planes of abstract explanation used in science and philosophy. It provides the basis for the refutation of the alleged dichotomy between mind and matter later carried out in Section 2.5, which forms the core of this essay. Finally, Section 2.6 sums it all up.

Before we start, however, some terminology clarifications are needed. Throughout this essay, I use the word 'mind' in the sense of phenomenal consciousness. Following Nagel's original definition of the latter (1974)—which has since been further popularized by Chalmers (1996, 2003)—I stipulate that, if there is anything it is like to be a certain entity, then the entity is minded. As such, mind—as the word is used here—is epistemically primary, an assertion further substantiated in Section 2.4. In this sense, mind does not necessarily entail higher-level functions such as metacognition—that is, the knowledge of one's knowledge (Schooler 2002: 340)—or even a conscious sense of self as distinct from the world. It necessarily entails only the presence of phenomenal properties, in that it is defined as the substrate or ground of experience. Moreover, insofar as what we call 'concreteness' is itself a phenomenal property associated with the degree of clarity or vividness of experience, mind is the sole ground of concreteness. Anything allegedly non-mental cannot, by definition, be concrete, but is abstract instead, in the sense of lacking phenomenal properties.

I am well aware that the word 'mind' is used in entirely different ways—often decoupled from experience—in other contexts, such as e.g. philosophy of biology (Godfrey-Smith 2014) and artificial intelligence (Franklin 1997). Yet, I believe the usage I am defining here is adequate for the context of the present paper. And given this usage, experience can be coherently regarded as an excitation of mind, whereas mind can be coherently regarded as the substrate or ground of

experience.

2.3 The epistemic cost of explanation by abstraction

By postulating a material world outside mind and obeying laws of physics, physicalism can accommodate the patterns and regularities *of* perceptual experience. *But it fails to accommodate experience itself.* This is called the 'hard problem of consciousness' and there is now vast literature on it (e.g. Levine 1983, Rosenberg 2004: 13-30, Strawson et al. 2006: 2-30). In a nutshell, the qualities of experience are irreducible to the parameters of material arrangements—whatever the arrangement is—in the sense that it is impossible even in principle to deduce those qualities from these parameters (Chalmers 2003).

As I elaborate upon in Section 2.5, the 'hard problem' is not merely hard, but fundamentally insoluble, arising as it does from the very failure to distinguish explanatory abstraction from observable fact discussed in this paper. As such, it implies that we cannot, *even in principle,* explain mind in terms of matter. But because the contemporary cultural ethos entails the notion that mind and matter constitute a dichotomy, one may feel tempted to conclude that there should also be a symmetric 'hard problem *of matter*'—that is, that we should not, even in principle, be able to explain matter in terms of mind. The natural next step in this flawed line of reasoning is to look for more fundamental ontological ground preceding both mind and matter; a *third* substrate to which matter and mind could both be reduced.

A good example of this line of reasoning is brought by ontic pancomputationalism, which posits that ungrounded information processing is what makes up the universe at its most fundamental level (Fredkin 2003). As such, ontic pancomputationalism entails that computation precedes matter ontologically. But "if computations are not configurations of physical entities, the most obvious alternative is that computations are abstract, mathematical entities, like numbers and sets" (Piccinini 2015). According to ontic pancomputationalism, even mind itself—psyche, soul—is a

derivative phenomenon of purely abstract information processing (Fredkin n.a.).

To gain a sense of the epistemic cost of this line of reasoning, consider the position of physicist Max Tegmark (2014: 254-270): according to him, "*protons, atoms, molecules, cells* and *stars*" are all redundant "baggage" (Ibid.: 255). Only the mathematical parameters used to describe the behavior of matter are real. In other words, Tegmark posits that reality consists purely of numbers—ungrounded information—but nothing to attach these numbers to. The universe supposedly is a "set of abstract entities with relations between them," which "can be described in a baggage-independent way" (Ibid.: 267). He attributes all ontological value to a description while—paradoxically—denying the existence of the very thing that is described in the first place.

Clearly, ontic pancomputationalism represents total commitment to abstract mathematical concepts as the foundation of reality. According to it, there are only numbers and sets. But what are numbers and sets without the mind or matter where they could reside? It is one thing to state in language that numbers and sets can exist without mind and matter, but it is an entirely other thing to explicitly and coherently conceive of what—if anything—this may mean. By way of analogy, it is possible to *write*—as Lewis Carroll did—that the Cheshire Cat's grin remains after the cat disappears, but it is an entirely other thing to conceive explicitly and coherently of what this means.

Ontic pancomputationalism appeals to ungrounded information—pure numbers, mathematical descriptions—as ontological primitive. But what exactly is information? Our intuitive understanding of the concept has been cogently captured and made explicit by Shannon (1948): information is given by state differences discernible in a system. As such, it is a property *of* a system—associated with the system's possible configurations—not an entity or ontological class unto itself. Under mainstream physicalism—that is, materialism—the system whose configurations constitute information is a material arrangement, such as a computer. Under idealism, it is

mind, for experience entails different phenomenal states that can be qualitatively discerned from one another. Hence, information requires a mental or material substrate in order to be even conceived of explicitly and coherently. To say that information exists in and of itself is akin to speaking of spin without the top, of ripples without water, of a dance without the dancer, or of the Cheshire Cat's grin without the cat. It is a grammatically valid statement devoid of any semantic value; a language game less meaningful than fantasy, for internally consistent fantasy can at least be explicitly and coherently conceived of and, thereby, known as such. But in what way can we know information uncouched in mind or matter?

One assumes that serious proponents of ontic pancomputationalism are well aware of this line of criticism. How do they then reconcile their position with it? A passage by Luciano Floridi—well-known advocate of information as ontological primitive—may provide a clue. In a section titled "The nature of information," he states:

> Information is notoriously a polymorphic phenomenon and a polysemantic concept so, as an explicandum, it can be associated with several explanations, depending on the level of abstraction adopted and the cluster of requirements and desiderata orientating a theory. … *Information remains an elusive concept.* (2008: 117, emphasis added.)

Such ambiguity lends ontic pancomputationalism a kind of conceptual fluidity that renders it impossible to pin down. After all, if the choice of ontological primitive is given by "an elusive concept," how can one definitely establish that the choice is wrong? In admitting the possibility that information may be "a network of logically interdependent but mutually irreducible concepts" (Ibid.: 120), Floridi seems to suggest even that such elusiveness may be unresolvable.

While vagueness may be defendable in regard to natural entities conceivably beyond the human ability to apprehend, it is at least difficult to justify when it comes to a *human concept* such as information. *We invented the concept,* so we either specify clearly what we mean by it or our conceptualization

remains too ambiguous to be ontologically meaningful. In the latter case, there is literally *no sense* in attributing ontological value to information and, hence, ontic pancomputationalism is —once again—strictly meaningless.

Although ontic pancomputationalism is an admittedly extreme example, an analogous attempt to reduce concreteness —that is, the felt presence of conscious perception (Merleau-Ponty 1964)—to mere explanatory abstraction lies behind both mainstream physicalism and the alleged mind-matter dichotomy, as I shall argue in the next section. At the root of this concerning state of affairs is a generalized failure to recognize that every step of explanatory abstraction away from the concreteness of conscious perception implies a reduction in epistemic confidence: we do not know that abstract conceptual objects exist with the same level of confidence that we *do* know that our perceptions—whatever their source or underlying ontic nature may be—exist. I do not know that subatomic particles outside and independent of mind exist with the same level of confidence that I *do* know that the chair I am sitting on, which I am directly acquainted with through conscious perception, exists. Worse yet, with what confidence can we know that a loosely-defined, possibly incoherent concept such as ungrounded information lies at the foundation of reality? As such, steps of explanatory abstraction can only be justified if the observable facts cannot be explained *without* them, lest we conflate science and philosophy with meaningless language games. This is an important claim, so allow me to dwell on it a little longer before proceeding to the next section.

It could be argued that the existence of perceptual illusions indicates that conscious perception in fact entails *less* epistemic confidence than abstract formal systems. For instance, in the well-known 'checker shadow' illusion created by the Perceptual Science Group of the Massachusetts Institute of Technology (Adelson 1995), two identically-colored squares of a checkerboard are initially perceived to be of opposite colors because of the different contexts in which they are perceived. Should we then declare that conscious perception is

fundamentally unreliable? Well, notice that *it is also conscious perception that eventually dispels the illusion:* by looking at one of the squares as it is moved to the other's context, one sees that it indeed has the same color as the other square. So even in the case of perceptual illusions, it is still direct, concrete experience that provides us with the epistemic confidence necessary to recognize the illusion for what it is.

Further supporting the claim that abstracting away from direct experience implies a reduction in epistemic confidence is the anti-realist view in philosophy of science. According to it, abstract theoretical entities—such as subatomic particles, invisible fields and any other postulated entity that escapes our ability to *directly* perceive—are but "convenient fictions, designed to help predict the behavior of things in the observable world" (Okasha 2002: 61; see also van Fraassen 1990). In other words, the best we can say about subatomic particles and other abstract entities is that the observable world behaves *as if* these abstract entities existed. This does not entail or imply that the entities *actually exist,* which we cannot be certain of either way (van Fraassen 1980). In this sense, explanatory abstraction again implies reduction in epistemic confidence, insofar as we do not know that subatomic particles and invisible fields exist with the same level of confidence that we do know that the world we consciously perceive exists.

2.4 Levels of explanatory abstraction

Like ontic pancomputationalism, mainstream physicalism is no stranger to the epistemic cost of explanatory abstraction: the existence of a material world outside and independent of mind is a theoretical inference arising from *interpretation* of sense perceptions within a framework of complex thought, not an observable empirical fact. After all, what we call the world is available to us solely as 'images'—defined here broadly, so to include any sensory modality—on the screen of perception, which is itself mental. Even physicist Andrei Linde, of cosmic inflation fame, acknowledged this:

> Let us remember that our knowledge of the world begins not with matter but with perceptions. I know for sure that my pain exists, my "green" exists, and my "sweet" exists … everything else is a theory. Later we find out that our perceptions obey some laws, which can be most conveniently formulated if we assume that there is some underlying reality beyond our perceptions. This model of material world obeying laws of physics is so successful that soon we forget about our starting point and say that matter is the only reality, and perceptions are only helpful for its description. (1998: 12)

Now, we know that mind is capable to autonomously generate the imagery we associate with matter: dreams and hallucinations, for instance, are often qualitatively indistinguishable from the 'real world.' Therefore, the motivation for postulating an objective material world must go beyond the mere existence of this imagery. And indeed, what the notion of objective matter attempts to make sense of are certain *patterns and regularities observable in the imagery,* such as:

1. The correlations between observed brain activity and reported inner life (see e.g. Koch 2004 for a scientific take on the neural correlates of consciousness, but consider also the obvious effects of e.g. alcohol consumption and head trauma—both of which disrupt regular brain activity —on inner experience);
2. The fact that we all seem to inhabit the same world; and
3. The fact that the dynamics of this world unfold independently of our personal volition.

After all, if mind is not a product of objective arrangements of matter, how can there be such tight correlations between brain activity and experience? If the world is not made of matter outside our individual minds, how can we all share the same world beyond ourselves? If the world is not independent of mind, why can we not change the laws of nature simply by imagining them to be different? Clearly, thus, the non-mental

world posited by physicalism is largely an attempt to make sense of these three basic observations. As such, it is an *explanatory abstraction*, not itself an observation. We conceptually *imagine* that there is a non-mental world underlying our perceptions—and in some sense isomorphic to these perceptions[1]—because doing so helps explain the basic observations. See Figure 2.1. Nonetheless, whatever ontological class is pointed to by this conceptual abstraction remains perforce epistemically inaccessible, a recognition already present in Kant's *Critique of Pure Reason.*

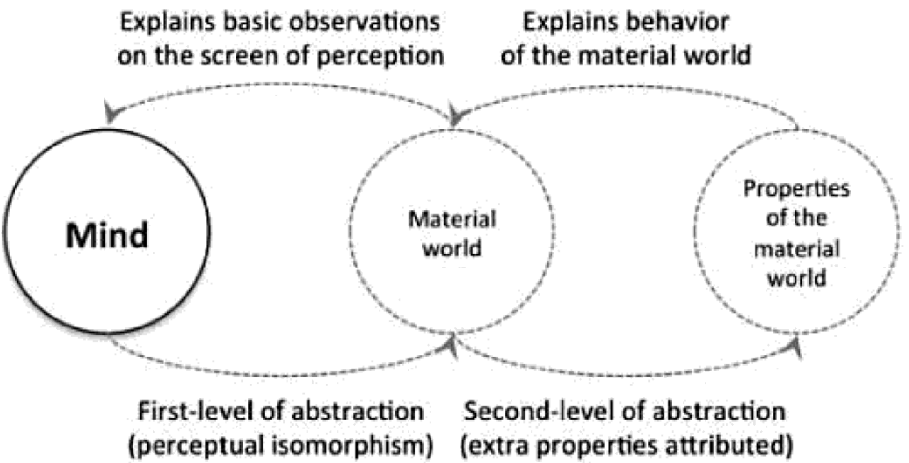

Figure 2.1: Levels of explanatory abstraction.

Explanatory abstraction does not stop at this first level. After imagining a non-mental world isomorphic to our perceptions, we are left with the task of explaining how and why this world behaves the way it does. Why do objects fall when dropped? Why does a piece of amber attract chaff when rubbed? How can certain metals magnetically attract other metals? To answer these questions, we must attribute to the material world certain properties that go beyond perceptual isomorphism. We say, for instance, that matter has the properties of mass, charge and spin. These properties constitute a second-level of explanatory abstraction beyond direct experience. See Figure 2.1 again.

Naturally, there can be even more levels of explanatory

abstraction involved. Superstring theory, for instance, attempts to explain the properties of matter through the particular modes of vibration of imagined hyper-dimensional strings (Greene 2003). But the two levels illustrated in Figure 2.1 are sufficient for the discussion that follows.

The defining characteristic of explanation by abstraction is a progressive movement away from Husserl's "life-world" (1970), from the concreteness of direct experience. First, one posits a world devoid of qualities (Varela, Thompson & Rosch 1993) and, as such, devoid of concreteness too, for concreteness is a quality of experience. Then, one progressively loads this world with properties that entail no direct isomorphism to experience. For instance, we do not see electric charge or spin; we only see the behavior of matter that these abstract properties supposedly explain, such as attraction and repulsion. Similarly, we do not feel mass; we only feel the weight and inertia of objects, which the property of having mass supposedly explains (Okasha 2002: 58-76).

Because concreteness is the intuitive foundation of what we consider *real,* each step in this movement away from concreteness takes us farther from the only reality we actually know (Merleau-Ponty 1964). One may then become lost in a forest of intellectually appealing but ultimately arbitrary conceptualizations. This, again, is the epistemic cost of explanation by abstraction.

2.5 Dispelling the mind-matter dichotomy

By definition, the two members of a dichotomy are jointly exhaustive and mutually exclusive. Ontologically, this means that if one member is the case, then the other is necessarily *not* the case, and vice-versa. For instance, in the context of biological organisms, if life is *not* the case, then death is necessarily the case. In the context of a job application, if success is the case (i.e. the applicant gets the job), then failure is *not* the case. And so on. As such, a *single test* suffices to acquire knowledge about the ontological status of *both* members of a dichotomy. If I can perform a test to determine if a person is alive, then I will automatically know whether the

person is dead, without having to test for death separately. If I can set a criterion for success, then this same criterion will automatically determine whether failure is the case, without my having to set a separate criterion for failure. And so on. I shall call this property of a dichotomy *epistemic symmetry*. When two concepts are epistemically symmetric, knowledge of one implies knowledge of the other.

Now notice that *epistemic symmetry can only hold for concepts residing in the same level of explanatory abstraction.* If they do not, then there necessarily is at least one extra inferential step necessary to know whether one of the concepts obtains. This breaks the symmetry, for then we cannot acquire knowledge of the ontological status of both concepts with a single test.

Here is an example: the presence of a negative feeling can be tested for directly through introspection—thus entailing no inferential steps—whereas testing for the presence of a positive electric charge requires an inference by observation of the associated behavior of matter. Because of this need for an extra inferential step, knowing the negative feeling cannot imply knowledge of the positive electric charge. The negative feeling and the positive electric charge are not, therefore, epistemically symmetric and cannot constitute a dichotomy.

Conversely, positive and negative electric charges are both properties of matter, residing in the second level of explanatory abstraction illustrated in Figure 2.1. As such, they are epistemically symmetric and can constitute a dichotomy. As a matter of fact, every level of explanatory abstraction can encompass dichotomies. For instance, the size of material objects is isomorphic to perceptual qualities: we can subjectively test whether an object is big or small in relation to another object. As such, bigness and smallness both reside in the first level of explanatory abstraction and are epistemically symmetric; they can constitute a dichotomy. See Figure 2.2.

But—and here is the key point—*mind and matter do not reside in the same level of explanatory abstraction*. In fact, mind—as defined in Section 2.2—is the ground within which, and out of which, abstractions are made. Matter, in turn, is an abstraction *of* mind (see Figure 2.1 again). This breaks the epistemic

symmetry between them: we do not know matter in the same way that we know mind, for—as cogently argued by Linde in the earlier quote—matter is an inference and mind a given. Consequently, although mind can encompass polar opposites—such as the feelings of love and fear in the context of a situation wherein someone feels passionate about a particular aspect of someone else (assuming that other passions, such as hate, which is arguably a form of fear, are in fact particular instances of love or fear)—it cannot itself be the polar opposite of matter or matter's properties. It follows that we have no reason to conclude that reducing matter to mind is as challenging as reducing mind to matter, and there is thus no substantiation for a 'hard problem of mind.' Stronger still, insofar as what we call 'matter' can be parsimoniously construed as phenomenal patterns of excitation of mind, matter is on an epistemic par with mind and can in principle be reduced to the latter, for both already reside in the same ontological domain. This move takes mind itself to be an ontological primitive and eliminates any conceivable 'hard problem of mind,' since mind now does not need to be reduced.

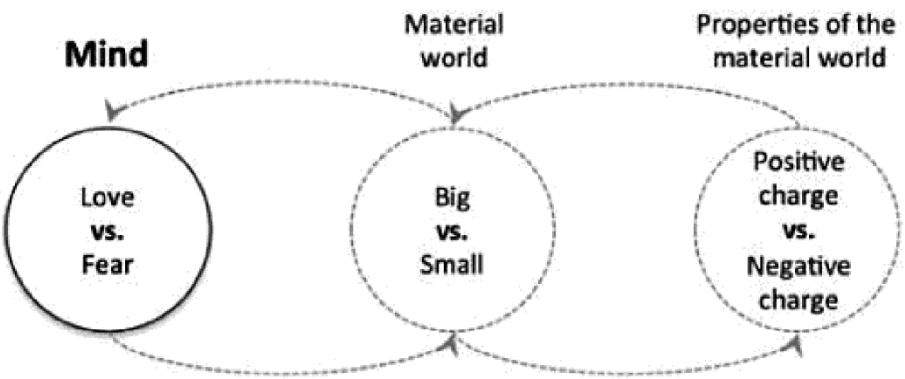

Figure 2.2: Dichotomies in their respective levels of explanatory abstraction.

The notion of a dichotomy between mind and matter arises from language. In order to speak of the substrate of experience we must give it a name, such as 'mind' or 'consciousness,' thereby linguistically objectifying what is in fact the subject.

Then, we conflate language with reality, implicitly assuming that mind is an object just as matter allegedly is. We forget that, in fact, there is no epistemic symmetry between the two.

Indeed, because the concept of mind-independent matter, as an explanatory abstraction, arises *in mind,* as an 'excitation' *of* mind, to say that mind and matter constitute a dichotomy is akin to saying that ripples and water constitute a dichotomy. Dichotomies can exist only between different kinds of ripples—say, those that flow mostly to the right versus those that flow mostly to the left—not between ripples and the substrate where they ripple. Mind is the substrate of the explanatory abstraction we call matter, so when we speak of a mind-matter dichotomy we incur in a fundamental "category mistake," as Ryle (2009) put it. *However, contrary to what Ryle suggests, it is matter that is the abstraction, not mind.*

The notion that idealism and mainstream physicalism are mirror images of each other arises from a failure to grasp this point. Lucid contemplation of these ontologies shows that idealism attempts to reduce an explanatory abstraction (physically objective matter) to that which articulates and hosts the abstraction in the first place (mind). This is *prima facie* eminently reasonable. Mainstream physicalism, in turn, attempts to reduce mind to mind's own explanatory abstractions, an obvious paradox that constitutes the crux of the 'hard problem.'

There would be no 'hard problem' if one did not conflate explanatory abstractions with concrete ontological primitives; if one did not attempt to paradoxically reduce mind to abstractions *of* mind. The 'hard problem' is not an empirical fact but the salient result of internal contradictions in a logico-conceptual schema; contradictions that I hope to have helped make explicit with the present paper.

Naturally, circumventing the 'hard problem' in the way suggested above ultimately forces us to make do with mind alone as ontological primitive and thereby entertain some form of idealism—more specifically, a form of idealism wherein mind is the experientially given ground of reality, whose manifestations comprise the concrete phenomenality you and I

undergo in everyday life. And whereas idealism in the West has had its heyday in the eighteenth (e.g. Berkeley) and early nineteenth (e.g. Hegel) centuries, it is now enjoying renewed interest (Chalmers forthcoming) for having been updated and revitalized with compelling new formulations (e.g. Kastrup 2017b[2] and 2017e,[3] Yetter-Chappell forthcoming, as well as Fields et al. 2017, insofar as the latter can be construed as a form of idealism). These are sometimes proposed under new names, such as 'cosmopsychism' (e.g. Shani 2015, Nagasawa & Wager 2016), which, as the name suggests, posits that the cosmos as a whole is essentially phenomenal. Even 'radical constructivism' can be construed as a form of idealism, insofar as its claims are not merely epistemic, but ontic: "Radical constructivism … develops a theory of knowledge in which knowledge does not reflect an 'objective' ontological reality, but *exclusively* an ordering and organization of a world *constituted* by our experience" (Glasersfeld 1987: 199, emphasis added). Finally, the strongest objections usually leveraged against idealism have recently also been tackled (Kastrup 2017c[4]).

Having said all this, it should be noted that, in and of itself, the argument provided in this paper, despite being supportive of idealism, does not necessarily *imply* idealism. I have focused on epistemic cost considerations and did not show whether or how idealism can account for all relevant facts of nature. Indeed, an articulation of an idealist ontology is not in the scope of this paper.[5] But if it is demonstrated—as some of the papers cited above claim to do—that idealism *can* account for all facts that mainstream physicalism allegedly accounts for, then epistemic cost considerations certainly tilt the balance in favor of idealism, due to the latter's lack of reliance on inflationary, epistemically unreliable, paradoxical abstractions. As such, the core claim of this essay is not as much the validity of idealism as that physically objective matter is a doubtful *cognitive construct,* in the strict constructivist sense: insofar as we believe to see matter outside and independent of mind when we look at the world around ourselves, we are in fact conflating a rational-linguistic construction with reality itself.

2.6 Conclusions

The pervasive but unexamined assumption that mind and matter constitute a dichotomy is an error arising from language artifacts. Members of true dichotomies must be epistemically symmetric and, therefore, reside in the same level of abstraction. Physically objective matter—as an explanatory model—is an abstraction *of* mind. We do not *know* matter in the same way that we know mind, for matter is an inference and mind a given. This breaks the epistemic symmetry between the two and implies that mainstream physicalism and idealism cannot be mirror images of one another.

Failure to recognize that different levels of epistemic confidence are intrinsic to different levels of explanatory abstraction lies at the root not only of the false mind-matter dichotomy, but also of attempts to make sense of the world through increasingly ungrounded explanatory abstractions. Lest we conflate science and philosophy with hollow language games, we must never lose sight of the difference between an abstract inference and a directly observable fact. Keeping this distinction in mind allows us to construct useful predictive models of nature's *behavior*—which ultimately is what science is meant to do—without restrictive and ultimately fallacious inferences about what nature *is*. This, in turn, liberates us from thought artifacts such as the 'hard problem of consciousness' and opens up whole new avenues for making sense of self and world.

---

1 To say that *A* is isomorphic to *B* means that there is, in some sense, a correspondence of form between *A* and *B*.

2 This article can be found in Chapter 5 of the present volume.

3 This article can be found in Chapter 6 of the present volume.

4 This article can be found in Chapter 8 of the present volume.

5 For such an articulation, see Part II of the present volume.

Chapter 3

The quest to solve problems that don't exist: Thought artifacts in contemporary ontology

This article first appeared in *Studia Humana,* ISSN: 2299-0518, Vol. 6, No. 4, pp. 45-51, on 16 October 2017. *Studia Humana* is published by *De Gruyter,* a large German publisher of scholarly literature whose roots go back as far as 1749. Today *De Gruyter* claims to be the world's third largest open-access academic publisher.[1]

3.1 Abstract

Questions about the nature of reality and consciousness remain unresolved in philosophy today, but not for lack of hypotheses. Ontologies as varied as physicalism, microexperientialism and cosmopsychism enrich the philosophical menu. Each of these ontologies faces a seemingly fundamental problem: under physicalism, for instance, we have the 'hard problem of consciousness,' whereas under microexperientialism we have the 'subject combination problem.' I argue that these problems are thought artifacts, having no grounding in empirical reality. In a manner akin to semantic paradoxes, they exist only in the internal logico-conceptual structure of their respective ontologies.

3.2 Introduction

While advances in technology—enabled by the predictive models of science—have influenced early 21st century culture more than anything else, questions of ontology loom large in

the contemporary psyche: What is the nature of reality? What is the essence of phenomenal consciousness and how does it relate to matter? Our tentative answers to these questions color —if not outright determine—our view of life's meaning, thereby underlying every aspect of our existence.

Philosophy has not been idle in the face of demand for a menu of hypotheses in this regard. The mainstream physicalist ontology, for instance, posits that reality is constituted by irreducible physical entities—which Strawson has called 'ultimates' (Strawson et al. 2006: 9)—outside and independent of phenomenality. According to physicalism, these ultimates, in and of themselves, do not instantiate phenomenal properties. In other words, there is nothing it is like to be an ultimate, phenomenality somehow emerging only at the level of complex arrangements of ultimates. As such, under physicalism phenomenality is not fundamental, but instead reducible to physical parameters of arrangements of ultimates.

What I shall call 'microexperientialism,' in turn, posits that there is already something it is like to be at least some ultimates, combinations of these experiencing ultimates somehow leading to more complex experience (Strawson et al. 2006: 24-29). As such, under microexperientialism phenomenality is seen as an irreducible aspect of at least some ultimates. The ontology of panexperientialism (Griffin 1998: 77-116, Rosenberg 2004: 91-103, Skrbina 2007: 21-22) is analogous to microexperientialism, except in that the former entails the stronger claim that all ultimates instantiate phenomenal properties.

Micropsychism (Strawson et al. 2006: 24-29) and panpsychism (Skrbina 2007: 15-22) are analogous—maybe even identical—to microexperientialism and panexperientialism, respectively, except perhaps in that some formulations of the former admit cognition—a more complex form of phenomenality—already at the level of ultimates, as an irreducible aspect of these ultimates.

Among microexperientialism, panexperientialism, micropsychism and panpsychism, microexperientialism makes the narrowest claim and, therefore, is the most generic. In a

strong sense, panexperientialism, micropsychism and panpsychism are variations or extensions of microexperientialism, the latter being the canonical basis of all four ontologies. Therefore, I shall henceforth speak only of microexperientialism.[2]

Whereas microexperientialism entails that bottom-up combinations of simple subjects give rise to more complex ones, such as human beings, cosmopsychism (Nagasawa & Wager 2016, Shani 2015) takes the opposite route: according to it, the cosmos as a whole is conscious, individual psyches arising from top-down discontinuity in the integration of the contents of cosmic consciousness. Cosmopsychism can also be interpreted so as to include the further claim that, in addition to being conscious, the cosmos has a facet irreducible to phenomenal properties: the physical universe we can measure. This implies a form of dual-aspect monism, *a la* Spinoza (Skrbina 2007: 88), so I shall call this interpretation 'dual-aspect cosmopsychism.' Under dual-aspect cosmopsychism, the cosmos as a whole *bears* phenomenality, but is not *constituted by* phenomenality. In other words, the cosmos is supposedly *conscious,* but not *in consciousness.*

My goal with this brief essay is to show that the thought processes underlying many of these ontologies are flawed, for being based on unexamined assumptions and unwarranted logical bridges. Once this is lucidly understood, some of the most important open questions associated with these ontologies—which contemporary philosophers see as their job to answer—are exposed as artifacts. Indeed, it is my contention that some of the key problems of ontology that contemporary philosophers have been grappling with do not actually exist. The next sections will elaborate upon this claim.

Anticipating a point that is bound to be raised, I acknowledge that offering a coherent alternative to the ontologies I am about to criticize is important for the completeness of my argument. And as attentive readers will notice, only idealist ontologies—those entailing that all existence is essentially phenomenal—are left unscathed by the criticisms in this paper. For this reason, I have extensively

elaborated on a formulation of idealism elsewhere (Kastrup 2017b[3]) and also rebutted many objections to it (Kastrup 2017c[4]). Here, however, I shall limit myself to deconstructing the rationale behind the mainstream physicalist ontology and two of its more recent alternatives. Readers interested in my formulation of idealism are referred to the works cited above.

3.3 Thought artifacts in physicalism

As discussed in the previous section, physicalism entails the existence of a world outside and independent of consciousness, which I shall henceforth refer to as the 'objective physical world.' This postulate seems to be self-evident from the perspective of modern and post-modern culture, yet it is merely a theoretical *inference* arising from interpretation of sense perceptions. After all, what we call the world is available to us solely as 'images'—defined here broadly, so to include any sensory modality—on the screen of perception, which is itself in consciousness. (To avoid possible misinterpretations, notice that my point here is agnostic of whether these perceptual images are a valid given—in the sense of being both epistemically independent and efficacious (Sellars 1997)—or not. My point is that, in either case, *the objective physical world is surely not a given*.)

Stanford physicist Prof. Andrei Linde perhaps explained best the inferential nature of the objective physical world:

> Let us remember that our knowledge of the world begins not with matter but with perceptions. I know for sure that my pain exists, my "green" exists, and my "sweet" exists. I do not need any proof of their existence, because these events are a part of me; everything else is a theory. Later we find out that our perceptions obey some laws, which can be most conveniently formulated if we assume that there is some underlying reality beyond our perceptions. This model of material world obeying laws of physics is so successful that soon we forget about our starting point and say that matter is the only reality, and perceptions are only helpful for its

> description. This assumption is almost as natural (and maybe as false) as our previous assumption that space is only a mathematical tool for the description of matter. But in fact we are substituting reality of our feelings by a successfully working theory of an independently existing material world. And the theory is so successful that we almost never think about its limitations until we must address some really deep issues, which do not fit into our model of reality. (1998: 12)

Now, we know that consciousness is perfectly capable to autonomously generate the imagery we associate with physicality: dreams and hallucinations, for instance, are often qualitatively indistinguishable from the 'real world.' Therefore, the motivation for positing the existence of an objective physical world must go beyond the mere existence of this imagery. And indeed, what physicalism attempts to make sense of are certain basic facts observable *in* the imagery, such as:

1. The correlations between observed brain activity and reported inner life (cf. Koch 2004);
2. The fact that we all seem to inhabit the same world; and
3. The fact that the dynamics of this world unfold independently of personal volition.

After all, if consciousness isn't a product of objective arrangements of physical elements, how can there be such tight correlations between brain activity and experience? If the world isn't made of physical elements outside our individual psyches, how can we all inhabit the same world beyond ourselves? If the world isn't independent of consciousness, why can't we change the laws of nature simply by imagining them to be different? Clearly, thus, the objective physical world posited by physicalism is an attempt to make sense of these three basic facts. As such, it is an *explanatory model,* not itself an observation. We *imagine* that there is an abstract physical world underlying our perceptions—and in some sense isomorphic to these perceptions[5]—because doing so helps explain the basic facts.

Conjuring up an objective physical world to make sense of observations would—at least in principle—be legitimate if it didn't create an insoluble problem known as the 'hard problem of consciousness' (Chalmers 2003, Levine 1983). Indeed, one of physicalism's key tenets is that consciousness itself must be reducible to arrangements of objective physical elements. The problem, of course, is that it is impossible to conceive of how or why any particular structural or functional arrangement of physical elements would constitute or generate experience (Rosenberg 2004: 13-30, Strawson et al. 2006: 2-30). The qualities of experience are irreducible to the observable parameters of physical arrangements—whatever the arrangement is—in the sense that it is impossible to deduce those qualities—even *in principle*—from these parameters (Chalmers 2003). There is nothing about the momentum, mass, charge or spin of physical particles, or their relative positions and interactions with one another, in terms of which we could deduce the greenness of grass, the sweetness of honey, the warmth of love, or the bitterness of disappointment. As long as they fit with the observed correlations between neural activity and reported experience, mappings between these two domains are entirely arbitrary: in principle, it is as (in)valid to state that spin up generates the feeling of coldness and spin down that of warmth as it is to say the exact opposite. There is nothing intrinsic about spin—or about any other parameter of physical elements or arrangements thereof—that would allow us to make the distinction.

For this reason, neuroscience finds itself positing a slew of conflicting speculative theories about the neural constitutors or generators of experience, varying from information integration across vast networks of neurons (Tononi 2004) to microscopic intra-neural dynamics (Hameroff 2006). Indeed, as skeptic Michael Shermer wrote, "the neuroscience surrounding consciousness" is "nonfalsifiable" (2011). Such nonfalsifiability derives from the fact that the logical bridge between the felt qualities of experience and the configurations of an abstract world beyond experience is arbitrary.

Let us take a step back and unpack the thought process that

brought us to this dilemma: first, the consciousness of a physicalist wove the conceptual notion that some patterns of its own dynamics—namely, those of sense perception—must somehow exist outside itself; then, the consciousness of the physicalist tried to project its own essence onto these patterns. The glaring artifact of thought here becomes apparent with an analogy: imagine a painter who, having painted a self-portrait, points at it and declares himself to *be* the portrait. This, in essence, is what physicalism does. The consciousness of the physicalist conceptualizes self-portraits within itself. Sometimes these self-portraits take the form of electrical impulses and neurotransmitter releases in the brain (Koch 2004). Other times, they take the shape of quantum transitions or potentials (Tarlaci & Pregnolato 2016). Whatever the case, the physicalist's consciousness always points to a conceptual entity it creates within itself and then declares itself to *be* this entity. It dismisses its own primary, first-person point of view in favor of an abstract third-person perspective. Consider Daniel Dennett's words: "The way to answer these 'first-person point of view' stumpers is *to ignore the first-person point of view* and examine what can be learned from the third-person point of view" (1991: 336, emphasis added). The contempt for direct experience, primary datum of existence, is palpable here.

This arbitrary dislocation of epistemic primacy from direct experience to explanatory abstraction is what conjures up the 'hard problem.' If we didn't insist that direct experience must somehow be constituted or generated by 'something beyond' direct experience, there would be no problem. And since this 'something beyond' is a conceptual invention derived from an explanatory model, the 'hard problem' itself is a conceptual invention.

The issue here is that the invention forces the physicalist into the impossible position of *having to reduce consciousness to consciousness's own abstractions.* This is as absurd as trying to reduce a painter to his paintings; cause to its effects. As such, the 'hard problem' is akin to a semantic paradox: the difficulty behind it is grounded not in empirical reality, but in its internal logico-conceptual structure.

For as long as they fail to remain alert to the fact that an objective physical world outside consciousness is a conceptual creation of consciousness itself, physicalists will continue to struggle with an insoluble problem. Indeed, the fundamental insolubility of the problem is itself a glaring hint that something has gone wrong in the underlying thought processes that led to it in the first place.

3.4 Thought artifacts in microexperientialism

As we have seen, microexperientialism posits that entities as small as subatomic particles are experiencing subjects in their own merit. Microexperientialists imagine that the unitary subjectivity of more complex experiencing subjects, such as human beings, arises from *bottom-up combination* of countless simpler subjects. This circumvents the 'hard problem' by positing that consciousness is a fundamental, irreducible property of ultimates and, as such, does not need to be explained in terms of anything else.

However, another problem immediately arises: the combination of subjects is an unexplainable process, perhaps incoherent (Coleman 2014). It is just as hard as the 'hard problem' itself (Goff 2009). We cannot coherently explain how or why any physical action—such as bringing two subatomic particles close together or having them interact in some way—would cause the unification of their subjective points of view, as required by microexperientialism. This is known in contemporary philosophy as the 'subject combination problem' (Chalmers 2016). And, just like the 'hard problem,' it is an artifact of thought.

Indeed, the motivation for microexperientialism is that subatomic particles are the discernible 'pixels' of the empirical world we perceive around ourselves.[6] But to imagine, for this reason, that the subjectivity of living beings is composed of myriad subatomic-level subjects makes a rather simple mistake: it attributes to *that which experiences* a structure discernible only *in the experience itself*.

Let us unpack this. The notion of fundamental subatomic particles—ultimates—arises from experiments whose outcomes

are accessible to us only in the form of perception (even when delicate instrumentation is used, the output of this instrumentation is only available to us as perception). Such experiments show that the images we experience on the screen of perception can be divided up into ever-smaller elements, until we reach a limit. At this limit, we find the smallest discernible components of the images, which are thus akin to pixels. As such, ultimates are the 'pixels' of *experience,* not necessarily of the experienc*er*. The latter does not follow from the former.

Even the fact that human bodies are made of subatomic particles says nothing about the structure of the experienc*er*: what we call a human body is itself an image on the screen of perception, and so will necessarily be 'pixelated' insofar as it is perceived. Such pixelation reflects the idiosyncrasies *of the screen of perception,* not necessarily the structure of the human subject itself. As an analogy, the pixelated image of a person on a television screen reflects the idiosyncrasies *of the television screen;* it doesn't mean that the person itself is made up of pixels.

To conclude that a living subject—that is, the consciousness of a living being—is made up of a combination of lower-level inanimate subjects requires an extra logical step for which, unless we beg the question of ontology, there is no justification. It is analogous to saying, for instance, that water is made of ripples simply because one can discern individual ripples in water. Obviously, individual ripples make up the structure of the *movements* of water, not of water itself. Analogously, subatomic particles are the 'pixels' of the observable 'movements' of consciousness, not necessarily the building blocks of consciousness itself. We have just as much reason to conclude that our subjectivity is composed of myriad subatomic-level subjects as to conclude that water is made of ripples.

Clearly, thus, the 'combination problem' of microexperientialism is an artifact of a fallacious logical bridge. Just like the 'hard problem' faced by physicalism, it is not grounded in empirical reality, but in the internal logico-

conceptual structure of microexperientialism itself.

3.5 Thought artifacts in dual-aspect cosmopsychism

Dual-aspect cosmopsychism is the least problematic ontology among the three criticized in this brief essay. By positing that the cosmos as a whole is conscious, the associated cosmic consciousness being an irreducible aspect of reality, it circumvents both the 'hard problem' and the 'combination problem.' One might then be tempted to conclude that a third, equivalent problem must be incurred, which we might call the 'decomposition problem': How does one cosmic consciousness apparently break up into myriad individual psyches, such as yours and mine? This, however, is actually not a fundamental problem, for "a disruption of and/or discontinuity in the normal integration of consciousness" (Black & Grant: 191) that can account for the *appearance* of decomposition is well known and understood today, under the label of "dissociation" (American Psychiatric Association 2013).

So what is the thought artifact behind dual-aspect cosmopsychism then? It is the redundant and inflationary postulate that the cosmos as a whole is a "*bearer* of consciousness" (Shani 2015: 408, emphasis added), as opposed to being *constituted by* consciousness. For the cosmos to *bear* consciousness there must be something to it—some aspect of it—beyond consciousness itself, which can in turn carry consciousness. Otherwise, what sense is there in saying that consciousness bears consciousness? This postulate of dual-aspect cosmopsychism may be an unexamined concession to the reigning physicalist view that there exists something beyond phenomenality. By accommodating this view, dual-aspect cosmopsychism certainly becomes more digestible under the contemporary zeitgeist. However, the key challenge incumbent upon cosmopsychism is to explain how a unitary cosmic consciousness can give rise to apparently distinct individual psyches. The idea of a physically objective facet of the cosmos is not necessary or helpful for tackling and overcoming such a challenge (cf. Nagasawa & Wager 2016, Shani 2015). Therefore, by accommodating the physicalist

view that there exists something beyond phenomenality, dual-aspect cosmopsychism also ends up incorporating a redundant and inflationary postulate.

If the notion of an objective physical world is left out of cosmopsychism, the latter boils down to idealism: the view that the cosmos as a whole is *in consciousness*—as opposed to being *conscious*—and that individual psyches arise from a process of top-down dissociation in cosmic consciousness (Kastrup 2017b[7]). Although idealism faces challenges regarding its explanatory power—that is, its ability to make sense of the facts that we all seem to share the same world outside the control of our volition, that physical interference with the brain clearly affects inner experience, etc.—it does not fall victim to any of the artifacts of thought discussed in this essay.

3.6 Conclusions

The key philosophical problems faced by today's most popular ontologies—such as the 'hard problem of consciousness' faced by physicalism and the 'subject combination problem' faced by microexperientialism—are artifacts of unexamined assumptions and fallacious logical bridges inherent to their respective ontologies, having no grounding in empirical reality. In a manner akin to semantic paradoxes, they exist only in the internal logico-conceptual structure of these ontologies. The sooner philosophers become lucid of this fact, the sooner philosophical thought can move towards more constructive avenues of inquiry.

---

1 See: https://www.degruyter.com/dg/page/79/eine-kurze-geschichte-des-verlags (accessed 27 July 2017).

2 Elsewhere in this book I use the label 'bottom-up panpsychism' to refer generically to microexperientialism, panexperientialism, micropsychism or panpsychism, without distinguishing between them.

3 This article can be found in Chapter 5 of the present volume.

4 This article can be found in Chapter 8 of the present volume.

5 To say that *A* is isomorphic to *B* means that there is, in some sense,

a correspondence of form between *A* and *B*.
6 That is, they are the elementary, indivisible building blocks of the images on the screen of perception, insofar as we can discern with the aid of instrumentation.
7 Again, this article can be found in Chapter 5 of the present volume.

Part II

An idealist ontology

We posit the existence of stimuli to explain our perceptions of the world, and we posit their immutability to avoid both individual and social solipsism. About neither posit have I the slightest reservation. But our world is populated in the first instance not by stimuli but by the objects of our sensations.
Thomas Kuhn: *The Structure of Scientific Revolutions.*

It is to be suspected that our division into material versus mental, that which is observable from the outside versus that which is perceivable from the inside, is only a subjectively valid separation, only a limited polarization that our structure of consciousness imposes on us but that actually does not correspond to the wholeness of reality. In fact it is rather to be suspected that these two poles actually constitute a unitary reality.
Marie-Louise von Franz: *Psyche and Matter.*

Chapter 4

Preamble to Part II

The two chapters that follow comprise the core of this work. Based on careful consideration of the available empirical evidence and guided by parsimony and logical consistency, they argue that the best explanation for the facts of nature entails that these facts are essentially *phenomenal*. The dynamics of matter in the inanimate universe is simply the extrinsic appearance of *im*personal mental processes, in the same way that human brain activity is the extrinsic appearance of *personal* mental processes. As such, these chapters articulate and defend a present-day form of the ontology of *idealism*, according to which all existence consists solely of *ideas:* thoughts, emotions, perceptions, intuitions, imagination, etc.

The analogy above is the key to a *felt*—as opposed to merely conceptual—understanding of the next two chapters, for it takes to heart what nature itself has been making patently clear: *so-called 'material' brain activity is how a person's conscious inner life*—her thoughts, feelings, fantasies, beliefs, etc. —*appears to other people.* This, as stated, is a fact, not a theoretical inference. Nature is thus unequivocally telling us not only that there is something conscious inner life *looks like* from a second-person perspective, but that this 'something' takes the form of what we call 'matter' (the brain, after all, is made of matter). Any further conclusion—such as that matter is independent of mind and, in turn, somehow generates the qualities of experience when arranged in certain ways—is already the outcome of theory, not an observable fact. This book seeks to look at nature without theoretical preconceptions: if the matter in a working brain is the extrinsic appearance of conscious inner life, then—at least in principle —*so should the matter in the inanimate universe as a whole be.*

After all—and again short of theoretical assumptions—why should matter be one thing when constituting a living brain and then something else when constituting the inanimate universe as a whole? When we contemplate the large-scale structure and dynamics of the cosmos, we must be contemplating the extrinsic appearance of universal *conscious* inner life. As such, when impartially observed and pondered, nature renders the ideas presented in the next two chapters entirely commonsensical, as opposed to a challenge to commonsense.

Nonetheless, to most people today the idealist view that nature is entirely mental may sound exceedingly counterintuitive. The world is not only concrete and enduring —as opposed to vague and ephemeral, such as the imagination —but also clearly independent of our personal volition. We can't walk through walls merely by wishing to do so. Moreover, we seem to *inhabit* a shared world, as opposed to hosting it in our psyche. The argument in the next two chapters reconciles these facts with idealism.

Before we begin, however, it is important to keep in mind the distinction between idealism and *solipsism*. According to solipsism, the world is your *individual* dream. The whole of existence unfolds in your individual psyche alone. All other seemingly conscious creatures are merely figments of your imagination; there is allegedly nothing it is like to be them.

This is *not* what idealism posits. According to idealism, the whole universe is in mind, *but not in your individual psyche alone*, for mind extends far beyond the boundaries of personal introspection. The outside world is indeed outside your individual mentation, just not outside mind as an ontological class. Idealism grants that other living organisms are truly conscious—that is, that there is something it is like to be them —and their appearances and behaviors aren't merely figments of your personal imagination. As such, idealism is different from solipsism and shouldn't be confused with it as you make your way through the next chapters.

Chapter 5 explains our classical world under idealism. The goal is to show that, even if there were no such things as

quantum mechanics and its counterintuitive implications, the notion of a mental universe would *still* be the most parsimonious and powerful explanation for our daily experiences. The chapter argues that existence consists of patterns of self-excitation of one universal mind. We and other living organisms are dissociated alters of this universal mind, akin to the multiple disjoint personalities of a person with dissociative identity disorder. The inanimate universe we see around us is the extrinsic appearance of mentation in the segment of universal mind that is not comprised in any alter, which I shall call 'mind-at-large.' So the inanimate universe is indeed outside our individual psyches—that is, outside our respective alters—but still inside universal mind. We seem to inhabit the same shared world because we are all immersed in, and surrounded by, the ideas of mind-at-large.

Then, Chapter 6 bites the bullet of quantum weirdness by tackling what is technically called 'contextuality.' Basically, contextuality means that the properties of the physical world—e.g. the position and momentum of objects—do *not* exist independently of observation. The physical world we perceive isn't merely discovered by observation, but *created* by it. Weird as this may sound, contextuality is predicted by quantum theory and many recent experiments have corroborated it. Chapter 6 shows how idealism can make sense of all this *without* solipsist assumptions.

So while Chapter 5 explains a classical, *non*-contextual world under idealism, Chapter 6 explains a quantum, *contextual* world. These worlds are so different that one might expect each to require an entirely distinct ontological framework. Yet, such is not the case. With essentially the same ontology developed in Chapter 5, Chapter 6 makes sense of quantum weirdness: what we call the 'physical world' arises from an *interaction*—an interference pattern—between the internal *mental* state of our alter and the external *mental* state of mind-at-large. An observation *is* this interaction across dissociated mental domains, which explains contextuality.

Notice thus that the ontology in Chapter 5, despite being meant to explain the classical world of everyday experience,

has inherent features that allow it to elegantly accommodate and make sense of contextuality. Reconciling classical and quantum worlds in this seamless manner is—I hope—also a key contribution of Part II.

Although contextuality—with its experimental confirmation—is seldom discussed outside the small and highly specialized community of foundations of physics, it renders untenable the naïve-realist notion that the physical world we perceive around ourselves exists autonomously. *We know, both theoretically and experimentally, that such is not the case.* Nonetheless, for whatever reason, this knowledge hasn't percolated through society. As a matter of fact, it hasn't percolated even through the broader scientific and philosophical communities, which largely continue to operate under a view of reality known to be false.

As such, idealism isn't just a *better* explanation for the world we perceive around ourselves; it is possibly the *only* viable explanation, insofar as the known alternatives—variations of physicalism and bottom-up panpsychism, as well as some interpretations of cosmopsychism—are untenable in view of contextuality. This observation is sobering and has been a key motivation for the publication of this volume.

Moreover, the brief discussion in Chapter 6 about experimental results corroborating contextuality—which are later explained much more extensively, in layman's terms meant for the nonphysicist reader, in Chapter 15—constitutes a compelling *empirical* case for idealism. I have not included it in Part IV of this book partly because it is intrinsically intertwined with the argument in Chapter 6. Consequently, Part IV focuses only on the *neuroscientific* line of empirical evidence for idealism, not the *physical* one.

Ultimately, given the experimental confirmation of quantum mechanical contextuality, the articulation in Chapter 6—though less intuitive—should be closer to the truth than that in Chapter 5.

Chapter 5

An ontological solution to the mind-body problem

This article first appeared in *Philosophies*, ISSN: 2409-9287, Vol. 2, No. 2, Article No. 10, on 20 April 2017. *Philosophies* is published by MDPI AG, Basel, Switzerland. According to the website openaccess.nl, sponsored by Dutch universities and research institutes to foment the publication of publicly-funded research in open-access journals, MDPI AG was one of the most popular open-access publishers amongst Dutch academics in 2016.[1]

5.1 Abstract

I argue for an idealist ontology consistent with empirical observations, which seeks to explain the facts of nature more parsimoniously than physicalism and bottom-up panpsychism. This ontology also attempts to offer more explanatory power than both physicalism and bottom-up panpsychism, in that it does not fall prey to either the 'hard problem of consciousness' or the 'subject combination problem,' respectively. It can be summarized as follows: spatially unbound consciousness is posited to be nature's sole ontological primitive. We, as well as all other living organisms, are dissociated alters of this unbound consciousness. The universe we see around us is the extrinsic appearance of phenomenality surrounding—but dissociated from—our alter. The living organisms we share the world with are the extrinsic appearances of other dissociated alters. As such, the challenge to artificially create individualized consciousness becomes synonymous with the challenge to artificially induce abiogenesis.

5.2 Introduction

The mind-body problem—that is, the question of how conscious experience relates to arrangements of matter—is inextricably tied to ontology. The mainstream physicalist ontology, for instance, posits that reality is constituted by irreducible entities—which I shall call 'ontological primitives,' or simply 'primitives'—outside and independent of experience. According to physicalism, these primitives, in and of themselves, do not experience. In other words, there is nothing it is like to *be* a primitive, experience somehow emerging only at the level of complex arrangements of primitives. As such, under physicalism experience is not fundamental, but instead reducible to physical parameters of arrangements of primitives. What I shall call 'microexperientialism,' in turn, posits that there is already something it is like to be at least some primitives (Strawson et al. 2006: 24-29), combinations of these experiencing primitives somehow leading to *more complex* experiences. As such, under microexperientialism experience is seen as an irreducible aspect of at least some primitives. The ontology of panexperientialism (Griffin 1998: 77-116, Rosenberg 2004: 91-103, Skrbina 2007: 21-22) is analogous to microexperientialism, except in that the former entails the stronger claim that *all* primitives experience. Finally, micropsychism (Strawson et al. 2006: 24-29) and panpsychism (Skrbina 2007: 15-22) are analogous—and, in fact, may be identical—to microexperientialism and panexperientialism, respectively, except perhaps in that some formulations of the former admit cognition—a more complex form of experience—already at the level of primitives, as an irreducible aspect of these primitives. For ease of reference, I shall henceforth group microexperientialism, panexperientialism, micropsychism and panpsychism, as defined above, under the label 'bottom-up panpsychism.'

If we stipulate that an entity is *conscious* if, and only if, there is something—*anything*—it is like to *be* the entity, we can then summarize the discussion above as follows: (a) physicalism posits that all ontological primitives, in and of themselves, are unconscious, consciousness arising only at the level of complex

arrangements of primitives; (b) bottom-up panpsychism posits that at least some ontological primitives are *conscious* in and of themselves, their combinations leading to more complex consciousness.

Notice, however, that the question of what physical entities are or are not conscious is not the only angle through which to approach the mind-body problem. Indeed, according to the ontology of idealism, physical entities exist only insofar as they are *in consciousness*, irrespective of whether they are conscious or unconscious. In other words, whilst physicalism and bottom-up panpsychism entail that there are physical entities or arrangements thereof that *circumscribe* consciousness, idealism posits that all physical entities and arrangements thereof are *circumscribed by* consciousness. This is a significant distinction that alone sets idealism—whatever its particular formulation—apart from all other ontologies discussed.

The present paper seeks to derive the simplest and most explanatorily powerful ontology possible from the basic facts of reality, thereby attempting to solve the mind-body problem. It starts by stating these basic facts precisely, in a way that avoids any *a priori* metaphysical assumption or bias. A series of inferences are then made, based on empirical rigor, logical consistency and parsimony. These inferences ultimately lead to an idealist ontology that explains all the basic facts. Explicit comparisons are finally made between the ontology so derived and those of physicalism and bottom-up panpsychism, in terms of both parsimony and explanatory power.

Before we begin, however, notice that idealism has a long and rich history, which can be traced back to the Vedas in the East and Neoplatonism in the West. Many different schools of idealism are known today, such as 'subjective idealism,' 'absolute idealism,' 'actual idealism,' etc. The criteria for classifying a new formulation under one or another school are often difficult to apply with precision, due to their often ambiguous definitions and inconsistent usage of words such as 'mind,' 'consciousness,' 'experience,' 'subject,' 'object,' etc. For this reason, I have chosen to simply present my approach in and of itself. Others can worry later about classifying it, if they

find it worthwhile.

5.3 The basic facts of reality

Let us start by neutrally and precisely stating four basic facts of reality, verifiable through observation, and therefore known to be valid irrespective of theory or metaphysics:

> *Fact 1:* There are tight correlations between a person's reported private experiences and the observed brain activity of the person.

We know this from the study of the neural correlates of consciousness (e.g. Koch 2004).

> *Fact 2:* We all seem to inhabit the same universe.

After all, what other people report about their perceptions of the universe is normally consistent with our own perceptions of it.

> *Fact 3:* Reality normally unfolds according to patterns and regularities—that is, the laws of nature—independent of personal volition.

> *Fact 4:* Macroscopic physical entities can be broken down into microscopic constituent segments, such as subatomic particles.

What makes these four particular facts significant is this: despite the formidable unresolved problems of both physicalism (Levine 1983, Chalmers 2003, Nagel 2012, Kastrup 2014, Kastrup 2015) and bottom-up panpsychism (Goff 2009, Coleman 2014, Chalmers 2016), these two ontologies are *prima facie* more easily reconcilable with the four facts than idealism.

On the physicalist side, the argument for this might go as follows: If the brain doesn't somehow constitute or generate conscious experience through specific arrangements of its microscopic constituent segments (Fact 4), how can there be such tight correlations between observed brain activity and

reported inner experiences (Fact 1)? If the world isn't fundamentally independent of, and outside, phenomenality, it can only be analogous to a dream in consciousness. But in such a case, how can we all be having the same 'dream' (Fact 2)? Finally, if the world is in consciousness, how can it unfold according to patterns and regularities independent of our personal volition (Fact 3)?

On the bottom-up panpsychist side, the following considerations might be added to the above: Since physicalism has hitherto failed to explain how the qualities of experience can be deduced from physical parameters, experience must be fundamental. The question then is: fundamental at what level? Well, since the macroscopic brain can be reduced to microscopic building blocks (Fact 4), experience must be a fundamental aspect of these microscopic building blocks.

5.4 Unpacking the basic facts

By carefully unpacking Fact 1, we can confidently state five other facts:

> *Fact 5:* Irrespective of the ontological status of what we call 'a person,' there is *that* which experiences (TWE).

Properly understood, this is self-evident and, as colorfully put by Strawson (2006: 26), not even a sensible Buddhist rejects such a claim. For clarity, notice that I am not necessarily making an ontological distinction between experience and experienc*er* here; in fact, soon I will claim precisely that there isn't such a distinction. I am simply recognizing that experience necessarily entails a subjective field of potential or actualized qualities. TWE *is* this field.

Notice also that I am not, at least for now, passing any judgment or making any assumption about the nature or boundaries of TWE. I am not saying, for instance, that it is or isn't physical, or spiritual, or informational, etc. I am not saying that it is or isn't circumscribed by the skin of a higher animal. I am simply asserting that it inevitably exists, whatever its nature may be and wherever its boundaries may lie.

Fact 6: A person has private experiences that can only be known by others if the person reports them, for other people do not have direct access to these private experiences.

Fact 7: The brain activity of a person is known only insofar as its observation is experienced in the form of perceptions.

For instance, if a neurologist performs a functional magnetic resonance imaging (fMRI) scan or an electroencephalogram (EEG) of a person's brain activity, the measurements are only known insofar as the neurologist—or someone else—*sees* them consciously.

Fact 8: From Facts 1 and 7, there are tight correlations between two types of experience: (a) conscious perceptions of a person's brain activity and (b) private experiences of the person.

Let us call these the *extrinsic appearance* and the *intrinsic view,* respectively. More generally, the intrinsic view is an entity's conscious inner life, while the extrinsic appearance is how this conscious inner life is perceived by another entity e.g. through instrumentation. Both the intrinsic view and the extrinsic appearance are, of course, still *experiences* insofar as they can be known.

Fact 9: A brain has the same essential nature—that is, it belongs to the same ontological class—as the rest of the universe.

After all, brains are made of the same kind of 'stuff' that makes up the universe as a whole.

5.5 Deriving an idealist ontology from the basic facts

The question that presents itself now is this: What is the most parsimonious ontological explanation for these nine facts? Here I use the qualifier 'parsimonious' in the sense of Occam's Razor: the most parsimonious ontology is that which requires the smallest number of postulates whilst maintaining sufficient

explanatory power to account for all facts. In what follows, I offer six inferences that, together, aim to answer this question.

> *Inference 1:* The most parsimonious and least problematic ontological underpinning for Fact 5 is that TWE and experience are of the same essential nature. More specifically, experience is a *pattern of excitation* of TWE.

This avoids the need to postulate two different ontological classes for TWE and experience, respectively. It also circumvents problems regarding the mechanisms of interaction between TWE and experience, which would arise if they were assumed to be of different essential natures. As an excitation of TWE, experience is not distinct from TWE as ripples are not distinct from water, or as a dance is not distinct from the dancer. There is nothing to ripples but water in motion. There is nothing to a dance but the dancer in motion. In an analogous way, there is nothing to experience but TWE 'in motion.' Ripples, dances and experience are merely patterns of excitation of water, dancers and TWE, respectively.

Now, from Fact 8 we know that the activity of brains is accompanied by inner experience. In other words, there is something it is like to *be* a living brain. One possibility is that something about the particular structure or function of brains constitutes or generates experience. However, it is impossible to conceive—even *in principle*—of how or why any particular structural or functional arrangement of physical elements would constitute or generate experience (Rosenberg 2004: 13-30, Strawson et al. 2006: 2-30). This is a well-known problem in neuroscience and philosophy of mind, often referred to as the 'hard problem of consciousness.' The qualities of experience are irreducible to the observable parameters of physical arrangements—whatever the arrangement is—in the sense that it is impossible to deduce those qualities—even in principle—from these parameters (Chalmers 2003). It remains conceivable that physical arrangements could *modulate* experience, without constituting or generating it, if one postulates some form of dualism. But this still leaves 'that which experiences' entirely unexplained, since TWE is now

that which is modulated (cf. Inference 1). From all this we can conclude that:

> *Inference 2:* TWE is an ontological primitive, uncaused and irreducible.

Clearly, this step of my argument depends on the 'hard problem' being a fatal blow to the notion that physical stuff more fundamental than experience somehow constitutes or generates experience. There is now, of course, substantial literature supporting this view (e.g. Levine 1983, Chalmers 2003, Rosenberg 2004: 13-30, Strawson et al. 2006: 2-30, etc.). Nonetheless, you may still disagree with Inference 2 for two reasons: (a) you may think that physicalism in fact does not entail a 'hard problem' (e.g. Dennett 2003); or (b) you may think that the 'hard problem' *can* be solved, even though today we do not know how. Position (a) implies that conscious experience essentially does not exist, which, as I have extensively argued elsewhere (Kastrup 2015: 59-70), is absurd. After all, conscious experience—whatever its underlying nature—is the primary datum of existence. Position (b), on the other hand, cannot be refuted upfront because, outside closed formal systems such as mathematics or logic, one often cannot prove a negative. But if you sympathize with position (b), my invitation to you is this: continue nonetheless to entertain my argument to its conclusion; compare physicalism to the idealist ontology that will emerge from it at the end; and then ask yourself which alternative is more parsimonious.

Having briefly digressed, let us now proceed. Since 'that which experiences' cannot be caused by local physical arrangements (Inference 2), and since living brains—which *do* experience (Fact 8)—are of the same essential nature as the rest of the universe (Fact 9), we must face the possibility that the latter also experiences. Rejecting this conclusion entails accepting an arbitrary discontinuity in nature. As such, the entire physical universe may be akin to a 'nervous system' in the specific sense that all its activity may be accompanied by experience. Is there any circumstantial empirical evidence for this kinship? As it turns out, there is: a study has shown

unexplained structural similarities—not necessarily *functional* ones, mind you—between the universe at its largest scales and biological brains (Krioukov et al. 2012).[2] We can thus cautiously attempt:

Inference 3: TWE is associated with the entire universe.

This does not imply that the activity of particular subsets of the universe is accompanied by *separate* conscious inner lives of their own. Asserting otherwise would require an extra inferential step. As such, it cannot be logically concluded from Inference 3 that there is something it is like to be, say, a home thermostat in and of itself. To gain intuition about this, consider e.g. an individual neuron in your brain: Is there anything it is like to be it, in and of itself? Insofar as you can directly experience, there isn't: there is only something it is like to be your brain *as a whole*—that is, you—not the individual neuron in and of itself. Nonetheless, this observation does not contradict Fact 8: the activity of the neuron is still accompanied by experience, *but experience at the level of your brain as a whole*. Analogously, Inference 3 must be interpreted parsimoniously as implying solely that all activity in the physical universe is accompanied by conscious inner life *at some level*, and not necessarily that particular subsystems of the universe—such as home thermostats—have separate conscious inner lives at their own level.

The best that can be concluded beyond this cautious interpretation of Inference 3 is that TWE is, in fact, *unitary* at a universal level: the validity of the laws of nature across time and space seem to indicate a holistic underlying reality, as opposed to a fundamentally fragmented one. Moreover, as argued by Schaffer, "there is good evidence that the cosmos forms an entangled system, and good reason to treat entangled systems as irreducible wholes" (2010: 32). Horgan and Potrč had already arrived at similar conclusions earlier (2000). So if the cosmos is an irreducible whole, then TWE—which is associated with the entire cosmos, as per Inference 3—must be unitary.

Yet, we know empirically that living people have separate,

private experiences (Fact 6). Many of my personal experiences are surely not the same as yours. Moreover, I am not aware of what is going on in the universe as a whole and, presumably, neither are you. To reconcile these facts with the discussion above, I propose as a useful analogy a common mental condition called *dissociation.* Dissociative states are well recognized in psychiatry today, featuring prominently in the DSM-5 (American Psychiatric Association 2013). Their hallmark is "a disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception" (Black & Grant 2014: 191). In other words, dissociation entails that some mental contents cannot evoke other mental contents, leading to *apparent* fragmentation. A person suffering from a particularly severe form of dissociation called Dissociative Identity Disorder exhibits multiple, "discrete centers of self-awareness" (Braude 1995: 67) called *alters.*

Dissociation allows us to (a) grant that TWE is fundamentally unitary at a universal level and then still (b) coherently explain the private character of our personal experiences (Fact 6):

> *Inference* 4: There is a sense in which living organisms are alters of unitary TWE.

It is important to notice that the formation of alters does not entail or imply fragmentation of TWE itself, but only the dissolution of cognitive bridges between some of TWE's mental contents. Even when these mental contents are dissociated from each other—in the sense of not being able to directly evoke each other—TWE remains unitary. Let us unpack this.

As mentioned above, dissociation entails "a disruption of and/or discontinuity in the normal integration" of mental contents. This normal integration takes place through chains of cognitive associations: a perception may evoke an abstract idea, which may trigger a memory, which may inspire a thought, etc. These associations are *logical,* in the sense that e.g. the memory inspires the thought because of a certain *implicit logic* linking the two. Integrated mentation can thus be

modeled, for ease of visualization, as a connected, directed graph. See Figure 5.1a. Each vertex in the graph represents a particular mental content and each edge a cognitive association logically linking mental contents together.[3] Every mental content in the graph of Figure 5.1a can be reached from any other mental content through a chain of cognitive associations. Dissociation, in turn, can be visualized as what happens when the graph becomes disconnected, such as shown in Figure 5.1b. Some mental contents can then no longer be reached from others. The inner subgraph is thus a representation of an alter.

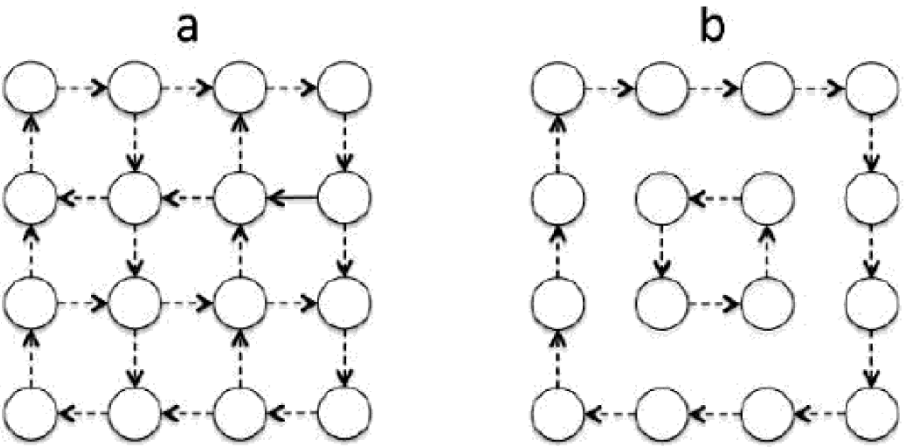

Figure 5.1: A connected graph (a) illustrating normal integration of mental contents, and a disconnected graph (b) illustrating dissociation and the corresponding formation of an alter (inner subgraph).

An alter loses access to—that is, the power to evoke—mental contents surrounding it, *but remains integral to TWE.* The disconnection between an alter and the surrounding mental contents is logical, not ontic. As an analogy, a database may contain entries that are not indexed and, therefore, cannot be reached, but this does not physically separate those entries from the rest of the database. Similarly, dissociation allows us to explain the existence of separate, private conscious inner lives, whilst preserving the notion that TWE is, and always remains, fundamentally unitary.[4]

As discussed above, the empirical motivation for positing

dissociation as the explanation for Fact 6 is the clinical condition called Dissociative Identity Disorder (DID). There has been debate about the authenticity of DID. After all, it is conceivable that patients could fake it. Research, however, has confirmed DID's legitimacy (for an overview, see Kelly et al. 2009: 167-174). Two very recent studies are particularly interesting to highlight. In 2015, doctors reported on the case of a German woman who exhibited a variety of alters (Strasburger & Waldvogel). Peculiarly, some of her alters claimed to be blind while others could see normally. Through EEGs, the doctors were able to ascertain that the brain activity normally associated with sight wasn't present while a blind alter was in control of the woman's body, even though her eyes were open. When a sighted alter assumed control, the usual brain activity returned. This is a sobering result that shows the literally *blinding* power of dissociation.

In another study (Schlumpf et al. 2014), doctors performed fMRI brain scans on both DID patients and actors simulating DID. The scans of the actual patients displayed clear and significant differences when compared to those of the actors. This study is interesting not only for confirming the authenticity of DID, but also for showing that *dissociation has an extrinsic appearance*. In other words, there is something dissociative processes *look like* when observed from the outside, through a brain scanner. The significance of this fact will become clear shortly.

Finally, there is also compelling evidence that alters can remain conscious and self-aware even when not in control of the body. In Morton Prince's well-known study of the 'Miss Beauchamp' case of DID, one of the alters "was a co-conscious personality in a deeper sense. When she was not interacting with the world, she did not become dormant, but persisted and was active" (Kelly et al. 2009: 318). Braude's more recent work corroborates the view that alters can be co-conscious. He points to the struggle of different alters for executive control of the body and the fact that alters "might intervene in the lives of others [i.e., other alters], intentionally interfering with their interests and activities, or at least playing mischief on them"

(1995: 68). It thus appears that alters can not only be concurrently conscious, but that they can also vie for dominance with each other.

As seen above, dissociation is an empirically established phenomenon known to occur in experiential space, which can lead to the formation of co-conscious alters. And since TWE is universal experiential space (Inference 3), it is empirically coherent to posit—as Inference 4 does—that top-down dissociation leads to the formation of discrete but concurrently conscious centers of experience within the otherwise unitary TWE.

The challenge we must now tackle is the so-called "boundary problem for experiencing subjects" (Rosenberg 2004: 77-90): What structures in nature correspond to alters of TWE? We know that we humans do. Do animals too? What about plants? Rocks? Atoms? Subatomic particles?

As Gregg Rosenberg put it, "we must find something in nature to ground [the boundaries of] an experiencing subject" (2004: 80)—that is, the outline of the extrinsic appearance of an alter of TWE on the screen of perception. This "something in nature" must have structural and functional characteristics that allow us to differentiate it from everything else. After all, only on the basis of this differentiation can we delineate the dissociated alters from an extrinsic perspective. But just what is the structure Rosenberg was looking for? Departing here from Rosenberg's own conclusions, I posit that a natural and empirically plausible candidate is metabolizing life:

> *Inference 5:* Metabolizing organisms are the extrinsic appearance of alters of TWE.

The reasoning here is simple: since we only have intrinsic access to ourselves, we are the only structures *known* to have dissociated streams of inner experiences. We also have good empirical reasons to conclude that normal metabolism is essential for the maintenance of this dissociation, for when it slows down or stops the dissociation seems to reduce or end (Kastrup 2017a[5]). These observations alone suggest strongly that metabolizing life is the structure corresponding to alters of

TWE.

But there is more: insofar as it resembles our own, the extrinsic behavior of *all* metabolizing organisms is also suggestive of their having dissociated streams of inner experiences analogous to ours in some sense. This is obvious enough for cats and dogs, but—you might ask—what about plants and single-celled organisms such as amoebae? Well, consider this: "many types of amoeba construct glassy shells by picking up sand grains from the mud in which they live. The typical *Difflugia* shell, for example, is shaped like a vase, and has a remarkable symmetry" (Ford 2010: 26). As for plants, many recent studies have reported their surprisingly sophisticated behavior, leading even to a proposal for a new field of scientific inquiry boldly called "plant neurobiology" (Brenner et al. 2006). Clearly, thus, even plants and single-celled organisms exhibit extrinsic behavior somewhat analogous to our own, further suggesting that they, too, may have dissociated streams of inner experiences. Of course, the same cannot be said of any inanimate object or phenomenon (those that have been engineered by humans to merely simulate the behavior of living beings, such as robots, natural language interfaces, etc., naturally don't count).

Finally, there is no doubt that metabolism is a highly differentiated process. Consider DNA, morphogenesis, transcription, protein folding, mitosis, etc.: nothing else in nature exhibits structural and functional characteristics such as these. And it is these characteristics that unify all metabolizing life into a unique, clearly distinct natural category, despite the widely different forms that organisms can take. This category may provide the unambiguously demarcated "something in nature" that Rosenberg was looking for.

The essence of Inference 5 is that there is something an alter of TWE looks like from outside; namely, a metabolizing body. By now this shouldn't come as a surprise: recall that, in the discussion leading to Inference 3, I've posited that the physical universe is, in a specific sense, akin to a 'nervous system.' Recall also that a study has shown that dissociative processes in the nervous systems of DID patients have a distinct extrinsic

appearance, detectable by brain scans (Schlumpf et al. 2014). Therefore, it is plausible that dissociation in the universal 'nervous system' should also have a distinct extrinsic appearance. The hypothesis here is that metabolizing organisms *are* this extrinsic appearance. As such, living bodies are to universal-level dissociation in TWE as certain patterns of brain activity are to DID patients. In the case of the universal 'nervous system,' however, we don't need brain scanners, for we are already *inside* the 'nervous system.' To see the extrinsic appearance of dissociated mental processes within it we just need to look around: the people, cats, dogs, insects, plants, amoebae and all other life forms we see around are the diagnostic images of universal 'DID.' Each corresponds to at least one alter.

For clarity and emphasis, notice that I have been elaborating on two levels: TWE as a whole and its dissociated alters, which are themselves nothing but local differentiations of TWE. Moreover, there are two ways in which an alter of TWE can be experienced: (a) its *extrinsic appearance*—that is, the metabolizing organisms we can perceive around us; and (b) its *intrinsic view,* an example of which is your own stream of inner experiences as an alter yourself. Moreover, unless we are prepared to accept an arbitrary discontinuity in nature, the same must apply to the rest of the universe: its extrinsic appearance is the cosmos we perceive around us, while its intrinsic view is the hypothetical stream of inner experiences of TWE as a whole.

One may feel tempted to conclude that this implies some form of dual-aspect monism, *a la* Spinoza (Skrbina 2007: 88), whereby intrinsic views and extrinsic appearances are irreducible to one another. What I shall attempt to show next is that this is not so: extrinsic appearances can in fact be reduced to intrinsic views.

Before I continue, however, notice that it is *perceptions* that carry extrinsic appearances, not thoughts (for simplicity, I shall henceforth use the word 'thought' to refer to any experience distinct from perception). If all you experienced were thoughts, you would have no extrinsic point of view at all, only an