

A CLARIFICATORY DEFENSE OF ELIMINATIVE MATERIALISM

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ABSTRACT

A CLARIFICATORY DEFENSE OF ELIMINATIVE MATERIALISM

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This dissertation aims to clarify the true meaning, scope, and target of eliminative materialism (EM). Though its name suggests that the position tells us to empty the content of mind, the real lesson of EM is that folk psychology (FP) is not in charge, and that “we must confront the issue of the descriptive integrity and explanatory efficacy of folk psychology for what it is: an empirical question.” To see how this is so, we must recognize the several formulations of the position and their interrelations. EM, at the ontological level, concerns the idea that it is *a priori* reasonable to think that the whole FP framework might one day wither away as the relevant sciences proceed. At the methodological level, it aims to free the scientific study of cognition and human behavior from the harmful constraints of FP.

Following Paul Smolensky’s remarks in his seminal paper on connectionism, my treatment of the Churchlands’ EM is intended as a formulation of eliminativism that is at once strong enough to form a major philosophy of mind hypothesis, comprehensive enough to face several complex challenges, and sound enough to

resist many objections in principle. Only after having achieved that, can we commence to assess the scientific adequacy of eliminativism's positive proposal.

Keywords: eliminative materialism, neurophilosophy, naturalism, folk psychology, connectionism, metaphilosophy, Churchland



ÖZ

ELEYİCİ MATERYALİZMİN NETLEŞTİREN BİR SAVUNUSU

Tümkiye, Serdal

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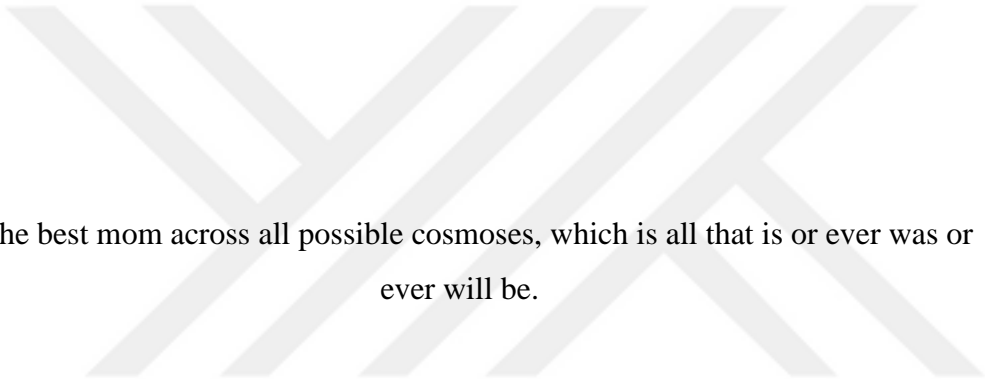
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Bu tez eleyici materyalizmin (EM) gerçek anlamı, kapsamı ve hedefini netleştirerek onu savunmayı amaçlamaktadır. İsmi farklı konuşsa da EM'nin esas mesajı zihnin tüm içeriğini çöpe atmak değil ama halk psikolojisinin (FP) biliş ve davranış araştırmalarımızın müdürü olmadığını göstermektir. Bunun neden öyle olduğunu görmek için, öncelikle bu pozisyonun değişik formülasyonları ve aralarındaki ilişkileri anlamamız elzemdir. EM ontolojik inceleme düzeyinde tüm FP açıklama çerçevesinin, ilgili bilimlerle ilerledikçe tümünden yok olmasının önsel olarak makul olduğunu ifade eder. Yöntemsel düzeyde ise EM, biliş ve davranışın bilimsel çalışmalarında FP'nin zararlı kısıtlayıcı etkilerden kurtulmasını amaçlar.

Paul Smolensky'nin bağlantısalcılık üzerine çığır açan makalesindeki ifadelerini takiben diyebilirim ki, benim buradaki Churchland-tipi eleyicilik çözümlemem, eleyiciliği aynı anda bağımsız bir major zihin felsefesi hipotezi, ona yöneltilen çok sayıda karmaşık itirazla başa çıkabilecek derecede kapsayıcı ve onları yenebilecek kadar sağlam yapacak bir yeniden formüle etme girişimini barındırır. Ancak bu yeni formülasyon gerçekleştirildikten sonra eleyiciliğin gerçekten de bilimsel olarak yeterli bir kuram olup olmadığını araştırmaya başlayabiliriz.

Anahtar kelimeler: eleyici materyalizm, nörofelsefe, doğalcılık, halk psikolojisi, bağlantıcılık, metaphilosophy, Churchland





To the best mom across all possible cosmoses, which is all that is or ever was or
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putting. I hope to reduce this hostile attitude to eliminativism by offering a set of clarifications concerning its major arguments.

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TABLE OF CONTENTS

PLAGIARISM.....	iii
ABSTRACT	iv
ÖZ	vi
DEDICATION	viii
ACKNOWLEDGMENTS	ix
TABLE OF CONTENTS	xvi
LIST OF ABBREVIATIONS	xix
TERMINOLOGICAL CAVEATS	xx
CHAPTERS	
1. INTRODUCTION.....	1
2. THE CURIOUS CASE OF ELIMINATIVISM.....	9
2.1. Introduction	9
2.2. The Most Widespread Misperceptions About EM Among the Experts .	12
2.3. From Ordinary Materialist to Radical Eliminativist	15
2.4. Overview of the Earliest, and Less Recent, Formulations of EM.....	17
2.5. Quine: “Elimination as Explication”.....	19
2.6. James Cornman and his Invention of the Name EM	22
2.7. Wilfred Sellars and Paul Feyerabend.....	28
2.8. Rorty-Area Eliminativism.....	31
2.9. Contemporary Eliminativism is Not Primarily an Ontological Issue	33
2.10. Conclusion	44
3. OVERVIEW OF THE CHURCHLANDS AND FP.....	45
3.1. Introduction.....	45
3.2. The Churchlands’ Neurophilosophy: Trivial or Radical?.....	46

3.3. EM is Not an Obituary for FP	51
3.4. Neurophilosophy vs. Philosophical Zone: Entrance Forbidden?.....	57
3.5. The Nature of FP and its Achievements	59
3.6. Conclusion	60
4. EVEN NAGEL IS REVISIONIST AS THE CHURCHLANDS.....	62
4.1. Introduction.....	62
4.2. Nagel's and the Churchlands' Views, in a Short but Coherent Form.....	64
4.3. The Problem of Physicalism: An Objective Account of the Subjective .	66
4.4. Churchland, the Third-Person Viewpoint, and Eliminativism.....	69
4.5. Nagel's Proposal of Expansionary Revisionism.....	74
4.6. Conclusion	78
5. SEVERAL FORMULATIONS OF EM.....	79
5.1. Introduction.....	79
5.2. Varieties of Belief: Sentential, Austere, or Neurocomputational	83
5.3. Several versions of EM: eliminability, eliminative, and revisionary.....	90
5.4. The Limited Revisions and "No-Limit to Revision" Version.....	100
5.5. Not Conclusion but a Continuation: <i>Alief</i> as an Intermediary Link.....	106
6. ACTUAL TARGET RANGE OF THE CHURCHLANDS' EM.....	110
6.1. Introduction.....	110
6.2. The First Allegiance of Churchland: Revisionism at All Levels	111
6.3. Mature Cognitive Neuroscience and FP	117
6.4. Elimination, Revision, and the Art of Educated Guesses	119
6.5. Conclusion	126
7. OBJECTIONS AND REPLIES.....	127
7.1. Introduction.....	127
7.2. Scientism.....	127
7.3. Self-Refutation and Unintelligibility	133
7.4. Changing the Topic	136
7.5. Exaggeration and the Dangerous Enthusiasm.....	137
7.6. Futurism	138

7.7. Neuroscience Exceptionalism	140
7.8. The Social, Cultural, and Historical Dimensions of Cognition	144
7.9. Is it Nonetheless Philosophy or Some Replacement For it?	145
7.10. The Explananda, Irrationality, and Logical and Normative Issues	146
7.11. Conclusion	148
8. CONCLUSION	150
REFERENCES	156
APPENDICES	177
A. CURRICULUM VITAE	177
B. TURKISH SUMMARY / TÜRKÇE ÖZET	185
C. THESIS PERMISSION FORM / TEZ İZİN FORMU	215

LIST OF ABBREVIATIONS

EM:	eliminative materialism. Sometimes I write “eliminativism” for aesthetic reasons. In general, eliminativism could be directed against anything; here, it is only directed against FP.
FP:	folk psychology
PDP:	parallel distributed processing
RM:	revisionary materialism
RP:	revisionary physicalism
FP framework:	folk psychological framework
PF posits:	folk psychological posits

TERMINOLOGICAL CAVEATS

“Belief and desire psychology,” “common sense psychology,” “folk psychology,” “our self-conception,” and “naïve psychology” are just various ways of talking about the same thing, unless stated otherwise: an almost universal framework used by humans for thousands of years, worldwide, to understand, predict, and manipulate other people’s behavior and mental lives.

FP is “a speculative and corrigible causal/explanatory theory of the behaviour and inner workings of *homo sapiens*” (P. M. Churchland, 1985a, p. 158).

Although, for convenience, I usually use the name **connectionism**, I almost always refer to a specific connectionist research program: the parallel distributed processing (PDP) approach. Connectionism is an approach to cognitive modeling.

In the context of my dissertation, **neurophilosophy** refers only to those studies that obtain philosophical results from brain sciences, and not to the philosophy of neuroscience. Neurophilosophy is “philosophy as it is being transformed by advances in neuroscience” (Noë, 2003, p. 803).

Revisionism frequently concerns those positions that emphasize the unlikelihood of an eliminative *outcome*. Nonetheless, it herein concerns the original *methodological* suggestion of EM: upgrade your cognitive concepts as science forces you to do so.

Eliminativism is a general attitude. One can be an eliminativist about anything one wishes: the world, physical objects, God, chair, or morality. However, EM, arrant nonsense for many, is confined to debates concerning consciousness and cognition, including FP.

EM challenges “the integrity of the propositional attitudes as the basis for a computational theory of cognition” (P. M. Churchland, 2007, p. 160). It repudiates the idea that propositional representation is the fundamental and general form of representation in biological cognition.

EM’s resultant conclusion: Given both FP’s severe flaws and the existence of a rival paradigm, whose initial indicators are promising, let us continue to explore this alternative epistemological paradigm, that is, the emerging neurocomputational cognitive and social neuroscientific framework, in the areas of philosophy of mind, of science, epistemology, cognitive science, moral philosophy, and all the relevant behavioural sciences, including scientific psychology.

Physical sciences: astronomy, physics, chemistry, molecular biology, genetics, biochemistry, and biophysics.

Natural sciences: the physical sciences plus the life sciences, including brain sciences and the experimental parts of behavioral sciences such as psychophysics.

Natural science (used as an uncountable noun): the theory of whatever exists. Here I follow the usage of Quine.

Neurosciences versus **neuroscience**: no difference, except one of emphasis. The reader should keep in mind that some branches of neuroscience differ remarkably in their methods, level of rigor, concepts, and tools. Biophysics is an integral part of low-level neuroscience, like cellular and molecular neuroscience. Conversely, we also see social cognitive neuroscience. Although postulating rigid boundaries between the branches of neuroscience is unwise, there are hard-to-ignore dissimilarities among them. Indeed, a quick look at their respective journals reveals the scale of the diversity. This is why some authors love to caricature the

Churchlands' approach as "neurobiology alone" theory. This is a misrepresentation to the extent of being hollow.

"Neurocomputational biology," "computational neurobiology," and "computational neuroscience" all refer to the same thing. "Cognitive neurobiology" and "cognitive neuroscience" are the same.

Naturalism: When I talk about the naturalism of the Churchlands, I mean Quinean naturalism. Conversely, the extension is considerable when I speak of naturalist philosophers, including liberal and other kinds of nonscientific naturalists. Quinean naturalism promises more testable and less speculative answers, and tries to keep up with evolutionary and other life sciences. It starts its philosophizing in the middle of the action rather than at the beginning (the mythical View from Nowhere).

When Paul Churchland, the eternal optimist, remarks: "[I]t is no longer possible to do major work in the philosophy of mind without drawing on themes from the philosophy of science and the several sciences of the mind–brain," and then: "Very shortly it will no longer be possible to do major work in the philosophy of science without drawing on themes from the philosophy of mind and from the related disciplines of computational neuroscience, cognitive psychology, and connectionist AI," I think that he articulates two illuminating variants of a hypothesis of a naturalistic philosophy of mind (P. M. Churchland, 1989, pp. xv–xvi).

Neurophilosophy: Quinean naturalism is the parent category of the Churchlands' neurophilosophy. This does not necessarily mean that Quine would largely agree with the Churchlands' fundamental ways of philosophical theorizing. The Kuhnian image of science is omnipresent in the Churchlands' philosophy. Intriguingly, many neurophilosophy programs and neurophilosophers have emerged as being neutral about, or even hostile to the Churchlands: John Bickle,

Georg Northoff, William Bechtel, Thomas Metzinger, Hong Yu Wong, Alva Noë, and Andy Clark are notable examples. Some of these are students or colleagues of the Churchlands, while others are from central Europe. In any case, there is no major problem with calling them neurophilosophers. However, it is nonsensical to call naturalist philosophers such as Daniel Dennett neurophilosophers. This is a widespread mistake that one encounters worldwide, probably because many people erroneously associate neurophilosophy with scientism or reductionism.

Patricia Churchland: “Neurophilosophy arises out of the recognition that at long last, the brain sciences and their adjunct technology are sufficiently advanced that real progress can be made in understanding the mind-brain [...] it predicts that philosophy of mind conducted with no understanding of neurons and the brain is likely to be sterile. Neurophilosophy, as a result, focuses on problems at the intersection of a greening neuroscience and a graying philosophy.” (P. S. Churchland, 2002, pp. 2–3)

CHAPTER 1

INTRODUCTION

At the most general level, the Churchlands' philosophy boils down to spotting the philosophical and psychological assumptions that fail to square with the reality of human behavior and cognition. One result of this search is eliminative materialism (EM), or eliminativism: "the possible displacement of our familiar *self-conception*—a conception that portrays each human as a self-conscious rational economy of propositional attitudes" (P. M. Churchland, 1998a, p. 25).

Eliminativism, utter madness for some, is one of the most criticized philosophical positions ever. Even contemporary substance dualism has not yet received as many rebuttals as EM. Since the word "eliminative" leads people to think that EM's defenders intend to urge philosophers to *eliminate* mind, consciousness, subjective experience, qualia, or even philosophy itself, this position has been the target of heavy airstrikes for the last half-century. Some philosophers treat EM as if it were a place where curiosity inevitably kills the cat. They dislike even the notion of exploring the intriguing possibilities that are inherent in folk psychology's (FP) being a theory. FP is described by Paul Churchland as follows:

"Folk psychology" denotes the prescientific, commonsense conceptual framework that all normally socialized humans deploy in order to comprehend, predict, explain, and manipulate the behavior of humans and the higher animals. This framework includes concepts such as *belief, desire, pain, pleasure, love, hate, joy, fear, suspicion, memory, recognition, anger, sympathy, intention*, and so forth. It embodies our baseline understanding of the cognitive, affective, and purposive nature of people. Considered as a whole, it constitutes our conception of what a person is. (P. M. Churchland, 1998b, p. 3)

As is easily seen, FP is used to make sense of the actions and thoughts of both humans and higher animals. It is a prescientific and collective conception of ourselves. This is why I use the expressions "FP" and "our self-conception" interchangeably. It is systematic, speculative, corrigible, and empirical in

character. Moreover, it is “vague, incomplete, and festooned by *ceteris paribus* clauses” (P. M. Churchland, 1998a, p. 30). Sometimes the concepts embodied in this framework are called our mentalistic vocabulary or mentalistic idioms. The term “common-sense psychology” is almost the same as FP.

A quick look at these terms reveals that they seem to be strongly needed for human cooperation and the existence of social life and institutions, suggesting that the framework that embeds them is indispensable, at least in the marketplace. Eliminativism is a methodological call, namely, “update your ideas concerning psychology as the relevant sciences force you,” and an ontological prediction as to the fate of FP, namely, “the possible displacement of FP from scientific vocabulary, or daily transactions, or both.”

In 1965, Richard Rorty discussed the plausibility of eliminativism. Sellars and Feyerabend discussed similar positions throughout the fifties and sixties. Many articles were published by senior scholars of mind throughout the seventies that aimed to tear down these early versions of eliminativism. The primary reasons given for rejecting this position were its self-refuting character, its scientific spirit, futurism, and utter misguidedness. In 1981, Canadian-born neurophilosopher Paul Churchland published a seminal work entitled “Eliminative Materialism and the Propositional Attitudes.” Discussing first the *a priori* reasonableness of the future elimination of the FP explanatory framework across the board, and then, having established its *a priori* reasonableness, going on to evaluate its substantial probability, Paul Churchland sparked an everlasting debate over this supposedly insane idea. This article made him, for some, an iconoclast and, for others, a non-philosopher.

Since laypeople have used FP for hundreds of thousands of years, we would require initial ironclad indicators to even pay attention to the details of the eliminativist thesis. FP is, roughly, the framework in which laypeople reason concerning other people’s ideas and behaviors. This reasoning makes it possible to predict, manipulate, and explain the contents of other minds, as well as our own

minds. Powerful as it seems as a tool, FP has been said to be inadequate, especially in relation to abnormal behavior and neurological syndromes. For rational behavior, however, it would not be wise to claim the same. These two observations are mainly shared by defenders and critics of eliminativism. Just think about how effective this framework is for understanding and predicting human behaviors, within areas such as criminology, psychological profiling, psychiatric professional help, advertising, and political psychology. Simply put, how could we organize ourselves and cooperate without understanding, predicting, and manipulating other people?

Moreover, how could we predict people's behavior without using the notions of belief and desire, and of course, an underlying assumption of rationality? People, unlike the inorganic world, or even animals, *act*. Action is not simply behavior. Action is frequently said to be intentional and active. Action-explanation is of a logical character (see P. M. Churchland, 1970). Intentionality has been assumed to be the mark of the mental. Thus, any attempt to eliminate FP would imply denying the intentionality of the human mental world, or simply the human mind. This brings about all the standard charges of violating the human-animal distinction, denying free will, dismissing the agency and undermining the rationality of human behavior, eliminating consciousness and subjective experience, and even secretly waiting for philosophy to wither away in favor of an imperialistic science.

All these accusations may seem powerful and even decisive, unless they are scrutinized under a mighty microscope. This dissertation aims to figure out the true lesson of contemporary EM and evaluate its strengths and weaknesses. Because there are ambiguities and a natural evolution of this position, I also distinguish ten related but distinguishable versions of EM and assess each of them, in order to select one of them as the best version in terms of factual accuracy and philosophical relevance.

Since EM rejects the propositional notions of belief and desire, it is hard to imagine what EM proposes instead of these concepts. I will argue that Tamar Gendler's notion of *alief* might help to further the cause of eliminativism (Gendler, 2010a, 2010b, 2012). As a middle way between our current propositional notion of belief and its far-future neurocomputational successor (which is still quite underdeveloped), alief might turn out to be a fantastic resource for overcoming some recalcitrant problems of current EM. Alief might give some direction to an otherwise blind pursuit. It is likely that alief will contribute significant, long-lasting ideas to the rather impoverished conceptual repertoire of folk and scientific psychologies, cognitive science, and philosophy of mind.

Here is the basic outline of my dissertation.

Chapter 1: An introduction that clarifies how the dissertation is organized, what its main contribution is, how this will be argued for, what the reader will find in each chapter, and how it contributes to the overall argument. Why the issue is essential, what the broader implications of the proposed solution might be, and the core terms are explained here.

Chapter 2: A concise history of EM and its critics is given in this chapter. Although its history can be traced back centuries, I will only be interested in its developments in the last century. The history and place of eliminativism in philosophy of mind will be evaluated. The immediate context of EM seems to be philosophy of mind. This is only valid on its face of it, however. The history and philosophy of science, philosophy of language, and metaphilosophical consideration are the actual context of the problem. Human agency, free will, rationality, normativity, and human dignity are thought to be threatened by the consequences of EM.

The chapter begins with a fourfold history of eliminativism: early EM, behaviorist EM, Rorty-Style EM, and contemporary eliminativism. The entire period under

discussion ranges from 1900 to 2020. The reader will also find some speculations on the future nature of the EM debate. The major figures will predictably be James, Broad, Feigl, Quine, Smart, Place, Sellars, Feyerabend, Rorty, Stich, and the early Churchlands.

Chapter 3: This chapter is an overview of the Churchlands' general philosophy, including reductionism, naturalism, and eliminativism. The focus is on their reductionism as a research strategy. I aim to set the record straight here. Trying to place them in their right location within naturalism, I hope to alleviate the widespread prejudice against neurophilosophy.

Section 2 zooms in on key aspects of the Churchlands' neurophilosophy, with a special focus on allegations of triviality or radicalism. Section 3 tries to show that EM about FP is actually quite a modest claim. Next, I focus on the possible reasons for the exclusion of the Churchlands' neurophilosophy from mainstream philosophy.

This chapter is primarily an overview of the Churchlands' general philosophy, designed to show that many aspects of their approach are fairly moderate: reductionism, naturalism, and neuroscience bias. EM itself is discussed only in a short section. However, this discussion provides a sense of the theoretical surroundings of the EM debate. An excellent way of introducing EM is to point out that Churchlandian philosophy is in many ways a very familiar form of revisionism, to the extent that even Thomas Nagel comes close to it. Chapter four makes this idea more concrete. Their proximity to Nagel should provide further evidence for the case that the Churchlands' general philosophy is fairly moderate, and serves as a starting point for defending the idea that EM is a familiar form of revisionism, as will be detailed in Chapters 5 and 6.

Chapter 3 also previews the remainder of my dissertation, which deals with claims of moderateness, methodological revisionism, neuroscience exceptionalism, and a limited target range.

Chapter 4: This chapter attempts to show that Thomas Nagel and Patricia Churchland, two seemingly very different philosophers of mind, in fact resemble each other quite closely in their severe critique of FP. Due to FP's deep inadequacies, both Nagel and Churchland have suggested important revisions to it, which, strikingly, have led both of them to call their positions "revisionist."

By showing this, I hope to further my case that the Churchlands' alleged eliminativism is a fairly moderate methodological idea with which even Nagel may agree. This chapter is supposed to be a gateway to the extensive discussion about the revisionist undercurrents of EM in the subsequent chapter.

I first try to offer a coherent and intelligible account of how Nagel, on the one hand, and the Churchlands, on the other, understand physicalism, FP, and revisionism. Second, I present textual evidence to support my interpretation of their views; and third, I argue that their views, so interpreted, have something philosophically relevant in common.

Chapter 5: The Churchlands' EM, which has frequently been misrepresented and incorrectly insulted, has always primarily been a threat to devastate the propositional conception of biological cognition, not a global assault on cognition itself. By reconsidering the mistakes that philosophers make concerning EM, a proper definition of this thesis and a clarification of its relation to its chief critics, such as self-professed revisionists and friends of abstract functionalism, will emerge. Thus, we will be able to evaluate EM's true strengths and weaknesses.

This chapter centers on the Churchlands' endorsement of EM as a liberating methodological notion that rejects the chief role played by FP in categorizing high-

level psychological phenomena, as opposed to the original ontological claim. Dramatic expressions of EM do not help to resolve the disagreement, but do help to create tragic misunderstandings. For now, it is time to call an end to the dramatic song that has played for the last forty years.

Chapter 6: Most critics of the Churchlands oversimplify their nuanced position and misrepresent their narrow and cautious claims, as if they were broad and bold. The Churchlands' EM, unless construed as trivial, is unanimously said to be extreme or nonsensical. One major cause for this mistaken view is that the exact scope, if such there be, of the Churchlands' eliminativism has been badly misrepresented. This chapter is rather descriptive, and reviews the Churchlands' actual attitude concerning individual psychological categories such as free will, morality, agency, goal, belief, rationality, and normativity.

Chapter 7: Objections and replies. Charges of scientism, self-defeat, changing the topic, exaggeration, blinding enthusiasm, futurism, neuroscience exceptionalism, reductionism, dismissing social and cultural influence, and promoting the death of philosophy will be refuted. There are also lesser-known counter-arguments against contemporary eliminativism. Some of these will be dealt with in passing as the chapter develops.

There have been many overt objections and much intuitive resistance to EM. Charges of scientism, self-defeat, changing the topic, exaggeration, blinding enthusiasm, futurism, neuroscience exceptionalism, reductionism, dismissing social and cultural influence, and promoting the death of philosophy are conspicuous. In addition, I will make a few remarks concerning different explananda of EM and FP, irrationality, logical and normative issues, and levels of explanations. The intuitive resistance, meanwhile, relates to worries about the possibility of philosophy losing its autonomy. This chapter is a general evaluation of eliminativism's capacity to rebut the major objections to it. My verdict is that it survives most of them *intact*. Conversely, it is far from clear whether EM's

positive proposal, in the form of network-style epistemology, offers an adequate theoretical and conceptual repertoire for performing high-level cognitive tasks; which renders its capacity to provide a sound basis for modeling human cognitive performance quite tricky to evaluate. Even in neurocomputational epistemology's most successful scenario, much currently used folk psychological terminology may remain viable and productive in daily transactions.

Chapter 8 consists of a recapitulation of the preceding chapters, a schematic version of the overarching argument, and a discussion of future research. The last of these three takes up the most space here. Since I argue that the real lesson of EM is that FP is not in charge, and that “we must confront the issue of the descriptive integrity and explanatory efficacy of folk psychology for what it is: an empirical question” (P. M. Churchland, 1998a, p. 38); the question of reductionism again confronts us here. However, reductionism has nothing to do with an ontological attitude, but is rather a simple research strategy in this renewed context. This strategy is happy to work in cooperation with top-down approaches. Individual thinkers may have certain biases, prejudices, and predilections. For example, Patricia Churchland's bias is in favor of neuroscience, which is supposed to provide hard and fast data. Paul Churchland invests in computational models, which are neurally inspired, hoping them to provide essential insights into the human brain and mind.

“I am only too well aware of how inadequate my dissertation is to its rather ambitious title. Many subjects that should have been discussed are not touched upon, and those discussed are not exhausted. However, it is the best that I can do at present; and I hope that some parts of it, at any rate, may form starting-points for fruitful controversies among philosophers of mind, science, language, and metaphilosophers.” (Adapted from Broad, 1925)

CHAPTER 2

THE CURIOUS CASE OF ELIMINATIVISM

2.1. Introduction

As good and evil wage war on a cosmic scale from the dawn of time, the mental realist and the materialist are at war, from the birth of philosophy, on a metaphilosophical level in which metaphysical theories exclusively adopted either the physicalist or the mentalist perspectives. In each episode of these recycled wars, the enemy has been dubbed materialist, pure materialist, physicalist, monist materialist, reductive materialist, identity theorist, disappearance materialist, revisionary physicalist, or EM.¹

The proponents of mental realism chronologically judged the philosophers to be guilty of suggesting the identification of mind with the brain, reduction of mind to the brain, a substantial revision in the traditional concept of the mind, or the projected displacement of the mind. These convicted criminals are pronounced to be the enemies of the soul, consciousness, qualia, and the entire mind with accompanying features of human life such as rationality and normativity. These last two human features are traditionally supposed to form the necessary ground for the possibility of free will, decision making, agency, moral and legal attribution, and a folk psychological framework. The last one is presumed to be

¹ A couple of terminological caveats. In the context of my dissertation, there is no difference between materialism and physicalism. I make no difference between reductive and reductionist physicalisms or between the disappearance version of the identity theory and eliminativism as such. By mentalist perspective or mental realism, I cite all the philosophers of mind arguing against any version of eliminativism to save room for some emergent, irreducible, or at least autonomous mental substances, events, processes, or features. Thus property dualists are paradigmatic mental realists in the standards of this work. Especially for the half-century, it is pretty normal to be a mental and physical realist at the same time.

Eliminativism is a general stance, and eliminative materialism is pertinent to mind or cognition. This difference is immaterial to my point, and I interchangeably use these two for convenience.

indispensable for human interaction and cooperation, the basic abilities we need to have a cohesive and well-functioning society and a culture. FP is our traditional self-conception to effectively understand, predict, and manipulate the behaviors and thoughts of other people and ourselves. The explicit and tacit knowledge and underlying principles embedded in FP form a system that is highly integrated inferentially. Only the propositional notion of belief could provide such an inferentially highly integrated system, or at least, not necessarily strictly integrated system with some parts insulated or inaccessible.

FP postulates a “rational subject.” As Herbert Simon summarizes it in his seminal paper, this person is assumed to know the relevant aspects of her environment. Her knowledge is, as the limiting case, absolutely complete. In the actual world, it is at least enormous. She is also assumed to have a well-organized and stable system of beliefs and desires, in addition to a skill in computation that enables her to calculate the alternative courses of action available to her. This capacity to compute the alternatives permits her to attain her goals in the most effective way and satisfy her desires (Simon, 1955, p. 99).²

Eliminativism is, in the main, a theory that explores a projected displacement of FP and a methodological call to upgrade any psychological notion, without any exception, as the relevant sciences force us. Revisability at every level and of any theory is the motto of eliminativism concerning the mind. Taking the *possibility* of across-the-board displacement of the entire framework *serious* would be the minimal belief to count eliminativist. This outcome is known as eliminative possibility.

² As is seen from Simon’s description, there is an intimate connection between the current notion of rationality and the structure of the propositional FP. Eliminativism needs a rewritten notion of rationality to displace FP. The implausibility of satisfying such a need is one of the most substantial reasons for the critics’ objections. Even the idea of replacing the current notion of rationality with a pragmatic one repels many philosophers working in the non-naturalist expanses of contemporary analytic philosophy. For a tiny minority, the idea is not quite crazy. The debate over replacing the current logical conception of rationality with a naturalized counterpart parallels eliminativism’s unintelligibility. These two hot debates are at root the two sides of the same coin.

The history of EM is not so long, at least not ancient as virtue ethics. The pertinent figures are as follows: James, Broad, Young, Feigl, Smart, Place, Quine, Sellars, Feyerabend, Rorty, Stich and Ramsey, and the young Churchland. The first half of the last century may be called earliest eliminativism. Behaviorist conception of it could be recognized from 1950–1965. Rorty-style EM refers to 1965–1980. The next to it lies contemporary eliminativism: 1978–2020, the leading figures are Stich and the Churchlands. The future of EM is sometimes said to be not about propositional attitudes but cognition in general. The post-2020 period of EM may be mainly at the methodological level, a discussion within social neurocognitive science.

As is playfully said for scientific psychology, I would say the philosophy of mind has lost first its soul, then its consciousness, and finally its mind altogether, as it aspires to assimilate human cognition to natural sciences (see Feigl, 1967, p. 3). This chapter is a succinct story of eliminativism's strange evolution through the last century as philosophers get used to the redefined notions of the physical. The critics of the theories based on the primacy of the physical accordingly lower the range of their attacks against physicalist positions. People were initially accused of being eliminativist when they defended materialism. Then, only the ones argue for a reductive or identity materialism were thought of being eliminativist. Next, the critics have a change of heart. Now, they assert many reductionist philosophers are not eliminativist at all. They now spare the title of eliminativism to philosophers, until further notice, that urge mind to get emptied out because it is spooky or mythological.

Each edition of the set of criticisms against physicalism (or reductive or eliminative ones) was more obscure but pointlessly thicker than the one before in the line of succession. Some philosophers even followed a zombie objection (of the denial of consciousness) that will hardly die, and there may be no point in arguing. The allegation of the denial of consciousness has been shining dimly for decades.

It may be true that most figures I discuss in this chapter tend to think somewhat that the present philosophical notion of consciousness is not a suitable subject for scientific investigation because the very idea is ill-defined. Furthermore, we do not yet have anything like a scientifically acceptable definition of consciousness, and it is not easy to see how we could get one. The current notion of consciousness is at best confused, and at worst, it is mystical. This statement has nothing to do with the idea that what we intuitively think of as conscious phenomena does not exist. There should be a meaningful distinction between roughly unconscious and roughly conscious cognitive states and processes. This apparent distinction might turn out to be so fuzzy to the point of inexistence, however. The notion of cognition and representation is a bit more secure in that these two are slightly better defined and probably will survive many scientific changes and conceptual shifts in relevant sciences.

2.2. The Most Widespread Misperceptions About EM Among the Experts

William Ramsey, one of the best-known experts on EM and the author of the relevant *SEP* entry (Ramsey, 2020a), recently published an interesting paper on what EM does and does not entail, entitled “What eliminative materialism isn’t” (Ramsey, 2021). I argue that the core features that Ramsey alleges about EM, despite their seemingly obvious character, are actually unsupported, given the idea’s history and on the basis of the actual texts written by the most accomplished proponents of the eliminativist position. The core features, according to Ramsey, seem natural because the name EM strongly suggests that this school of thought urges us to eliminate something, and since the context is the mind–body problem, it must involve the elimination of the mind, or at least, some features thereof.

What could be more natural than this construal of EM, given that the dictionary definition of the word eliminative requires “serving to eliminate”? The eliminative organs serve to eliminate waste products or foreign substances from the body.

Thus, “eliminative materialism” must involve a materialism that serves or tends to eliminate. However, this natural construal does not fly, and it is a paradigmatic example of the homonymy fallacy. Some things do not reflect what their names strongly indicate. Perhaps some words do accurately reflect what their names suggest, but what determines what that name suggests correctly remains elusive. What are the waste products or foreign substances of the mind/body problem and what, precisely, is the genuine counterpart of the body in the context he describes? A moment of contemplation reveals that the phrase “body” corresponds to mind. The waste products and foreign substances are counterparts for certain outmoded features of the mind and the, otherwise troubled, mentalistic terms such as sentential belief. Sentential belief lies at the heart of our mentalistic framework, which is in an abnormally isolated epistemological situation in its relation to emerging cognitive and brain sciences. It was introduced from the outside, on the basis of the model of overt speech and scientific laws, and has been fictionally narrated by Sellars. Eliminative organs tend not to eliminate the organs themselves, let alone the body itself, except under some peculiar and utterly desperate conditions. If there is an alternative organ that is available, and can be transplanted into the body, then struggling to save the organ by eliminating the waste product and foreign elements becomes the most unwise course of action? In plain English, making more and more revisions gradually becomes the least optimal choice.

EM certainly urges the elimination of some waste products. These are the by-products of Western science’s accidental evolution; it involves the slowly emerging barrier between the study of the mind and the study of the brain. If there is truly a foreign substance that can be found in philosophy, then it is this barrier that our immune system will constantly attack in the clothes of science. EM serves to eliminate it and tends not to eliminate anything earlier than itself and becomes a liability instead of an asset. *Revisions* to the troubled assets must precede the *elimination* thereof as future liabilities. Today’s liabilities are yesterday’s troubled assets.

Ramsey naturally assumes that EM is antithetical to *revisionism* and is orthogonal to methodological debates. He asserts that what he presents as EM is actually the traditional, *proper* EM and believes that his presentation requires neither textual evidence nor references. EM, he asserts, is undoubtedly interested in eliminating some features of the mind or the mind itself. No reference is made to Sellars, Feyerabend, Rorty, or Stich in his exposition of EM, not even to EM's name-giver James Cornman, other than casually mentioning his name.

Ramsey insists that EM should involve eliminating something from our ontology. No large-scale revision or radical taxonomic reworking could be considered eliminativism, not even term-dropping reductionism. If EM involved revisions, then its name would more properly be "revisionary materialism," but it is not. Ramsey speaks for many in rendering EM an ontological hypothesis. This chapter aims to deal with such misunderstandings, to dispel confusion, to refute objections, and to reach broader implications. I refute his definitions, explode his fallacies, and expose the absurdities of his conclusions. His assumptions are natural, but naturalness is not a guarantor of truth.

How could his exposition be accurate when he does not speak about Quinean ontological commitment or the Kuhnian image of scientific change anywhere in his work? Unlike Ramsey and many other commentators on EM, I will undertake this review by closely examining Cornman's published texts, plus the publications of both EM's grandparents and the parents: Sellars, Quine, Feyerabend, Rorty, and Stich. Any alleged core features of EM are reviewed and rejected through an examination of the basic ideas and motivations that underpin these ideas. I strictly follow Ramsey's method of trying a different angle to get a clearer view of EM by tracking which views should not be variants of EM. My initial finding includes the one that Ramsey provides.

Ramsey never states the considerations on the basis of which he assumes that EM defends the elimination of the mind or its features. Of course, EM involves eliminating something, and it probably concerns our mentalistic something, such as FP, our self-conception, or its core, namely propositional attitudes. I agree with these views. I disagree that being about elimination is the same as defending that elimination. Apart from what I have claimed above, about the possible targets of elimination, this investigation may also involve exploring the prospects of complete elimination and taking the a priori possibility of an across-the-board elimination of folk psychology, *seriously*.

The absurdity of the conclusions that follow from Ramsey's depiction is that there remains no actual proponent of EM. No one, including Feyerabend, Quine, Rorty, or Stich, if we agree with Ramsey's core features, can claim the title of eliminativist. In fact, this is what Ramsey implies for Rorty (Ramsey, 2020b).

I will provide a sketched summary of the actual history of EM, over and against Ramsey's conception of EM (for a much better reconstruction, see Stich, 1983, pp. 13-23). In so doing, I hope to show that Ramsey's natural construal of EM's core features has no basis in its actual content and history in light of the relevant textual facts. Let us begin with the history and curious evolution of EM.

2.3. From Ordinary Materialist to Radical Eliminativist

The mental realist and the materialist (sometimes in a behaviorist's clothes) are at war, ever since the birth of modern philosophy. The enemy has been dubbed materialist, pure materialist, physicalist, monist materialist, reductive materialist, identity theorist, behaviorist, double aspect theorist, disappearance materialist, revisionary physicalist, or eliminativist in each episode of these recurring wars.

The mind's different features have been considered to be stumbling blocks for materialism, and the mental realists' focus has shifted constantly. The proponents

of mental realism chronologically judged the materialist philosophers to be guilty of suggesting the identification of the mind with the brain, the reduction of the mind to the brain, the dismissal of the mind as the point of scientific attack, a substantial revision to the traditional concept of the mind, exploring the prospects of a projected displacement of folk psychology, and finally advocate and encourage the elimination of anything related to the mental, effective immediately. These convicted criminals are pronounced to be the enemies of the soul, consciousness, experience, qualia, and the entirety of the mind with accompanying features of human life, such as rationality and normativity.

Since the folk psychological notion of belief represents the utmost example of propositional attitudes that forms the core of FP framework, I should provide a very rough, albeit not necessarily universally accepted, description of sentential belief. Sentential belief has correctness conditions; that is, it is truth-apt. Belief is available to consciousness, and thus the idea of unconscious belief strongly stretches the concept to the point of self-refutation. Belief is responsive to evidence, at least under ideal conditions. It resists volitional change and it is stable across situations. Sentential belief differs from other related mental states, such as acceptance, habit, alief, imagination, assumption, credence, faith, or guessing, to varying degrees and in different ways. Sentential belief is intimately connected to rationality as we typically construe it. Atypical notions of rationality may be consistent with rather atypical conceptions of beliefs. Recent epistemology is very diverse and sophisticated and this set of features has been challenged in many ways. However, it is still reasonable to think of it as a foil for a presentation of the eliminativist attack on belief.

FP's social importance, lurking in the background, makes it very hard to see how it might be dispensed with while leaving human freedom and dignity largely *intact*. This social importance is the source of the heated debates over the status of EM. Indeed, there are many increasingly popular eliminativist ideas about many things, but they rarely spur heated discussions.

Prior to the arrival of Sellars and Feyerabend, no known philosophers in analytic philosophy gave detailed arguments to show that the wholesale elimination of our self-conception is an intelligible idea; this means the idea is not incoherent or otherwise necessarily false: EM is of a priori reasonableness.³ This feature is essential to original EM's negative construal. This construal simply states that the complete elimination of our self-conception is a coherent idea, not a self-contradictory, unintelligible one. This is where Sellars, Feyerabend, and Rorty begin their respective investigations. If there be any traditional or proper EM, *pace* Ramsey, then it must be in this neighborhood. Philosophers ought to avoid conducting a "word analysis" instead of "conceptual clarifications." The first one may easily leave one open to the homonymy fallacy, which occurs throughout the literature on eliminativism. The periphery becomes a primary focus in Ramsey's presentation precisely because of he falls prey to this fallacy. The perspective from the periphery crucially distorts his view, thereby resulting in his erroneous central claims. This distorted view typically represents EM as an ontological thesis, even though it would be better to represent it as a methodological suggestion. Ramsey's act of dismissal of this aspect of EM might be naively thought of as a clearing of the deck of purportedly extraneous materials for the reader. However, if anything was considered extraneous to the main message of EM, then it would be the ontological hunches of some of its proponents.

2.4. Overview of the Earliest, and Less Recent, Formulations of EM

Who is the founder of EM or something approximating it? William James anticipates EM's construal of consciousness. Broad discusses the idea, only to refute it as self-defeating immediately. Logical empiricists such as Feigl, behaviorist psychologists such as Watson, Boring, Skinner, and philosophers like Smart, Place, and Quine developed positions in the same ballpark as EM. These positions are closely, but locally, related to each other and can be dissociated in a

³ It is possible that there are older philosophers who defend the same position in world philosophies. It is even possible that there are analytic philosophers who defend EM in the sense above and much earlier than the middle of the last century. However, I have no knowledge of them.

finer-level of analysis. The victims and the assassins changed throughout EM's curious evolution. These authors might not be eliminative materialists in the contemporary sense, but it is reasonable to say that they are fellow travelers. Nevertheless, it is only with Feyerabend and Rorty that we can talk about contemporary EM, which primarily about the prospect of replacing our self-conception in general or the propositional attitude psychology in particular.

Eliminativists started, in the second half of the 1970s and in the first half of the 1980s, to entertain the possibility of replacing the propositional conception of cognition with the then-recent connectionist cognitive models, functioning at both the subpersonal and subconceptual levels (Stich, 1983). The successor is thought to be nonsentential (Ramsey et al., 1990). Ramsey, Stich, and Garon all put their arguments as a conditional hypothesis and this distinguishes their work from Paul Churchland's, who seemed to them to be "more confident of connectionism [and] invoke [their] conditional as part of a larger argument for doing away with the propositional attitude" (Ramsey et al., 1990, p. 500). If connectionist models prove superior to the traditional mentalistic conception of belief, then it is rational to eliminate belief; this argument could be extended to the whole family of propositional attitudes and to some other select mentalistic notions too (cf. Stich, 1983, p. 10).

This is the positive part of EM and it emerged only after the demonstration of the *a priori reasonableness* of a wholesale eradication of FP. Sellars, Feyerabend, and Rorty already achieved this negative part. Today, many philosophers of mind, and probably an overwhelming majority of the cognitive scientists, see this primitive version of EM as sound. This might be because Churchland spends two thirds of his seminal paper, entitled "Eliminative Materialism and the Propositional Attitudes", reinvigorating this negative argument through his reply to those functionalist objections that were directed against the eliminativist's previous ideas (P. M. Churchland, 1981, secs. I-IV). Let us now proceed by examining the individual leading figures, who preceded Stich, in the evolution of EM.

Let us begin with Quine. Quine's importance stems from two separate sources. First, he is one of the earliest philosophers to famously challenge the purported distinction between the reductionistic and eliminativistic term-droppings. This is why Cornman begins his article in 1968 by attacking Quine. Second, Quinean themes are omnipresent throughout the ideas of both Rorty and Stich, and it is almost impossible to have a thorough understanding of EM without Quinean pragmatism (cf. Rockwell, 2011).

Before proceeding to a discussion of Quine's relation to eliminativism concerning mind, I need to clarify something. Reductionism and eliminativism are occasionally presented as opposing positions in the context of EM. This is only true when one equates reductionist materialism with type-identity theory. What eliminativism opposes is indeed type-identity theory, and its opposition to reductive theories is only derivative upon it. Type identity theory, when (or if) anticipates a smooth identification with pure reduction, it is a diametrical opposite of EM. However, for example, in Quine's framing of the problem, eliminativism equates with reductionism as we now turn to see why. His eliminativism is borrowed from mathematics. Conversely, for some philosophers of cognitive science, of mind, or of science, reductionism is an adopted research strategy and only means neurobiological addressability without thick ontological commitments. These remarks, I hope, help to dispel some of the confusions surrounding the relations between reduction, elimination, and type-identity theory in the differential contexts of Quine and contemporary eliminativists.

2.5. Quine: "Elimination as Explication"

It is a weird, albeit entrenched, practice of philosophers to call Quine an eliminativist or as leaning toward it, although a more accurate expression would

be that Quine is tolerant of elimination. The textual evidence is provided in Quine's most famous book, entitled "Word and Object" (esp. 1960, pp. 263-266). Quine does not discuss the mind and body problem properly in this book, though he does in other places. He only uses the mind-body problem as a lead-up to his larger project, which involves illustrating how the relation between explication and elimination in mathematics could be extended into many domains. Even though we see complementary revisions in mathematical cases of explication, Quine thinks that mathematical explications should be considered to involve elimination. This is, roughly, the "elimination by substitution" that is omnipresent in algebra and is known as "the elimination method." In this method, one variable is eliminated, and the equation becomes much easier to solve. One can liken it to "synonymity through interchangeability." One expression means nearly the same as another expression if it is a synonym for it, especially in the explicative context. Thus, if angry means X, and if X is a neurophysiological statement, then the neurophysiological explanation can replace the psychological one. They are equal and, in a sense, one of these two might actually become redundant: elimination by redundancy. I am certainly not talking here about actual explanations of the world. There is no compelling reason to eliminate through explication in the real world. We are now only speaking from a theoretical point of view, just as Quine does.

Quine questions the logical *necessity* of keeping the psychological level explanation, even though it provides a complete explanation, which implies that the same explanation could be given at the neurophysiological level alone. He argues that we do not have to keep the macro level in specific situations, such as when we have to have complete explanations of the relevant domain. These remarks are never meant to serve as practical advice for psychologists, let alone for laypeople. This is merely a theoretical conclusion that has been arrived at from a very abstract perspective. As can be seen, Quine knows all too well that people have heated-debates about the possible distinctions between reductionist term-dropping and the eliminativistic ones (Cornman, 1968b; Lycan & Pappas, 1972; Rorty, 1965; Savitt, 1975). He responds to this dichotomy by repudiating it.

Ramsey knows Quine's attitude toward the duality, but thinks of his repudiation as having conflated two distinct things. We will see the same repudiation in Rorty as well. Ramsey thinks that Rorty conflates two fundamentally distinct term-droppings: the eliminativistic and reductionistic ones. This time Rorty develops Quine's attack. He makes his case very concretely and it is detailed with many striking examples from the actual history of science. In a very Quinean fashion, Rorty asserts that our inclination to treat the theory changes differentially has little to do with the differential natures of those changes and more to do with our psychological reactions to that change. We could well say that there are no tables. We could, but would not. Eliminative talk about the tables is almost inconceivable from a practical point of view, even though it is possible, and not just logically possible. The skeleton comes from Quine, but the articulations and elaborations on that skeleton belong to Rorty.

Almost all of EM's champions, according to Ramsey, have conflated the two obviously and fundamentally distinct types of theory change in the early period of eliminativism. He speaks about the early period as though the purported distinction between the two had gone unnoticed by both Quine and Rorty and by like-minded others. On the contrary, they all know the popular distinction and argue extensively against it. This is not an error of omitting the distinction, but rather the commission of a devastating attack on its status.

I do not make the false impression that the defenders of EM deny that there is any distinction between elimination and reduction. Claiming this would be both most unwise and would be insanely inaccurate historically. Surely, type identity theory—as it (or if it) anticipates a smooth identification between the psychological and neurological types—amounts to very different strategies than the ones employed by Stich, for example. Stich did not predict that there would be a smooth intertheoretical identification between theories at the psychological and neuroscientific levels, especially concerning propositional attitudes. Indeed, this is one of the pillars of propositional-attitude eliminativism. In Cornman's words,

it is named as postulation-elimination materialism, contemporary EM for short. The propositional attitudes have been postulated in order to account for some allegedly well-established features of how our minds work. Churchland denies some, or many, of those facts and explores some replacements in terms of neurocomputational posits. This line of reasoning has never been a part of the Quinean treatment of the problem. On the contrary, Quine makes a strong distinction between his explication as elimination and a much more ambitious program of neurophysiological replacement (1960, p. 265).

Perhaps Quine is an anomaly in the history of eliminativism. Let us now turn to examine James Cornman's motivations in his attack against eliminativism. Cornman is a leading figure in the early period of eliminativistic theories of materialism. He invented the term EM. To any reader whose knowledge of EM's history is limited or withering away, I have to note that none of the developers of EM like this title because it suggests many mistaken ideas about the theory's contents. This uneasiness with the established name is most conspicuous in the Churchlands' writings, who prefer to replace it with the term *revisionary materialism*. In a sentence, EM unfortunately connotes a final judgment about an ongoing process, blocking the intended message of the owners of EM, which is that the scale of revision that will be made to the troubled mentalistic categories and the result of these revisions in terms of "our future decision to talk same or differently" cannot be known beforehand (P. S. Churchland, 1988, p. 398).

2.6. James Cornman and his Invention of the Name EM

Three centuries after Descartes, philosophers discussed whether mental features could be explained physically in the top analytic philosophy journals. Materialist theories of all kinds have been accused of being meaningless, in that they commit the crime of category or conceptual mistake, which render them either incoherent or unintelligible. This objection is usually thought to be compelling because it is a logical argument and brings the cogency and force of logic to settle the debate

once and for all. The accused's ideas cannot even be expressed without being simultaneously falsified.

The terms translatability, eliminability, reduction, and identity were used in their logical context during the years that logical empiricism was the dominant philosophy. Identity was the identity of indiscernibles, which is frequently thought to be the ultimate criterion of identity, namely, Leibniz's principle. A failure of translatability meant the ineliminability of the mental. Thus, any identification of the physical with the mental automatically yields great conceptual difficulty on the part of physicalism. This is not the place to discuss how Place and Smart made moves to render this perennial objection irrelevant. However, in 1962, Cornman published a short commentary to offer a potential solution to these conceptual difficulties (Cornman, 1962). Cornman argues against Jerome Shaffer's refutation of the identity theory (1962, p. 492) by stating that the identity of mind and body may be like the identities that we routinely encounter in science, namely a cross-category identity, not a Leibnizian one. Cornman did not endorse this solution, but instead offered it to explore whether it was proper to apply the cross-category identity concept to the mind-body context. This move was thought to have the potential to advance the materialist cause from its miserable status of being doomed to failure.

Cornman published two very important papers six years later about the possible elimination of sensations and about categorizing materialistic theories (Cornman, 1968b, 1968a). He divides materialist theories into two major camps: (i) the identity theory (reductive materialism) and (ii) the postulation-elimination *and* sensation-elimination theories (eliminative theories). Anyone who wants to learn something about EM *proper* should start with these two articles, and the ones that these two articles are written in response to, such as Quine's early publications and Rorty (1965). Cornman's primary object is Quine's attitude toward the mind-body problem and also Rorty's innovations to rebut the objections raised against

Smart, Place, and Quine. The relation between Quine and Rorty runs deep concerning EM. We will examine this in the section on Rorty-era eliminativism.

It is Quine himself who is highly skeptical of the distinction between reductive and eliminative theories and Cornman acknowledges his repudiating response. This notwithstanding, Cornman asserts that sensations cannot be denied since they are not posits, but are instead experienced directly. The examples that Cornman gives on pages 19 and 20, citing Rorty (1965), nicely illustrate how sensation-elimination theory could be a consistent idea. It is consistent if sensations are like mythological creatures. Otherwise, the elimination with identification is self-refuting. If the thing that is to be explained is identical to the thing that is to explain, then both should either be real or nonexistent. In any case, framing the issue in referential terms is meant to show that sensation-elimination theory is not incoherent, and its plausibility is another problem. Cornman (1968) foreshadows Churchland (1981).

In Quinean philosophy, it makes little sense to double the posits when they are not theoretically necessary. This conflicts with central, epistemic virtues such as simplicity and elegance and, hence, the postulation-elimination theory too. In Ramsey's terminology, Quine's case is the paragon of reductive term-dropping, which has nothing to do with Ramsey's eliminativism *proper*. This is a reductive identity and represents a vindication for the reduced theory and for its posits. This type of theory change is antithetical to eliminativism, if one is to believe what Ramsey repeatedly states. To put it succinctly, the name EM has been invented to dispel the conflation created by Quine's attitude toward mind-body problems and his construal of the identity theory. By forgetting both Quine's and Rorty's pragmatism, Ramsey mistakenly thinks that they fail to distinguish two types of term-dropping theory change. Neither Quine nor Rorty buy Ramsey's naïve, inventory, or ontology (cf. Horst, 2014, pp. 220-221).

Ramsey begins making a series of fundamental mistakes by stating the reverse of what the original EM had. His fictional eliminativism *proper* is antithetical to historically accurate, traditional, and proper eliminativism concerning the mind. This is an instance of the homonymy fallacy *par excellence* that runs strongly through the literature on eliminativism from the last half-century (Bickle, 1992; Savitt, 1975). By citing none of EM's actual leading figures, Ramsey builds his implied objectivity upon an implicit common wisdom and professional consensus. Furthermore, this alleged consensus actually obscures the fact that there are many philosophers and intellectual historians who hold that reduction, revision, and elimination cannot ultimately be separated in actual term-dropping theory changes. Conceding that they form a continuum is much different than the view that they cannot, in most cases, be finally separated in a philosophically relevant and significant way. This much is acknowledged by Ramsey. I understand that Ramsey naturally thinks that *agreeing* with a theory commits one to its implications. However, *exploring* a theory commits one to its premises, even simply to figure out its actual results, not just its mostly indeterminate implications. This involves the explorative use of a theory, which we see through the texts of Feyerabend, Rorty, Stich, and Paul Churchland. For Paul Churchland in particular, I can safely say that he bets on the outcome of a hardly foreseeable course of future events concerning the fate of propositional attitudes. Analytic philosophers scarcely make bets on the outcome of such things. Even guessing "what it amounts to winning the bet" is something that is truly tricky. In any case, the actual formulations developed by EM's chief proponents challenge the entire foundation of Ramsey's construal.

Let us overlook this shortcoming in Ramsey's *proper* eliminativism for the moment, given there are larger ones further down the line. Here is one such oversight. Ramsey agrees with neither Quine nor Rorty, two figures that Cornman names as eliminativist. Surprisingly, Cornman's construal of EM is actually compatible with Ramsey's presentation thereof. Cornman tries to develop a categorization for materialistic theories and, by making a confused distinction

between them, he starts the long series of flawed representations of historically existing EM. The flaws in the depictions of EM have somehow been inherited through communications by Cornman to many others and more recently to Ramsey. Cornman might be the first person to conceive of the issue primarily as being pertinent to the ontological level and framed it in terms of reference and denotation (Cornman, 1968b, p. 17). Ramsey's understanding of eliminativism is reminiscent of Cornman's erroneous framing of a methodological and epistemological issue in terms of reference theory. This framing makes logical behaviorism and EM bedfellows. Instead of grouping Quine with logical behaviorists like Ryle, and distinguishing them from Rorty, the new classification makes three of them harmonious neighbors. In recent biological taxonomy, the mistake would be only little better than classifying gorillas and chimpanzees as adjacent and *Homo sapiens* as separate therefrom and putting her in a precious loneliness. This would have been folk zoology.

Ramsey's and Cornman's mistakes are to be expected, given the formulations they prohibit as being versions of eliminativism. I have uncovered a number of places in which Ramsey reviews several possible motivations and refutes them as legitimate reasons for eliminativistic talk. I argue that most of these motivations are paradigmatic reasons to eliminate some of the mind's features.

Ramsey allows us to claim that these reasons are sufficient to drop a major theoretical commitment or a part of FP, but not to justify its elimination. The analysis of these occasions would lead us to see a much deeper error lurking behind Ramsey's line of reasoning. The first one can be found in this work's second section, which depicts EM's alleged core features. Ramsey claims that when properly understood, EM involves the idea that "something once thought to exist actually does not exist" (Ramsey, 2021, sec. 2). The paradigmatic examples are said to be celestial spheres, demons, and caloric fluid. He also gives examples pertinent to some features of the mind that people might see as candidates for elimination: belief, conscious sensations, concepts, emotions, folk psychology,

propositional attitudes, or memory. Eliminativists should be defending the opinion that beliefs, conscious sensations, or memory do not exist. This line of reasoning would be obvious, if it were true. To see whether or not the line of reasoning is correct, let us first see what that does not amount to. Ramsey states multiple times that eliminativism is not equal to ideas such as the following:

Adequately understood, EM is the claim that some categories or terms, once thought to be involved in folk psychology, are now considered inferior, useless, less accurate, vague, misleading, or redundant. Thus it should be dropped from scientific vocabulary if and when and to the extent that there emerges a rival theory that is likely to prove superior. However, this is a long and convoluted process involving intricate interactions among several disciplines at many levels of research. Through this intricate journey, any framework, or any posit of it, a taxonomy, or a theoretical commitment will probably be revised, fragmented, taxonomically reworked, edges frayed, disintegrated, and then realigned, or otherwise reformed. In the worst scenario, we might see complete elimination. (I wrote these sentences from the viewpoint of actual eliminativists. These ideas are the ones that Ramsey claims to be alien to eliminativism.)

Ramsey argues that this approach has nothing to do with eliminativism *proper*, and that the conflation of these with eliminativism *proper* is a fundamental mistake and a source of further confusion. He asserts that revisions or taxonomic reworkings imply what the original term really denotes, but our understanding of what it denotes is mistaken to varying extents. The result is vindication, not elimination. Ramsey treats theoretical commitments and frameworks as if they were ostensible objects. That is one of the main errors in his line of reasoning. Here we can see the deepest source of his errors: a naïve realist, inventory ontology. His ontology is capable of making an inventory of objects and properties, without caring how they are to be represented. His entities behave like ostensible physical objects.

In order to reinforce my idea that Ramsey is mistaken, I will now analyze the positions held by Sellars and Feyerabend, two giants in the history of EM.

2.7. Wilfred Sellars and Paul Feyerabend

Sellars is one of the earliest figures to argue for the theoretical character of FP, even though he thinks that the framework is mainly correct. Once one acknowledges the framework's theoretical nature, it becomes much easier to entertain the possibility of its wholesale rejection. This stepping-stone is the link between contemporary EM and mid-century discussions about the philosophy of mind. The a priori reasonableness of the elimination of FP across-the-board is one of the original formulations of EM and was reinvigorated in Churchland's work (P. M. Churchland, 1981). Judging from today's distribution of allegiances in the debate about the status and place of the mind in nature, accusing this not-so-radical version of EM of being a trivial idea is cheap. Readers who do not know the relevant history might think that EM is very thin in this form, even to the point of invisibility. So, how did EM become one of the most attacked and insulted ideas in the last decades of the twentieth-century analytic philosophy of mind?

Let us try to make sense of this absurdity. Sellars states that our self-conception is correctible, since it should be carrying error, besides truth, in it and even the image itself is open to elimination. The manifest image, which in our case is a manifest image concerning our self-conception, has partially obtained the status of objective existence. Philosophers are drawn to the pole of the manifest image, instead of the scientific one. Sellars tells a long story to explain why philosophers and laypeople consider the manifest image to be something objective and uncorrectable. However, he argues that the transcendental nature of the manifest image hides the probability of the need for the correction thereof, and the possibility of its turning out to be false:

And it can influence philosophical thinking only by having an existence which transcends in some way the individual thought of individual thinkers. I shall be picking up this theme shortly, and shall ask how an image of the world, which, after all, is a way of thinking, can transcend the individual thinker which it influences. ... The point I wish to make now is that since this image has a being which transcends the individual thinker, there is truth and error with respect to it,

even though the image itself might have to be rejected, in the last analysis, as false. (Sellars, 1991, p. 14)

This passage is the core of Sellars' relation to eliminativism: FP seems transcendental, but it is not. It is neither sacrosanct, nor the chief, nor the litmus paper.

In the later parts of his article, Sellars discusses why people feel that there might not be a neuroscientific counterpart of sensations. This discussion is typical of eliminativism's struggle to demonstrate the internal coherence of their views. The problem they attempt to fix is occasionally called self-refutation or conceptual violation; at other times, it involves changing the subject or being unintelligible. Feyerabend, Rorty, and Stich make new additions to this initial defense. Devising a compelling defense against an objection based upon an allegation of self-contradiction will remain an improbable mission for critics, who remain within the dominant paradigm.

For Feyerabend, FP is theoretical in character as well. Claiming that it is not a theory implies that it is inaccessible to empirical criticism and cannot be enriched, let alone altered, by science (see Feyerabend, 1963, p. 62). This formulation of the problem is close to contemporary eliminativism, and I think it is a remarkable advancement on Sellars' construal of the problem and actually *emphasizes* the harms of ignoring its theoretical nature.

I think that Feyerabend's real contribution to the emergence of contemporary EM is his attempt to counter a universal objection to eliminativism. The argument from self-refutation or unintelligibility is old as eliminativism itself. Feyerabend attempts to refute the refutation, and I think that he succeeds in doing so. Indeed, our traditional conception of the mental world was previously thought of as being empirically irrefutable in the past; it was as though a red line encircled it, and it had been proclaimed a security zone. It seems that it had been declared as a forbidden zone for potential empirical refutation. The defenders of FP argue that

the total elimination thereof is meaningless and unintelligible because it is self-contradictory. Feyerabend's way of phrasing the problem is striking and illuminating. Just stating the position results in contradiction. That is the essence of the purported refutation:

Let us consider meaningfulness first. ... It points out that the materialist, in stating his thesis, is violating them. Note that the particular *words* he uses are of no relevance here. Whatever the *words* employed by him, the resulting *system of rules* would have a structure incompatible with the structure of the idiom in which we usually describe pains and thoughts. This incompatibility is taken to refute the materialist. (Feyerabend, 1963, p. 50)

Meaninglessness creates unintelligibility through contradiction. The mentalistic idiom and the materialistic language are claimed to oppose each other diametrically. There must be something very wrong with the materialist language concerning our self-conception because the available mentalistic idiom can be found in everyday use.

Like Sellars, Feyerabend intriguingly concludes his argument by stating that the argument he presents clears the path for the defense that a neuroscientific or a purely neurophysiological account of human beings is both a coherent and plausible idea (Feyerabend, 1963, p. 65; Sellars, 1991, p. 37). A careful reading of these two seminal papers reveals that most of what will be claimed to refute materialism or eliminativism in the subsequent years had already been answered by these two long papers.

Surprisingly, the objections and replies are all very similar. Let us now turn to an examination of Rorty-era eliminativism, in which we encounter the same discussions with different terms, focus points, and scope. Once again, we see the discussion of logical contradiction, violation in current meanings, the demarcation of conceptual and empirical, conceptual confusions, common usage, or the regular usage of the terms, and others. Rorty begins by arguing that the identity theory makes sense, not that it is true. He explores the idea, not exploits it. Rorty explores EM, thinks about it, and comments on it in detail in order to assess it carefully.

2.8. Rorty-Area Eliminativism

Richard Rorty is not EM's name-giver, but he is the first philosopher who defends it by using its name in his "In Defense of Eliminative Materialism" (Rorty, 1970a). He stated that he defended the disappearance version of identity theory in 1965. Rorty's attack against the incorrigibility of the mental reports starts in his "Mind-Body Identity, Privacy, and Categories" (1965).

As I stated above, the context is the same. There is identity theory and there are its opponents. Rorty almost single-handedly attempted to counter the objections to the identity theory from incoherency from 1965 to 1975. He takes over the flag from Sellars and Feyerabend and submits it to Stephen Stich and Paul Churchland.

Rorty starts with the identity theory. He gives a little, atypical description of the theory's proponents: "The proponent of the Identity Theory (by which I mean one who thinks it sensible to assert that empirical inquiry will discover that sensations (not thoughts) are identical with certain brain-processes)" (Rorty, 1965, p. 24). He clarifies this definition in an associated footnote. Identity theorists predict that empirical inquiry will discover that sensations are identical to some brain processes. The real distinguishing mark of the theory's proponents is not making that prediction, but in arguing that the prediction makes sense, that it is coherent, and is therefore intelligible. Some readers, especially those intellectually distant from the analytic philosophy of mind, may find the idea to be weird. Why would merely claiming that a particular claim makes sense provoke such extensive, decades-long, and heated debates?

Rorty complains about the same things as the previous eliminativists had. The opponents of eliminativism want to take the established usages of the terms for granted. No empirical study, for example, could show that sensations are identical to this or that brain process because, according to the meanings of sensations, they cannot be physical processes. No empirical discovery could change this linguistic

fact, or so say critics. An obvious reply from an eliminativist would be to remind people that such discoveries would change the ways in which we talk, thereby making the existing classifications outdated (Rorty, 1965, pp. 24-25).

Undoubtedly, there are much more sophisticated and relevant objections to eliminativism today than the objections from the established usage or from the common idiom. However, both this objection and the one from self-refutation remain popular among philosophers. Some philosophers greatly appreciate these objections, since these are a priori arguments. Demonstration of self-refutation seems the philosophical move par excellence.

Why did so many eminent philosophers seek to destroy Rorty's version of disappearance theory and why did people start to refer to it as eliminativism? We receive some reasons as to why this might be in the first few pages of the third section of Rorty (1965), entitled "The Analogy between Demons and Sensations." This part includes Rorty's second argument against his opponents, which compares mental events and supernatural events.

The word disappearance itself implies a form of eliminativism for many. Furthermore, now we also have an analogy between demons and sensations. It is well known that demons do not exist. Does this mean that Rorty will defend the nonexistence of sensations? Is it quite as absurd as that? Does he mean that nobody has ever had a sensation? My discussion about Quine's remark about the parallelism between denial of existence and identification of existence should be borne in mind here. Rorty uses the same line of reasoning; if the sensation is nothing but some specific brain-related process, then why should we continue to use the term sensation? Demons cannot properly be understood as resembling germs, but sensations are still brain-related processes. This brings about an intuitive resistance to grouping two kinds under one umbrella and involves eliminating the referring use of the old term. Typically, we call the case of demons

an elimination, but in the case of sensation we refer to it as a reduction, however smooth or bumpy this process is.

This is why the Churchlands frequently denies that they defend any version of type identity theory. They anticipate that if there should be a reduction between the current conception of sensations and the future category of its neuroscientific counterpart, this process will be very bumpy. Thus it will be pointless to call themselves type identity theorists. This is not an essential distinction within physicalism for Rorty. As he states many times, the intelligibility of eradicating sensation from our vocabulary is the distinguishing mark of his disappearance version of the identity theory.

2.9. Contemporary Eliminativism is Not Primarily an Ontological Issue

During the 1970s, Paul Churchland began to construct coherent and extensive literature by which to defend and advance what we could call “neurocomputational naturalism” today.⁴ Authors generally think that Paul Churchland’s seminal paper, (1981) entitled “Eliminative Materialism and the Propositional Attitudes,” is contemporary eliminativism’s starting point. In a nutshell, Churchland-style eliminativism primarily concerns the propositional conception of mind. More specifically, they argue against propositional attitudes, such as sentential belief and desire.

Eliminativism has come to broadly encompass philosophical theories of human behaviour and mind that weaken or that altogether reject the idealised medium for the working and the structure of the propositional attitudes assumed by the FP framework. The idealised condition is the sentential notion of the representations and symbolic levels of computation. This assumption makes it possible to discuss ideal rationality and to ideal decision-making, including the total capacity to

⁴ Ten pages from this point on is about being published by *Philosophical Investigations*.

exercise free will. EM seems to many as an ontological hypothesis, given that EM attacks propositional attitudes.

Like many others, Stich (1996) repeatedly emphasises the view that eliminativism is essentially an ontological doctrine (see also Ramsey, 2020b, 2021). However, it is not the case that eliminativism is actually an ontological doctrine, but it does include a few ontological anticipations, however. EM functions best at the methodological level, as a methodological doctrine, in the most relevant sense of the word doctrine: the body of principles in a system of belief or a set of fundamental beliefs. There are principles and fundamental beliefs to be found in eliminativism. EM is a system of belief with a body of principles. What might they be? In what follows, I outline seven major beliefs and seven underlying principles of EM. When combined together, they yield insight into EM's core message that I intend to discuss after having presented the beliefs and the principles:

Belief One construes FP as a theory-like systematised set of inferentially, somewhat integrated, beliefs and the like, which laypeople have been using for millennia to predict, explain, and to manipulate the thoughts and behaviours of others, as well as to coordinate and cooperate (P. M. Churchland, 1994). What we call FP is arguably a philosophically idealised refinement of what actual folks possess (Poslajko, 2020).

Belief Two notes that FP has achieved no *significant* progress in its very long history and has become increasingly isolated from the relevant sciences, thereby suggesting a stagnant and degenerative research program (P. M. Churchland, 1981). This does not imply that FP did not evolve over time. For instance, in the distant past, tribal people used to ascribe propositional attitudes to the natural events and things such as trees.

Belief Three observes that FP is, at best, only a rough approximation of underlying representational and computational states and processes. At worst, it is a seriously

flawed theory of human behaviour, whose problems primarily become conspicuous when we test it in the contexts of animals, prelinguistic children, abnormal psychological conditions, or in neurological syndromes, or better, when we attempt to get non-vague predictions therefrom and compute its success in terms of measurable predictions. Animal problem solving, the split-brain phenomenon, phantom limb pain, almost universally held cognitive fallacies, very young children's display of theory of mind, or the difficulties involved in the applications of the notions of belief and desire in many daily situations suggest severe flaws at the core of FP (for many other examples, see P. S. Churchland, 1986a).

Belief Four is an observation made from the history of science. The observation is that in similar cases from other domains in the history of scientific change, the wholesale elimination of entrenched folk frameworks is not uncommon. Thus, the arguments about FP being a series of common idioms, displaying familiarity, and the central role played by the theory for some broader system of belief, or the intuition suggesting the craziness of abandoning it has no force (P. M. Churchland, 1981).

Belief Five is a negative attitude that contrasts against many of the analytic dualities that are used as tools to make moves and is popular in core analytic philosophy: the analytic and the synthetic, the conceptual and empirical, philosophy and science, the shift in meaning and the shift in theory, truth and rational belief, semantics and pragmatics, the necessary and the contingent, and finally, ontology and epistemology. (P. M. Churchland, 1979) Using labels like "necessary" and "conceptual" is not helpful, given the lack of a much better account of what they mean and how the boundaries between these pairs ought to be drawn. (P. M. Churchland, 1986b)

Belief Six puts eliminativism under the parent category of neurophilosophy whose parent category is naturalistic framework and that "argues for physicalism, for intertheoretic reduction, for naturalizing epistemology, for conceptual-role

semantics, and for revisability of theory at every level (eliminative materialism)” (P. S. Churchland, 1986b, pp. 241–242). EM is a scientific attitude about our self-conception, one that is our person-theory. Taking the *possibility* of a wholesale elimination of that self-conception *seriously* is known as EM (P. M. Churchland, 1979, p. 5). EM is not the idea that we should empty the content of mind; instead, it includes an ontological prediction, not a final judgment about the fate of FP.

Belief Seven is a hunch that the Parallel Distributed Processing approach (PDP) version of connectionism, or some strand in the dynamical approach, could provide a firmer ground upon which we might construct a superior theory of cognition, one with a higher explanatory capacity and greater predictive power than the classical architecture does or may eventually have (P. M. Churchland, 2012). It may replace the classical representational theory of mind and the classical computational model (symbolic processing), which is a flawed framework about how the mind works. The classical approach’s striking failures primarily lie in explaining the graceful degradation of function, holistic representations of data, spontaneous generalisation, and an appreciation of context (Rumelhart et al., 1986, pp. ix–x). These problems may or may not be fixed through the progress of computing power, memory capacity, and smart programming.

While eliminativists see FP’s failures to account for the structure of our internal representations and the nature of computations undertaken in biological cognition as signalling the need for an alternative framework in the study of cognition, the connectionists see the failure of classical architecture to simulate the enormous flexibility and incredible efficiency of human cognition as the initial indicators of the real need to explore alternative paradigms in cognitive modelling. Cognitive models, like the one the critics of connectionism develop, are not the only game in town, though. Indeed, I am not even certain that they are the most popular game in town at present in the contemporary philosophy of cognitive science.

I have sketched a set of seven fundamental beliefs that form eliminativism's major premises. Some of them are assumptions, others are attitudes. Still others are observations and hunches.

Now I will attempt to enumerate the essential principles that link the beliefs listed above to EM's rather notorious conclusions.

Principle One is to upgrade our psychological taxonomy and statements—observed regularities, explicit assumptions, and underlying principles—as brain and behavioural sciences proceed, in such a way that gleefully compels us to do so (Mölder & Churchland, 2015).

Principle Two involves the endorsement of Quine's definition of existence, thereby implying that ontology is best when it is derivative upon epistemology. "What there is" exists through its being a part of our successful theories: "to be is to be the value of a bound variable" in true theories (Quine, 1948). It might not be very meaningful to discuss these postulations' metaphysical existence or external reality above and beyond the necessity to postulate them in order to have a valid theory.

Principle Three considers "unification by reduction" in scientific explanation, something that is desirable and worthy of being actively pursued (P. S. Churchland, 1982, p. 1041). This reduction has nothing to do with the subsequent notions of reduction in the history of logical empiricism. Reducibility means neurobiological addressability and reductionism involves the adoption of bottom-up strategies without excluding a fruitful co-evolution with top-down research. These points are discussed in Chapter 3.

Principle Four suggests revisability at all levels of theory, which is the most minimal conception of EM to date. Nothing is sacrosanct, not even so-called analytic or conceptual truths. Every statement is subject to ordinary empirical

pressures and is open to revision as a function of these pressures (P. M. Churchland, 1986b). The key here is the phrase “ordinary empirical pressures.” All knowledge is dependent “on the relations those statements bear to an enveloping web of presumed background knowledge” (P. M. Churchland, 2007, p. 161).

Principle Five involves the idea that a co-evolutionary research strategy is the best one available to account for highly complex, multi-faceted, elusive phenomena such as mind, brain, and behaviour. Neurophilosophy’s central methodological thesis is that “the interanimation and co-evolution of theories at all levels of organization has the best chance of yielding results” (P. S. Churchland, 1986b, p. 242, also see 1986a).

Principle Six suggests that hard and fast data is more likely to be found in relatively lower-level research, not necessarily in particle physics or physical chemistry. Introspection, intuition, conceptual analysis, irresponsible thought experiments, and most forms of functionalism, besetting the top-down approaches of philosophy and classical cognitive science, have been determined to be unreliable in this quest (P. M. Churchland & Churchland, 1998). This last sentence never implicates that philosophy is either dead or that it should be abandoned. Some problems still find a more natural home in philosophy, at least in naturalistic philosophy. What is repudiated is not philosophy but the boundary between philosophy and the rest of science.

Principle Seven is a subtle normative combination of Quine’s thoroughgoing pragmatist naturalism and the Kuhnian image of scientific change (see P. M. Churchland, 1979, pp. 123–124). We should attempt to dissolve as many philosophical questions as possible into empirical ones, in the broadest possible sense of the term (Quine, 1969, 1995). When this proves improbable for a large set of related problems, we might explore a new paradigm in order to reformulate and possibly dissolve them (esp. Kuhn, 1970, sec. IX). This is an exploration, not

an exploitation, in both action and belief. Not all commentators see an unequivocal and full-fledged pragmatism in Paul Churchland, however (Rockwell, 2011).

Eliminative materialists reach the following conclusions by combining seven premises with the seven principles that lurk behind EM:

Central Ontological Conclusion is an ontological prediction concerning the fate of FP: the projected displacement of the propositional attitudes that occupy the core of FP (P. M. Churchland, 1981). This is a *hunch*, not a final judgment. At the ontological level, EM concerns FP's ultimate fate. It does not make recommendations to get rid of FP entirely. Before elimination becomes the only possible route, there will probably be a long chain of revisions, fragmentations, innovations, and realignments regarding individual FP concepts and the principles that underpin the framework's integrity.

Central Methodological Conclusion states that FP is not in charge (Mölder & Churchland, 2015; Moscow Center for Consciousness Studies, 2015). More specifically, when cleared of their respective propositional attitudes, psychology and neuroscience would perform better than FP. Psychology without neuroscience is lame, neuroscience without psychology is blind. EM's real lesson is that FP is not in charge, as Dominic Murphy has put it (2017); (also see P. M. Churchland, 1979, p. 5). Not only is FP not in charge in neuroscientific research, it is also very much not in charge in scientific psychology either.

The Resultant Conclusion. Let us employ an alternative epistemological paradigm, namely the emerging neurocomputational cognitive and social neuroscientific framework in the areas of philosophy of mind, of science, epistemology, cognitive science, moral philosophy, and all of the relevant behavioural sciences, including scientific psychology (P. M. Churchland, 1979, 1981). The attainment of this application is not "within easy reach, but this does not make the search for it any the less worthwhile" (P. M. Churchland, 1979, p. 121). Slagle disagrees with this view, however (2020, p. 3). Nonetheless, this is a

try-and-see approach (P. S. Churchland, 2002, p. 128). What is needed are the arguments favoring this approach.

Neurocomputational surrogates for belief might not deny, but might actually expand, the boundaries of belief as such, born-again as our internal cognitive representations, which co-vary with the relevant features of our surrounding environment and can be found primarily in the business of prediction. Rather than presenting a threat to our notion of unqualified belief, EM calls for a broadening of its proper scope of applicability.

We will yield some initial results as neurocomputational regularities through a systematic and comprehensive trial that uses the new epistemology. These new regularities may be very detailed, specific, and accurate concerning relatively lower-level cognition such as perception or memory; about higher-level cognition, though, such a set of neurocomputational statements might be crass and raw in the extreme in the short run, given that most newly emerged generalizations tend to be so.

Nonetheless, the new paradigm might ignore, for a time, some of the problems that FP addresses. Some of these problems might be dismissed as ill-defined problems and dissolved instead of actually being solved. Some others will probably wait for further assessment from new angles and in more concrete settings, given that the newer tools utilised by the successor paradigm acquire the capacity to address them reliably. The tools that the serial digital computers employ are very good at conducting and will be the last ones to be involved in the neurocomputational epistemology. Some examples include mathematical or logical reasoning, the simulation of which would find a more natural home in a serial and digital computer or in any cognitive model modelled thereon.

The premises listed above as a set of seven beliefs could provide a sound basis for eliminativism's ontological and methodological conclusions, but only if they were

to be supplemented with those seven principles. Eliminativism's ultimate message is neither, as is often suggested, that FP should be or will be eliminated because there is no belief, nor is it that belief will play no role in a mature cognitive neuroscience of cognition because its reference is empty. Both wordings are subtly misleading, despite their apparent plausibility, unless the reader knows the exact explications of the terms employed in these two sentences. The first formulation is simply confused, putting the cart before the horse. If the term belief were to disappear, then this would result from the emergence of a neurocomputational, or otherwise, replacement that proved itself to be superior. Talking about the nonexistence of belief or its reference's being empty is subtly misleading. It leads people to think that there is an obvious contradiction to be found in the conclusion. This formulation suggests that eliminativist thinkers believe in the nonexistence of belief. Alternatively, and perhaps more accurately, they have a belief that there is no belief: is this a paradigmatic instance of reduction to absurdity that has gone unnoticed by some eminent philosophers? Propositional belief, as well as the rest of propositional representations, is a candidate for elimination. This sort of representation is eliminated from being representation's general and basic form in biological cognition. Importantly, EM does not deny that linguistic animals, such as humans, might have recently evolved to have such a propositional form of representation on top of a much more general and fundamental form of representation that animals have had for millions of years.

Eliminativism's real lesson is that FP is not in charge, as Dominic Murphy succinctly puts it (Murphy, 2017). The projected, wholesale displacement of FP is just one of many predictions in the web of beliefs surrounding eliminativism. Yes, the Churchlands believe that the concept of a propositional attitude is not the best available notion according to which to understand cognition. It fails to represent the nature and functioning of our inner cognitive states and processes. Propositional belief cannot explain many well-established phenomena that are pertinent to human and animal cognition, intelligence, and behaviour. (This expression is a longer form of what EM claims). This is why Paul Churchland

occasionally states that belief does not exist (a shortcut to a longer form). Anyone that substitutes the longer form of what EM claims with its shortcut wording would immediately realise that there is no refutation to EM to be found here, let alone refutation from self-defeat. The longer expression is accurate, the shorter one is severely misleading.

A naturalised belief in the propositional belief's wrongness is not even a *pragmatic* contradiction, let alone a *logical* one. The intuitive resistance against a naturalised belief will disappear when we shift to a neurophilosophical paradigm, in which we do not have such a *traditional* conception of truth, rationality, consciousness, and knowledge. Unfortunately, this explanation is frequently regarded as an insufficient reason to endorse EM, and rather as a reason to refute it, because it makes the discontinuity between FP and its neurocomputational successor all the more striking (cf. Ramsey, 2021; see Rockwell, 2011). The critics say that it is impossible to use FP to express EM since the critics of EM assume that discontinuity blocks the existence of even a partial common ground and communicability between these two paradigms.

Any attempt to do so would result in something alien to EM, according to Slagle. In fact, this is the most fundamental reason that Slagle provides for us to accept his conclusion (Slagle, 2020, pp. 202–203). Slagle misses how EM has developed, according to a Quinean and Kuhnian orientation. There is no cosmic exile, no Archimedean point, and no “View from Nowhere.” The critics of EM presume that the discontinuity between FP and its possible neurocomputational successor makes even a partial use of FP terms, even in a revised form, something totally unacceptable. However, even though discontinuity certainly means incommensurability, the latter does not deny the existence of partial common ground and communicability between the adjacent transitory theories in a continuum chain of succeeding, thereby revising theories (Kuhn, 1982). This explains how EM expresses itself partially through FP, but remains EM nevertheless. *Pace* Slagle, this move is open to actual champions of EM.

Nonetheless, he is right to claim that it would be an illegitimate move for his imaginary version of EM. Indeed, Slagle's imaginary EM is self-defeating.

The sentence-like belief was intended to account for what analytic philosophers and behavioural scientists thought that they knew when they wrote up their accounts. What did these scholars think that they knew? They thought that consciousness, intelligence, and problem-solving were unique to humans or, at best, to apes. Human cognition was like computer computation. There are sentential representations and symbolic computations in familiar computer programmes. There are symbolic representations and sentence-crunching manipulations. This computer metaphor has successfully worked for a substantial subset of human behaviour for decades. These domains are rule-following ones. It was nonetheless modelled on the laws of science, legal systems, and human linguistic capacity (see Smolensky, 1988). Representations with determinate contents, and the rule-following manipulations of these representations, make it possible to have successful communication, cooperation, coordination, and accurate transmission of knowledge through generations and across languages (P. M. Churchland, 1979, p. 150). This was familiar Fregean "thought" for analytic philosophers (Frege, 1956). Indeed, this computer was modelled on what we used to think of human higher-level cognition; now we model cognition on the basis of an artificial computer (cf. Turing, 1950).

This conception of cognition has additional virtues for analytic philosophers. These representations, Fregean thoughts, are amenable to logical crunching. Moreover, the logical conception of thought, in turn, provides ground for *a priori*, conceptual philosophy, which has enough space not to be assimilated into messy science; hence, the Wittgensteinian sharp distinction between science and philosophy (Wittgenstein, 2002). A bonus comes alongside this logical notion of philosophy; philosophy becomes the branch for a necessary knowledge, while science contends with probable knowledge. Hence the autonomy of philosophy.

2.10. Conclusion

This chapter has aimed to unearth the premises and principles through which contemporary eliminativism reached its notorious conclusions and in order to show how most philosophers are wrong in their construal of the true nature of EM. Since they could not figure out what EM actually says, or the motivations thereof, they fail to realise that their objections from self-defeating is confused, given the EM's real lesson. EM is primarily methodological and claims that FP is not in charge. At the ontological level, it only expresses a hunch concerning FP's possible fate. EM's advice is to get rid of FP to the extent that it becomes an albatross for scientific psychology, cognitive science, and behavioural sciences. It aims for a more accurate theory of how brains model the world's causal and social structure that may finally free us from the linguaform model of cognition that we usually call the propositional notion of mind. Belief is divided and partly eliminated, as Stephen Stich would put it: (i) linguaform representation, underlying propositional belief, *as the fundamental and general form of our inner cognitive representations* will probably get eliminated; (ii) conversely, propositional belief as a recently emerged type of cognitive representation, which is used in some functions such as making predictions, might prove a useful posit, a posit that is probably unique to linguistic animals like humans. Therefore, it is both confused and confusing to present EM as arguing that we should believe in the nonexistence of beliefs, unless this seemingly absurd statement is presented as a shortcut to EM's *resultant conclusion* that I have presented above: Given both FP's severe flaws and the existence of a rival paradigm, whose initial indicators are promising, let us continue to explore this alternative epistemological paradigm, that is, the emerging neurocomputational cognitive and social neuroscientific framework, in the areas of philosophy of mind, of science, epistemology, cognitive science, moral philosophy, and all the relevant behavioural sciences, including scientific psychology.

CHAPTER 3

OVERVIEW OF THE CHURCHLANDS AND FP

3.1. Introduction

In the introductory section, I discuss who counts a neurophilosopher.⁵ In section 2, I zoom in on key aspects of the Churchlands' neurophilosophy, with a special focus on the allegations of triviality or radicalism. In section 3, I try to show that EM about FP is quite a modest claim. In section 4, I focus on the possible reasons for the exclusion of the Churchlands' neurophilosophy from the mainstream of philosophy in analytic and even naturalistic circles. Section 5 very briefly introduces the nature and structure of FP. The last section is a brief conclusion.

The founders and leading figures of neurophilosophy are Patricia and Paul Churchland (1979, 1981; 1983a, 1986a). The term "neurophilosophy" was first used, to my knowledge, in the title of one of the review articles in the "Notices of Recent Publications" section of the journal *Brain* (Williams, 1962). The term was a creation similar to "neurobiology" or "neurochemistry." The book under review, entitled the *Neural Basis of Human Behavior*, was written by Harold S. Burr, a professor of anatomy at Yale University. The word did not appear in the same journal again until the year 2001. The roots of neurophilosophy can be traced back to the naturalistic philosophy of the modern period. Patricia Churchland (2007, p. 185) names the following modern and contemporary figures: Hume, Quine, and Crick.

⁵ Many paragraphs in this chapter are taken from my (Tümekaya, 2021c). I greatly appreciate the extensive suggestions of the reviewers of the journal *Erkenntnis*. The additional details of the Churchlands' neurophilosophy, reductionism, and naturalism; and also why their position has remained a marginal idea in analytic philosophy can be found my writings in Turkish (Tümekaya, 2017b, 2021b; Tümekaya & Yaylım, 2017).

For living examples, she mentions Paul Churchland, Dennett, Bechtel, and herself. Sean Allen-Hermanson (2015, p. 61) recently named Bechtel, Bickle, Brook, Gylmour, Dennett, Lloyd, Mandik, Ross and Thagard as being neurophilosophers in a strong sense, in addition to the Churchlands. Allen-Hermanson thinks that Patricia Churchland is even more radical than the rest of the list. John Bickle mentions himself as a former neurophilosopher (2019). Dennett is hardly a neurophilosopher because he is expressly against the idea that neuroscientific work, in the broadest possible sense of the term, is of vital importance, even with the qualification that “but of course not sufficient, to account for cognition.” Similar remarks can also apply to the others.

Although somewhat ignored in Anglo-American philosophical circles, neuroscientist–philosopher Georg Northoff is another neurophilosopher. Northoff wrote books and articles on the philosophy of the brain and neurophilosophy (Northoff, 2004b, 2011, 2014b, 2014a, 2018). Northoff claims that his neurophilosophy is incompatible with the Churchlands’ narrow neurophilosophy (2014a, pp. 100–101). Whatever the truth about who counts as a real neurophilosopher, it is obvious that philosophers believe that the Churchlands are more radical than the other naturalist philosophers.

3.2. The Churchlands’ Neurophilosophy: Trivial or Radical?

An easy way to decide, if ever possible, the boundaries, if there are any, of the set of neurophilosophers is to start with a summary of the neurophilosophical approach given directly by its allegedly most extreme proponent. By doing so, we will be able to pass directly to the intriguing discussion of the “(neurophilosophy is) either trivial or radical” debate:

Neurophilosophy embraces the *hypothesis* that what we call “the mind” is in fact a level of brain *activity*. A corollary of this hypothesis states that we *can* learn *much* about the reality of mental function by studying the brain at *all* levels of organization. Until fairly recently, many philosophers preferred to believe that important domains of mental function could *never* be addressed using the tools of

empirical science. Nevertheless, co-evolutionary progress by psychology and the neurosciences on many topics, including consciousness, free will and the nature of knowledge, have meant that such convictions need to be *updated*. Some large-scale mind-brain problems have not yet been solved, and do require significant *theoretical* innovation. In particular the problem of how to understand the true nature of representations remains unsolved. (P. S. Churchland, 2007, p. 185) (All italics are added.)

Neurophilosophy is a hypothesis, and as such it is not presented as an infallible metaphysical certainty. It does not deny the existence of what we call the mind, but reconceives it as a level of brain activity. That studying the brain at all levels would be very useful to understanding the reality of mental functions naturally follows from the first sentence. Churchland claims in the next sentence that many philosophers have the conviction that some domains of mentality are, in principle, closed to scientific scrutiny, but that coevolutionary progress showed that their convictions should be updated.

Neuroscience is in its infancy, we do not have a large-scale brain theory, and some problems related to the mind-body relation require theoretical innovation. The nature of inner states is a good example of those problems. This characterization of Patricia Churchland is, in fact, not quite differentiating. It may have been so during the seventies and eighties, but not today. It certainly excludes “mysterians” (McGinn, 1989) and pure conceptual analysts (also see Wilkes, 1991). For McGinn, Churchland’s work is neuroscience cheerleading (2014). He speaks for many when he says that “If there is anyone left in the world who does not believe that the mind can be minutely controlled by the brain, right down to particular molecules, then this book [*Touching a Nerve*] might disabuse them of such ideas” (2014).

This denigrating remark is supposed to suggest that Churchland’s neurophilosophy either is trivial or mistaken. This is, in fact, what Allen-Hermanson recently argued (2015). In short, according to McGinn, ideas such as the ones expressed in the first sentence of the above quote from Churchland are very weak to the extent that even a heavy Cartesian dualist would agree. This weak

position is vacuously true. However, McGinn, Allen-Hermanson, and most others strongly feel that there is a deeper hidden agenda in Churchland's neurophilosophy. They are mistaken in both their triviality accusations and their deeper agenda suspicions. What is distinctive is not the hypothesis stated in the first sentence, but the corollary coming with it: "A corollary of this hypothesis states that we can learn much about the reality of mental function by studying the brain at all levels of organization." It might be pointed out that both of the critics find the corollary trivial as well:

It is just possible to discern some points beneath the heated rhetoric in which Patricia Churchland indulges. But none of these points is right. If you hold that "mental processes are actually processes in the brain," to quote Churchland, then you are committed to the thesis that it is sufficient to understand the mind that one understands the brain, and not merely necessary. This is just the well-known "identity theory" of mind and brain: mental processes are *identical* to brain processes; and the identity of *a* with *b* entails the sufficiency of *a* for *b*. To hold the weaker thesis that knowledge of the brain is merely necessary for knowledge of the mind is consistent even with being a heavy-duty Cartesian dualist, since even such a dualist accepts that mind depends causally on brain. (Churchland, reply by Colin McGinn, 2014)

In this passage, McGinn states two related claims. The first states that "mental processes are actually processes in the brain" and implies that understanding the brain is not only necessary but also sufficient to understand the mind. The second is that the weaker thesis that it is not sufficient but only necessary is compatible with being heavily Cartesian. That is, the necessity claim is the surface thesis, which has been explicitly endorsed by Churchland, but the sufficiency thesis is her hidden agenda. It is hidden but also expected, given that she argues for the idea that the mind is the brain. I do not think that legalism over the meaning of "is" is the right way to unpack her ideas.

In his book review of *Brain-Wise*, by Patricia Churchland (2002), Alva Noë said that "In *Brain-Wise*, Patricia Smith Churchland provides an introduction to what she calls 'neurophilosophy'—philosophy as it is being transformed by advances in neuroscience" (Noë, 2003, p. 805). It is a fair enough one-sentence summary of Churchland's neurophilosophy. It does not say that philosophy as it is being

revolutionized by advances in molecular or cellular neuroscience and physical chemistry.

It is John Bickle, “a former-neurophilosopher-turned-philosopher-of-neuroscience,” who loves to present the early days of neurophilosophy in that way (2019). In his historical account, Patricia and Paul Churchland were “the wild-eyed philosophical revolutionaries.” In contrast, herein I argue that Churchland-type neurophilosophy *is* neither radical nor trivial (as obviously as *some* of their ideas are nearly trivial today, there was *something* nearly radical in them in the eighties.)

For Gold and Stoljar, the Churchlands defend an extreme and improbable version of neurophilosophy, which they call “the radical neuron doctrine” (Gold & Stoljar, 1999). This is what Allen-Hermanson calls “strong neurophilosophy” (Allen-Hermanson, 2015). It is radical or strong because these philosophers believe that the Churchlands argue for the reduction (or elimination) of psychology to (or in favor of) “neurobiology alone.” “Neurobiology alone” is a mythical science which involves no, for example, psychology of classical conditioning (Gold & Stoljar, 1999, p. 857). In response to the appropriate question as to what they mean by neuroscience, Gold and Stoljar (1999) give the following surprising answer:

In the case of Kandel’s theory, both neurobiology and the psychology of classical conditioning are relevant. If you mean something more stringent than Kandel’s theory, however, such as the view we call the radical neuron doctrine (RND), according to which neurobiology alone will explain the mind, then your view is not supported by our best current science. Nor is it supported by general considerations of philosophy and the history of science. The best evidence we now have, therefore, supports only the weak claim that the successful theory of the mind will be an eclectic one. The evidence may change, but at the moment, the rational view is an agnosticism about the possibility that neurobiology alone will explain the mind. The significance of this conclusion is that many in the field believe, or seem to believe, that the opposite is true. (p. 857)

The authors make a distinction between what they call “biological neuroscience” and “cognitive neuroscience,” and assert that the distinction is paralleled in the distinction between the radical and trivial neuron doctrines (p. 813); betting on the

latter as reasonable, but betting on the former as totally unjustified. We should be agnostic about the possibility of the long-term success of the “neurobiology alone” theory. Given this, their answer is surprising because the Churchlands themselves envisage “a matured (or complete) cognitive neuroscience” as the (candidate) reducing or eliminating theory (1986a, pp. 153–154, 310, 360, 373–376, 383, 419). In addition, “the theory of elementary learning in *Aplysia californica* developed by Eric Kandel and his coworkers” (Gold & Stoljar, 1999, p. 856) is in fact a paradigmatic case for the Churchlands’ allegedly radical neurophilosophy. The Churchlands repeatedly use the example of the Kandel’s theory to “illustrate the revolutionary discoveries in the neurobiology of behavior” (1986, pp. 67, 70–73, 79, 145, 368–369). Patricia Churchland says that “These discoveries are truly remarkable both because they represent a landmark in the attempt to understand the neurobiological basis of plasticity and because they show that memory and learning can, despite the skepticism, be addressed neurobiologically” (1986a, p. 369). Neurobiological reduction of psychology refers to the neurobiological addressability of the most psychological problems. However, Gold and Stoljar (1999) explicitly state that Kandel’s theory is not a “neurobiology alone” theory, nor a radical version of the neuron doctrine. Neither is the Churchlands’ theory. Therefore, what does explain Gold and Stoljar’s claim that the Churchlands expect a neurobiology alone theory to reduce or eliminate psychology? Here is their answer:

To say that we should expect a reduction of psychology to neuroscience, and therefore that we should expect to understand psychological phenomena in neuroscientific terms, is to say that we expect that a successful theory of the mind will be a solely neuroscientific theory. In other words, it is to endorse the neuron doctrine. (1999, p. 811)

This sort of inference is very similar to McGinn’s, which I discussed above. In this line of reasoning, there are four steps. The conclusion is that the Churchlands endorse the radical version of neurophilosophy. This conclusion is supposed to naturally flow from the last part of the sentence before the conclusion: “A successful theory of the mind will be a solely neuroscientific theory.” Whatever

this “solely neuroscientific theory” is, it is perfectly clear that Kandel’s account of learning is not an example of it. We know this since Gold and Stoljar (1999, p. 857) acknowledge as much in the “Authors’ Response” (subtitle: Interpreting neuroscience and explaining the mind) section of the article; and I have quoted the relevant passage above. As I said earlier, the idea that we should expect that psychology will reduce to neuroscience is equal to saying that psychological problems can be addressed neurobiologically, as Kandel and the others have exemplified. It is so, plain and simple.

But maybe the problem with the Churchlands is not their neurophilosophy, but their infamous EM:

Without question the philosophical shock of Churchland’s eliminative materialism accounts for much of why broader philosophy took notice. It is not easy to separate the revolutionary import of neurophilosophy per se from that of the eliminativism about folk psychology advocated so forcefully by two of its principal early proponents. (Bickle, 2019)

I now turn to this problem. Here is the core of my answer: EM establishes the eliminative possibility with regard to the fate of FP, and proffers the eliminative outcome. It is just an empirical prediction. A much more suitable title for their approach is revisionism (also see Bickle, 1992), and this point is repeatedly stated by the Churchlands themselves (P. M. Churchland, 1998d, p. 287; P. S. Churchland & Churchland, 1996, p. 298). Eliminativism is just an empirical prediction, revisionism is a call for a neurally informed philosophy of the mind; and it is widely accepted that the latter is not a radical philosophical idea (Allen-Hermanson, 2015). In short, eliminativism is extraneous to their neurophilosophy. The former does not form an essential or vital part of the latter.

3.3. EM is Not an Obituary for FP

FP is the mentalistic framework with which lay people, by invoking propositional attitudes such as belief and desire, explain, predict, and manipulate other peoples' thoughts and behaviors. EM is the Churchlands' empirical prediction as to the fate of FP. In a one-sentence summary, it is eminently reasonable to say that the Churchlands guess that FP will not survive this century *intact*. Its integrity is decaying and its posits are roughly true *at best*. Thus, wholesale rejection of FP is a coherent and intelligible idea; it is eminently possible. Whether it is probable is a rather different problem, and the answer is empirical in character. The precise fate of FP is an open question, and there is room for reasonable disagreement between philosophers. It might even survive in a significantly modified form. In this case, its ontology would be poorly mirrored within the successor framework (cf. P. M. Churchland & Churchland, 1998, pp. 22–23).

The whopping majority of philosophers of the mind think that the Churchlands are quintessentially eliminativist, in the sense that they try to establish an eliminative outcome for FP. The Churchlands' EM is feared because it is believed that it might eviscerate philosophy. Even considering wholesale rejection as a mere possibility, just by emphasizing the *a priori* reasonableness of an outright elimination, leads some opponents to think that the Churchlands have jeopardized the integrity of our self-conception (and also of human dignity). This is why some philosophers thought a defense needed to be put in place to nip it in the bud. However, this mere possibility of a wholesale rejection of FP just means that the possibility is neither absurd nor self-contradictory.

Neurophilosophy is less an ontological thesis than a methodological one. It simply repudiates the fortified boundaries between FP and scientific psychology, scientific psychology and neuroscience, philosophy of the mind and the philosophy of science, the philosophy of science and the history of science, philosophy and science, and top-down research and bottom-up research.

It is well known that the staunchest critiques of FP have been those of the Churchlands (P. M. Churchland, 1981). This is why most philosophers mistakenly believe that the Churchlands are committed to the elimination of FP (e.g., Allen-Hermanson, 2015). It is possible to identify a range of problems with FP from the trivial to the fundamental. The Churchlands actually identified many of them throughout the years in several publications. However, ontology is a tricky function of epistemology in Quinean scientific philosophy (see also Morris, 2018; cf. Quine, 1948). That FP posits do not exist primarily means that they will probably will not be a part of the ontology of a complete cognitive neuroscience. The denial of FP posits is tantamount to the assertion of the falsity of FP. However, what does it mean to say that FP is wrong?

It means that its pillars are deteriorating and its posits are fraying. As Rorty puts it, the old notion of mentality involved the idea that being mental is incompatible with being physical (Rorty, 1970b). It was once a well-entrenched principle, but became obsolete. Problematic features of mentalistic notions and folk understandings of mentality have gradually improved over the last half century. However, it is clear that these extensions and partial revisions are not revolutionary in any sense. There has been no radical transmutation in our mentalistic concepts. “We do not think that FP is profoundly mistaken,” say the critics of eliminativism with regard to FP. If they mean that it is not for the moment certain that FP will turn out to be deeply wrong, then these critics can count on the support of the Churchlands. The Churchlands argue that FP mishandles or totally ignores some of the mental phenomena. The accusation of the mishandling of genuine distinctions is not equal to asserting that it is a pure mythology (Smith, 1982), and even less equal to regarding its posits as spooky things.

EM is not a withering critique of nor a friendly amendment to FP. Certainly, it is not a flat rejection. It is rather a moderate critique. FP is not in a grave, but a hospital bed. FP is a decaying research program; but that does not mean that it is moribund. The Churchlands do not claim that its days are clearly numbered.

However, EM is an ominous bugle-call, because FP's emerging wallflower status is argued to bode ill for its future (P. M. Churchland, 1998b, p. 8).

The Churchlands, who have previously speculated about the global elimination of FP, now say that they have never claimed to argue for the elimination of consciousness or subjectivity (P. S. Churchland & Churchland, 1996). Not elimination but transmutation is Patricia Churchland's choice of the word:

The theme of this paper is that a similar fate may befall concepts respected and revered in our own prevailing conception of how humans works, and the concept on which I mean to focus is consciousness. To the degree that there are already afoot misgivings about the integrity of the traditional conception of consciousness, some of the problems discussed will be familiar, especially to psychologists. But the extent of the erosion of the concept by recent empirical findings is, I suspect, greater than hitherto reckoned. The aspects of the orthodox concept which I shall discuss include the alleged transparency of the mental, the supposed unity of consciousness and the idea of the self, and the allegedly special relation thought to obtain between language and consciousness. (P. S. Churchland, 1983a, p. 80)

Patricia Churchland says that denying consciousness is silly, and she does not propose to eliminate consciousness (1996). The most visible philosophical eliminativists about terms from FP still seem to have room in their theories for consciousness, suitably stripped of dubious commitments (P. S. Churchland, 1983a, 1994, 1997, 2005; P. S. Churchland & Churchland, 1996). The mind is not transparent to itself and it is not unitary but is unified (Metzinger, 2003, 2009). FP lacks a cohesive structure. For some philosophers of psychology, FP is everything but is expanding. If it is expanding, someday it will break apart and that will be the end of everything because it is everything. This is why Fodor once said that, if my believing and wanting is not literally the cause of my behaviors, "then practically everything I know about anything is false, and it is the end of the world" (1990, p. 156). In addition, the solution Fodor proposed for the problem was saying something like the following: You are in rationalistic philosophical psychology; it is not expanding; it will not be expanding for centuries. We should try and enjoy FP while we are still in the philosophy of the mind. What has brain science got to do with it?

EM predicts that some degree of revision will be necessary and that it has already been underway regarding memory, attention, and reasoning (Mölder & Churchland, 2015).⁶ FP is similar to a natural language, a work in progress. Its posits change gradually over time, sometimes due to changes in the needs of its users, sometimes in response to contact with other images, such as the scientific one:

It sometimes happens in the history of science that well-used, highly entrenched, revered and respected concepts come unstuck. That is, under the suasion of a variety of empirical-cum-theoretical forces, certain concepts lose their integrity and fall apart. Their niche in the theoretical and explanatory scheme of things is reconstructed and reconstrued, and new concepts with quite different dimensions and dynamics come to occupy the newly carved niche. (P. S. Churchland, 1983a, p. 80)

However, the coarse-grain architecture might remain the same. On the other hand, the predictive and explanatory capacity would not stay the same. It would increase, and the fine-grain structure would be enriched. In a sense, this suggests that the philosophers of the mind should keep up with the world of brain and behavioral sciences. Revision is a necessary staging post on the road to elimination; but the reverse does not hold: elimination is not the necessary final city of revision.

Substantial revisions are not just mere possibility, but are fast becoming actual. However, we cannot observe the same for the radical cases. The extension, the depth, the direction, and the objects of revision are empirical issues. They cannot be rightfully anticipated:

Whether FP is false and whether it will fail to reduce are empirical issues whose decisive settlement must flow from experimental research and theoretical development, not from any arguments a priori. The empirical jury is still out and there is ample room for reasonable people to disagree. (P. M. Churchland, 1994, p. 312)

⁶ For memory, just think about the bewildering diversity in types of memory loss; for attention think about the research on selective visual attention; and for reasoning think about well-documented cases of conjunction fallacy.

Yes, the evidence against FP (and as such, in favor of EM) is fragmentary, diffuse, complex, and, thus, less than decisive (P. M. Churchland, 1981, p. 74, 1988, p. 45). The issue of whether FP will be completely replaced has not yet been decided. The problem is not only that the evidence is diffuse and less than decisive but also that what counts as strong evidence is a lot more complicated than it might seem. The evidence might be vague but is certainly not meaningless, and there is little reason to believe that it is radically off the mark.

This modest view is still deeply different than that of Wilkes: “It is hard to think of any neurophysiological fact that could alter a comment made in CSP” or “CSP is autonomous to a massive degree from the physiological” (Wilkes, 1991, p. 26). Here, CSP is the abbreviation of common-sense psychology, which is the same as FP. These two remarks are a pure negation of the neurophilosophy of the Churchlands. For them, true philosophers of the mind must use every means at their disposal to achieve their objectives (i.e., the pursuit of truth about the nature of mind), and neuroscientific results are at their disposal.

Though misrepresentations of it abound, the Churchland’s neurophilosophy is not a convoluted idea:

The sustaining conviction of this book [*Neurophilosophy*] is that top-down strategies (as characteristic of philosophy, cognitive psychology, and artificial intelligence research) and bottom-up strategies (as characteristic of the neurosciences) for solving the mysteries of mind-brain function should not be pursued in icy isolation from one another. What is envisaged instead is a rich interanimation between the two, which can be expected to provoke a fruitful co-evolution of theories, models, and methods, where each informs, corrects, and inspires the other. (P. S. Churchland, 1986a, p. 3)

Its preferred metaphor is coevolution. The research strategy of the Churchlands is reductionist but perfectly compatible with coevolutionary methodology. In fact, regarding this, one can even say that the Churchlands’ approach is compatible with what Northoff calls “cooperative naturalism” (Northoff, 2014a, pp. 95–101).

3.4. Neurophilosophy vs. Philosophical Zone: Entrance Forbidden?

Some opponents of neurophilosophy treat the Churchlands, with Quine and the like-minded others, as if they are the authors of an insidious plot to weaken our time-honored philosophy and to establish a new order in philosophy—with themselves as the absolute rulers. For these people, the Churchlands have total and absolute faith in science. More strikingly, most philosophers believe that the Churchlands invite them to visit neuroscience laboratories. On the other side, for Patricia Churchland, anti-brain philosophers' neuroscience–philosophy separation policy is jaw-dropping. For her, brain and behavior sciences, help, at the very least, to produce better philosophical theories by offering a contrarian opinion so that the relevant community of philosophers can avoid the danger of groupthink. We need cognitive diversity. More importantly, the psychological view motivating our attribution of mental states should be harmonious with the sober research in brain and behavioral sciences. Unquestioned FP, handed down generation to generation through millennia and culminating in our current assumptions about the mind, “should be scrutinized to check its veracity” (see also Lelling, 1993, pp. 1472–1473).

The Churchlands' story starts with getting some illumination from brain sciences, which might turn out to be a perilous voyage to a nonphilosophical land (also see Bickle, 2019). On the one hand, the Churchlands claim that this fear is because many opponents of EM begin by misrepresenting the basic tenets of it, though most of them never intentionally do so. One can understand why the critics would be led to attribute the radical version of EM to the Churchlands, even though the Churchlands evidently do not actually espouse this version. On the other hand, some philosophers are treating neurophilosophy like a mental disease. These people have long viewed Churchland-type neurophilosophy as a breeding ground for eliminativism.

They find the Churchlands outrageous, even to the extent that they believe the Churchlands are waging a war on truth and reason (Klagge, 1989, p. 323). Though EM is just an extraneous part of neurophilosophy, Patricia Churchland suspects that powerful attacks against EM are in fact just meant to discredit and demean neurophilosophy itself. For them, eliminativism implies a shift in the existing role of philosophy. However, Patricia Churchland anticipates that revisions, however substantial or even radical, will create new roles instead of diminishing the role played by philosophy. Radical modifications, if they ever occur, would mean a philosophical shift; but previous philosophical shifts have not had negative effects on the role played by philosophers, as was first feared. There are some notable examples in the history of philosophy. Psychology, one and a half centuries ago, branched off from philosophy; but the contribution of philosophers to the study of the mind did not come to an end. It just transformed. This transformation would signify philosophical progress, instead of a euphuism for the death of philosophy of the mind (for an opposite view see Floridi, 2017).

Over time, the mundane changes of a river may result in the change of the course of the river, and it may spill over the dam of FP into the river of a matured cognitive neuroscience. That is, FP is less vulnerable to disproof than to withering away. The Churchlands neither endorse nor deny the eliminative outcome; but they definitively endorse the eliminative possibility. In fact, what they did establish was the eliminative possibility, as it should be, not the eliminative outcome.

This seemingly vague approach against FP led most philosophers of the mind to think that it is neither reasonable, nor adequate, nor in the interest of philosophy. However, a prediction should not be less vague than the evidence. For this reason, EM is not inadequate. Churchland-type neurophilosophy has been reasonably moderate since its inception. After all, they have searched for the alternatives (to FP); and no one seems to have found a better alternative than searching for the alternatives. With that being the case, EM is in the philosophical interest. The

Churchlands' ideas on the fate of FP (i.e., EM), can be thought of as a strong set of commentaries that has been intended to produce a thoughtful dialogue on an important issue. They were correct in that regard.

3.5. The Nature of FP and its Achievements

To fully understand the aim of my dissertation, one needs to remember some core features of FP. In fact, I have discussed FP's nature, inadequacies, and virtues throughout my work. Nevertheless, the reader might feel that these discussions are too scattered and obscure the actual message. Here are the basics.

FP is our traditional self-conception and person theory. It seems to function to effectively understand, predict, manipulate, make sense of the behaviors and thoughts of other people and ourselves. FP forms a system that is highly integrated inferentially. The propositional notion of representation could easily provide such an inferentially highly integrated system.

The "person" of FP is assumed to know the relevant aspects of her environment. FP assumes that she has a well-organized and stable system of beliefs and desires. Moreover, she has a skill in computation that enables her to calculate the possible ways of action available to her. This capacity is fundamental to her rationality (Simon, 1955, p. 99).

The propositional notion of belief represents the utmost example of propositional attitudes that forms the core of FP framework. This conception postulates belief with truth-conditions. Humans are aware of their beliefs. The idea of unconscious belief is in tension with propositional belief. Belief is sensitive to evidence. Sentential belief differs from other related mental states, such as acceptance, habit, or faith, to varying degrees and in different ways. Sentential belief is intimately connected to rationality.

FP has a specialized terminology because our dealings with one another require a specialized vocabulary. This vocabulary serves us fair enough in ordinary life. FP's inadequacy as a psychological theory become evident in lights of the greater context of human behavior and mind. Applied in the formulation of general descriptions of human behavior or in the explanation of abnormal brain or psychological conditions, FP displays its narrowness. These are the most conspicuous dimensions of human life that we can see the problems of FP. There are some other domains that FP confronts serious criticism: moral character, mental illness, memory, learning, perception, sleep, and sensorimotor coordination. An another list might mention the following: newborns, animals, brain-damaged, demented, drugged, depressed, manic, schizophrenic, or profoundly stressed humans are chief examples.

Where FP functions best? In explaining a subset of the total human behavior, FP functions best. These are highly rational behaviors displayed by mentally fully healthy adults: normal, adult, language-using humans in mundane situations.

3.6. Conclusion

This chapter is a modest one. I just wanted to give an overview of the general features of the philosophy of the Churchlands. Primarily focusing upon their reductionism, I hope to have shown nothing radical in their approach. Their reductionism is not a thick notion. It does not involve strong and extensive ontological commitments. Reductionism in this context is a research strategy, which has never been meant to exclude the top-down approaches (P. M. Churchland, 1986a; P. S. Churchland, 1982, 1986b, 1994). Actual work in the brain and behavioral sciences is typically a combination of bottom-up and top-down strategies. These studies rarely include fundamental physics, contrary to the caricatures drawn by the critics of the Churchlands (P. S. Churchland, 1996). Biophysics is an integral part of neurosciences, however. How could it even be otherwise, given that human cognition exists only through biophysical processes?

Saying so never implies that biophysical research alone can solve philosophical problems. It is impossible, not because everything is not biophysics. It is because even the biophysical processes themselves cannot be understood unless we research at every level of cognition, from bottom to the up. Looking at the flesh-meat never illuminates the facts about the brains. One needs macro categories to study the brain. These can be provided by scientific psychology, machine learning, anthropology, sociology, and ethology, naming some relevant disciplines.



CHAPTER 4

EVEN NAGEL IS REVISIONIST AS THE CHURCHLANDS

4.1. Introduction

Thomas Nagel is considered one of the leading figures on the pessimist side of the debate over the prospects for giving an objective account of consciousness, whereas Patricia Churchland is known as one of the most radical optimists about that same issue.⁷ In this chapter, I argue that these two philosophers, who are frequently cited as belonging to opposite sides of the debate, are theoretically highly similar. By “highly similar,” I mean that both of them have a strong hunch that an objective account of consciousness can be given. These two positions, although defined with different words, have been developed from surprisingly similar motivations and a shared attitude. The motivation for Nagel is to revise our inadequate FP framework so as to increase its capacity to accommodate the phenomenal character of consciousness.

Nagel’s arguments are often cited as rejecting the possibility of a naturalistic/objective account of consciousness (Bergström, 2009, p. 76; Flanagan, 1985, p. 373; Ratcliffe, 2002, p. 353; Stoljar, 2016, sec. 16). Sometimes, he is accused of being mysterian or romantic (Dennett, 1991, pp. 71, 273, 372), and he has been equated with Chalmers, Jackson, Levine, Searle and McGinn (N. Block, 2007, p. 483; P. S. Churchland, 2007, p. 186). Some people note in passing that Nagel is not so pessimistic about the problem of consciousness, and/or that he is not directly opposed to physicalism (N. Block & Stalnaker, 1999, p. 1; Jackson,

⁷ This chapter is drawn mainly from my (Tümkeya, 2021a). I greatly appreciate the great objections and detailed suggestions of the reviewers of the journal *Teorema*. For further treatment of Nagel’s exact position on physicalism, see my recent article in *Organon F* (Tümkeya, 2020) and also my Turkish writings (Tümkeya, 2017a, 2017c).

1982, pp. 131–132, n. 10; McGinn, 1989, p. 354; Stubenberg, 1998, p. 41), or at least was not so before 1974 (Dennett, 1991, p. 425).

There are a few writers who have made some related but somehow different remarks (Matthews, 2009; Stubenberg, 1998). Stubenberg makes no attempt to liken Nagel with Churchland, but he argues powerfully that Nagel’s objective phenomenology project clears a path for future physicalism. Matthews argues that Churchland’s critique of Nagel is gravely erroneous. His line of reasoning centers on the fact that Nagel expressly accepts physicalism. Only two works have a section exclusively focused on the connection between Nagel’s physicalism and his objective phenomenology (Stubenberg, 1998; Thomas, 2009). Although Stubenberg argues that the objective phenomenology project serves to clear the path for future physicalism (p. 42), Thomas argues that Nagel’s non-physicalism is compatible with his objectivism (p. 38). Neither of these accounts, however, adequately addresses the relationship between physicalism, objectivity, and the massive deficiencies of FP, as Nagel construes them.

In this chapter, I first try to offer a coherent and intelligible account of how Nagel, on the one hand, and the Churchlands (primarily Patricia, but also Paul), on the other, understand physicalism, FP, and revisionism (section 2). Second, I present textual evidence to support my interpretation of their views (sections 3, 4 and 5).

Let me now clarify how the chapter is organized, what its main contribution is, how this will be argued for, what the reader will find in each section, and how it contributes to the overall argument.

With few references, section 2 mechanically and briefly characterizes the three fundamental terms used by Nagel and Churchland: “physicalism,” “FP,” and “revisionism.” Then section 3 shows how Nagel redefines physicalism by giving an objective account of the subjective. The hypothesis that phenomenal states have an objective nature is a more fundamental idea than the hypothesis that the nature

of experience can be captured in a physical description. On the one hand, the subjective–objective relationship replaces the mental–physical dichotomy. On the other, the notion of objectivity is notably revised and becomes graded. When Nagel speaks of the move from a subjective to an objective characterization, he says: “Objectivity [is a] direction in which the understanding can travel” (T. Nagel, 1974, p. 443). When I use the term “objectivity” without qualification, I have in mind such gradable objectivity.

In section 4, I try to convince the reader that the Churchlands’ alleged eliminativism is, in fact, not a demand to eradicate FP, but rather a methodological approach, to the effect that we should revise our system of categorization regarding cognition as the relevant sciences advance. In this section, I limit myself to providing textual evidence of passages where the Churchlands dub their view as either “eliminative” or “revisionary” materialism. However, in section 5 I try to explain what they mean by this, and whether the revision of FP they envision has anything to do with Nagel’s revision, which is based on offering an objective understanding of phenomenal consciousness (Atkins, 2013; A. Y. Lee, n.d.).⁸

Section 5 focuses on Nagel’s expansionary revisionism and his project of objective phenomenology. Since he was persuaded of physicalism’s truth in 1965 but his intuitive resistance remained, his solution was to revise our conceptual framework. Hence, the objective phenomenology project and expansionary revisions. Nagel’s project lays a conceptual foundation for an objective account of experience’s subjective aspect. The final section is a summary of the chapter.

4.2. Nagel’s and the Churchlands’ Views, in a Short but Coherent Form

⁸ Lee’s manuscript has recently been accepted for publication by *Erkenntnis*.

Before adducing much textual evidence to support my points, I shall initially offer a coherent and intelligible account of how Nagel, on the one hand, and the Churchlands, on the other, understand physicalism, FP, and revisionism.

Nagel's physicalism. In 1965, Nagel accepted the truth of physicalism, arguably in a non-committal and weak sense, and did not later substantially change his overall stance toward the objectification of mind, although he occasionally changed his mind about what to call his view. Yet he also occasionally states that physicalism is something we cannot understand. There is no significant inconsistency here, for he accepts that “[s]trangely enough, we may have evidence for the truth of something we cannot really understand” (T. Nagel, 1974, pp. 447–448). I do not deny that Nagel himself in subsequent years never called himself a physicalist. He once named his approach a “dual-aspect theory” (T. Nagel, 1986, p. 30). Later (2002), he called his position a form of monism, acknowledging the noncontingent psychophysical identity between mind and brain. In *Mind and Cosmos* (2012, p. 5), Nagel asserts that some kind of neutral monism is the best-supported answer to the mind–body problem among the traditional alternatives.⁹

Churchland's physicalism. Patricia Churchland uses the term “physicalism” in an unsophisticated way, to refer to theories that claim that the mind is a level of the brain activity. To understand the mind, we must study the brain. This view prohibits spooky stuff, such as ectoplasm or paranormal avenues to knowledge.

Nagel's FP. According to Nagel, as a naïve understanding of psychological processes, FP is not capable of accounting for the relation between mind and body. Folk conceptions of consciousness, memory, self and personhood have been challenged by neurobiological findings, such as the split-brain and other abnormal psychological and neurological syndromes.

Churchland's FP. Churchland is highly critical of both the integrity of the principles and the propriety of the entities used in the FP framework. The chief

⁹ I greatly appreciate our email exchanges with Prof. Thomas Nagel, which made me better understand his evolving position regarding physicalism.

target is propositional attitudes. She believes that the integrity of the framework is greatly threatened by advances in the brain and behavioral sciences. It is unlikely that this framework will preserve its integrity. Its principles will fray, and its posits will gradually be sidelined. It tends “to die of slow empirical strangulation rather than by a quick observational guillotine” (P. M. Churchland, 1998a, p. 30).

Nagel, revisionism. Nagel offers “expansionary revisions” of our conception of mind. By this, he means a conception that will permit subjectivity to have an objective physical character in itself. Such an expansion does not strike him as out of the question, because it does not involve any contradiction with the essential nature of subjective experience. Nagel even once said that our standard model of mind might be eliminated in the future as neurology advances (1970, p. 399).

Churchland, revisionism. Churchland’s methodology takes a co-evolutionary approach to studying the mind. She strives for a rich interanimation between top-down and bottom-up approaches by which a fruitful co-evolution of theories, models, and methods might become possible, wherein each informs, corrects, and inspires the other. She talks about “revisionary” and “unificatory” materialism. “Revisionism” here simply means that if someone can improve her predictions by upgrading her FP in line with scientific results, then she should do just that (Mölder & Churchland, 2015, p. 179).

4.3. The Problem of Physicalism: An Objective Account of the Subjective

Nagel is a defender of objectivism (1974, p. 449, 1986, p. 5, 2013). Furthermore, he (1965) explicitly acknowledges the truth of physicalism. Before discussing the relationship between his physicalism and his project of objective phenomenology, we should have a closer look at his conception of physicalism.

I am not sure that Nagel has any exact and enduring definition of physicalism in mind, so ultimately it is not clear whether Nagel is a physicalist. Nonetheless,

Nagel's earliest definition of physicalism is "the thesis that a person, with all his psychological attributes, is nothing over and above his body, with all its physical attribute" (1965, p. 339). He was "inclined to believe that some weak physicalist theory of the third type is true, and that any plausible physicalism will include some state and event identities, both particular and general" (p. 340). The first type is identity theory, and the fourth is something even weaker than token physicalism. His acknowledgment of the truth of physicalism was abductive in nature. He had some reasons to believe that some sort of physicalism should be true, although he gives no argument for this. Nagel adopts an ontologically less committal notion of physicalism. In fact, his goal is not to defend or refute physicalism, but just to defeat the then-widespread arguments for the conclusion that physicalism must be false.

My attitude toward it is precisely the reverse of my attitude toward physicalism, which *repels* me although *I am persuaded of its truth*. The two are of course related, since what bothers me about physicalism is the thought that I cannot be a mere physical object, cannot in fact be anything *in* the world at all, and that my sensations and so forth cannot be simply the attributes of some substance. (T. Nagel, 1965, p. 356, all but the last italics are mine)

Interestingly, from this passage, we can see that Nagel was a physicalist as early as 1965; he was persuaded of its truth. Some philosophers, such as Tim Crane, for example, have explicitly stated that Nagel had believed physicalism to be true (Crane, 2007, p. 23; see also Stubenberg, 1998). Furthermore, Crane adds that the crucial point for Nagel is that we cannot fully understand physicalism. However, Crane's interpretation of Nagel is problematic here, because Nagel does not say that we can never understand physicalism. He does not claim that a physicalist account of consciousness cannot be given; only that nobody has yet given a plausible account. More importantly, it is not clear what that account might be.

The physicalism for which Nagel expressed sympathy in 1965 implies that there are no irreducibly non-physical properties. He subsequently moved toward the view that, even if mental events are physical events, this is not all they are. Rather they have essentially subjective properties that are not physical. This view is

known as a “dual-aspect” theory. Ultimately, Nagel has been drawn to the view that the truth lies in a form of monism that we cannot at present formulate, and according to which the mental and physical aspects of these events or states are necessarily linked as the manifestation of a single reality seen from both the inside and the outside. However, this might not be physicalism proper. Overall, we might say, Nagel is agnostic on whether physicalism is in fact true. Moreover, he thinks that we do not yet have an understanding of consciousness that would allow us to see how physicalism even *could* be true. Nagel thinks that what is needed is some way of characterizing consciousness in objective terms.

It is reasonable to think that Nagel changed his mind, not concerning the metaphysics of mind, but rather regarding the definition of physicalism.¹⁰ In 1965, intermediate views between physicalism and non-physicalism were not very popular. By the turn of the second millennium, however, it was not unusual for philosophers of mind to adopt non-traditional alternatives concerning the mind–body problem. Dual-aspect theory and neutral monism have become two of these alternatives. Whether a given view is a form of neutral monism, as opposed to a form of physicalism, may depend on how much you think physicalism asks of us.

Nagel says that, assuming the available mentalistic conception of human beings, it appears impossible for the noncontingent identity of mind and brain to be true. The reasonable move is thus to revise and expand our available set of mentalistic ideas: “This does seem to call for some revision in our way of conceiving of mind, or matter, or both. The difficulty is to do this without denying what is in front of your nose” (1998, p. 343). Some people will be shocked to hear that, in fact, Nagel once even said that our standard model of mind might be eliminated in the future as neurology proceeds (1970, p. 399).

In his atypical stance toward physicalism, the classical distinction between physical and mental becomes obsolete. The subjective–objective relationship

¹⁰ Thanks to Yavuz Başoğlu for pointing to this possibility.

replaces the mental–physical dichotomy. Yet, the notion of objectivity is importantly revised and becomes graded: “The development goes in stages, each of which gives a more objective picture than the one before” (1980, p. 79). If we could see that the question of physicalism is the problem of objectivity in disguise, then we would accept that the problem of physicalism is not ontological in nature, but rather methodological. This is so because “objectivity is a method of understanding” (1980, p. 77). The categories of subjectivity and objectivity have replaced the categories of mind and body. Nagel’s strategy is to transcend rather than reconcile the duality between mental and physical categories. Thus, the time-honored opposition between physicalism and non-physicalism would become a false dilemma, a dilemma that withers away.

There is a fundamental commonality between how Nagel and Churchland construe the preconditions for developing an objective account of experience. There are two major reasons why these similarities are striking. The first is that these philosophers perceive themselves as opposites. The second is that other philosophers assume that this supposed opposition between Churchland and Nagel does in fact exist. Both Paul and Patricia Churchland have severely criticized Thomas Nagel over the last three decades (P. M. Churchland & Churchland, 1998, pp. 65–66; P. S. Churchland, 1996, p. 402, 2007, p. 186). The Churchlands have accused Nagel of being a true pessimist about the possibility of giving a scientific, objective account of consciousness. According to Patricia Churchland (1996, p. 402), Jackson, McGinn, Fodor, Searle, Kripke, and Chalmers, after and following Nagel, have all defended quite similar views about the possibility of giving a scientific account of experience. She has occasionally noted some significant differences among these philosophers, but they share the same pessimistic orientation (2007, p. 186).

4.4. Churchland, the Third-Person Viewpoint, and Eliminativism

For the last half-century, the Churchlands have defended the idea that consciousness in all its aspects either is or will become amenable to scientific explanation (P. M. Churchland, 1979; P. S. Churchland, 1983a). Because they advocate this idea, it should be clear that they assume the existence of consciousness (cf. Klar, 2020). Philosophers often consider the Churchlands to be eliminativists about consciousness in particular, or the folk conception of mind in general (Allen-Hermanson, 2015; Crane, 1998; Lycan, 2005; Northoff, 2004a; Poslajko, 2020; Steinert & Lipski, 2018). Many philosophers think that as thoroughgoing naturalists and physicalists, the Churchlands should be understood as denying the existence of experience altogether.

The category of consciousness is not to be eliminated and replaced by novel concepts that come out of nowhere. Rather our present conception of consciousness will be transmuted and naturalized to fit within a neurobiologically harmonious framework (P. S. Churchland, 1983a; P. S. Churchland & Churchland, 1996). The sciences in question are not the currently available sciences. Rather, they are the sciences of the future. This future science is occasionally called future cognitive neuroscience: “What is envisaged instead is a rich interanimation between the two, which can be expected to provoke a fruitful co-evolution of theories, models, and methods, where each informs, corrects, and inspires the other” (P. S. Churchland, 1986a, p. 3).

During this long co-evolution, there would be much revision in the concepts, tools, and principles of philosophy of mind and the relevant sciences. The Churchlands give their approach at least three different names: (i) EM (in 1981), (ii) revisionary materialism (in 1986), and (iii) revisionary or EM (in 1998):

What seems exciting and promising is that the results from this research on split-brain patients, the results from social psychology, and the philosophical theory underwriting revisionary materialism ... are converging. (P. S. Churchland, 1986a, p. 192)

Lastly, Paul Churchland once spoke of revisionary or EM: “For reasons outlined in many places, including chapter 1 of NCP, I am strongly inclined toward a revisionary or eliminative materialism concerning the mind” (1998d, p. 287). What makes the Churchlands’ position eliminativist is their acknowledgement of the possibility of nontrivial revision or even wholesale denial: “The possibility of nontrivial revision and even replacement of existing high level descriptions by ‘neurobiologically harmonious’ high level categories is the crux of what makes eliminative materialism eliminative” (P. S. Churchland, 1994, p. 26). Strikingly, Patricia Churchland also once said: “Or, as we have preferred but decided not to say ‘what makes revisionary materialism revisionary’ ” (1994, p. 39, n7).

The Churchlands say that during the co-evolutionary process, both the lower and higher-level theories modify each other by the force of new data, emerging insights, and novel concepts. This constant reconfiguration is open-ended. These revisions might be minor, moderate, large or radical. Herein, the categories and theories that are anticipated to be subject to significant revision are the categories of so-called FP, as well as some contemporary categories of psychological science, such as memory, attention and reasoning. I have tried to show that the Churchlands’ approach to this debate can be named “revisionary materialism,” as they have preferred to call it. Elimination is just an empirical prediction, or a broad hunch, of a very substantial or even radical level of revision. The more we learn from brain and behavioral sciences, the more modifications we will need to make to the old mental categories that we currently use, both in daily life and in psychological science. How much revision FP as a theory (and its posits) will undergo is an empirical question: “We thought that ‘revisionary materialism’ was actually closer to what we wanted to convey, inasmuch as we take it to be an empirical question how much revision a theory and its concepts will undergo ...” (P. S. Churchland, 1986b, p. 247).

What was closer to their intended message was the term “revisionary materialism,” even if they did not initially choose this label. Revisionary

materialism, here, would not imply that some core part of FP will or must be preserved (cf. Bickle, 1992). It only emphasizes the empirical character of the revision needed. The degree of modification cannot be known in advance.

Given their first-hand history of the name “EM,” I think, many interpretations of the Churchlands’ approach turn out to be deeply mistaken. Eliminativism is just a moderate methodological idea, not a radical ontological thesis. But the much more intriguing point is that Thomas Nagel himself defended a very similar position, and even used the same name for his approach, i.e., “revisionism.” I shall now proceed to scrutinize his proposal.

Nagel asserts: “The mind-body problem exists because we naturally want to include the mental life of conscious organisms in a comprehensive scientific understanding of the world” (1993, p. 1). He (1986, p. 5) “offers a defense and also a critique of objectivity.” His critique of objectivism is limited to certain ambitious claims of natural scientists, who venture far beyond the scientific spirit, and make bold assertions bolstered by a metaphysical worldview (T. Nagel, 2012, Chapter 1). For Nagel, the core problem is how to give an increasingly objective account of the subjective. To achieve that, Nagel believes, we should develop a better foundation to make the truth of materialism intelligible, and also to capture the subjective aspects of experience (1974, p. 449, see also 1998, p. 352).

Nagel claims that we currently lack the conceptual resources to understand the truth of physicalism. It probably will turn out that the mind is the brain. During future philosophical and scientific developments, our current conceptions of “physical” and “mental” will be revised. Thus, at the core of the problem of consciousness lies the objectivity problem. However, during this conceptual progression, our conceptions of the physical and the mental will be significantly modified. The resulting view might not be physicalism proper, whatever that may be. Such a result may be why Nagel never dubbed his position “physicalism” after the 1970s. In the end, Nagel is drawn to what he terms a “hybrid” approach.

For Nagel, if something is physical, “it has to be objective” (Nagel, 1974, p. 449, n15; for more on this issue, see also his 1979, p. 202). That is, if we are to explain the mental in physical terms, we have to characterize it as something objective. Nagel anticipates that in the future, once the relationship between the mental and the physical is fully understood, “the fundamental terms” of the theory that explains that relation will not fall squarely within our current categories of physical and mental. That is, for Nagel, the physical account of the mental will remain improbable without giving “more thought” to the general problem of the subjective and the objective (1974, p. 450). In fact, Nagel, in one of his less known works, states that the problem of physicalism is just a substitute for the question of objectivity (T. Nagel, 1979, p. 202; for a parallel claim, see Stoljar, 2016).

What makes the problem of consciousness intractable, then, is not that there is a mystery about how the physical gives rise to the mental. Rather it is our lack of a suitable notion of objectivity. Our current notion of objectivity is confined to pure physical objectivity. This pushes the phenomenal aspect of experience aside to the purely subjective side of the debate. The phenomenological aspect of experience should be made amenable to objective exploration. Nagel proposes to do this through his objective phenomenology project (T. Nagel, 1974, pp. 448–449, see also n14). This is indeed the case:

Apart from its own interest, a phenomenology that is in this sense objective may permit questions about the physical basis of experience to assume a more intelligible form. Aspects of subjective experience that admitted this kind of objective description might be better candidates for objective explanations of a more familiar sort. (T. Nagel, 1974, pp. 449–450)

In the future, it will be possible to develop an objective phenomenological vocabulary to answer the question “What is it like to be a bat for a bat?” (see Atkins, 2013). Nagel does not deny the possibility of giving an objective account of consciousness. On the contrary, he strives for it.

4.5. Nagel's Proposal of Expansionary Revisionism

As I have shown, because an objective characterization of consciousness is unlikely to be given *within* the present conception of mind, Nagel proposes an objective phenomenology project. Yet he finds physicalism repellent (1965, p. 355). He has an intuitive resistance to physicalism, but also knows that his intuition is anchored in the standard conception of mind, and that this conception can and should be upgraded. In fact, this is the core of his argument for the need for objective phenomenology.

Nagel's proposal of objective phenomenology reflects his desire to make important revisions to both the mental and the physical categories. Because these revisions are primarily about FP categories, I will first briefly discuss the latter. FP is a mentalist explanatory framework which human beings have used throughout millennia for understanding, predicting, and manipulating other people's behaviors and mental states. The core of FP consists of propositional attitudes such as believing, aiming, hoping and desiring; that is, belief-desire psychology.

Viewing the issue from an opposing angle might help. Those philosophers who argue that we cannot give a full scientific account of consciousness typically assume some aspects of our present conception of it: non-spatial, accessible to introspection, incorrigible to the owner of the experience, unitary, and intimately connected to language (P. S. Churchland, 1983a, p. 80). From this, it follows that the debate over consciousness is actually related to our convictions about our mentalistic framework. If FP is fundamentally mistaken, then those convictions are at stake. Nagel argues that if the then-widespread ideas denying the possibility of giving a scientific account of consciousness are correct, then the basic assumption that "we are selves" is wrong, and he does not want to accept this conclusion: "We are thus freed to investigate the possibility, and to seek the kind

of understanding of psychological states which will enable us to formulate specific physicalistic theories as neurology progresses” (T. Nagel, 1965, p. 355).

Even before the Churchlands, Nagel emphasized the enormous trouble that FP would face in the long term. He argued that brain and psychological sciences have increasingly demonstrated that FP is critically inadequate (1970, 1971). He saw that our standard conception of mind is not harmonious with developing neurobiology. Two types of scientific studies struck him especially: the split-brain studies and abnormal psychological cases. The former is the very same type of study that directed Patricia Churchland toward neurophilosophy at the earliest stage of her career (Mölder & Churchland, 2015; Moscow Center for Consciousness Studies, 2015). In the seventies and eighties, both Churchland and Nagel greatly appreciated what split-brain studies could tell us about the mind–body problem (P. S. Churchland, 1986a, pp. 174–193; T. Nagel, 1971).

Clearly, Nagel calls for revision, as do the Churchlands. By expanding and revising our mentalistic concepts, we will achieve a scientifically harmonious notion of mind and consciousness. In doing so, it will become possible to give an objective characterization of mind. Consciousness thus becomes amenable to scientific exploration. This is actually the core of Nagel’s objective phenomenology proposal (1986, Chapter II). A potential account of conscious experience is explained in terms of objective, scientific characterization. The intractable problem becomes tractable; it becomes subject to scientific exploration.

At this point, a challenge demands to be addressed. If Nagel is this much in step with the Churchlands, then how should we explain the prevalent reporting of the Churchlands’ position as eliminativist? Are these just total misreports about their neurophilosophy? Or, alternatively, should we say that there are two opposite positions under the rubric of “revisionism”: expansionism and eliminativism? In this case, it is natural to reply that their anticipated revisions have different targets.

When expressed in this way, the apparent problem might seem to disappear. However, this natural reply will not fly, although the reason is elusive. For Churchland (1986b, pp. 241–242), EM at minimum means the revisability of theory at every level: “I argue for physicalism, for intertheoretic reduction, for naturalizing epistemology, for conceptual-role semantics, and for revisability of theory at every level (eliminative materialism).”

Both Nagel and the Churchlands assert that the degree and direction of future revisions is an empirical issue (P. M. Churchland, 1981, p. 78), which cannot be fully anticipated at present. In view of the fact that the degree of revision is an empirical issue, the phrase “revisionary materialism” is closer to their intent. Across-the-board elimination is located at one extreme of this wide spectrum of possibilities.

The point here is that our current categories and assumptions about the nature of mind are not a sound foundation upon which we could build a future cognitive neuroscience or philosophy of consciousness. That is so from the Churchlands’ viewpoint. From Nagel’s point of view, the insufficiencies of our self-conception hinder the objective characterization of consciousness, which is very desirable and urgently needed, and is possible to achieve through revising our concepts of mind and matter.

Considering all that has been quoted above, it can be said without hesitation that Nagel is a revisionary monist in the context of the mind–body problem. Nagel himself actually says the same, as quoted above in the second section. Here is the sequel of that quotation:

By this [expansionist revision] I mean a conception that will permit subjective points of view to have an objective physical character *in themselves*. The reason such an expansion does not seem to me out of the question is that it doesn’t involve a contradiction with the essential nature of subjective experience. (1998, p. 343, 2012, pp. 23–24)

Not an eliminativist but an expansionist, says Nagel. But what does that really mean? Nagel accepts the existence of subjectivity. But what kind of subjectivity is he talking about? This is the subjectivity that is right in front of our noses, he says. It is directly related to the first-person viewpoint and represents the felt character of experience. The relevant experiences are *our* experiences and are articulated in belief–desire language, and represented by the concepts of sensations and emotions. There is a disanalogy between familiar scientific reductions and any potential psychophysical identification, which concerns the language of our self-conception. In Armstrong’s theory, the identity between gene and DNA, says Nagel, cannot be a model for the relationship between mind and body. Then he goes on to say:

Our dealings with and declarations to one another require a *specialized* vocabulary, and although it serves us moderately well in *ordinary* life, its *narrowness* and *inadequacy* as a psychological theory become evident when we attempt to apply it in the formulation of general descriptions of human behavior or in the explanation of abnormal mental conditions. (T. Nagel, 1970, p. 399, my italics) (for exactly the same reasons, see P. S. Churchland, 1986a, p. 223)

From this, it follows that our mentalist picture is insufficient for a general account of human behavior and cognition, even though it is enough for daily transactions. However, we should desire a sufficient account. Then the mentalist picture should be improved via unending revisions as follows:

The crude and incomplete causal theory embodied in commonsense psychology should *not* be expected to *survive* the next hundred years of central *nervous* system studies *intact*. It would be surprising if concepts like belief and desire found *correspondents* in a neurophysiological theory, considering how limited their explanatory and predictive power is, even for gross behavior. (1970, p. 399, my italics)

This passage is explicitly a powerful critique of FP, focusing on its concepts of belief and desire. It emphasizes the explanatory limitations and the predictive weaknesses of FP, regarding even gross behavior. It says that a future brain science would not match our current self-conception.

Old psychological concepts will not work in the future. They will become archaic. In a future theory of cognition, we will need novel terms, a new objective phenomenological vocabulary. Thus, if Churchland is an eliminativist, then so is Nagel. Conversely, if Nagel is revisionary, then so is Churchland. Their motivations and aims are sufficiently shared.

4.6. Conclusion

This chapter furthers my case that the Churchlands' neurophilosophy is moderate. This time, I am only interested in eliminativism. I argue that Churchland-style eliminativism is at root a familiar revisionism, which we can even find in Thomas Nagel, who is famously thought to be on the pessimist side of the debate on the possibility of giving an objective account of consciousness.

A word of caution is in order. I anticipate that neither Churchland nor Nagel would agree with my conclusion. However, I believe that they would see their differences narrower than they now think. Whether Nagel changed his position to optimism to pessimism, as many of my friends think, and whether, as some like to say, Patricia Churchland retreats from her radical position remain unclear.

I completely disagree with the latter claim. For the former one, I am not sure. If it were true, then it would become much easier to show that the similarities are larger than people thought. However, my victory would then be based on a fallacy: comparing young Nagel to the late Churchland. I disagree since I firmly believe that the Churchlands' approach to eliminativism has not significantly changed.

CHAPTER 5

SEVERAL FORMULATIONS OF EM

5.1. Introduction

One thread in today's naturalism is neurophilosophy, which was founded by the Churchlands.¹¹ The core assumptions in their arguments are usually dismissed as being very absurd or improbable to be true. Their most seemingly shocking notion is EM about FP. EM is treated as follows: a careless production of wild imagination, crazy and “too insane to merit serious consideration” (Searle, 1992, p. 48); with insinuation that “there is no such thing as believing that there are a lot of cats in the neighborhood” (Putnam, 1988, pp. 58–59); “almost entirely groundless” (Kitcher, 1984, p. 89); based upon extraordinarily weak arguments (Greenwood, 1992, p. 350); deeply counterintuitive (Pitman, 2003, p. 208); the product of “the San Diego imperialists,” (Klagge, 1989, p. 323); scientistic (Haack, 2016); fundamentalist (Craver, 2007, p. 11); aggressive (Rockwell, 2014); strong (Allen-Hermanson, 2015; Gold & Stoljar, 1999; Wright, 2000); “lead[ing] him [PM Churchland] inevitably to universal skepticism” (Rockwell, 2011); “a neurobiology alone theory” (Gold & Stoljar, 1999; cf. Looren de Jong, 2002, p. 449); a “fallen” comrade and would-be revolutionary who was formerly extreme (Bickle, 2019); a menace (Pośłajko, 2017); implicitly dualist (Muse, 1997); self-refuting (see references in Pitman, 2003); “in a position of theoretical inconsistency” in its neurophilic form (Trout, 1991, p. 380); bound to fail (reported in Bertolet, 1994); “the constructivist thesis that the concept of mind is a social construction on a par with the Greek gods: ‘mind’ is a mythological object fated

¹¹ Giant thanks go to each anonym report on the early drafts of this chapter. It is encouraging that the expert reviewers' understanding of contemporary eliminativism is much deeper and fairer than what we see in the published pieces on the topic. The content of this chapter is under second revision in *Philosophical Forum*.

to be replaced by science” (Leahey, 2005, p. 55); “the distinctive and truly radical thesis that there have never occurred any sensations; no one has ever experienced a sensation” (Lycan, 2005, p. 197); “the claim that no creature has ever had a belief, desire, intention, hope, wish, or other ‘folk psychological’ state” (Henderson & Horgan, 2005, p. 211); “little better than interruptions to our studies” (Hunter, 1995, p. 29); and so on.

As the Churchlands endorse it, EM is most charitably recast as a revisionist account concerning FP. The charity principle finds an application at the methodological level. Conversely, at the ontological level, their EM could be perceived as eliminative concerning the propositional model of FP. However, this time, acknowledging the revisability with no limit at every level of theory makes it eliminative. Surprisingly, they argue that what makes EM eliminative is seriously considering the possibility of across-the-board abolishment. One might ask what about their notorious prediction that propositional attitudes such as belief and desire are destined to be eliminated from our scientific theorizing when complete cognitive neuroscience, a true science of mind, emerges as a viable and concrete alternative?

Their major concern is with the relationship between propositional attitude reasoning and the bottom–up research strategy. If FP concepts are likely to be flawed, they should not serve as a starting point for top–down research on cognition. Their suggested research strategy is a coevolutionary study.

“Eliminativism” is ambiguous, so is the extension of the term belief. I will thus focus on identifying and discussing misunderstandings about EM, thereby conceptually distinguishing its forms, and explaining their varying strength in terms of different arguments to support them.

An accurate formulation should suggest that EM denies almost any or most of the application(s) of the propositional attitude conception of belief and desire for

biological cognition. The former variant of EM falsely equates the notions of belief and desire to their propositional understanding. As evident throughout this chapter, this sense of belief is still dominant in the core areas of analytic philosophy, although forming only a part of philosophy in general. Thus, the equation may not be very damaging. However, as the Churchlands offer a neurocomputational solution to the problem, the proposed solution emerges outside the analytic orientation box. Hence, it becomes confusing as to what amounts to denying beliefs or propositional FP concerning EM's positive characterization. This confusion results in poor communication between the parties in the debate over EM and FP; these parties use the exact words in several ways, such as at best, orthogonal to others, at worst, and in conflict with each other.

Given that the Churchlands' solution, or the positive characterization of EM, locates at a micro level of explanation, is it an offer concerning giving a neurocomputational reduction of a future scientific psychological posit that will replace sentential belief? It is conceivable that there be no psychological category that even roughly corresponds to our pre-theoretical understanding of belief. Nonetheless, it is reasonably uncontroversial that in a long journey to a post-propositional attitude era, if there will be any, we will successively, or in parallel, construct psychological or maybe neuropsychological terms, be capturing our pre-theoretical intuitions for belief.

Let us now summarize the potentially systematic reasons or the conceptual obstacles rendering EM repellant and frequently misreported.

I will focus on identifying and discussing misunderstandings about eliminativism, thereby conceptually distinguishing its forms, and explaining their varying strength in terms of different arguments to support them. Many similar attempts were made recently (for example, Collins, 2007; Daly, 2013; Hutto, n.d.; Lee, 2018; Pino, 2017). Bernardo Pino recently argued:

However, this does not mean to say that people holding eliminativist claims regarding these different types of things are all eliminativists in the same way. Examining different eliminativist arguments can show that there are different ways of denying that there are some X's and, therefore, that there are different ways of being an eliminativist about X's. (Pino, 2017, p. 182)

I entirely agree with Pino, but my classification is different from his and confined to the Churchlands' eliminativism concerning FP and propositional attitudes. I want to analyze the "eliminative" of EM. I try to show that the word is ambiguous and that several different theories can be spun out of the differing meanings of this term.

I attempt to show that the misinterpretations are interesting because they involve conceptual problems that have not been recognized as causing misinterpretations. These concepts and terms are belief, elimination, FP, self-conception, EM, and revisionism. It is crucial not to conflate the following logically distinct but somewhat practically connected theses that an eliminativist can hold: 3 theses concerning belief (Bf1–Bf3), 10 theses about elimination and EM (EM1–EM10), and 4 theses related to revisionism (R1–R4). For EM, there are primarily ontological and methodological versions. With that being said, some versions are ontological, but the real import of the theses is methodological; these are the most vital ones. Except for the two versions of EM, all of them have been explicitly endorsed by the Churchlands; even the other two have been explored and evaluated.

Manuel Vargas mentioned the following: "There are two standard theoretical responses to putative errors in ordinary thinking about some given target property: eliminativism or revisionism. Roughly, eliminativism is the denial that the target property exists, and revisionism is the view that the property exists, but that people tend to have false beliefs about it" (Vargas, 2017, p. 2499). I, however, have a contrasting argument, and I believe that as far as the Churchlands are concerned and about the status of FP, the Churchlands' eliminativism is not the denial of FP

unqualified, and not all of the familiar revisionisms related to FP are not based on the viewpoint that “FP is true or its posits are real, but that people tend to have false beliefs about them.” Even when some revisionists really claim that “FP is true but our beliefs about it are wrong,” they do so by suggesting a very loose sense of the term in question.

The problem with these loose senses is that it makes revisionism, as it opposes eliminativism, empty or at least uninteresting. The notion of revisionism, introduced to resolve disputes in the conceptual change’s ontology, becomes hostage to the problems, which are more profound (see Nichols et al., 2016; for objections, see Vargas, 2017). Within the context of this chapter, revisionism concerning FP refers to a vast class of ideas comprising many non-eliminativist approaches and some realist theories, which are frequently classified under retentionism, conservatism, or preservationism. Jerry Fodor’s as well as others’ approaches are paradigmatic exceptions to revisionism. To commit to the folk ontology is human, but to revise it, divine, and to eliminate it, the last resort.

I consider eliminativism to be a thesis primarily about explanation and method rather than metaphysics or ontology. Conversely, elimination or heavy revision of FP is its ontological prediction. As both eliminativism’s methodological thesis and ontological predictions are relevant to understanding the Churchlands, I discuss each in the following sections.

5.2. Varieties of Belief: Sentential, Austere, or Neurocomputational

The propositional understanding of belief tends to be the meaning of “belief” and “desire” in analytic philosophical circles, and according to the Churchlands, this notion is overdue for radical revision, which may result in elimination. I am not satisfied with a ready equation of the FP terms such as “belief” and “desire” with propositional attitudes. The assumption that it is common to read them as something sentential does not hold concerning the broader history or context of

philosophy. Nonetheless, it is valid for the contemporary analytic philosophy of mind. Belief is the principal component of FP. Now, let us discuss the several versions of belief and evaluate their relevancy to the Churchlands' eliminativism. The first version of belief is the paradigmatic understanding of belief in the core areas of analytic philosophy.

Belief One (Bf1): Propositional belief, which is the most important version for this study, forms a part of the core of philosophical psychology; thus, Krzysztof Poslajko recently stated the following: “[T]he folk-psychological discourse as it is being refined and used by philosophers in the broadly understood analytic tradition” (Poslajko, 2020). Beliefs are abstract, inner, information-carrying, mediating, enduring, and symbolic representations of the world. For contemporary analytic philosophers, belief is a propositional representation, attitude, or the proposition represented.

Belief is the foremost example of propositional attitudes, and therefore, a general discussion over propositional attitudes could quickly turn into a debate concerning belief. Paul Churchland summarized that propositional representation “is” thought to be “the fundamental unit of cognition that lives in a space of sundry logical relations with other actual and possible representations, a unit that displays the characteristic feature of truth or falsity” (P. M. Churchland, 2012, p. 4).

The representations are discrete packets of information, which are semantically evaluable and functionally individuated, and symbol-crunching processes act over them. They are amenable to logical operations. This is claimed to be the general way of operation in human cognition. The propositional attitudes form the systematic core of FP. The Churchlands strongly deny these ontological commitments uniquely posited by the propositional notion of FP. Nonetheless, Paul Churchland does not discard the possibility that:

We are now contemplating the high-dimensional vector of neuronal activation-levels as the fundamental mode of *representation* in the brain. And we are now

contemplating the vector-to-vector transformation, via vast matrices of synaptic connections, as the fundamental mode of *computation* in the brain. Propositions and inferences are there in the brain only in some profoundly hidden and undiscovered form, or only in some small and uniquely human subsystem, if they are there at all. (P. M. Churchland, 1998a, p. 31)

This discussion is the same as we find in the war between classical cognitive science, commonly so called, and connectionism (Fodor & Pylyshyn, 1988; Rumelhart et al., 1986). As is generally acknowledged by the connectionist researchers, propositions and logical inferences might turn out to be forming a small subset of the computations done and the available representations. Logical inferences could be approximations to the underlying stochastic processes (Smolensky, 1988). What connectionist neurophilosopher says is that *the most general and fundamental form of representation* in the brain is quite dissimilar to the propositional representations. In parallel, the fundamental sort of computation in the brain is not something like the inferences between propositions (P. M. Churchland, 1998a, p. 38).

The classical conception of computation (the theory of effective procedures), physically manifest in the von Neumann serial computer, requires a conscious rule interpreter. These explicit rules are linguistically formalized procedures and unambiguous public entities, making the procedures publicly accessible, reliable, formal, and universal (Smolensky, 1988, p. 4). Because, at least before Kuhn, science is thought to be a cultural activity utilizing explicit linguistic formulations, these explicit representations of knowledge and the publicly accessible rules make it possible for different people, including the novices, to follow the same rules and reach the same conclusions. Drawing the same conclusions from the same rules is a vital virtue of the classical conception of computation, be it science, serial computer, or a nation's legal system.

There are many important cognitive activities that such machines display extremely successful performances: solving complex arithmetical and algebraic problems, checkers and chess playing, proving theorems, and responding complex instructions (P. M. Churchland & Churchland, 1990, p. 32). The Churchlands

acknowledge the incredible success of serial computers twenty years ago. The emergence of much larger memories, breathtakingly faster machines, using dozens of million lines of more cunning codes, might have made it possible for these serial computers to simulate some human cognitive activities that are currently thought of being outside of its league.

What does “there are no propositional attitudes or sentential representations” mean? The best two-sentence explication is a very slight adaptation from Daniel Dennett (1988), which does not argue against propositional attitudes but argues that our folk psychological notion of qualia is mistaken. I have only replaced the word qualia with the phrase “propositional attitudes”:

My claim [Paul Churchland would say], then, is not just that the various technical or theoretical concepts of the propositional attitudes are vague or equivocal, but that the source concept, the “pre-theoretical” notion of which the former are presumed to be refinements, is so thoroughly confused that ... any acceptable version would have to be so radically unlike the ill-formed notions that are commonly appealed to that it would be tactically obtuse ... to cling to the term. Far better, tactically, to say that there are no propositional attitudes at all. (Dennett, 1988, pp. 382–382)

Mind seems to be the ultimate producer of beliefs, and the concept of belief plays a crucial role in mainstream epistemology. In this version, denying belief may imply denying the mind itself. This relation between the notion of belief and the standard conception of mind is possibly one of the underlying conceptual obstacles for some philosophers to not grasp the Churchlands’ eliminativism.

As can be easily observed, this notion of belief substantially departs from our daily usage of the word, which includes uncertainty and has no clear boundaries with related words, such as faith, credence, credit, view, conviction, persuasion, and sentiment. The technical version of belief is subject to norms of truth. I must note that today’s epistemology is more sophisticated and displays enormous diversity concerning the nature and function of belief.

Belief Two (Bf2): This is an austere notion of belief. I deliberately leave this version undefined, although I may offer some examples: dispositional states, subconscious states, or gradable notions of belief. In its farther flights, belief might broaden to overlap partially or largely with the extensions of faith, credence, credit, view, conviction, persuasion, and sentiment.

In this version, there are minimal ontological commitments to the nature of belief. Surprisingly, several articles have been written by FP's functionalist friends, with this simple notion to refute the Churchlands' eliminativism. Some strands in Bf2 might still be intimately connected to the notion of truth. However, the implication for believing that something is true is left open (cf. Gendler, 2010a, p. 256, n8). This point should be considered in the remainder of this chapter.

Functional friends of belief have argued that Bf2 is particularly unlikely to be eliminated by the advancement in brain sciences:

Thus, in order to engage with their position [of the Churchlands], we need to provide a case for beliefs and desires which, in addition to being a strong one given what we now know, is one which is peculiarly unlikely to be undermined by future progress in neuroscience. (Jackson & Pettit, 1990, p. 31)

Jackson and Pettit argue to have found “a case which is peculiarly unlikely to be undermined by future progress in neuroscience” (1990, p. 31). As per their understanding, given that FP is purely understood in functional terms, it is distinctively well confirmed. They are justified to claim that they knew in advance that future neuroscience would not eliminate the core of FP. At most, neuroscience will determine that FP considers the functional roles to be incorrect. Fricker makes the following comment on this aspect: “On this view, folk psychology incurs no commitments about the nature of the realization of beliefs and desires in the brain, and so is not hostage to discoveries in brain-science” (Fricker, 1993; see also Steinert & Lipski, 2018). She believes that only an account of the commitments of the central notions of FP will determine the answer to the epistemological

question. In addition, Horgan and Woodward (1985) presented similar standpoints while defending FP.

Is this determination the only thing that future neuroscience will be capable of doing? Now, I shall proceed to discuss this question.

When the Churchlands, benefiting from the advancements in brain sciences, talk about a change in the current model of FP, the change is intended to increase our predictive, explanatory, and manipulative capacity. These modifications can be modest or drastic, depending on careful considerations. The Churchlands' continuing search for more accurate theories of cognition is the real drive behind their criticism of FP. In fact, "not-in-charge thesis," which is one of the most conspicuously methodological versions of EM that I explain at the end of the last section before the conclusion, can be considered a call for philosophers of the mind to keep pushing toward more empirically accurate theories of mind. However, it might be highlighted that even those who think FP "is here to stay" do endorse this moderate statement:

Third, we are not necessarily claiming that FP is fully correct in every respect, or that there is no room to correct or improve FP on the basis of new developments in cognitive science or neuroscience. Rather, we are claiming that FP's theoretical principles are by and large correct and that everyday folk-psychological ascriptions are often true. (Horgan & Woodward, 1985, p. 199)

The phrase "by and large" in the abovementioned statement refers to the integrity and rough truth of FP. What is here to stay is our inner states' functional characterization or an abstract characterization of their revised version (P. M. Churchland, 1981, p. 77). In the limiting case, the function's very abstract characterization makes the relevant theory an uninterpreted one, thus saying nothing and having no ontological commitment. The authors would therefore say, "the overall causal architecture posited by FP remains largely intact" even under extensions and partial modifications. This factor is hardly a wholesale rejection of FP notions.

At first glance, one might assume that this is a plausible objection against the Churchlands. However, upon closer inspection, its plausibility quickly disappears. This overall causal structure is very thin to deserve a name structure. Naturally, most extensions and partial modifications do not mean elimination in any sense. These types of revisions are much less than radical revision. However, this factor is not a novel information for the Churchlands, who themselves already assume so. If Horgan and Woodward just mean that partial modifications do not justify elimination, they express a truism.

Belief Three (Bf3). This version is a future neurocomputational replacement for belief. I regard it as the Churchlands' belief, if there would be any, a nonsentential form of our inner information-bearing representations. It is a well-known aspect that these representations are activation vectors in multidimensional state spaces. Vector-to-vector transformations replace the logical operations, and instead of propositional attitudes, the system works with numerical attitudes. These sorts of representations are best modeled in parallel-distributed connectionist neural networks. In addition, complete details can be found in Churchland (P. M. Churchland, 1992, 1995, 2012) and (P. S. Churchland & Sejnowski, 1990; McClelland, 2009; Rumelhart et al., 1986; Sejnowski et al., 1988). The systems working with numerical attitudes are supposed to make much more fine-grain categorizations, and thus more powerful discriminations.

Tamar Gendler once made the following comment:

Finally, all my critics are absolutely correct in pointing out crucial inadequacies in the account of belief to which I tacitly appeal. Here, I can say only that if there were a ready-to-wear characterization of belief that fully fit my needs, I would happily purchase it. My failure to find one in the marketplace of ideas only reinforces my sense that the set of skills required for this tailoring project far exceed my own. (2012, p. 809)

The same objection might have been made to Paul Churchland, and Paul Churchland could have uttered the same answer. If a philosopher accepts the substantial modifications suggested by the Churchlands or Gendler but insists on retaining the word belief for the new set of explananda, I would not quarrel with that philosopher.

5.3. Several versions of EM: eliminability, eliminative, and revisionary

Contemporary eliminativism emerged through increasing uneasiness with the narrow terms of the debate over human cognition and the reliance on concepts such as sentential belief and desire. It presents a new way of thinking about human and animal cognition. Its central thesis is that the propositional understanding of FP is neither manifestly nor divinely given. It is subject to familiar pressures to change as other theories and terms. The foremost ontological prediction of eliminativism is that propositional attitudes will probably not be a *core* part of a future cognitive neuroscientific vocabulary. However, it is perfectly possible that it will turn out to be a special and evolutionarily recent form of cognitive representations unique to humans. This prediction presumes that FP is revisable, and its complete elimination could be coherently entertained from an *a priori* reasonableness perspective. The core of the current propositional model of FP, namely, the propositional attitudes, will probably be gradually sidetracked *from larger parts of future scientific vocabulary*; although for practical reasons, it may remain in usage concerning our daily transactions and logical or normative issues. Any model of FP that does not *heavily* rely upon propositions and propositional attitude reasoning could survive the rise of a mature cognitive neurobiological account of cognition. Particularly an austere notion of FP in its relation to the folk vocabulary is not the target of eliminativism. The widely held claim that the Churchlands envisage a future wherein the terms such as belief and desire unqualified will be lost from scientific *and* folk discourses is simply a mistake. Such kind of elimination is nothing more but a live possibility.

Eliminativism is primarily a three-part methodological notion: (i) The propositional FP is not an unbreakable obstacle against the advance of emerging cognitive neurosciences; that is, the propositional attitude reasoning is not in charge in the study of cognition; (ii) It is not the case that the only possible job for neuroscience is to search for the realizers of the present or future folk categories; (iii) As we learned from the brain and behavioral sciences, we likely feel the

pressure to revise, modify, or upgrade our self-conception. To commit to the familiar ontology is human, but to revise the methodology, divine.

In the rest of this section, the reader will find a fully elaborated classification of the factually offered versions of eliminativism either by the Churchlands or their critics. Whether a particular version (i) is outdated; (ii) is a part of the original formulation; (iii) is minimal or revolutionary; (iv) is adopted or just entertained as a futuristic exercise; (v) has only been explored but not endorsed; (vi) is pertinent to the ontological or methodological level; (vii) or has been more emphasized by Paul or Patricia Churchland have been discussed within the word limits; besides, whether any specific thesis (viii) is mistakenly attributed to the Churchland like EM3 and EM6; (ix) is more dramatic than the others, and (x) and presents a bleak picture for our self-conception or an integral part of the Churchlands' eliminativism is touched upon.

The versions of EM are divided into those that consider issues with aspects of propositional FP and those that provide positive proposals. I provide clarifications mainly on those in the first class. Conversely, I make quite a few detailed explanations on those in the second to reveal that only these are the crucial and integral parts of EM. A glance at the relevant versions may highlight disagreements and orthogonal viewpoints, but I think a closer look reveals a much more coherent picture: an official pronouncement for a coevolutionary study and personal predilection for bottom-up strategies. Predictive ontology is thus a bonus.

Further, even without any ambiguity, it is tricky to truly determine the strength of a philosophical idea; ambiguity makes it trickier. In our case, ambiguity does not lie between two senses of the term, the two variants of the theory, or the two reconstructions suggested by the sentence expressing the general idea, but it lies among 10 endorsed or explored versions of EM. I am deliberately excluding the other logically possible reconstructions of eliminativism because this chapter does

not explore the logical space but reviews the factually occupied theoretical landscape.

Once crucial misunderstandings, philosophically relevant ambiguities, and substantial verbal disagreements, which occasionally run deep and extensive, are resolved and various theses are aligned, one is left with a small number of central “emphasis points” or “choices of the level of analysis” to which the central ambiguities among the theses turn. I hope that my clarifications and explanations aid in providing an order to this mess.

Different perspectives, focuses, and emphases of its versions empower the general idea. However, little incompatibilities may prevail among these 10 versions of EM. To avoid any potential problem, the force of some of those should be diminished and controlled by others. My interpretation therefore brings methodological eliminativism at the center, thus diminishing the force of the ontological versions.

EMI. The thesis from revisability at every level of theory, distinct from somehow related thesis EM7, the thesis from eliminability.

As Fricker summarized, EM claims that “[o]ur current self-conception is not indispensable or immutable, but is subject to pressures for change, and will in time be superseded by a different self-conception” (Fricker, 1993). A minimal conception of eliminativism, with which the Churchlands fully agree. Even once Patricia Churchland defines EM with arguing revisability of theory at every level (P. S. Churchland, 1986b, pp. 241–242). The Churchlands believes that FP “is not sacred, that it is neither manifestly nor divinely given, and that ‘obviousness’ is a familiarity phenomenon rather than a measure of metaphysical truth” (P. S. Churchland & Churchland, 1996, p. 299).

Both of them have consistently emphasized this version. Despite being minimal, the former half of this version was the original one discussed during the seventies,

the eighties, and the first half of the nineties. This revisability question is immediately connected to the coherence and intelligibility of eliminativism. The revisability of the core of FP has become much less controversial in the last two decades. Only after “having reached this opinion,” Paul Churchland says, “we may be forgiven for exploring the possibility that FP provides a positively misleading sketch of our internal kinematics and dynamics ...” (P. M. Churchland, 1981, p. 74).

Today’s question is whether some or all FP posits will actually be eliminated, or are some posits of FP improbable to be refuted by the future neurobiological progress (for example, Jackson & Pettit, 1990). Besides, for some philosophers of mind and many philosophers of cognitive science, the current question concerns cognition itself, not the propositional attitudes. Propositional attitudes are the subject of the second version.

EM2. “No propositional attitudes thesis.” An ontological claim to the effect that certain entities postulated within FP do not exist *as the general and fundamental form of cognitive representations*. It is an immediate application of the term eliminativism, about anything, to the effect that it does not exist. The Churchlands do endorse it. Arguably, Paul Churchland has slightly more emphasized this version than Patricia Churchland.

It is primarily applicable to propositional attitudes. At the ontological level, it is an essential part of the Churchlands’ notion of eliminativism. It means that *almost* none of our causally efficacious internal states could be identified with propositional attitudes. Propositional attitude is not the fundamental or general form of representation in cognition, albeit it may exist as a very recently evolved and uncovered kind of biological representation. This kind of EM is still philosophically relevant. Despite this, philosophers, especially those in much sympathy with cognitive science, do not today see the connection between

propositional representations and FP as necessary or crucial as elder philosophers used to think. In any case, the thesis remains highly controversial.

This predicted elimination primarily concerns scientific theory and vocabulary. Applying it to the folk discourse is quite a different problem, which we will discuss in the next version of EM.

EM3. “A futuristic thesis” that specific FP categories will be eliminated from the folk discourse (see Collins, 2007). It is possible but does depend on social, political, economic, or other pragmatic factors. Arguably, Paul Churchland has much more underscored this version than Patricia Churchland (P. M. Churchland, 1981, sec. V). In his most enthusiastic writings, he blesses the potential benefits of the future cognitive neuroscientific framework in that it frees lay people from the cruelties and constraints somehow connected to the current FP.

Concerning the Churchlands, overall, this version is not a *central* part of the serious debates over the status of eliminativism. In folk discourse, some scientifically discarded posits might enjoy longer lifetimes, albeit being somewhat modified. Having set the scene in the far future, when complete cognitive neuroscience, a true science of mind, has been achieved, and things are highly different in this post-propositional attitude era, eradicating FP from the daily discourse is thought likely to be current. This is simply an exercise in futurism. Endorsing this thesis is too risky. More importantly, it remains unclear what kind of evidence is needed to establish it. If understood as an endorsement instead of an exercise in futurism, this version of EM is hardly defensible. Conversely, the next version of EM characterizes an attitude emphasizing the opposite outcome regarding FP’s fate in daily discourse.

EM4. “Old ways die hard thesis.” The propositional attitudes do not exist, but the Churchlands are hesitant about the possibility of elimination of FP talk from everyday discourse. The continuation of the use of a term can occasionally be

reconciled with a rejection of its objects (see Daly, 2013). In the previous version, I told that Paul Churchland fervently anticipates how completed neurobiology or cognitive neurosciences would alter folk discourse in our daily commerce. Here, we see how even Paul Churchland is cautious, even in 1981, on the practical effect of the neurobiological success over the common practice:

A theoretical outcome of the kind just described may fairly be counted as a case of elimination of one theoretical ontology in favor of another, but the success here imagined for systematic neuroscience need not have any sensible effect on common practice. Old ways die hard, and in the absence of some practical necessity, they may not die at all. (P. M. Churchland, 1981, pp. 85–86)

Belief and desire unqualified (Bf2) are, of course, a part of FP in general, and it may turn out to be practically indispensable. However, in its technical sense, the propositional conception of them (B1) has been nearly dominant, at least in some parts of philosophy, cognitive science, and behavioral economics. This limited sense is not even a widely-held part of everyday discourse. According to the Churchlands, this conception is perfectly dispensable, yet it might turn out that belief and desire unqualified are of practical use. As Jackson and Pettit put it when they are summarizing the Churchlands' position concerning the destiny of FP: "Folk psychology may be left with instrumental value, or perhaps with approximate truth, but not with truth itself" (Jackson & Pettit, 1990, p. 44).

Yes, there were occasions when Paul Churchland tried to push the bottom-up strategy to the dramatic extremes. However, very few remarks made by the Churchlands fit into the global eliminativistic garb that the critics try to dress them in. Nonetheless, if one wants to see a drama, she should go to the next version.

EM5. "A meta-scientific thesis" that specific categories of FP should or will be eliminated only from mature cognitive neuroscience (cf. Collins, 2007).

The Churchlands do see it highly likely. Both equally put forward this version in their official pronouncements of EM. At the ontological level of the discussion,

this version is at the heart of the Churchlands' understanding of eliminativism. Conversely, it is still not a part of the following if the word "culturally" refers to the ways of our daily transactions: "We can and probably will evolve, intellectually and culturally, to a post-propositional-attitude era" (Fricker, 1993, p. 254). If Fricker's summary of the approach of the Churchlands seems dramatic, the next version of EM will prove to be tragic.

EM6. "Eradication from all dimensions of existence thesis." FP framework and its posits will be eradicated from both folk discourse and scientific vocabulary. Epic-scale explanatory failings of FP provide evidence in favor of EM.

The Churchlands take its possibility seriously. Its a priori reasonableness should be taken seriously. Nevertheless, it is only a possibility, albeit a rich one. The first part of this conjunctive is irrelevant since what will happen in everyday discourse is not central to the general approach of the Churchlands. The second part has been discussed above. The next version will not provide us with an even more unsettling version of EM. On the contrary, it will begin to sketch the original and authentic methodological claims and the ontological predictions of the Churchlands' eliminativism.

EM7. The thesis from eliminability, different from somehow connected EM1, the thesis from revisability. The distinguishing feature of the eliminative materialist is as follows. She takes it very seriously that any theory that meets the specified description must be allowed a serious candidate for outright elimination. Among then-known approaches, only EM *used to* take the possibility of an across-the-board elimination of FP seriously, at least as an a priori and abstract possibility, at best a richly possible one:

Given that folk psychology is an empirical theory, it is at least an abstract possibility that its principles are radically false and that its ontology is an illusion. With the exception of eliminative materialism [EM7], however, none of the major positions takes this possibility seriously. None of them doubts the basic integrity or truth of folk psychology (hereafter, "FP"), and all of them anticipate a future in which its laws and categories are conserved. (P. M. Churchland, 1981, p. 72)

Taking that possibility seriously is what makes an eliminative materialist eliminativist. It was the original formulation of EM defended in Paul Churchland's original paper (1981, p. 76). However, this version of eliminativism is only essential when argued against the following claims: "Some philosophers have alleged that talk of mental states is so vital to our practical and intellectual lives as to be indispensable. Attempting to dispense with such talk has even been said to be 'practically incoherent' or to lead to 'cognitive suicide'" (Daly, 2013, p. 561).

The problem with this version is that, despite being the original formulation of (Churchland-type) eliminativism, this eliminativist claim has become, in the 2000s, rather less controversial than forty years ago. It now seems modest or at least nearly moderate. In any case, especially in the philosophy of cognitive science and in most parts of philosophical psychology today, many would say that there is now a somewhat consensus, at least in philosophy of cognitive science, that eliminativism in its minimal sense (EM1 plus EM7) is a genuine and serious possibility for some of the fundamental posits of FP.

However, Paul Churchland, in the same article, also formulates the core of EM as follows: "Thus the basic rationale of eliminative materialism: FP is a theory, and quite probably a false one; let us attempt, therefore to transcend it" (P. M. Churchland, 1981, p. 76). One might be justified in saying that there is an ambiguity in Churchland's characterization of EM's core in his seminal paper. This second reading of the core of eliminativism should be considered emphasizing its methodological side. Assuming that the second characterization is the true one, we are justified in saying that eliminativism has been a methodological proposal from the outset. The first one is emphasized more by Paul, but the second one by Patricia Churchland. Why? To a certain degree, the reason is that there is quite a dialectic between the ontological level and the methodological one. The explanation is distributed over the remaining three versions of eliminativism.

EM8. Bottom-up strategy thesis. Paul Churchland's seminal paper, on the last page, summarizes itself as follows:

The propositional attitudes of folk psychology do not constitute an unbreachable barrier to the advancing tide of neuroscience. On the contrary, the principled displacement of folk psychology is not only richly possible, it represents one of the most intriguing theoretical displacements we can currently imagine. (P. M. Churchland, 1981, p. 90)

This version limits itself to attacking the propositional attitudes. Alternatively put, it argues against sentential psychology.

If FP concepts are likely to be flawed, they should not serve as a starting point for top-down research on cognition. We should work bottom-up, starting with robust and reliable data from neuroscience. The previous sentence does not imply that all philosophers or cognitive scientists should start bottom-up. It is only the personal choice of the Churchlands. Their predilection is for the brain sciences. (Conversely, their suggested research strategy is a co-evolutionary study.) Both of the Churchlands have insistently emphasized this methodological version. In a sentence, EM8 claims the propositional conception of FP to be flawed beyond conceivable revision.

The next version is expressed in moderation, though its content is highly similar, with a difference in blurring the distinction between the Churchlands' predilections and their official pronouncements regarding the best research strategy. With this formulation, eliminativism becomes less repellant for some philosophers.

EM9. "Not-in-charge thesis." As Murphy said, "The real lesson of eliminativism is not that neuroscience should replace FP, it is that FP is not in charge. It is not the case that there is a level of explanation defined in folk psychological terms and the job of neuroscience is to look for the realisers of those folk categories" (Murphy, 2017, p. 167). The Churchlands would wholeheartedly agree with this. As quoted above, Paul Churchland puts the point in a very similar way: "We must

confront the issue of the descriptive integrity and explanatory efficacy of folk psychology for what it is: an empirical question” (1998a, p. 38).

At the methodological level of the debate, this version of eliminativism is the most relevant one in the current controversies in philosophy of mind and cognitive science. It is the one that directly puts eliminativism under the parent category of revisionism and has been pronounced in this form on many occasions, especially by Patricia Churchland. In parallel, Paul Churchland’s one of the original reasons was to liberate the study of cognition from FP’s constraints (P. M. Churchland, 1981).

In the past, when top-down functional characterization of cognition, inspiring from the classical cognitive model, used to seem the only game in town in the philosophy of mind and cognitive science, EM9 was unpopular. As of today, we have not only non-propositional conceptions of cognition but also have non-representational notions of it. Many of these novel research programs do not treat FP as the categorizer-in-chief.

EM10. My thesis. Here is my summary of the Churchlands’ eliminativism, based upon synthesis and furthering version eight and version nine. At the last edifice, EM’s primary claim is that, as we learned from the brain and behavioral sciences, we likely feel pressure to revise, modify, or upgrade our self-conception (Mölder & Churchland, 2015; Moscow Center for Consciousness Studies, 2015). The claim does not say that we ought to amputate FP due to its abject poverty. Revision is imperative; elimination is predictive (for a different emphasis, see P. M. Churchland, 1981, p. 72). The outcome “would seem to be an open question, to be decided only by developments in the fullness of time” (Hannan, 1993, p. 172). Patricia Churchland has heavily emphasized, and Paul Churchland occasionally has expressed this version (P. M. Churchland, 1998c; P. S. Churchland, 1986b, 1988; P. S. Churchland & Churchland, 1996; Mölder & Churchland, 2015; Moscow Center for Consciousness Studies, 2015).

At the ontological level, EM5 is the authentic claim of the Churchlands. It has not been only asserted but also endorsed. The Churchlands have extensively argued for this claim throughout the last four decades. The other ontological claims made by them are meek predictions and have no bearing on their eliminativism's methodological side.

A note for EM1. This formulation weakens eliminativism to the point that it becomes a mere truism from today's perspective. It used to be not so four decades ago. However, the thoughtful debates over eliminativism have somehow shifted. Eliminability thesis somewhat maintains its controversial status, but not the revisability thesis. The careful reader may notice a parallel between EM1 and EM9; thus, object that my reasoning renders EM9, one of the two pillars of EM10, trivial. It is a natural conclusion but will not do when examined closely. The point is not that FP is revisable but that FP is open to revision *under ordinary empirical pressures*. This openness to normal empirical pressures is what we see in Quinean attack against the analytic–synthetic distinction. Not only synthetic truths but also alleged analytic ones are subject to empirical pressures. At the end of the following section, I will explore the implications of EM10 for each of the alternative revisionisms.

5.4. The Limited Revisions and “No-Limit to Revision” Version

As so minimally characterized, EM would count as a brand of the familiar revisionisms so far that the approach leaves open how much revision our current ideas will undergo as psychology and neuroscience proceed. The Churchlands have no ideological stake in the revision being massive or minor, though their expectations lean toward the former (P. S. Churchland & Churchland, 1996, pp. 298–299). For these reasons, I argue that revisionism and eliminativism should not be characterized as being opposed as they often are.

Revisionism (R1). According to Ramsey, “The term ‘revisionary materialism’ is often invoked to denote the view that the theoretical framework of folk psychology will only be eliminated to a degree, and that various dimensions of our commonsense conception of the mind will be at least partly vindicate” (Ramsey, 2020a). On this conception, revisionism is a middle way between full-blown eliminativism and complete reductionism. It denies relatively smooth reduction but does anticipate the extremely bumpy ones (cf. Bickle et al., 2019, sec. 2). In this unqualified sense, R1 is typically in partial conflict with Bf1, neutral against Bf2, but argues against Bf3. As it concerns eliminativism, R1 is perfectly compatible with EM1, EM2, EM5, EM8-9-10. It is orthogonal with EM3, EM4, and EM6. Conversely, it is in open conflict with EM7 that takes the full elimination of FP seriously. Even this incompatibility can be contested in that EM7 could also be thought as a methodological suggestion.

The point is that EM7, when read as an ontological thesis, is in opposition with R1. When read as a methodological thesis, similar to the “not-in-charge” thesis, it is entirely consistent with R1. Some readers would say that the genuine difference between eliminativism and revisionism becomes only at the ontological level of analysis. However, through implying the possibility of its eradication, FP’s theoretical character suggests a new methodology to study the human mind and behavior: a bottom-up strategy.

There we see how the ontological and methodological levels are dialectically connected. Here is why. Being limited to a functional characterization and committed to the folk categories and assuming that FP is in charge concerning psychological categorization was the dominant methodology. The Churchlands want to change this methodological principle. To put it differently, EM7, though it is primarily an ontological thesis, suggested the Churchlands a new methodological principle. I leave it to the reader to decide whether EM is an ontological thesis or a methodological principle, or the question itself is just a verbal problem.

R1 might not pick out *current* FP as non-revisable at its core. Even though when it argues for the non-eliminable core of FP, R1 may “claim only that some abstract functional characterization must be retained, some articulation or refinement of FP perhaps” (P. M. Churchland, 1981, p. 78). This version seems highly plastic. Whether it is sufficiently plastic to incorporate the barrage of the discoveries, facts, insights, and concepts from the brain and behavioral sciences remains an open question. In any case, even agreeing that FP kinds are abstractly functional would make no relevant changes in addressing the descriptive integrity of our current FP (P. M. Churchland, 1998a, p. 28).

Revisionism (R2). Revisionary Physicalism, a specific installment of R1.¹² Bickle (1992, p. 411) argues that “[revisionary physicalism] predicts enough conceptual change to rule out a straightforward realism about the attitudes; but at the same time it also resists the eliminativist’s comparison of the fate awaiting the propositional attitudes to that befalling caloric fluid, phlogiston, and the like” (cf. 1998, sec. 6).

Bickle (1992, p. 412) also adds that “the revisionist foresees the preservation of other ‘core properties’ of the propositional attitudes within the explanatory posits of a matured cognitive neuroscience.” This version anticipates an ontology of mind, which will probably have emerged from a long conceptual revision process. The surprising claim comes later:

Perhaps the clearest way to contrast the revisionist’s ontological position from the Churchlands’ eliminativism is to say that, according to the revisionist, *one kind of representation concept* (one kind of belief concept, one kind of desire concept) *is being replaced by another kind of representation concept* (another kind of belief concept, etc.). (Bickle, 1992, p. 428)

It is astounding because what Bickle presents as a defining attribute of RP had already been embedded in Churchland-type epistemology in Paul Churchland (1988, 1989, 1992), i.e., a subsentential neurocomputational account of our

¹² Many thanks to Prof. Hilmi Demir (ASBU), who urged me to examine this position closely.

information-bearing cognitive inner states, and has been foreshadowed by him exactly half a century ago (1970, 1979). It becomes evident that Bickle proposes a distinction without a difference if the contrast is what he says. Many others have also made the same mistake. The things Bickle listed to show the differences of his approach from the Churchlands' eliminativism are entirely part of EM and have been repeated countless times over the last forty years. What is more important that Bickle himself says the same in moderation (1992, p. 424). Indeed, a revisionary approach, which goes hand-in-hand with co-evolutionary research strategy, has always been at the core of EM10.

Bickle proposes "some 'core' properties of the propositional attitudes, properties that any 'vindicating' scientific successor must by and large preserve" (1992, p. 412). This last proposal makes it too hard to give a coherent judgment concerning RP (R2). Much more surprisingly, seven pages later in the same article, he notes that:

Since he [the revisionist] foresees a replacement or eschewal of some of the core properties of the attitudes, propositional attitude psychology must also be deemed 'in a fairly strong sense ... conceptually and empirically wrong and must be replaced.' This is the eliminativist strand in revisionism. (Bickle, 1992, p. 419)

If Bickle tries to say that, as I argue for, it is too hard to determine whether some conceptual change should be dubbed revision or elimination, I agree with him. By extension, it could be stated that any substantial to radical revision in an established concept might be thought of as elimination, of a sort. Had not Bickle proposed that some part of the core of propositional attitude psychology must be by and large preserved, I would have said that his version of revisionism is directly against Bf1. Now I cannot.

Bickle's proposal genuinely implies that the elimination of the entire core of FP is to change the subject. It equals to saying EM7 is unintelligible. It does not even have *a priori* reasonableness. He prescribes that any future successor must preserve some part of the core of FP. If a future brain or cognitive scientific one

will replace the notion of propositional representation, as he says he predicts (1992, p. 424), what part of the core of FP, no matter what will be saved? If propositional representation is not propositional at all, what would it look like? What kind of revision is it to exterminate the one particular property that makes propositional attitudes propositional?

Just on the next page, we are suddenly illuminated. Bickle envisages that the advancements in cognitive neurobiology refute the sentential character of the representation but forces propositional attitude psychology to spawn new posits to become aligned with the scientific progress (p. 425). Bickle should be assuming that there are states that are not sentential yet propositional. I am not sure that he is conscious of his assumption. I have no idea about the nature of the sentential states that are not propositional. It is also possible that on page 425, Bickle has the austere version of FP in mind. Then why insist in the thesis that some part of the core of the propositional attitude psychology will and must be preserved?

Bickle, on page 423, hinted at three distinguishing marks of revisionism as a possible explanation: the reduced theory's approximation to the reducing one, conceptual fragmentation resulting in distinct but related concepts, and mutual evolutionary feedback between the reduced and the reducing theories. He gives the details in the following pages (1992, pp. 425–428). Briefly, he describes a familiar revisionary theoretical and conceptual change in physics—the reduction of equilibrium thermodynamics to the kinetic theory and statistical mechanics—and concluded that the fate of propositional attitude psychology would be similar to that.

With the claim that this particular example in physics satisfies all three so-called distinguishing marks of revisionism, I fully agree. Making the same ontological prediction concerning a nonsentential yet propositional attitude psychology, whatever that means, is a quantum leap. Alternatively, maybe it is not so if what Bickle in mind is the austere version of FP. Charity principle does not find an

application here, for Bickle himself in the first note claims that “there are important dissenters [such as] Terence Horgan and George Graham’s (1991) ‘austere’ conception of folk psychology; and Frank Jackson and Richard Pettit’s (1990) account” (1992, p. 429, n1).

These are the dissenters about preconditions of the existence of the propositional attitudes and propositional attitude psychology. They are dissenters because they adopt an austere conception of FP. Bickle is not a dissenter. Thus I have to conclude that despite its rhetoric (that is, saving intentionality in a very loose sense and wildly coarse-grain functional characterization of FP), Bickle’s revisionism (R2) smoothly amounts to the Churchlands’ eliminativism (R4 or EM5 or EM8 or EM9 or EM10).¹³ Any attack, adopting a too abstract characterization of alleged functional roles, would be a pyrrhic victory against EM, unless the attackers have the capacity to divine, before the fact, the actual roles so-called belief play in biological cognition.

Revisionism (R3). Restrictive Materialism. Bennett Holman describes, “the position holds that while the ontology of folk psychology is overextended, there is a restricted domain in which the application of the folk ontology remains secure” (2011, p. 61). This version restricts the applicable area of Bf1 but argues against Bf3. This version “avoids the extreme position taken by a strict realist because it acknowledges that we are continually surprised to what extent we are strangers to ourselves. [It] does not suggest that all of the story will be told with familiar terms” (2011, p. 67). Such is compatible with revisability thesis (EM1) and the thesis related to the methodological level, such as EM8-9-10. For the other versions of eliminativism, R3 has no sympathy. Alleged universality of belief and desire posits, their perceived great utilities in social and behavioral sciences, and how

¹³ Endicott and Wright have several publications to argue that Bickle’s revisionary physicalism and even his new wave reductionism is actually EM in a disguised form (Endicott, 1998, 2007; Wright, 2000). Precisely for this observation, they might think that what I am saying herein is the inverted version of theirs. With this, I agree. I do not argue for the idea that revisionism in some form collapses into eliminativism. Conversely, it is the EM itself that has always been a strand of revisionism. The name EM happens to be a historical contingency.

children develop a theory of mind (pp. 62-68) are sufficient for Holman to refute the ontological predictions of eliminativism (EM2-3-4-5-6). R3, too, is a particular installment of R1. I use R2 and R3 to illuminate the possible articulations of R1. There might be many other revisionist philosophies concerning FP, but the general structure emerges from these two specifications.

Revisionism (R4). “Churchland’s revisionism” or “no-limit to revisions.” Revisionism leaves open how much revision our current ideas will undergo as psychology and neuroscience proceed (P. S. Churchland, 1988, p. 398). The Churchlands have no ideological stake in the revision being massive or minor. However, their expectations lean toward the former (P. S. Churchland & Churchland, 1996, pp. 298–299). EM should be seen as a methodology suggesting the reconception of our psychological classifications, not as an ontological thesis. As we are gleefully pulled to transcend or replace old macro-categories, new intra-level or micro-level posits emerge, but this has nothing to do with EM’s being heavily bottom-up oriented (P. M. Churchland, 1998c, p. 903).

Unless it is endowed with EM10, the Churchlands’ general approach to FP’s destiny is still somewhat different from the several kinds of revisionism such as R2 and R3 discussed above. Endowed with it, R4 differs from R1 only in emphasis and its willingness to bet on the risky game of far-future ontological predictions. More importantly, when closely scrutinized, the difference between R2 and R4 becomes blurred. After all, R2, at the last edifice, amounts to replacing the propositional notion of representations. Conversely, R3 is distinct from R4. Nonetheless, the reason is not pertinent to their respective research strategies, adopted methodologies, and the likes. The distinction originates from interpreting the available data somewhat differently. These differences barely signal a distinction in -isms.

5.5. Not Conclusion but a Continuation: *Alief* as an Intermediary Link

To render EM not only coherent but also plausible, I borrow the notion of alief. Tamar Gendler's alief could represent a potential transition post between propositional belief and its nearby neurocomputational replacement. Paul Churchland's sub-epistemic activation vectors further support a sub-sentential alief with essentially associative content, which could represent a potential intermediary conceptual change and might turn out to be a scientific successor of propositional belief, which is sometimes called as linguistic or over intellectualized belief. If there is virtually no limit to the broadness of one's understanding of belief *as such*, almost no one defends EM regarding belief. I do not anticipate that belief of analytic philosophy is as malleable as to make alief a part of itself.

Tamar Gendler's novel cognitive state is dubbed "alief." Though a general notion concerning our cognitive states' nature, since the foremost example of propositional attitudes is belief, we might think of alief as an alternative or complementary to belief, despite its being a more primitive state than belief (Gendler, 2010a, p. 255). Alief is not an attitude but only a state, "a habitual propensity to respond to an apparent stimulus in a particular way" (Gendler, 2010b, p. 288). Because of this, the contents are not individuated but rather clustered. We can wholeheartedly believe something and alieve some other thing which is in apparent tension with it. Its relation to behavior is more direct than belief and desire. That is, alief is action-generating.

The standard notion of belief in the first version is a fully articulable propositional attitude and genuinely evidence-responsive; conversely, alief might be seen as implicit, arational, associative, and automatic (Gendler, 2010a). Alief "is, to a reasonable approximation, an innate or habitual propensity to respond to an apparent stimulus in a particular way" (Gendler, 2010b, p. 282). For Gendler, belief and desire psychology is inadequate to account for many psychological and behavioral phenomena we encounter in our daily lives and carefully designed controlled experiments.

Although alief has been primarily proposed to explain belief-discordant cases, it may represent an opportunity to explain a wider set of cases including belief-concordant ones. Gendler thinks that “alief is what governs most of our actions, most of the time” (Gendler, 2012, p. 809). The comprehensive role she envisaged for alief to play has been strongly criticized by (Doggett, 2012; Mandelbaum, 2013; J. Nagel, 2012; Schwitzgebel, 2010). For a discussion of alief in the context of eliminativism, see (Poslajko, 2020).

Gendler argues that if the standard model of FP has a future, it has to incorporate alief. By positing this novel mental state, she aims to fix the current defective model of FP (Gendler, 2010a, pp. 261–262). If alief achieves a redescription of belief, then alief may turn out to be a psychological surrogate for neurocomputational belief. Even though neurocomputational surrogate of belief and the traditional belief are incommensurable, through the chain in the commensurability continuum, we can get neurocomputational counterpart. Whether the commensurability continuum implies a continuum of reference remains an open conceptual question (see Lockie, 2003, sec. 6).

Alief awaits to be elaborated on more. I am not sure what the Churchlands’ evaluation of alief is. Unfortunately, I could not find any writing of the Churchlands discussing “alief” and its potential implications for eliminativism.¹⁴ My hunch is that alief will prove to be somehow a psychological surrogate for the neurocomputational replacement of propositional belief. From the reference viewpoint, I do not want to assign a probability to the future intertheoretical match between Gendler’s alief and the Churchlands hoped-for neurocomputational replacement of sentential belief.

The Churchlands may not perhaps need the help of alief, as a nearby replacement concept for sentential belief, but surely, they would benefit much from its

¹⁴ I greatly appreciate the comments from Amy Kind on my initial ideas about the possible relations between Churchland’s epistemology and Gendler’s alief.

assistance in terms of the characterization of new phenomena and the explanation of them. In this case, alief would become a genuine further support to the Churchlands if their approach is rightfully captured in one or some of EM1-2, EM4-5, or EM7-8-9-10.

I feel that Tamar Gendler's alief emerges as the best available candidate for an intermediate link between the alien posits of Paul Churchland's epistemology and FP's familiar posits, respectively, the activation patterns and the currently dominant sentential belief (P. M. Churchland, 1982, 2002; P. M. Churchland & Churchland, 1983; P. S. Churchland, 1987; P. S. Churchland & Sejnowski, 1990). Furthermore, the notion of alief is largely compatible with the associationist explanations, especially with the particular strand called Parallel Distributed Processing approach. The content is not necessarily rationally but essentially associatively linked. Habits and unconscious prejudices are easily explained through alief (cf. Mandelbaum, 2013), yet habits are not reduced to reflexes.

CHAPTER 6

ACTUAL TARGET RANGE OF THE CHURCHLANDS' EM

6.1. Introduction

Sometimes, the Churchlands are represented as saying that we should immediately empty all or most of the content of mind. The mind is not only squishy but also spooky or mythological, and mental vocabulary must be eradicated from both laypersons' daily transactions and philosophy and science.

Occasionally, they are more accurately presented, and it has been noted that the Churchlands do not insist that it is certain as of now that there are no beliefs or desires. Still better, it is emphasized that the Churchlands intend to establish the eliminative *possibility*, not the *outcome*, of most content of the mind, and they do not claim that it will be accomplished anytime soon. The “still better” view is largely true but does slightly underestimate that for which the Churchlands actually argue. In this chapter, I argue that these and other similar views of Churchland-type EM are textually false to varying degrees and originated from a deeper misunderstanding of the Churchlands' general approach to mind and philosophy. My major answer is that Churchland-type eliminativism is revisionism in disguise; thus, it is a nearly moderate methodological idea. More specifically, cleared of propositional attitudes, psychology and neuroscience would perform better. Three corollaries follow: (i) FP is an accused theory but not a guilty one; (ii) it has been compared with caloric or phlogiston but not equated with them; and (iii) the exact range of anticipated revision depends on about which psychological posit we are talking. Specifying the exact target range of their “eliminativism” would help greatly in demolishing various misconceptions about neurophilosophy as an added benefit. I recognize an ethical responsibility to

correct these factual errors, large and small. This correction, I hope, could serve many philosophers of mind.

6.2. The First Allegiance of Churchland: Revisionism at All Levels

As a deep-run critique of FP, EM should be targeting concrete concepts embedded in it. Belief and desire are the most known ones. What about others? Paul Churchland gives quite a few examples to the concepts of FP, which explanatorily fail even at home, its proprietary domain:

Lastly, it is an inappropriate defense, because many of folk psychology's explanatory failures lie right at home. Think of sleep, mental illness, perception, moral character, learning, memory, sensorimotor coordination, etc., etc. These are all as common as rainfall, and of pressing practical importance to us all. But they remain largely opaque from within folk psychology. (1993, p. 318)

Moral character, mental illness, memory, learning, perception, sleep, and sensorimotor coordination are given as examples of the areas whose corresponding folk terms should have worked well but fail remarkably. FP is far from zero success but even farther from full success.

This statement might or might not be accurate. The point is that we do *not* find any passages in the Churchlands' writings to eliminate all those folk concepts, but now herein, we see that Paul Churchland finds all of them seriously wanting and flawed. Is there any inconsistency? No, not all. Churchland envisages a revision concerning all the ones he enumerated, not an elimination. Some of them might disappear in a very farther future, but this is not the message of eliminativism. Let these two paragraphs be a rough example of what we will be doing in this chapter.

The eliminative outcome is not a foregone conclusion, but given that, even at its best, FP is only an approximation at the true mechanism of human behavior, this outcome seems likely, which is why the Churchlands have fought FP for 40-some years. However, these points are not to deny the relative success that FP has

achieved in the explanation of a subset of the sum total of human behavior: highly rational behavior displayed by mentally fully healthy adults. It “functions best for normal, adult, language-using humans in mundane situations” (P. M. Churchland, 1998a, p. 32). The point is that there is no progressive future for FP absent a better performance outside of this domain of human behavior. What lies beyond this limited domain? Newborns, animals, brain-damaged, demented, drugged, depressed, manic, schizophrenic, or profoundly stressed humans are chief examples. Churchland believes that FP’s explanatory success in accounting for “prelinguistic children and animals is decidedly poorer” compared with the supposed proprietary domain of FP (1998a, p. 32). For the rest of the list, he asserts that the predictive power and the explanatory capacity of FP is pathetic (1998a, p. 32).

The Churchlands have discussed the prospects of elimination, transmutation, revisability, adaption and the plain adoption of the notion of consciousness as construed in the contemporary mainstream philosophy of mind (P. S. Churchland, 1983a).¹⁵ They have *speculated* about the disappearance of FP from daily transactions. They have *defended* the idea that the propositional notion of belief is at best misleading and at worst deeply wrong (P. M. Churchland, 1981). The exact status of “belief” remains unknown, and Paul Churchland’s 1981 article was exploratory.

As a misguided position, it stands in the way of real philosophical and scientific progress. Belief, as it is commonly so called, is liable to be eliminated. It will likely be sidetracked as neurology proceeds. Cleared of encumbrances, FP, as ever, thrives better. Staunch critics of EM assert that they see no problem in the fact, if it is, that what we know about belief is substantially wrong. For them, we

¹⁵ Impartible character of consciousness; human uniqueness; being non-physical in an ontological/substantive sense -- these ideas about consciousness are still lurking at the lower edges of naturalist philosophical acceptability. “Consciousness minus these properties” lies just within the borders of scientific acceptability. In contrast, a soulish consciousness lies outside mainstream philosophical acceptance.

can correct our ideas about belief. However, it is improbable to do so without meaning being modified. More importantly, all FP positions dwell in FP's landscape, and the landscape is shifting. Thus, FP positions have no fixed abode.¹⁶ This fact being so, some of them are tending to fall into disuse, but they have not entirely gone.

Let us continue with representation, self, free will, goal, morality, subjectivity, and consciousness. Some of these terms, such as free will, may be “festooned with semantical bear traps,” and Patricia Churchland “prefer[s] to avoid” it (P. S. Churchland & Suhler, 2014, p. 309). Conversely, the Churchlands have never asserted that representations *as such* are mythological (P. M. Churchland, 2012; P. S. Churchland & Sejnowski, 1990, 1992). They pragmatically bet on the substantial-to-radical revision of the conception of “self” (P. S. Churchland, 2013a). Where and when a revision turns out to be warranted, it should be undertaken immediately.

The Churchlands have attempted to show that a substantial revision awaits and is also well under way, i.e., the conception of “free will”; and self-control is a more coherent and useful notion to account for what we originally intended to capture by free will: “... [W]e find that these considerations motivate a shift from the language of *free will* to the language of *control*. Wrangling over the metaphysical esoterica of *free will* is apt to be unproductive ...” (Suhler & Churchland, 2009, p. 309).

The traditional notion of free will assumes a two-bin model of decision making, which is utterly unrealistic concerning the actual, and far messier decision-making processes. However, self-control comes in degrees. It can increase or decline under some extraordinary environmental or bodily conditions like dementia or

¹⁶ This point is why FP's “emerging wallflower status bodes ill for its future” (P. M. Churchland, 1998a, p. 8).

stress. The range of self-control starts from typically controlled actions to not fully controlled ones, diminished control, and absent control.

Free will has been supposed to provide a tool to manage moral and legal responsibility and attribution. Self-control has the potential to secure a way to handle these two critical domains of social life.

“Goal,” they noted, is a useful notion to adopt in cognitive neuroscience (Moscow Center for Consciousness Studies, 2015).

They have argued that our understanding of “morality” should be down to earth (P. M. Churchland, 1998e, 2000; P. S. Churchland, 2019). It is anchored by mammalian sociability but is as real as the chair in which I sit (P. S. Churchland, 2011). Self, subjectivity, morality, self-control, and consciousness are real but wrongly viewed (P. S. Churchland, 2006, 2013b; Suhler & Churchland, 2009). The problems related to these concepts are relatively shifted because the concepts are reconstrued, but the original subject matter has not substantially changed. The brain and behavioral sciences would help to reorder the taxonomy of psychological categorization.

The long and short of it are that the Churchlands never make a *sweeping* judgment about the fates of mentalistic terms. Each case must be considered on its merits. After all, philosophy is messy, and in it, we deal not with certainties but with probabilities. Propositional attitudes have been viewed as the most problematic part of mentalistic vocabulary, i.e., our mentalese, with belief being the worst by far. Even their elimination is not determined beforehand. It is an empirical issue. A neurocomputational conception of our inner information-bearing states is envisaged to replace sentential belief. However, the word “belief” might retain its currency or might retreat to limited places, or it might be used in an uncontestably idiomatic manner.

The sentential paradigm of belief and desire psychology is not the whole of the folk theory of cognition. Further, FP is not the whole of what we now call the mind. Projecting displacement of the first and anticipation of the eliminative *possibility* for the second does not mean defending the idea that the mind, self, consciousness, morality, or subjectivity are the relics of Dark Ages or that they are mythological entities, and thus, we should eradicate all of these concepts from this planet, including the mostly inhabited part of it, i.e., layperson's home.¹⁷ The Churchlands have never made these claims.

How much target range do the Churchlands think that EM has? To repeat, it depends on the particular folk term under review and the context in which the notion is used. When they philosophize about the epistemology of representation, they envisage a narrow range of FP. The primary object of elimination is the sentential paradigm of information-bearing inner representations, i.e., some of the propositional attitudes, such as belief and desire. In this case, it is safe to argue that the Churchlands are anticipating elimination. This belief is a formation of an opinion before all of the relevant facts are known. The Churchlands have been uniformly critical of the sentential paradigm of our inner states. However, when they talk about the concepts such as consciousness and goals, they refer to transmutation or modification: "It was never part of the story that the category of 'consciousness' or 'goal' or 'fear' or 'anger' would disappear. It was that they may be modified if we come to understand more about the brain" (Mölder & Churchland, 2015, p. 176).

Some philosophers have asserted that the Churchlands do not deny only FP but also the very idea itself of the mind: "According to eliminativists such as Paul Churchland ... the mind is a wholly illusionary construction" (Sleutels, 2009, p. 233). This is not the case. The mind is real and anchored by the brain as its activity:

¹⁷ Nevertheless, the drive toward the use of scientific vocabulary in laypersons' homes is gathering momentum. For a long time, folk terms and their scientific facsimiles have been used interchangeably.

“... the mind is activity in the brain” (P. S. Churchland, 2002, p. 43), “is in fact certain brain patterns interacting with and interpreted by other brain patterns,” and “... the introspective inside—one’s own subjectivity—is itself a brain-dependent way of making sense of neural events” (2002, p. 1). Neither mind nor subjectivity is the object of projected displacement.

Anyone who mistakenly believes that the Churchlands deny the existence of the mind *as such*, would moreover assume that they deny FP in an *unqualified* manner. As I have shown by the explicit remarks of the Churchlands, the assertion that they deny the mind or consciousness is not even remotely true (P. S. Churchland & Churchland, 1996). EM is not interested in eliminating everything in the mind, and it certainly does not refer to a craving for the avoidance of all cognitive states, despite it being routinely presented in this way in the literature (for example see Rockwell, 2014). Let us now proceed to see what it means to be eliminativist about FP.

The fate of a mentalistic term is an empirical issue and cannot be foreknown. It might survive, but its deficiencies will probably prevent it. Nonetheless, FP would benefit from substantial revision. The course that these notions will take will depend on so many theoretical, factual, actual, psychological, and social factors (cf. Bickle, 1993, p. 360; P. S. Churchland, 1986a, p. 283). The decision is, when rational, pragmatic, and their destinations will change regarding whether we are talking about the daily commerce of laypersons or about scientific vocabulary. However, these points are perfectly acknowledged by the Churchlands themselves.

Is FP here to stay, or it is on a three millennia sojourn in the Western part of the planet? The neuroscientific results predict a dim future for the integrity of FP, but it does not mean that FP will disappear, if ever, anytime soon. If FP exhibits resilience and ingenuity, then it should survive its inadequacies, although likely being reformed, and this possibility, even from the viewpoint of the Churchlands,

is not very farfetched. Conversely, the problem with FP is not its less-than-perfect integrity. The disarray into which FP has been thrown by neuroscientific advances is a cause for concern. Although the current incompatibilities between the brain sciences and the framework underlying FP is suggestive, even borderline suspicious, it is hardly conclusive. These observations are key signs that FP needs a major conceptual change. EM has not been presented as an airtight argument. In addition, whatever the anticipated destiny of any specific mentalistic term, its substantial revision or elimination will not occur anytime soon, except perhaps for the notion of sentential belief.

6.3. Mature Cognitive Neuroscience and FP

A mature cognitive neuroscience will be the contemporary scientific equivalent of FP in *some* of the latter's aims and level of precision. However, it does not mean that mature cognitive neuroscience will conquer our daily commerce and replace *much* of the folk vocabulary with its technical language. In fact, deciding or predicting when laypeople or professional philosophers would claim that something persists or ceases to persist is truly a tricky business: "... [P]eople are more inclined to view a thing as persisting when the changes it undergoes lead to improvements," but other "people are more inclined to view a thing as persisting when it preserves its purpose" (Rose et al., 2018). These are two ways in which people make their decisions of persistence. Some FP positions will retain their currency, some others will be adapted to fit new facts and emerging needs, and the remainder will be eliminated because FP commits various types of sin: omission, commission, extreme oversimplification, and others. All of these errors could come in either a reasonable or an unforgivable form. The type of sin and its degree combined render each case unique in terms of its fate. The common theme of all mentalistic terms is that they all will constantly be subject to strict examination with a view toward improvement, which is the essence of Churchland-type eliminativism.

EM does not assert that all or most mental positions are mythological entities; rather, it explores whether a positive alternative can replace some or many of them. To repudiate FP is not to deny consciousness, mind, morality, rationality, normativity, or self.¹⁸ A relatively neutral description of EM is as follows:

Modern versions of eliminative materialism claim that our common-sense understanding of psychological states and processes is deeply mistaken and that *some or all* of our ordinary notions of mental states will have no home, *at any level of analysis*, in a sophisticated and accurate account of the mind. In other words, it is the view that certain common-sense mental states, such as beliefs and desires, do not exist. (Ramsey, 2020a, sec. 2) (italics are mine)

Ramsey claims that EM envisages an elimination of all levels of analysis, and I have mixed feelings about this claim. It is natural to assume that any radical shift in the sciences of the mind would somehow modify folk notions of the mind. However, the transmission of evolutions or revolutions from the relevant scientific domain to the daily transactions of laypeople is a labyrinthine process.

The revisions made to the relevant scientific domain would likely be altered and highly diminished when they arrived in people's homes. In short, a revolution in a domain will be translated into evolution in another domain. Thus, there is no need to believe that a potential elimination will be actualized at all levels. At least there is no sign in the Churchlands' view to think so. Furthermore, Ramsey is mistaken when he overlooks what I consider to be an important point about EM's target range. It is not that beliefs and desires *unqualified* do not exist, but the sentential conception of them does not. In fact, technically speaking, I am wrong, and Ramsey is right. In precise philosophical usage in this particular context, the Churchlands truly believe that the notion of belief should be eliminated because the defenders of belief have propositional beliefs in mind. For this reason, it might be better to talk about beliefs as "the propositional notion of that kind of our

¹⁸ However, of course, their notion of self does not involve the properties of independency from the nervous system or indivisibility. Morality is down to earth. Rationality cannot be exhausted by logicity. Logical entailment is the most we can hope for, not the least we must ask for. Logicity is likely a subset of rationality. Thus, some properties, in a sense, will be replaced with the contents of these notions, and others will retreat to limited contexts. This outcome, I believe, should be properly called "substantial modification."

information-bearing inner states.” However, it would be ungainly; thus, I say “a particular notion of belief” is the target of the Churchlands.

This practice is largely justified in consideration of neither in the sciences nor in the philosophy of science is belief conceived as *necessarily* propositional. This notion of belief, in fact, is a well-entrenched philosophical invention, typically associated with being unique to humans and logical in character. That is, the assumed properties of logicity and being sentential and unique to humans are the things that the Churchlands have argued against from 1979 onward, and these things are the targets of potential elimination (P. M. Churchland, 1979, 1981).

Now, there emerges a new problem. Before elimination, there occur all types of revisions. Nothing will self-destruct in five years, even if many to most philosophers or psychologists renounce it. What differentiates an elimination from substantial revisions? Let me turn to examine this question.

6.4. Elimination, Revision, and the Art of Educated Guesses

Minor revisions to FP have been in progress for millennia worldwide. The accumulation of these modest changes might result in larger shifts in the architecture of FP. Many philosophers of mind agree with this position, but they disagree that this mundane river of change will result in complete replacement of FP:

Folk theories are not supposed to give us a realistic account of the inner workings of the mind. They are supposed to help us navigate a social environment filled with intentional and moral agents by lending us useful concepts and generalizations that can make complex situations safe and predictable for mutual interaction. No amount of neurophilosophy will get rid of folk theories, although it is my most sincere hope that achievements made within neurophilosophy, of the type that Churchland has contributed to so significantly, will inform and reshape folk conceptions of cognition in general and moral cognition in particular. (Bortolotti, 2009, p. 178)

Bortolotti spoke for many when she said that no amount of neurophilosophy, here signifying science, would suffice to eliminate folk theories (Horgan & Woodward, 1985; Kitcher, 1984; Lycan & Pappas, 1972; Wilkes, 1991). These philosophers warned the Churchlands that informing, reshaping and interaction are acceptable and even desirable, but the entrance of neuroscience imperialism into philosophy or laypersons' vocabulary is both dangerous and forbidden. On this point, they can rely on the support of Chomsky:

Rather, biologists study how dolphins swim and ants communicate, beginning with an 'internalist' and 'individualist' account (in contemporary lingo). In so doing, they have little interest in how the terms 'dolphin', 'communicate', etc. are used in the informal discourse in which the questions are initially posed. Rather, they develop concepts appropriate to their purpose of explanation and understanding. Ordinary discourse and commonsense thought are in no way denigrated by the procedure; rather, liberated from inappropriate and destructive demands. (Chomsky, 1994, p. 182)

Chomsky is right to an important extent. FP notions are revisable, but when they are revised, they are not revised on the same grounds as scientific theories. Thus, the correspondent notions in folk or folksy generalizations and in the behavioral sciences are modified according to different standards. Change in the former is much slower than in the latter. The upgrades to the latter are conveyed to the former through many distortions, and they undergo serious diminution in the content of revisions, which is hardly news for the Churchlands.

At the last edifice, EM's basic claim is that, as we learned from the brain and behavioral sciences, we likely feel pressure to revise, modify, reconfigure, reform, or upgrade our self-conception (see Moscow Center for Consciousness Studies, 2015). It does not to say that we ought to amputate FP due to its abject poverty (cf. Ohreen, 2004, p. 102). Revision is imperative; elimination is predictive. However, revision and elimination are interconnected. Let us examine a surprisingly appropriate instance of this interconnection.

Just think about "perestroika" and "glasnost." These policies were initially posed as revisionist in the 1980s but resulted in the dissolution of the USSR. The Soviet

Union was eliminated from the planet. The union has been dissolved, but its core federative state, the Russian Federation, retains its existence under a very different political regimen. The USSR ceased to exist, but the core of it retreated to a smaller geography—still the largest country on this planet—with a shifted regimen.

Curiously, the dissolution of USSR could not have been anticipated, even by CIA analysts. The executors and publicists of glasnost and perestroika were reassuring both their fellow citizens and other countries that they had been defending the integrity and the basic tenets of Leninism, which they claimed to be “true socialism.” This revisionist campaign was promoted with a view toward turning to the default settings of socialism. This presumed returning to the default settings rapidly proceeded to eliminating them. Nonetheless, all this history is a perfect example of the intractable relations between substantial revisions and outright elimination. Predicting the endpoint of a revisionary process and the byproducts of the revisions is truly tricky. By virtue of the USSR example, we see that change is extended over a period of time, that the outcome is too difficult to forecast and that both the extension and the intension of the term can shift.

The historical connotation of the term “revisionary” is one of the reasons that the Churchlands did not use it instead of “EM.” Otherwise, “revisionary materialism” would be closer to what they actually argue for (P. S. Churchland & Churchland, 1996, p. 298). It would have communicated a better sense of the relaxed nature of EM and the open-ended character of the fate of FP. Nonetheless, the Churchlands preferred, but decided not to use, the phrase “revisionary materialism.”

Dispensing with FP seems to many mainstream philosophers to be the loss of identity of ourselves. Further, if the Churchlands truly want to snatch FP from philosophy of mind, with what will they fill this void? However, this scenario is most definitely not the case: “The arguments for eliminative materialism are diffuse and less than decisive, but they are stronger than is widely supposed” (P. M. Churchland, 1988, p. 45). That is, the Churchlands find the initial indications,

which did not impress the critics and were judged as being too quick and weak (Kitcher, 1984; Wilkes, 1991), valuable. Arguments developed by the Churchlands in favor of EM do not prove that FP will undergo a wholesale rejection, but they deem substantial revisions likely.

Claiming more than this scenario would be most unwise. No one has the power of prophecy. The staunchest critics, such as Horgan, Kitcher, and Nagel, desire decisive evidence and compelling reasons before rolling the dice against the future. These reasons are needed to have a decisive opinion, but EM is never meant to be a decisive opinion. The foes of the Churchlands behave as if they need real, actionable intelligence from the future to seriously consider the possibility of the fundamental wrongness of FP or to pursue a fruitful interchange with the brain and behavioral sciences.¹⁹ Since the integrity of FP is intimately connected to our self-conception, these people believe that hunches and educated guesses should never replace real, actionable intelligence. However, gathering sufficient data to validate a static final say about the future of FP is unlikely before FP positions are much more incorporated into the brain and behavioral sciences to be able to show FP's real power or poverty.

The problem is that, as FP terms are incorporated into science, they undergo substantial changes. It is not adoption but adaptation. Although the terms frequently remain the same, their extensions are constantly being modified, even to the extent that the words in science and their facsimiles in folk theories become near homonyms. These words are spelled and pronounced alike but are significantly different in meaning. They become homonyms. However, we do not routinely reject folk terms only because identical terms have been used to designate another group of the same rank. This point is important because many objections, which benefit from empirical studies, to EM ignore it (Graham & Horgan, 1988; Horgan

¹⁹ Kitcher is inclined to believe that fruitful exchange is important (p. 106). Horgan believes that it all depends on the direction that psychology will take in the future. Nagel remains vague on this issue. One thing that unites them is the following: their motto is moderation.

& Graham, 1991; Kitcher, 1984). Most folk notions are highly plastic. They have been molded by generations of scientists to fit their goals. Curiously, when this point is considered, it is used as if it were evidence against the Churchlands:

In other words, why should CSP [common-sense psychology]—unlike common sense in every other domain—be expected to supply the categories appropriate for systematic science? As in any other domain, common-sense terms can be and are adopted by science—consider the ‘spin’ of an electron, or ‘energy’—but they are invariably adapted: baked in a theoretical kiln, refined and defined to suit the (different) goals of the systematic study. (Wilkes, 1991, p. 21)

By this way, their lifetime becomes much longer. The opponents see here a vindication of FP. I believe that this conclusion is fallacious. Even before an across-the-board elimination, there would be a long process of modification, and the malleability of FP concepts could be a sign of the poverty of FP. Even if it disappears in the future, it will occur following a period of increasingly poor integrity. In the scenario of future displacement, as a network of principles, FP will disintegrate, and as a collection of notions, it will fray. In the elaboration of FP notions into scientific psychological notions, a certain deviation is allowed for the notions that should not, however, exceed certain limits. Here is what happens when many mentalistic terms go beyond these limits.

For the Churchlands, EM is a thesis stating that FP will likely be increasingly sidetracked from either scientific or philosophical study, or both, of the mind, and it will likely be replaced by a superior, future, and neurobiologically harmonious theory of cognition, which will have formidable explanatory and predictive power.²⁰

Last, FP shows no sign of being smoothly integrable with the emerging synthesis of the several physical, chemical, biological, physiological, and neurocomputational sciences. Since active coherence with the rest of what we

²⁰ The notions of “theory” and “knowledge” in Churchland-type epistemology are atypical. The basic units are activation vectors; the relations between representations are computational but not necessarily logical. See (P. M. Churchland, 2012). It is naturalized, brain based and sub-sentential. However, their epistemology is representational and computational.

presume to know is a central measure of credibility for any theory, FP's emerging wallflower status bodes ill for its future. (P. M. Churchland, 1998b, p. 8)

Increasing isolation of FP is interpreted as a sign of its incapacity to be, regardless of being vertically or horizontally, absorbed by the natural or neurocomputational sciences. The essence of the Churchlands' argument is that, because there should be some sort of integration, or at least desegregation if not necessarily complete unity, among theories and disciplines, FP seems to fail to actively cohere with well-established sciences. It is perfectly possible and even likely that it will be eliminated. Betting on elimination is a choice—one among several levels of anticipated revisions to be made for FP—decided on with the consideration of probabilities: "... the a priori probability of eliminative materialism is not lower, but substantially *higher* than that of either of its competitors" (P. M. Churchland, 1988, p. 47). (The competitors were identity theory and functionalism.) For the Churchlands' long-standing criticisms of functionalism, see (P. M. Churchland, 2005; P. M. Churchland & Churchland, 1981; P. S. Churchland, 1983b, 2007).

Although the elimination of some positions of FP and disintegration of its basic principles were first and foremost defended by Paul Churchland as empirically the most likely outcomes, they have never been presented as a static final say. The Churchlands do not say that they can predict with near certainty that FP will not survive the coming decades, but they argue that it is excessively unlikely that FP will survive the coming decades *intact*. It might survive under a massive reconstruction.

Large-scale philosophical progress can come from mundane improvements to our self-conception. Estimating how quickly FP positions deteriorate is tricky. Tracking revisions made in them is even trickier. These modifications have been offered by thousands of philosophers scattered around the world. They are headed in many possible directions, including vaguely incoherent and outright contradictory one. As a result, hitherto revisions have been messy. The total sum of the net upgrade is unknown. Just think about the upgrades related to our notions of introspection, intuition, consciousness, memory, attention, free will, morality,

agency, or causality (P. M. Churchland, 1985b; P. S. Churchland, 2018; P. S. Churchland & Suhler, 2014).

Elimination arises from accumulated modifications, but it does not mean that even substantial revisions necessarily result in elimination. However, before abandoning an old theory and eliminating its positions, substantial revisions occur. These revisions are typically preceded by some degree of expansion and refinement. Expansions and refinements might or might not result in elimination, and judging which revision is minor or moderate and which is substantial or radical might not be so easy. Moreover, deciding whether the old term should be retained or replaced with a new one is a pragmatic business. For these and other related reasons, revisionism and eliminativism are not distinct views and that the Churchlands assume so is evident from the following passage:

With the advantage of hindsight, we feel the expression “eliminative materialism” is in some respects an invitation to misunderstanding. Accordingly, to redress the error, we propose we call the view sketched above and defended in our various writings “good-guy materialism.” It has a pleasant ring, it prejudices the reader in its favor, and it leaves open, as it should, *how much* revision our current ideas will undergo as psychology and neuroscience proceed. We have no ideological stake in the revision being massive or minor, though our expectations lean toward the former. Science will proceed as it will, and there is no point getting terribly exercised in predicting just how much revision we can expect. What we do believe is that our current framework is not sacred, that it is neither manifestly nor divinely given and that “obviousness” is a familiarity phenomenon rather than a measure of metaphysical truth. That said, let us all wait and see what happens. (P. S. Churchland & Churchland, 1996, pp. 298–299)

In light of the above quote, I believe my last claim to the effect that the Churchlands are primarily revisionist, i.e., not full-fledged eliminativist, should be regarded as plausible. This weird name, “good-guy materialism,” for the actual view of the Churchlands removes the cause of millions of misperceptions. “Revisionary materialism” suffices for their purposes, which is exactly what we might find on a great many pages, including the following two examples (P. S. Churchland, 1986b, p. 248; P. S. Churchland & Churchland, 1996, p. 298). The point is to emphasize the open character of the question of the quantity and quality of the revisions that FP will undergo. Obsessing with predictive exercise is futile

or even harmful. Ultimately, what is essential here is the idea that FP is “neither manifestly nor divinely given.” It should be upgraded wherever and whenever we are gleefully pulled in this direction (P. M. Churchland, 1998c, p. 903; Mölder & Churchland, 2015, p. 179).

6.5. Conclusion

This chapter is rather descriptive, which is meant to render the transition to the Objections and Replies chapter smooth. The main idea is that eliminativism is directly attacking only a handful of our current psychological categories. Science constantly changes, so we should accept that a given category in any science is open to any scale of revisions. However, this is not the ultimate message of EM. The real target is the sentential conception of cognition, primarily the propositional belief and the desire. Many psychological posits, such as memory and decision making, have already transformed. Some categories have been fragmented, some retired. Still, some others are being revised. A couple of new posits are being proposed, like Gendler’s alief, awaiting a close examination to see its usefulness and accuracy.

Connectionist models, for the last 35 years, produced so many invaluable insights into human cognition. They provide us new constructs to study perception, learning, and reasoning. Most of these remain alien to the philosophers and are found repellant. As positive replacements, these may or may not prove helpful. Nonetheless, this chapter aims not to convince the reader that eliminativism has enough positive alternatives to FP. I merely aim to show that eliminativism is not meant to be a global killer. Its target scope is limited, and it is more revisionary than eliminative, even within this limited range.

CHAPTER 7

OBJECTIONS AND REPLIES

This chapter is a general evaluation of eliminativism's capacity to rebut the major objections to it.²¹ My verdict is that it survives most of them *intact*. Conversely, it is far from clear whether EM's positive proposal, in the form of network-style epistemology, offers an adequate theoretical and conceptual repertoire for performing high-level cognitive tasks; which renders its capacity to provide a sound basis for modeling human cognitive performance quite tricky to evaluate.

7.1. Introduction

Why do the vast majority of analytic philosophers, as well as many naturalist philosophers, vehemently oppose EM? There have been many overt objections and much intuitive resistance to eliminativism. Charges of scientism, self-defeat, changing the topic, exaggeration, blinding enthusiasm, futurism, neuroscience exceptionalism, reductionism, dismissing social and cultural influence, and promoting the death of philosophy are conspicuous. The intuitive resistance, meanwhile, relates to worries about the possibility of philosophy losing its autonomy. Anyone who routinely checks what is happening in philosophical forums would recognize a pattern of deeply covert personal and socially inspired objections. Although these covert reasons are highly instructive, I do not target them here. Let me start with the accusation of scientism.

7.2. Scientism

²¹ Many thanks to the fantastic reviewer reports from the *South African Journal of Philosophy*.

Most of the foundational issues surrounding eliminativism turn on the issue of scientism, adopted in one way or another. First, let me briefly sketch what the scientism debate is about and why it seems crucial to many philosophers. Philosophers typically characterize scientism as an exclusivity claim about science. The final say belongs to science. Scientism frequently suggests that legal systems, morality, political regimes, educational policy, and financial problems can all be effectively addressed primarily by science, particularly the natural sciences.

Scientism is routinely accused of being an excessively uncritical and deferential attitude toward science. At least, we can reasonably say that scientism repudiates First Philosophy and enthusiastically embraces Final Science. To put it differently, this is the uncritical application of scientific methods to inappropriate fields of investigation. When science transgresses its proprietary domain, it becomes scientific. The domains that are allegedly closed to scientific methods are common sense (Bortolotti, 2009), religion (Gould, 1999), philosophy (De Caro & Macarthur, 2010), and humanities (Putnam, 2010). Let us now consider the philosophers who see scientism as a badge of honor.

James Ladyman asserts that where science conflicts with religion, common sense, or tradition, we should take science to be authoritative (also see, P. M. Churchland & Churchland, 1978). For Ladyman, “the core positive commitment of scientism is that there are no domains of inquiry that are in principle off limits for science” (2018, p. 113).

Hilary Kornblith, meanwhile, explicitly argues that “we should endorse features of the manifest image only to the extent that they are part of the scientific image” (2018, p. 127). He argues that there is a conflict between the manifest and the scientific image.

Let us consider whether either Paul or Patricia Churchland deserve the title “scientific” in its pejorative or favorable usage. They are reductionist, as their

adopted research strategy is bottom-down. This much is uncontroversial. They also acknowledge that they are naturalists and physicalists. However, it is also certain that they draw on social and human scientific studies extensively. So they are exempt from at least one definition or aspect of scientism.

Patricia Churchland frequently notes that she rejects the idea that “ought” can be deduced from “is.” What exists might illuminate normative and evaluative problems, but it is not a direct and definitive answer to them. In this second sense, she is not scientistic. Let us now look at some other versions or aspects of scientism, to see whether any of them matches either of the Churchlands.

Do they uncritically receive what scientists tell us? I think there is something seriously wrong with this suggestion. In brain and behavioral sciences, there is no dominant paradigm that one can uncritically defer to. There are conflicting schools, or even research groups. Sometimes to caricaturize these multiple voices, people say that each laboratory has its own school. This is a paradigmatic pre-paradigm age of an emerging science. Thus everyone has to navigate the discipline for herself, and decide what she should believe and what she may neglect and even refute. The extent of this clash of ideas forces outsiders, like neurophilosophers, to be very critical of anything claimed in the relevant sciences, which results in a healthy degree of skepticism and a good amount of sophistication.

Another version of scientism states that morality, educational policy, and political decisions can be effectively addressed only by science, particularly the natural sciences. I wish to immediately reject the last part of this statement. For the Churchlands, as noted above, social and human scientific studies are as important as the findings of the natural sciences. Given that Patricia Churchland’s last three books are about human cognition and behavior, including morality, free will, responsibility, agency, and social organization, it is easy to rule out that last part just by taking a quick look at these books, especially the most recent one (P. S. Churchland, 2019). Demarcating the natural from the other sciences is itself futile.

Is evolutionary biology a natural, behavioral, or a social science? Recent studies take it to be all of them at the same time (Bowles, 2006, 2009). What about psychology? Quine (1969) explicitly and repeatedly calls psychology “natural science.” And David Spurrett (2009) shows how attempts to draw robust distinctions between natural and other sciences are bound to fail.

Are the Churchlands aware of the boundaries of science? Or is their faith in science limitless? These questions can be only answered after determining the ambit of science. Let us first look at what we already know. We know that for the Churchlands, the soft sciences, commonly so called, are science proper. Their conclusions may not be as reliable and exact as those of the physical sciences, but their findings are more directly predictive of human mind and behavior, which makes them indispensable disciplines for neurophilosophical investigations. We also know that Patricia Churchland especially is exempt from the so-called naturalistic fallacy, as discussed above. Is it possible that the critics mean that the Churchlands have no respect for the legitimate zones of religion or philosophy? If denying that religion produces any legitimate knowledge renders one scientific, then I believe the Churchlands would see that as a badge of honor.

The issue is different with philosophy. Is philosophy autonomous or continuous with science, or with the rest of science? For the Churchlands, the Quinean continuity thesis is valid. Paul Churchland even has a publication entitled “The Continuity of Philosophy and the Sciences” (1986). This amounts to rejecting the autonomy of philosophy. However, this is no more extreme than denying the autonomy of chemistry from physics, which never means that chemistry is illegitimate. Chemistry is a legitimate discipline, just as philosophy is. The lesson is that the continuity thesis is not a euphemism for the death of philosophy (cf. Floridi, 2017).

Quine embraces the continuity of philosophy, common sense, and science. Philosophy is continuous with the rest of science, and science itself is a refinement

and continuation of common sense (Quine, 1957). The relationship between the scientific and the manifest image is conceived in a nonpolarized continuum, but not in any scientific manner that would result in scientific imperialism. Quinean naturalism is a stance, not a thesis or a project.

For Quine, science is the theory of the world, of whatever exists. It is not confined to the natural sciences. The continuity thesis was never meant to be a version of the unity of science thesis. Quine sees the latter as a dream of logical positivism. True, he endorses the idea that the traditional borders between philosophy (or even metaphysics) and science (or even natural science) should be blurred. However, he never intends to defend the idea that they blend into a single inquiry; which would have yielded an identity thesis, an eliminativist outlook, or an immensely abstract view, at best. Quine sees science as a considerably integrated system of the world, but one that is loose at the joints: “Science is neither discontinuous nor monolithic. It is variously jointed, and loose in the joints in varying degrees” (1975a, p. 314). There could be real and important differences between philosophy and science, or between common sense and science, but these differences do not force a dichotomy. The negation of unity is not discontinuity, against which Quine argues.

Quine tends not to believe in the unity of science, but he embraces the continuity of science, philosophy, and common sense. Inasmuch as we see the principle of starting from the middle as the core of his naturalism, his continuity thesis becomes much more intelligible (cf. Verhaegh, 2018). This principle has nothing to do with the radical idea that science and philosophy, or science and common sense, do or should utilize the same method or have the same level of systematicity.

The continuity thesis primarily says that there is no vantage point, no cosmic exile to obtain sound knowledge. The philosopher has nowhere to start from other than where the layperson or the scientist stands (Quine, 1960). The thesis also implies

that the roots of scientific inquiry could be found in laypeople's general way of thinking, despite the latter's much simpler ways of reasoning and measuring instruments (see Snow, 1959). The scientist, the layperson, and the philosopher each inherit the existing web of belief, upon which she modifies her web like Neurath's sailor, who has to reconstruct her ship on the ocean, but has no chance to start afresh from the bottom.

Following the Quinean continuity thesis, the Churchlands only deserve the label of scientism as a badge of honor. In its pejorative senses, "scientism" is not a feature of the Churchlands, excluding the possibility of some deeply covert forms of scientism. Nevertheless, should the reader wish me to say something negative about the Churchlands' attitudes toward science, I might have to issue the following warning. It must be acknowledged that recruiting concepts from sciences is a risky business. Even in a Quinean world, which sees philosophy and the rest of science as neighbors, let us not forget that the harshest clashes routinely occur between bordering nations. I tend to accept that one of the primary reasons for these severe enmities is the presence of somewhat artificially constructed borders, given that many of the world's borders are not naturally emergent. With that being said, the conflict is real and cannot be dismissed by fiat. There are deeply entrenched disagreements and cultural discrepancies.

Some ridiculous but allegedly scientific ideas in naturalist philosophy have raised issues that have plagued it in recent years, including (i) poor knowledge of existing philosophical positions; (ii) being too trusting of sciences; (iii) underestimating science's potential to narrow philosophers' minds, and (iv) moving too quickly to recruit methods while not paying enough attention to potential tissue incompatibility risks and the familiar traps surrounding science. This is a problem that historians may call "prioritizing innovation over rigor." Trying to pass from the sentential notion of mind directly to its neurocomputational replacement might be unwise. There is always a trade-off between accounting for real-life situations and accounting for their simpler versions in more rigorous ways.

7.3. Self-Refutation and Unintelligibility

The objection from self-refutation, or from unintelligibility, is old as eliminativism. Even Feyerabend attempts to refute this objection, and I think he succeeds in doing so. Indeed, at the outset of the war between the proponents and the opponents of eliminativism, our traditional conception of the mental world was thought to be empirically irrefutable. Defenders of FP argue that its total elimination is meaningless and unintelligible, because this would be self-contradictory (Hannan, 1993; Slagle, 2020). This is what we saw in Aaron's (1952) attack on Young. Although Aaron's line of reasoning and Feyerabend's report of his opponents are at root the same, Feyerabend's way of putting the problem is more striking and illuminating:

Let us consider meaningfulness first. [...] It points out that the materialist, in stating his thesis, is violating them. Note that the particular *words* he uses are of no relevance here. Whatever the *words* employed by him, the resulting *system of rules* would have a structure incompatible with the structure of the idiom in which we usually describe pains and thoughts. This incompatibility is taken to refute the materialist. (Feyerabend, 1963, p. 50, original italics)

Meaninglessness creates unintelligibility through contradiction.

It is evident that this argument is incomplete. An incompatibility between the materialistic language and the rules implicit in some other idiom will criticize the former only if the latter can be shown to possess certain advantages. Nor is it sufficient to point out that the idiom on which the comparison is based is in common use. This is an irrelevant historical accident. Is it really believed that a vigorous propaganda campaign which makes everyone speak the materialistic language will turn materialism into a correct doctrine? (Feyerabend, 1963, p. 50)

Considering established idioms of mentalistic language to be an irrelevant historical accident is very similar to Sellars's picture of the emergence of our self-conception. It might have been different, and it may well change in the future. Reformulating the eliminative case without using the word "belief" may not be so easy for now. But this is a problem of our current situation logical barrier to cross.

For the Churchlands, this alleged self-contradictoriness is at most an example of a pragmatic paradox, while from a logical viewpoint it is solid and strong (P. M. Churchland, 1998a, p. 28). The resolution of a pragmatic paradox requires a conceptual change, or even a revolution in the framework embedding the relevant concepts. The more it seems paradoxical, the deeper and the farther-reaching is the change in the framework.

The neurophilosophers acknowledge that there is no categorical distinction between the meanings of terms and the truth values of the sentences in which they appear (Quine, 1951, pp. 34, 38–39). This is again a Quinean idea, which involves rejecting the analytic–synthetic distinction. I will take on board Quine’s rejection, and use it as a stepping stone to get rid of the seeming circularity. The established constraints will change concerning the placeholder for belief; and believing that sentential belief is untenable will become more tenable—by empirical strangulations, as Paul Churchland dramatically puts it. Or, as Quine says: “We must not leap to the fatalistic conclusion that we are stuck with the conceptual scheme that we grew up in” (1961, pp. 78–79). Following Quine, neurophilosophers can change FP bit by bit, plank by plank, though meanwhile there is nothing to carry themselves along but the evolving conceptual scheme itself. We cannot theorize without depending partially or fully on a conceptual scheme.

In order to improve FP, we do not have to and perhaps even cannot leave our current conceptual scheme in its entirety: “We can improve our conceptual scheme, our philosophy, bit by bit while continuing to depend on it for support” (Quine, 1961, p. 79). Such circles are not vicious ones. If that were so, then how could we even shift from one paradigm to its successor, which is typically an incommensurable competitor? Incommensurability is never meant to imply the full absence of common ground between the competing frameworks. It instead suggests that this common ground fails to provide full compatibility (Kuhn, 1982). There is partial communication between rival theories, which makes transition

ever possible. Otherwise, a rational comparison between them, even in a minimal sense, would be impossible to make.

A less theoretical but simpler answer to the self-defeat objection comes from Paul Churchland. He puts the problem as follows:

A more radical and purely a priori response to eliminative materialism dismisses it as simply incoherent, on grounds that in embracing or stating its case it must presuppose the integrity of the very framework it proposes to eliminate (Baker 1987; Boghossian 1990). Consider, for example, the evident conflict between the eliminativist's *apparent* belief that FP is false, and his simultaneous claim that there *are no* beliefs. (P. M. Churchland, 1998b, p. 9)

Interestingly, he thinks that the obvious response is to concede the circularity while rejecting its suggested implication:

A straightforward response concedes the real existence of this and many other conflicts, but denies that they signal anything wrong with the idea that FP might someday be replaced. Such conflicts signal only the depth and far-reaching nature of the conceptual change being proposed. Insofar, they are only to be expected, and they do nothing to mark FP as unreplaceable. Even if current FP were to permit no coherent denial of itself within its own theoretical vocabulary, a new psychological framework need have no such limitation where the denial of FP is concerned. (P. M. Churchland, 1998b, p. 9)

Arguments from self-refutation generally signal the incommensurability of the frameworks or paradigms. As Heidegger (1962) once said, from each paradigm's point of view, the basics of the opposing paradigm are self-defeating. Churchland asserts that the incoherence argument covertly begs the question. By doing so, it fallaciously favors current FP, which is "the very framework being called into question" (1998b, p. 9).

The reader will immediately recall other responses based on analogous refutations, such as the fictional argument concerning vitalism, back when it struggled against metabolic chemistry and molecular biology. In a nutshell, suppose that two centuries ago, a proponent of vitalism accuses of you being incoherent in your denial of vital force. She says that if you were right, then you would have been dead, since what makes life is vital force, whose existence you deny. With the

benefit of hindsight, we immediately see the absurdity of this argument. Many articles have purported to demonstrate the difference between this fictional story and rejecting eliminativism through objections from self-refutation. Churchland finds all these arguments wanting, and even irrelevant.

Philip Frank, a physicist member of the Vienna Circle, argues—by appeal to many actual examples from the history of science—that the intelligibility of a theory is quite a dynamic issue. Many newly emerging theories were judged to be unintelligible before being vindicated (Frank, 1974). All this may seem soothing for the naturalist philosopher. However, the critics rightly do not buy this meta-level consideration. They demand a concrete alternative language to coherently express the lesson of eliminativism. One possible solution is to give up the term “belief” and just use the word “assent.” We assent to some sentences and dissent from others. Thus we may say that Paul Churchland assents to the sentence: “There is no sentential belief.” This is a straightforward Quinean application and, I think, a very useful one. I construe this strategy a behavioral one. I provide this solution as an example of what might be done to express the message of eliminativism coherently. I have no intention of convincing the skeptical reader that there is an easy way out. I am just saying that we have not yet hit a dead end.

7.4. Changing the Topic

Some problems that are addressed are solved. Others, in philosophy, are addressed, but instead of being solved, they are dissolved: not explained but explained away. Primarily, this is true when the outcome is the elimination of the old theory and its entities. The disappearance of demons, ether, caloric, phlogiston, and the like are well-known examples of eliminative outcomes of scientific change in history. There are no good reasons to insist on asking for physical, chemical, or biological accounts of these entities. Any possible natural explanations of them become nonsensical as they are eliminated from our scientific vocabulary. Did we change the topic to avoid confronting some very elusive problem? No, that is not

the case. We did not escape from solving a problem; rather the problem itself has been transformed.

If eliminativism turns out to be accurate, then we will try to solve a transformed problem. The explanandum never remains the same, and there may emerge unexpected explanans. When could we become convinced that the old problem has become archaic, and that it is legitimate to drop it altogether? This is an essentially practical issue, although Rorty, over many pages, tries to specify the conditions when philosophers or laypeople will drop or keep the old terms. Dropping the old terms creates serious inconveniences. To overcome these inconveniences, the advantages of shifting to the new problem and its proposed solution should clearly exceed them. It is like a Kuhnian paradigm shift. Only when the elderly proponents of a paradigm die, does it become possible for the emerging paradigm to obtain a monopoly (Kuhn, 1970).

7.5. Exaggeration and the Dangerous Enthusiasm

This is an old but perennial accusation, which may contain a grain of truth. For my part, I can accept it a little bit when I contemplate Patricia Churchland's uncritical reception of the findings of behavioral genetics. In any case, I do not think that either she or Paul Churchland is any more prone to exaggeration than other naturalist philosophers who draw from the empirical sciences. Even non-naturalist analytic philosophers routinely utilize evolutionary psychological findings, which are much more speculative than behavioral genetics.

Moreover, for other philosophers, let me say this bold thing. Mainstream philosophers trust their intuitions as if somebody from above has given them some superhuman powers to grasp the truth of concepts immediately. Compared with this exaggerated self-confidence, Patricia Churchland's exaggeration of the power of the brain sciences to solve, dissolve, or illuminate age-old philosophical problems is not a big deal.

The Churchlands' infamous enthusiasm is well balanced with caution. Nonetheless, Patricia Churchland in particular believes that extra skills may be needed to cope with new philosophical progress. She has already taken steps to train herself to catch up; but this is part of her caution, not a product of her enthusiasm. Philosophers have learned many things and honed their skills as time passes. This is not an innovation of the Churchlands. A century ago, we were told to learn newly emerging symbolic logic. This was not a product of dangerous enthusiasm, but rather an outcome of careful consideration on many fronts. In the middle of the last century, many philosophers were convinced that they should become students of dictionaries. They honed their skills in navigating the labyrinths of ordinary language. Today, some leading figures want us to be experimental philosophers, which may require quite a bit of statistics. I welcome all of this. Surely, I make choices as to what innovation I should buy into.

7.6. Futurism

In this context, futurism refers to a philosophical movement that arose in the US in 1981 to replace our traditional self-conception with a far-future neurocomputational cognitive scientific conception of mind and the like. In some far, far away future, people are thought to communicate and cooperate in the language of molecules and biophysical processes. Is this merely a caricature of what the Churchlands have defended for half a century? As a futuristic exercise, they enjoy this possibility. Is it really possible, though? Any more possible than being merely possible? Here is a quick and clear answer from one of the first eliminativists:

The inconvenience of ceasing to talk about sensations would be so great that only a fanatical materialist would think it worth the trouble to cease referring to sensations. If the Identity Theorist is taken to be predicting that some day [*sic*] "sensation," "pain," "mental image," and the like will drop out of our vocabulary, he is almost certainly wrong. But if he is saying simply that, at no greater cost than an inconvenient linguistic reform, we could drop such terms, he is entirely

justified. And I take this latter claim to be all that traditional materialism has ever desired. (Rorty, 1965, p. 37)

Rorty is exempted from any allegation of futurism, if it is ever an allegation. His concern is to demonstrate the coherence of the eliminative outcome. What about the Churchlands? Is it hard to give a final answer to this question? Some parts of their writings lead us to think that they see the practicality of shifting to a molecular language as a vivid possibility, not a mere one. There are other writings, however, in which they speak much more cautiously, leaning toward the impracticality of this language, at least in daily intercourse. Apart from the final destination, the transition itself seems hard to start, say the critics. Fair warning: I am not going to offer any good answer to the question of transition. The point of the present discussion is, instead, to argue for the question's importance.

I am not sure I buy the critics' concerns about the transition. Nobody would advocate that tomorrow, all FP discourse closes shop, and we try to immediately engage in a new range of scientific discourse based on brain science. Presumably, the starting point will be as Thomas Kuhn pictured it, regarding the relatively random shifts in the allegiances of young philosophers. They will initially hesitatingly exercise the new vocabulary. Some, or many of them, will return to their old positions and habits. Others will get used to the new vocabulary and internalize it. Surely the old philosophers will continue, and we will see how FP all plays out in the long run. The real issue is that we should think about experimenting and setting up these new sorts of discourse. When some serious philosophers with clout take them seriously, and push them as legitimate models of natural communication, then the new discourses will have a chance to spread through the broader circles of philosophy. A neurocomputational alternative to FP is not yet compelling, but it is at least a discernible prospect with a genuine promise. It is certainly not quixotic. Nonetheless, if anyone still thinks that eliminativism is an exercise in futurism, then so be it.

7.7. Neuroscience Exceptionalism

Predilection, prejudice, and bias, but not exceptionalism, are acceptable ways to describe the priority the Churchlands give to the brain sciences, including neurocomputational cognitive science. However, from even a quick look at their publications, one would see how many different behavioral and social sciences are cited to advance neurophilosophical ideas: anthropology, psychology, sociology, history, political science, archeology, primatology, ethology, and economics (P. S. Churchland, 2011, 2013a). Moreover, cognitive science itself is not a paradigmatic biological science. Although they are neurally inspired (P. S. Churchland & Sejnowski, 1990), connectionist models are, at the end of the day, highly abstract and symbolic tools (Smolensky, 1988, p. 3)—at least, as of now (cf. P. M. Churchland, 2012). A systematic review of the references cited in the Churchlands' writings would reveal that only a fraction of them are directly from the brain sciences.

Most purveyors of this criticism never use social scientific or human scientific references in their publications. I think this criticism is due to a certain level of ignorance of how actual science works. The dependency among adjacent sciences is strong. Given that the Churchlands philosophize about the human mind, behavior, and institutions such as morality, it would be unwise to guess that they would mostly draw from brain scientific sources to illuminate the problems they address, given that brain science is a recent phenomenon. It is still in its infancy concerning its success on the behavior front.

Patricia Churchland's engagement with neuroscience is deep and extensive, which makes her an unusual figure in philosophy. Her engagement with brain science has nothing to do with any blinding enthusiasm. On the contrary, she is so cautious that she decided to learn neuroscience, recognizing that this was the first time that neuroscience had ever landed on analytic philosophical soil, a fact that should have us all very concerned, because whatever the future holds, this is only the very

beginning. She anticipates what approaches, and positions herself to get the most from it.

All leading naturalist philosophers have used science in their philosophies; but Patricia Churchland's use of science far exceeds that of any other naturalist philosopher, including Quine. Patricia Churchland has been outspoken about amplifying science's voice in the philosophy of mind.

Most philosophers of mind have been fulsome in their criticism of the Churchlands. However, neurophilosophy is not the grim reaper of philosophy. Patricia Churchland has never trodden gingerly through the forest of philosophical resentment. In large part thanks to Patricia and Paul Churchland, current philosophy of mind is far different from the one they decided to upend when they started neurophilosophy in the mid-1980s. The fate of neurophilosophy might not turn out quite as the Churchlands hope. Having tried to wage a campaign about the shortcomings of FP and traditional philosophy, the Churchlands might, in the near future, need to focus on the shortcomings of their neurophilosophy, as well. That is not bad news for them.

Neurophilosophy is a hyper-version of naturalism. This philosophy is truly down-to-earth. As its founders, the Churchlands look forward to resuming the science–philosophy conversation in an amplified manner. Naturalism's reputation within recent analytic philosophy is intriguing: “Quine [... is] implicitly committing himself to the naturalist assumption that there is nothing to know except the truths of empirical science” (Gutting, 2009, p. 29). Gutting's remark is not neutral, and suggests that Quine's naturalism is scientistic. Gutting is not alone in his accusations. Susan Haack (2016, pp. 230–232) defines three levels of commitment to naturalism: a most modest form, a more ambitious one, and the most ambitious one. Elsewhere, as we learn from her note in the same paper, she names these three levels “reformist aposteriorist naturalism,” “reformist scientistic naturalism,” and “revolutionary scientistic naturalism.” The last one corresponds to the most

ambitious form of naturalism, and among its defenders are the Churchlands (Haack, 2016, p. 235). Is the following idea truly scientific?

Neurophilosophy arises out of the recognition that at long last, the brain sciences and their adjunct technology are sufficiently advanced that real progress can be made in understanding the mind-brain [...] it predicts that philosophy of mind conducted with no understanding of neurons and the brain is likely to be sterile. Neurophilosophy, as a result, focuses on problems at the intersection of a greening neuroscience and a graying philosophy. (P. S. Churchland, 2002, pp. 2–3)

Patricia Churchland here simply advocates that philosophy should be graying, not that it should be whitening. The Churchlands celebrate the fact that there are some problems in philosophy that are amenable to neurobiology–philosophy cooperation.

It is true that neurophilosophy may not arrive with a disarming smile. Indeed, the Churchlands' enthusiasm, at worst, can have unintended adverse consequences (cf. Bickle, 2019). Their love of neuroscience may have blinded them. It might be thought that their enthusiasm is at danger of overthrowing some much-needed caution. Exciting as it is, it might truly mislead. However, Patricia Churchland may be brave and daring, but she is never foolishly reckless.

Some philosophers mistakenly believe that the Churchlands urge philosophers of mind to leapfrog from the last century's conception of mind and self to a purely neurobiological one (Gold & Stoljar, 1999; e.g., Seager, 2017). This belief is not even remotely true. Nor do the Churchlands regard neuroscience as a magic bullet against each and every failure of our self-conception. They are not trapped in "neuroscience exceptionalism." The Churchlands are under no illusion about the sciences of the brain that we live by. Neuroscience is neither the queen of the sciences nor fully mature, but it is truly exciting. It is still in its infancy with regard to higher-level cognition. This is why it is not today's neuroscience but future cognitive neuroscience that is the candidate eliminating theory. The Churchlands passionately believe that the best days of cognitive neurobiology lie ahead of us. Hence an exciting future lies ahead of philosophers of mind.

Another worry about neuroscience exceptionalism would probably concern the status of scientific psychology. Does it imply the disappearance of psychology? The answer is a big fat no. I quote the last passage of an article on intertheoretic reduction by the Churchlands:

Second, it should not be assumed that the science of psychology will somehow disappear in the process, nor that its role will be limited to that of a passive target of neural explanation. On the contrary, chemistry has not disappeared despite the quantum-mechanical explication of its basics; nor has the science of biology disappeared, despite the chemical explication of its basics. And each of these higher-level sciences has helped to shape profoundly the development and articulation of its underlying science. It will surely be the same with psychology and neuroscience. At this level of complexity, intertheoretic reduction does not appear as the sudden takeover of one discipline by another; it more closely resembles a long and slowly maturing marriage. (Churchland & Churchland, 1998, p. 29)

The reduction will be long and arduous; the precise outcome cannot be anticipated. It somewhat resembles a long and maturing marriage, not assimilation or withering away. The message of this passage is not the conclusion. It also notes that reduced disciplines have “helped to shape the development and articulation” of the reducing science profoundly. They are not passive targets of their underlying sciences. Hence, a future unified cognitive social neuroscience. Concrete examples from the history of chemistry and biology provide compelling instances.

Suppose the brain sciences constantly and largely fail to reduce psychology in the long run. In that case, our genuine inability to construct a neural-level account of psychological processes reflects not the poverty of neuroscience, but rather the poverty of our then-current psychology as an explication of how our cognition relates to the world. The Churchlands give primacy to active coherence between relevant sciences. Irreducibility may imply incompatibility, which in turn suggests that macro-level science bodes ill. However, the reader should never forget that reduction is here a thin concept, to the point of superficiality. It is, in the main, neurobiological addressability.

7.8. The Social, Cultural, and Historical Dimensions of Cognition

There is another dimension to this neuroscience exceptionalism objection. This is reductionism. Here are some other aspects of the problem. In passing, I have said that the Churchlands never ignore the importance of social, historical, or cultural factors in determining human behavior and cognition. Qualia and intentionality are more technical features of the reductionism problem. However, the macro-level, institutional influences on behavior and cognition are significant details that everyone agrees on. Despite this, the critics assume that neurophilosophers are confined to studying only the microscopic processes within an individual's brain (e.g., L. Barrett, 2011). First, the Churchlands repeatedly acknowledge that cultural factors have an enormous influence on cognition. Second, whether bottom-up research is unlikely to cooperate with macro-level social studies or not remains to be seen:

The proper response to this objection is to embrace it. Human behavior is indeed a function of the factors cited. And the character of any individual human consciousness will be profoundly shaped by the culture in which it develops. What this means is that any adequate neuro-computational account of human consciousness must take into account the manner in which a brain comes to represent, not just the gross features of the physical world, but also the character of the other cognitive creatures with which it interacts, and the details of the social, moral, and political world in which they all live. (Churchland & Churchland, 1998, p. 26)

The response is simple: they embrace the objection. Notice that they do not even attempt to mount a principled defense, such as saying that all social and cultural influences could be explained at a biological level in the distant future. The Churchlands have no interest, not even a superficial one, in reducing cognition and behavior to fundamental physics or low-level chemistry. It is too vague to say that. Given that everything exists due to fundamental physical interactions, however, it can be achieved in principle.

In any case, this is pattern recognition, involving physical and social patterns that are astonishingly subtle. Advanced neural networks have the potential to respond to such subtle physical patterns, so why, say the Churchlands, would it be impossible to construct artificial neural networks with the capacity to recognize and respond to very complicated social patterns? Their answer is entirely plausible: “We confront no problem in principle here. Only a major challenge” (Churchland & Churchland, 1998, p. 27). The enormous complexity of neural systems and the limits of our current mathematics and computational power may be serious obstacles to developing complete reductions. These are technical problems that may preclude a desired ideal account. Calling them technical, however, does not mean that they will undoubtedly be solved in the future. No, this may remain technically impractical forever. The Churchlands concede all of this.

7.9. Is it Nonetheless Philosophy or Some Replacement For it?

Yes, of course, it is philosophy, or something close to it, by any measure. Saying otherwise would immediately expel most current mainstream philosophy of science and history of philosophy from philosophy proper. That conclusion would be absurd. Neurophilosophy papers are widely published even in leading mainstream analytic philosophy journals. Even quasi-technical papers written by philosophers benefiting from network-style artificial intelligence are not uncommon in peer-reviewed philosophical venues. Recently, complex figures, multiple tables, and graphics can be seen in analytic journals, like those that have always been found in scientific journals.

I am not ignoring the fact that still, at least among older generations of senior philosophers, these developments are not seen as a blessing in disguise. They might bite the bullet, but they will probably always see younger generations of naturalist philosophers as barking up the wrong tree. This clash is not unprecedented in the recent history of philosophy. A century ago, young

philosophers were urged to learn formal logic and apply it to some venerable philosophical problems. Some learned, while some others ignored it. Then we were encouraged to learn the details of a particular language, namely, contemporary ordinary English, in order to solve the perennial questions of philosophy. I might even add that some strands of continental philosophy implicitly advise their members to keep updated concerning literature, art, culture, social and political developments. Just as an utterly speculative sort of fiction, we could imagine a global philosophy, whose leading figures assume its members to routinely meditate on spiritual matters.

7.10. The Explananda, Irrationality, and Logical and Normative Issues

I would like to address some critical issues in brief remarks in this last section. The full-fledged analysis of those issues will be my post-dissertation project. I will just make notes of some important things. There are no agreed-upon explananda in brain, behavioral, or cognitive sciences. Even before the explanations, there are important differences in the proposed characterizations of the phenomena. Nonetheless, some things need good explanations. Humans apparently have the capacity to use logic. We think so since our species indeed developed mathematics and formal logic. It is clear that the propositional notion of human cognition has the capacity to explain this phenomenon. It is equally clear that in connectionist models, inasmuch as its individual contents are, essentially associatively connected, it is very hard to explain our capability to use mathematics. This is frequently directed to non-middle way, pure connectionist approaches as a compelling objection.

What sort of response do the defenders of EM need to rebut this powerful objection? I think the best response should be as follows. The owners of different paradigms do not have to accept the same order of devising the explanations of relevant phenomena. It is almost certain that any pure associationist models would have serious trouble concerning simulating our apparent capacity for mathematics

and logic. The solution is straightforward from an engineering perspective: use an eclectic framework. The solution is easy but somewhat closed to the scientists of biological cognition modelers. As an exploration strategy, of course, cognitive scientists could use these eclectic models. However, a better strategy should be consistently approaching the problem as much as possible.

It may turn out that human higher-level cognition is discontinuous with animal cognition and should be modeled in different principles in the distant future. We all may be convinced that the incredible level of the inadequacy of ordinary people in terms of the mathematical realm has nothing to do with a human capacity for mathematics but only an expression of the performance problem. Furthermore, if this performance problem is not permanent and unbreachable, then logicity will remain a serious problem and strong objection to associationist cognitive science.

This future is not what EM envisages. It anticipates that the associative-content is the fundamental and general form of content. At the top of it, there might be propositional content as a very recent form of content. If this scenario turns out to be true, then EM's order of priority regarding what should be explained first will be the right one.

For the normativity issue, I could see no problem in this realm. Why should future neurocomputational epistemology or mature social and cognitive neuroscience have massive troubles with normative issues? There are more than one related discussions under the rubric normativity: the one connected to our aims, values, and logicity; and, the one that functions to set what is normal and what is not. The second sense of normativity is connected to the definition of mentally-healthy people, commonly so called, which is so crucial in FP framework and its relation to behavioral and psychological sciences. Let us start by the first sense of the term.

People do have aims and goals as animals may have. However, these goals do not come out of the blue. They have indirect and direct linkages with our basic values.

When made explicit, values determine the point we strive to arrive at. Some core values are intimately connected to our evolutionary history. More recent ones, especially those with no discernible connections to human core values, are harder to explain. Survival, attachment, and being an honorable member of a particular community seem to be the most basic human values. The relations between the core values and high-level values are out of the scope of my dissertation. However, I should note that there are very strong findings suggesting that moral values have been emerged out of core values. Given that why should EM have more troubles than its competitors to account for the moral values, judgment, social or moral norms? Let us now proceed to briefly discuss the second sense of the term.

Because normativity seems to be connected with the logical conception of rationality, and this notion of rationality is not among the best achievements of EM, it is plausible to ask whether EM could really handle apparent normativity in human thinking. In this case, the problem is significantly changed. Now, normativity in human thinking is just another way of talking about the logicity of human thinking.

Humans do not necessarily display logicity, but the critics of EM consider those times as violation of the norms of thought and require exceptional explanations. Conversely, in neurocomputational epistemology, the inverse order holds. The logicity is the exception and requires a particular explanation. For EM, the problem is not only due to performance. Alternatively said, this performance problem reflects the structure and functioning of our cognition. EM tries to understand the actual biological cognition, not what could simulate what if it had infinite resources and time.

What is the connection between this sense of normativity and human rationality?

7.11. Conclusion

This chapter has been a general evaluation of eliminativism's overall success in rebutting the major objections to it. My answer is that it survives most of them *intact*. However, concerning a few objections it remains to be seen whether eliminativism should embrace them or not. Given that the neurocomputational successor of the propositional mind is quite underdeveloped with regard to higher-level cognition—and a bird in the hand is worth two in the bush—which seems to be the major concern of philosophers, why should the large bulk of mainstream philosophers try this new but profoundly alien sort of philosophizing? Perhaps this worry is a nonissue. The Kuhnian image of science might even have already solved this problem; and there is no need to convince the current bulk of mainstream philosophers. Let us wait and see whether the natural development of naturalistic philosophy of mind will sort out this “the only game in town” dispute.

CHAPTER 8

CONCLUSION

Eliminativism is what results from spotting the philosophical and psychological assumptions that fail to square with the reality of human behavior and cognition. According to the Churchlands, the accumulated insights from brain and behavioral sciences have run up against FP for half a century. FP may be awaiting a large-scale reform, or even its across-the-board disappearance.

Philosophy, through its three thousand years of history, has added scores of new assumptions and principles, deleted many outdated ones, most of which had been updated ad hoc before, and revised hundreds more. Making appropriate revisions is imperative, and elimination is predictive. This has nothing to do with being radical. I do not deny that, from the viewpoint of some paradigmatic and leading analytic philosophers of mind of the past century, the Churchlands seem truly radical. After all, the Churchlands seem to argue that at least some particular versions of FP concepts, such as the sentential paradigm of belief will be fallen into ruin. In addition, the sentential understanding of “belief” cannot easily be detached from the ordinary notion of “belief.” Thus, they become nonbelievers. This casts suspicion on rationality and agency; but this is only true given a non-naturalistic understanding of rationality or agency. The Churchlands, in contrast, are thoroughgoing naturalists.

The difficulties with FP are grist for the Churchlands’ mill; but their conclusion is in fact not radical. EM does not signify a craving for the total avoidance of mental states. It is an exploration rather than a heartfelt conviction. The Churchlands’ infamous enthusiasm is well balanced with caution. Nonetheless, Patricia Churchland in particular believes that extra skills may be needed to cope with new

philosophical progress. She has already taken steps to train herself to catch up; but this is part of her caution, not a product of her enthusiasm. The idea that the Churchlands' philosophy is not radical but moderate, yet not trivial or nearly trivial, is quite novel, and I hope this conclusion advances the field and improves future research by reducing prejudice against the Churchlands' neurophilosophy.

Thomas Nagel and Patricia Churchland, two seemingly divergent philosophers of mind, in fact resemble each other quite closely in relation to the problem of the possibility of giving an objective, scientific characterization of conscious experience. Their most conspicuous common ground is their severe critique of FP. Because of the deep inadequacies of FP, both parties suggest important revisions to it, which, strikingly have led both of them to label their positions as "revisionist." Nagel also terms his revisionism "expansionist." On the other hand, the Churchlands have always been called "eliminativist." In the fourth chapter, I argued that the Churchlands' eliminativism is nothing but a moderate form of revisionism. Nagel's choice of the term "expansionist revisions" is just another way to discuss his objective phenomenology project, in which he argues for the possibility and the desirability of constructing an objective characterization of consciousness. This cannot be done upon a weak, inadequate and slippery foundation. Although Nagel's own revisionism is not quintessential, Churchland is not his target. In fact, they are strange bedfellows.

Because of the ontological predictive formulation given in his "Eliminative Materialism and the Propositional Attitudes," Paul Churchland has received far more credit than he might have anticipated, to the extent that he is seen as an iconoclast. This formulation has caught on because many naturalistically minded philosophers of mind knew the significant problems faced by propositional FP. Churchland's dramatic analogies made these problems much harder to ignore. (Perhaps, this was the primary aim of the paper.) Several thinkers in the recent past have recognized the particular difficulties encountered by the classical model of FP, and have tried to face them in various ways. Unfortunately, the most

memorable contributions of Paul Churchland's paper have turned out to be dramatic analogies, an unsettling reformulation of philosophically familiar points, and most importantly, an irritating novel positive proposal to deal with them: a transition to a post-propositional-attitude era, an upperintermediate size revolution in epistemology, and a substantial shift in our self-conception.

Today, the up-to-date message of EM is just methodological, in a short but coherent picture: an official announcement of a co-evolutionary study and a personal predilection for bottom-up strategies. Moreover, their positive proposal of a non-sentential model of our inner states has already been explored and endorsed in parts of contemporary cognitive science, and applied to some extent, in a looser form, in artificial intelligence. Not that I am saying that the neurocomputational replacement of belief has been achieved; it has not. Perhaps, once we have achieved an unsupervised learning neural network capable of reducing what we will then know about the higher cognitive functions—especially learning, planing, and reasoning—thus giving us more insights into them and new mysteries to solve, the triumphal song will play. Dramatic statements do not help to resolve the disagreement but do help to create tragic misunderstandings. For now, it is time to call an end to the dramatic song that has played for the last forty years.

The Churchlands' eliminativism is not a proven remedy for FP. EM is neither prescriptive nor proscriptive. It does not urge the elimination of FP, nor does it forbid FP from attending to laypeople's daily commerce. The empirical character of FP's fate cannot be used to reject EM; it is, in fact, built into the meaning of EM.

FP notions are mostly concerned with having successful daily interpersonal commerce, while scientific psychological notions are concerned with obtaining a true psychological classification. Historically, there has always been a two-ways interaction between folk and scientific images of psychology. The two fields use

many identical words in their respective domains. There is moderate-to-substantial incongruity in their meanings, which can be tolerated to some extent. When the tolerance is exceeded, the quantity goes over into quality. That is, FP concepts become inferior or completely worthless and face displacement. To determine the right moment, the critical point at which quantity changes into quality, i.e., when revisions reach a point at which they practically amount to elimination, is very tricky. It is, where rational, pragmatic in character. For these reasons, FP's constant transformation, when used within scientific psychology, can be an important, but of course defeasible, indicator of a future displacement. It might also be the other way around. Nonetheless, what the Churchlands are ringing is not a death knell but only a loud alarm bell, although perhaps the loudest one available.

The plasticity of FP notions goes both ways. It might put the Churchlands' bet on elimination at risk. However, it is also possible that this plasticity will result in an excessive transgression of FP's boundaries, the disintegration of its principles, and the fraying of its positions. If FP eventually outgrows its usefulness, as the Churchlands suspect will happen, then elimination will occur. However, the result of this process might be elimination, reduction, or possibly something mixed. Here, I see no harm done to the Churchlands' EM. It remains intact. After all, they do not look forward to exterminating FP. If the Churchlands' guess—according to which FP's inadequacies are structural, extensive, and deep—turns out to be correct, then they will attempt to substitute it with a future cognitive neuroscience, not with the so-called “neurobiology alone” theory. However, we cannot know whether mature cognitive neuroscience will be the next link in the evolutionary chain toward a pure biochemical theory of cognition. Who cares? There is no cause for concern about the unseeable future. Furthermore, it is almost certain that philosophy will not collapse if EM turns out to be right. More severe changes have occurred in past centuries than any of those that the Churchlands have suggested over the last four decades.

What is the future of eliminativism in the light of what we have discussed so far? One possibility is to drop the name itself, which creates more harm than insight. Unfortunately, this may result in serious confusion. It is almost certain that people would believe that the Churchlands had changed their position. This alone has the potential to give rise to further mistaken views of eliminativism. In either case, eliminativism is on thin ice. Here slow and steady wins the race. The devil is in the details.

Maybe we should write a series of books to show what advances are already underway with regard to particular psychological categories such as memory, learning, motivation, belief and desire, reasoning, and unconscious processes. That is the only way for the younger generations of eliminativists to improve the deeper structure of their position. We are no longer living in the eighties or nineties. Though we do not have a brain theory or anything like it, the brain and behavioral sciences' accumulated findings and insights have become extraordinary. It is not even feasible to follow the recent developments in all those areas. I do not deny that there are some incredible books that display what we currently know. I am saying that there should be a philosophical evaluation of them. What have they taught us so far? What should particular philosophical theories of memory, learning, or reasoning change? Or should they be eliminated? For free will, this has already been done to a great extent. We need similarly extensive studies with regard to other problematic areas where philosophers have constructed ideas for centuries.

On the constructive front, we also need conceptual intermediaries to link the presently available notions of belief to their very far future neurocomputational counterpart. Tamar Gendler's proposal of alief might prove to be a useful concept for furthering the eliminativist cause. This is parallel to what Lisa Feldman Barrett has been offering for the revision of the concept emotion (L. F. Barrett, 2006, 2009). This is what we could call revisionism in action.

As a last remark, let me state that even if EM is right and FP is defective, nobody is judge, jury, and executioner. Every one of us has to wait, like the rest of us, to see in what particular ways FP will turn out to be wrong.



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Tümekaya, S. (2021c). On the Proper Treatment of the Churchlands. *Erkenntnis*, 86(4), 905–918. <https://doi.org/https://doi.org/10.1007/s10670-019-00137-y>

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Wilkes, K. V. (1991). The relationship between scientific psychology and common-sense psychology. *Synthese*, 89(1), 15–39. <https://doi.org/10.1007/BF00413797>

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Wright, C. D. (2000). Eliminativist Undercurrents in the New Wave Model of Psychoneural Reduction. *Journal of Mind & Behavior*, 21(4), 413–436.

APPENDICES

A. CURRICULUM VITAE

Institutional affiliation: Middle East Technical University, Department of Philosophy

Email: [REDACTED]

Phone: [REDACTED]

AREAS OF SPECIALIZATION

Philosophy of science, philosophy of mind, epistemology, neuroethics

AREAS OF COMPETENCE

Neurophilosophy, Quine, scientism, naturalism

EDUCATION

Ph.D. in Philosophy, Middle East Technical University, Ankara, Turkey, 2014–2022.

M.A. in Philosophy, Middle East Technical University, Ankara, Turkey, 2011–2014.

B.A. in Philosophy, Bilkent University, Ankara, Turkey, 2004–2011.

PRIOR WORK EXPERIENCE

Ardahan University, Department of Philosophy, September 2012 – February 2013.
Ardahan, Turkey.

Middle East Technical University, Department of Philosophy, February 2013 – October 2020. Ankara, Turkey.

THESES

Graduating thesis: “A Critical Analysis of *The Modularity of Mind* by Jerry Fodor.” June 2010. İhsan Doğramacı Bilkent University. Ankara, Turkey.

Master thesis: “Is Cultural Neurophilosophy Possible?” METU Department of Philosophy, September 2014. Ankara, Turkey.

Ph.D. thesis: “A Clarificatory Defense of Eliminative Materialism.” METU Department of Philosophy. March 2022. Ankara, Turkey.

PUBLICATIONS

Journal articles (AHCI & SSCI)

1. (2021) “On the Proper Treatment of the Churchlands.” *Erkenntnis*, 86(4), pp. 905–918. DOI: 10.1007/s10670-019-00137-y [Journal rank: Q1]
2. (2021) “Churchland, Nagel, and Their Severe Critique of Folk Psychology.” *Teorema*, 40(3), pp. 5–27. [Journal rank: Q2]
3. (2021) “A Novel Reading of Thomas Nagel’s ‘Challenge’ to Physicalism.” *Organon F*, 28(4), pp. 802–818. DOI: 10.31577/orgf.2021.28403 [Journal rank: Q2]
4. (Accepted) “Against Slagle’s Reading of Eliminative Materialism on Self-Defeating.” *Philosophical Investigations*. [Journal rank: Q2]

Revise and resubmit

1. On eliminativism. *Philosophical Forum*. Revised and resubmitted, February 3, 2022.
2. On neurophilosophy. *South African Journal of Philosophy*. Revision. [Journal rank: Q2]

Under review (five manuscripts)

1. On Quine’s naturalism.
2. On the continuity thesis.
3. On liberal naturalism.

4. On eliminativisim (X2).

Journal articles (ESCI, WoS)

1. (2017) “Thomas Nagel’in ‘Fizikalizm’ ve ‘Yarasa Olmak Nasıl Bir Şeydir’ Makalelerinin Bilince Nesnel Bir Açıklama Verme Arayışı Açısından Kıyaslanması.” *Beytulhikme Int Jour Phil*, 7(1), pp. 23–41.

Journal articles (Philosopher’s Index)

1. (2021) “Kaç Tane Metafelsefi Yaklaşım Var?” *Dört Öğe*, 19, pp. 135–150.
2. (2021) “Nörofelsefe İndirgemeci mi Yoksa Eleyici midir?” [“Is Neurophilosophy Reductionist or Eliminativist?”] *FLSF*, 31, pp. 15–36.
3. (2021) “Analitik Felsefe Neden Natüralizme Karşıdır?” *Kaygı*, 20(1), pp. 289–305.
4. (2020) “Analitik Felsefe Diye Bir Felsefe Okulu Var Mıdır?” [“Is There a Philosophical School Such as Analytic Philosophy?”] *Felsefe Dünyası*, 72, pp. 290–309.
5. (2018) “Thomas Kuhn ve Devrimler Yoluyla Birikimsel İlerleme.” *Maltepe Üniversitesi Fen-Edebiyat Fakültesi Dergisi*, 2017 1+2, pp. 238–256.
6. (with Berk Yaylım, 2017) “Eleyici Materyalizm ‘Zihnin Tüm İçeriğini’ Elemeyi mi Önerir?” [“Does So-Called Eliminative Materialism Suggest that the Entire Content of the Mind Should Be Eliminated?”] *Felsefe Dünyası*, 66, pp. 252–273.
7. (2017) “Nörofelsefe Neden Halen Uçta Bir Görüş Olarak Niteleniyor?” [“Why Do Philosophers Regard Neurophilosophy as Highly Marginal?”] *Kaygı: Uludağ Üniversitesi Fen-Edebiyat Fakültesi Felsefe Dergisi*, 29, pp. 99–110. DOI: 10.20981/kaygi.342417

8. (2017) “Thomas Kuhn ve Onun Mantıksal Olmayan Rasyonalitesi.” [“Thomas Kuhn and His Extra-Logical Rationality.”] *Kutadgubilig: Felsefe-Bilim Araştırmaları*, 34, pp. 751–775.
9. (2017) “Nesnel Fenomenoloji Projesi Aracılığıyla Thomas Nagel, Bilinci Nesnel bir Şekilde Açıklamaya Çalışır.” *Ethos*, 10(2), pp. 147–160.
10. (2017) “The Tractatus, Logical Space, and Zombies.” *FLSF*, 23, pp. 291–306.

Revise and resubmit:

Sezgiler üzerine. *Felsefe Dünyası*. Düzeltilip tekrar teslim edildi.

BOOK CHAPTERS

1. (2017) “Analitikçi Wittgenstein Kendi Ölümünü Deneyimleyebildi mi?” *Yaşam ve Ölüm Felsefesi*. Edited by A. Kadir Çüçen. Sentez Yayınları, pp. 425–435.
2. (2014) “Yaygın Yanılgıların Kıskaçında Nörofelsefe” [“Saving Neurophilosophy from Mumpsimus”], *Günümüzü Felsefe ile Düşünmek*. Edited by Bahadır Gülşen, Erkan Bozkurt, Gülce Sorguç, and Umut Morkoç. İzmir: Ege Üniversitesi Yayınları, pp. 151–160.

BOOK REVIEW

1. (2021) “Science, Scientism, and Never-Ending Myths about the Scientific Stance.” *Metascience*. 30(2), pp. 323–326. DOI: 10.1007/s11016-021-00637-0

CONFERENCE BOOKS AND PROCEEDINGS

1. (2018) “Ontolojik Natüralizm ve Yöntemsel Natüralizm Birbirini Dışlar: deneysel parapsikolojinin düşündükleri üzerine.” *VIII. Mantık Çalıştayı Kitabı*. Edited by Vedat Kamer and Şafak Ural, pp. 463–495.
2. (2017) “Doğalcı Epistemoloji: epistemolojinin inkarı mı asimilasyonu mu?” [“Naturalized Epistemology: Denial or Assimilation?”] *VII. Mantık Çalıştayı Kitabı*. Edited by Vedat Kamer and Şafak Ural, pp. 633–649.
3. (2016) “Bilim Felsefesinde Mantığın Yeri: Quine’in Epistemolojisi Işığında.” [“The Proper Place of Logic in the Philosophy of Science, in the Light of Quinean Epistemology.”] *VI. Mantık Çalıştayı Kitabı*. Edited by Vedat Kamer and Şafak Ural, pp. 385–392.
4. (2016) “The Overlaps between (Proper) Philosophy and (Actual) Science”, in *On What It Is: Perspectives on Metaphilosophy*. Edited by Megyer Gyöngyösi, Zsolt Kapelner, Zsófia Ádám, and István Faragó-Szabó. Budapest: Filozófia Műhely, Eötvös Collegium, pp. 131–148.

CONFERENCES

1. “Bilim-perestliğin nesi kötü?” *X. Mantık Çalıştayı*. September 2–4, 2021. Kapadokya, Turkey.
2. “Quine’s Naturalism Is More Liberal than Liberal Naturalism.” *4th Annual TiLPS History of Analytic Philosophy Workshop*. December 14–15, 2020. Tilburg, Netherlands (online).
3. “Quine’s Ignored Challenge to Imaginability-Based Arguments” (poster session). *Exploring the Mind’s Eye: An Interdisciplinary Conference on Imagination*. October 25–26, 2019. Bilkent University, Ankara, Turkey.
4. “The Neurophilosophical Approach to Morality: Elimination, Reduction, Revision, Unification, or Assimilation?” *International Interdisciplinary Summer School 2018: The Neurobiology of Moral Conscience with Patricia Churchland*. June 4–8, 2018. Tübingen, Germany.

5. “Quine Neden Ontolojik Natüralizme Karşıydı?” *VIII. Mantık Çalıştayı*. May 9–11, 2018. Bülent Ecevit University, Faculty of Letters, Zonguldak, Turkey.
6. “The Problem in the Philosophical Community of Turkey.” *Istanbul International Congress on Philosophy*. May 2–4, 2018. Istanbul University, Faculty of Letters. Istanbul, Turkey.
7. “Doğalcı epistemoloji: epistemolojinin inkarı mı asimilasyonu mu?” [“Naturalized Epistemology: The Denial or Assimilation of Epistemology?”] *VII. Mantık Çalıştayı*. June 29 – July 1, 2017. Ondokuz Mayıs University, Samsun, Turkey.
8. “Thomas Nagel is, at Bottom, Not an Anti-Physicalist but a Defender of It.” *Salzburg Conference for Young Analytic Philosophy 2016*. September 7–9, 2016. University of Salzburg, Austria.
9. “The Overlaps between Philosophy and Science.” *On What It Is: The Philosophy of Philosophy*. February 13–15, 2015. Eötvös József Collegium, Budapest, Hungary.
10. “The Proper Place of Neurophilosophy within Philosophical Naturalism.” *9th Annual Conference of the Postgraduate Philosophy Association of Southern Africa (PPA) 2014*. July 19–20, 2014. University of KwaZulu-Natal, Durban, South Africa.

INVITED TALKS

1. “Nörofelsefe İndirgemeci Bir Kuram Değildir.” *IV. Zihin Sempozyumu* [IV. *Mind Symposium*]. March 25–26, 2017. Topic: Neuroscience and Philosophy. Raymar Otel, Ankara, Turkey.
2. “Nörofelsefe Ne Değildir Üzerine.” (“On What Neurophilosophy Is Not.”) *IV. Bilim Ve Felsefe Kampı* [IV. *Meeting of Science and Philosophy*]. Topic: Philosophy of Science, Quantum Mechanics, Philosophy of Mind, and Psychoanalysis. September 11–14, 2015. Karaburun, İzmir, Turkey.

3. “Neden Felsefe?” (“Why Philosophy?”) *UNESCO World Philosophy Day*. November 2014. Haymana Nuri Bektaş Anadolu Lisesi, Haymana, Ankara, Turkey.

TEACHING EXPERIENCE

As primary instructor

- 1) Phil381: Scientific Method I

As teaching assistant and occasional lecturer

1. Phil106: Theory of Knowledge I
2. Phil108: Introduction to Philosophy (for Philosophy majors)
3. Phil108: Introduction to Philosophy (for Psychology majors, × 3)
4. Phil108: Introduction to Philosophy (for Sociology majors)
5. Phil241: Philosophy and Evolution
6. Phil442: Contemporary Philosophy (perception, epistemology, language)

TEACHING EXPERIENCE (extra-university work)

1. “Ortadoğu Teknik Üniversitesi ile Eğitimde İşbirliği.” Tüzyeksav [a private primary and secondary school for highly gifted students]. Weekly, for six months. 2015. ODTÜ, Ankara, Turkey.

ORGANIZATIONAL EXPERIENCE

1. *1. ODTÜ Lisansüstü Felsefe Öğrencileri Kongresi [1st METU Graduate Philosophy Students Congress]*. June 11–12, 2016. METU, Ankara, Turkey. Organization committee member.
2. *1. ODTÜ Lisans Öğrencileri Felsefe Kongresi [1st METU Undergraduate Students Philosophy Congress]*. November 5–6, 2016. METU, Ankara, Turkey. Organization committee member.

3. 1. *ODTÜ Genç Akademisyenler Meta-Felsefe Kongresi [1st METU Young Scholars Metaphilosophy Congress]*. April 22–23, 2017. METU, Ankara, Turkey. Organization committee member.
4. 2. *ODTÜ Lisansüstü Felsefe Öğrencileri Kongresi [2nd METU Graduate Philosophy Students Congress]*. December 7–8, 2017. METU, Ankara, Turkey. Organization committee member.
5. 2. *ODTÜ Lisans Öğrencileri Felsefe Kongresi [2nd METU Undergraduate Students Philosophy Congress]*. December 9–10, 2017. METU, Ankara, Turkey. Organization committee member.
6. 3. *ODTÜ Lisans Öğrencileri Felsefe Kongresi [3rd METU Undergraduate Students Philosophy Congress]*. April 14–15, 2018. METU, Ankara, Turkey. Organization committee member.
7. *Akademik İş Olanakları*. 14+ weeks. January 2021 – April 2021. Online. Organization committee member.
8. Publication seminar series. March 2021 – May 2021, 10+ weeks. Organization committee member.

AWARDS

Full scholarship for undergraduate study from İhsan Doğramacı Bilkent University, 2000–2011.

ASSOCIATION MEMBERSHIPS

The Philosophy of Science Association

European Philosophy of Science Association

The Society for Philosophy and Psychology

Updated March 18, 2022

B. TURKISH SUMMARY / TÜRKÇE ÖZET

I. Giriş: eleyici materyalizm ve hedefindeki halk psikolojisi

Eleyici materyalizm (EM) değişik zamanlarda farklı şekillerde (ontolojik, metafizik, metafizofik) tanımlanmış ama benim bir araştırma programı olarak ele alacağım, bilim tarihi ve felsefesi ile beyin ve davranış bilimleri ışığında zihin felsefesindeki kimi temel problemlere yanıt arayan bir felsefi pozisyonudur. Bu görüşün içeriği sadece felsefe değil, insanların gündelik hayatlarından tüm davranış bilimlerine kadar geniş bir alanda çarpıcı ve kapsamlı sonuçlara gebe dir. Her ne kadar bu pozisyon sıklıkla zihin metafiziği kapsamında ele alınsa da EM başta bilimsel psikoloji olmak üzere davranış bilimlerinin önünde engel olarak gördüğü “halk psikolojik” (HP) kavram ve ilkelerin çok sert ve radikal bir eleştirisidir. Bu görüş kimi zaman zihnin bir illüzyondan ibaret olduğunu savunan marjinal fikirlerle karıştırılsa da bunlarla hiçbir ilgisi yoktur. EM temelde mevcut mentalistik açıklama çerçevemize, yani zihnin tümcesel (propositional) kavranışına, meydan okur. Bir dizi haklı nedenle buna HP denildiği gibi, “kendilik anlayışımız” da denmektedir. Peki, nedir bu mentalistik çerçeve? Her şeyden önce bir benlik daha doğrusu “kişi kuramı”dır.

İnsanların kendisini ve çevresindeki diğer insanları anlama, manipüle etme ve davranışlarını öngörme zorunluluğundan ortaya çıkmış olan HP insan zihninin nasıl çalıştığına dair bize kimi zaman açık kimi zaman örtük öğelerden oluşan çok kapsamlı bir teori sunar. Tarihsel evrimindeki esas işlevi, gündelik hayatta sıradan insanın birbirleriyle olan ilişkilerini verimli kılmak olan HP, önce kentlerin ortaya çıkışı sonra bilimlerin doğuşuyla birlikte ve özellikle de bilimsel psikoloji ve tıbbın bilimselleşmesiyle onlarla güçlü bir etkileşime girmiştir. Daha doğrusu bu yenidoğan bilimler HP ile yoğrularak yola çıkmışlardır. Başka türlü olması muhtemelen pek mümkün değildi.

Ne tür somut örnekler HP çerçevesini anlamamıza acaba yardımcı olabilir? En temelde, en azından sağlıklı bir zihne sahip insanların normal koşullar altında rasyonel davranacakları varsayımı yatar. Şimdilik sağlık zihne sahip olmanın ne demek olduğunu bir kenara bırakırsak, rasyonel tercih ve kararlar insan olmanın özünde görülmüştür. Her ne kadar psikiyatrik rahatsızlıklar, beyin bozuklukları ve gıda eksikliği, uykusuzluk veya aşırı stresli durumlar gerçek bireylerin gerçek karar alma süreçlerinde tümüyle rasyonel davranmasına engel oluyorsa da rasyonalite insan zihninin temel bir özelliği olarak kabul görmüştür.

Somut bir örnek verelim. Eğer amacınız size acil lazım olan ıslak imzalı belgeyi içeren kargonun Boston'dan Ankara'ya 6 Mart'tan önce gelmesi sağlamaksa ve şu anda tarih 26 Şubat'ı gösteriyorsa, o sene şubat 28 çekiyorsa ve elinizdeki kargo seçenekleri üç, on veya otuz gün ise kargo şirketine gidip süresi on gün olan kargolama seçeneğini kullanmazsınız. Bunu kullanan kişi eğer amacının kargonun 6 Mart'ta Ankara'ya yetişmesi olduğunda ısrar ediyorsa ya kelimeleri olağandan farklı kullanıyordur veya bir tür hastalığa kapılmıştır; öyle değilse çok cimridir ve kumar oynayarak sonradan ek bir gün süre alabilmek için kurumuna yalan söylemeyi planlıyordur. Bu böyledir çünkü aritmetiğin mantığı kesindir. Bu tür karmaşık tartışmalar ve çeşitlemeleri özellikle davranışsal ekonomi ve karar teorisinin ana konusudur. Bunlara ileride tekrar döneceğiz. Şimdi HP'nin diğer özelliklerine, başarılı ve başarısız olduğu yerlere bakalım. Sonra da aynı alanlarda EM'nin mevcut başarısı ve orta vadedeki olası ilerlemelerini değerlendirelim.

HP hayatın, büyük ölçekli siyasi ve ekonomik karar süreçlerini bir kenara bırakırsak, doğal akışı içerisinde birçok alanda başarılı bir açıklama çerçevesidir. Bu tartışmanın tüm tarafları tarafından ortak olarak kabul edilmiştir. Buna HP'nin en radikal eleştirilenleri olarak görülen Patricia ve Paul Churchland çifti de dahildir. Örneğin bir komşunuzun sıklıkla arabasını sizin evin önüne park ettiğini düşünün. Başka bir komşunuz ise ilk defa dün gece sizin evin önüne kendi arabasını park etmiş olsun. Ortalama bir insan her iki komşuya dair farklı tavırlar takınacak, her ikisi de “başkasının sizin evinizin önüne aracını park etmesi olarak

tariflenecek problemi” çözmek için farklı taktikler kullanacaktır. Yine de insan, komşularının bu davranışını onların inaçları, arzuları ve bir dizi ek parametre ile anlamaya çalışacaktır. (Türkçede “inaç” kelimesi belirli çağrışımlara sahiptir; burada ise inaç İngilizce’deki *belief* sözcüğünün Türkçe çağrışımlardan arındırılmış bir çevirisidir.) Örneğin benim bazı akrabalarım ilk komşunun esas niyetinin kendilerini çileden çıkarmak olduğunu düşüneceklerdir. En gizli niyetleri çileden çıkan ailemin evini satmasını sağlamak olabilir veya sadece komşumuzun kişiliği böyle olabilir.

Gördüğünüz üzere hemen daha konunun girişinde niyet kavramı ile karşılaştık. Niyet ve niyetlilik (aboutness) kavramları son derece ilginçtir. İlki gündelik hayatta sıklıkla kullandığımız bir kelime olarak, sözlükte bir şeyi önceden isteme, onu düşünme olarak tanımlanır. Güzel, çünkü bu tanım niyet ile istemek fiili arasında doğrudan bağ kurar. İstemek, arzu etmektir; niyet ettiğimiz dünya hallerine ulaşmayı isteriz. Türkçede çağrışımları farklı olsa da özünde bu tartışmada istemek ile arzu etmek aynı şeydir. Demek ki ilk komşumuz bizim çileden çıkmamızı istemektedir. Onun bu arzusunu sonlandırmak için yapılabilecek bir dizi şey varken yaptığı şey için bedel ödetmek veya bu bedeli yükseltmek ilk akla gelen adımlardan olacaktır. Şimdi ikinci komşuyu düşünelim. Bunun derdi nedir? Şimdiye kadar bizimle hiç sorunu olmamış bu komşumuz muhtemelen içine düştüğü zor bir durum nedeniyle arabasını bizim kapımızın önüne park etmiş olmalı. Ne olabilir bu durum? Sarhoş olmuşsa arabayı kendi evinin önüne park ettiğini sanmış olabilir. Kendi evinin önündeki alan çökmüş olabilir veya beklenmedik bir misafir o yeri doldurmuş olabilir. Bu komşuya karşı özel bir adım gerekmez. Muhtemelen sabaha ya arabasını çekecek veya kapınıza gelip durumu açıklayacak ve özür dileyecektir. Komşumuz ne yapmıştır? Öncelikle eğer sarhoşsa kendi görsel algısının ışığında, amacına uygun bir iş yapmıştır. İşte şimdi *amaç* kavramı ile karşılaştık.

“Amaç” mentalistik çerçevemizin temel unsurlarından bir diğeridir. Çünkü istek ve inaç ancak amaçlarımız ışığında anlam kazanır. Nitekim rasyonelliğin

tanımlarından bir tanesi rasyonel karar alma süreçleri tartışmalarında ele alınmıştır ve amaç kavramı merkezde yer alır. Bu bağlamda birey mükemmel bir hafıza ve hesap gücüne sahiptir. Tüm olanakları bilir, hepsi üzerinden hesap yapar ve kendisi açısından optimal kararı verir. Bunun matematiksel modelleri geliştirilmiştir. Gerçek hayatta başka birçok karıştırıcı söz konusudur; örneğin, gerçek insanlar mükemmel hafızaya ve tüm olanakların eksiksiz bilgisine sahip değildirler. Öyle olsalardı bile hesap güçleri oldukça zayıftır. Bu tür hesaplar ancak bilgisayarlarla mümkün hale gelmiştir. Gelin şimdi HP'nin sorunlarını çok daha somut ve kapsamlı şekilde ele alalım.

II. Halk psikolojik çerçevenin sorunlarını ortaya seren çalışmalar

Çok sayıda disiplinden bir asırdan fazladır gelip birikmiş olan bulgular bu tür bir ideal karar alma sürecine meydan okumuştur. Esasında eleyici materyalistlerin HP'nin ciddi şekilde revize edilmesini ve bu da işe yaramazsa kendisinin yerini daha üstün bir açıklayıcı güce ve tahmin gücüne sahip yeni bir insan kuramına bırakmasını savunmasına yol açan işte bu türden çalışmalardır. Burada söylenen çoğu şeyler bilimsel bulgular olsa da çıkarılan sonuçlar, bilimsel alandaki gelişmelere bakarak yapılan ampirik tahminlerden ibarettir. EM taraftarları bundan daha fazlasını nadiren iddia etmektedirler. Churchland çifti, halk psikolojik açıklama çerçevesinin kaderine dair tahminlerine şu bilimsel bulgulara dayanarak varmıştır:

1. *Beden ve zihin hakkındaki sezgilerimizi kökten sarsan bozukluk durumları:*
Anormal psikoloji ve nöropsikoloji bulguları: Ayrık beyin deneyleri, Turet Sendromu, çoklu-kişilik bozukluğu, demans, şizofreni, benlik yitimi olgusu, kör görüş, değişim körlüğü, yabancı el sendromu, algısal agnoziler, somatoparafreni yanılması, hayalet uzuv, ihmal sendromu, optik illüzyonlar, tüm psikiyatrik ilaç ve uyuşturucuların etkileri. Bunların bazıları bilincin üniter doğasına, diğerleri bilinç ile bilinç dışı arasındaki

ayırma, başka bazılarıysa farkındalıkla, algı ve bilinç arasındaki ilişkiye dair görüşlerimize meydan okumaya devam etmektedir.

2. *Nörobijoloji*: Ayna nöronları, plastisite, nörobijolojik bağlanma bulguları, dikkat nörofizyolojisi çalışmaları, sinirsel iktisattaki karar verme deneyleri, beyin lezyon bulguları, özgür irade ve kendilik-kontrolü üzerine yapılan fiziko-psikolojik ve nörobijolojik çalışmalar, örn. hazırlık potansiyeli bulgusu.
3. *Bilinç patolojileri*: Beden dışı deneyimleri, uyurgezerlik, koma, derin uyku çalışmaları, demansın derece derece ilerlemesi olgusu, aneztesi esnasında olanlar, beyin tahribatlarının yarattığı tuhaf kişilik değişimleri. Cotard sendromu ve çoklu kişilik bozukluğu gibi olgular ise bu kategorinin en inanılmaz üyeleridir. Cotard sendromu; yaşarken ölü hissetmek, ölü olduğuna inanmak ve hatta “ben ölüyüm, yemek yiyemem” diyen birkaç hastanın yemeksiz kalıp ölmesiyle sonuçlanması nedeniyle bilincin geleneksel kavranışının sınırlarını aşırı zorlamaktadır.
4. *Sosyal psikolojik çalışmalar*: Zimbardo deneyi, Asch deneyi, Milgram deneyi. Özgür irade ve serbest seçim varsayımlarımızın altını oyan deneylerdir. Karşılaştırmalı antropoloji verileri de son derece aydınlatıcı olmuştur. İnsanların sorumluluk atfının ne kadar plastik olduğunu gösteren Milgram deneyleri, insan zihninin karanlıklarını açığa vuran Zimbardo deneyleri ve Asch’in sosyal faktörlerin görsel yargıları bile nasıl etkilediğini gösteren çalışmaları; özgür iradeden, görsel algı ve belleğe, sorumluluk atfından insanın karar alma davranışlarının doğasına kadar bilişle ilgili birçok temel fikrimizin sorgulanmasına yol açmıştır.
5. *Bilim tarihinden ve felsefeden, yanılabilirliği öne çıkaran kanıtlar*: felsefi kavramsal açıklamalar, felsefi kuramların şimdiye kadarki başarısızlığı iddiası, kalorik ve filojiston analogileri, bilim felsefesindeki bilimsel kuram değişimi üzerine çalışmalar, Quine tipi doğalcılık. Burada iki tip yanılabilirlik söz konusudur. Her önerme değişebilir şeklindeki daha masum iddia. Masumiyet yalnızca, her türden önermedeki bir veya birkaç sözcüğün anlamı değişirse o önermenin doğruluk değeri değişebilir

anlamında geçerlidir. Şaşırtıcı olansa analitik veya kavramsal veya mantıksal doğruluğa sahip önermelerin bile “sıradan ampirik basınç” sonucunda değişebileceği şeklindeki iddiayı içeren tepeden tırnağa yanılabilirlik iddiasıdır. HP’yi ampirik olmayan bir çerçeve olarak görenlerle, HP’yi diğer teoriler gibi bir teori olarak gören Quine tipi doğalcılar arasında bu konu eskiden çok büyük bir tartışma konusu olmuştur. En eski haliyle EM’nin iddiası bu temel tezden ibarettir: her tür inanç ve varsayım (dolayısıyla her kuram), sıradan ampirik baskı doğrultusunda revizyona açıktır.

Okur haklı olarak HP’nin bu tür olguları açıklamak zorunda olup olmadığını sorgulayabilir. Gelin şimdi bu *kilit* soruya yanıt arayalım. HP esasında bilişin yüksek dereceli bilimsel bir analizini vermek işinde değil ama insanların günlük etkileşiminde görevli olduğuna göre psikolojik, psikiyatrik veya nörolojik bozukları açıklayamaması doğal değil midir? Hayır, kesinlikle doğal değildir. Peki, neden?

Doğalmış gibi gelmesinin nedeni şu olabilir. Sanki HP bir yerlerde insanların ürettiği bir makine veya kurduğu bir vakıfmış da kendi amaçları arasında listelenmeyen şeyleri neden yapmadığı veya yapamadığını sormak insanlara son derece doğal gelmektedir. HP kimse tarafından yaratılmamıştır. O muhtemelen insan türünün ortaya çıkışından sonra binlerce sene içinde evrimleşerek bugünkü haline gelmiştir. Ve insanlar onu binlerce yıl her tür insan davranışını ve hatta bazı cansız nesne ve doğa süreçlerini açıklamak için HP’yi kullanmıştır. Binlerce sene boyunca insanlar ateşin ve rüzgarın ruhu olduğuna, istek ve hisleri olduğuna inanmıştır ve halen de dünyanın kimi kültürlerinde buna inanılmaya devam edilmektedir.

Dahası, Orta Çağ’da Avrupa’da cadı avcılığı ve benzerleri insan davranışa dair yapılan HP açıklamalarının kapsamında görülebilir. İnsanlar, o vakit gördüklerini, suçladıkları insanların hasta veya farklı olmasına bağlamak yerine gördüklerini bahsi geçen insanların niyetleri ve doğa üstü kuvvetleri ile açıklamış, doğa üstü

güçlere sahip kara büyü yapan ve çok zararlı niyetlerin sahiplerini ateşte yakarak öldürmüşlerdir. HP, neyin zihinsel hastalık olup olmadığının belirlenmesinde zten en baştan çok etkilidir. HP'nin bu tür hastalıkların kategorilenmesine etkin katkıda bulunup bunların doğasının açıklanması hususunda çok başarısız kalması kabul edilemez.

Cadıları din ve mitolojide, halk kültüründe görüyoruz. Bu tesadüf değildir. HP, insanların gündelik yaşamlarındaki deneyimleri ile din, mitoloji ve benzerlerinin etkileşimiyle evrilir. Hatta son birkaç asır veya bin yıl için bu etkileşime bilim de katılmıştır. Bilimden bahsettiğimiz hiçbir yerde saf HP diye bir şey yoktur. Nasıl din ve mitoloji ile HP arasında diyalektik bir ilişki varsa bir benzeri davranış bilimleri ile HP arasında aranmalıdır. İşte tam bu noktada HP, gelişmekte olan psikoloji bilimi için bir destek veya köstek görevini görme noktasına gelmiştir. Yanlış anlaşılmasın modern psikoloji sadece felsefe ve gündelik zihin kavrayışının içinden çıkmamıştır. Bir diğer eş zamanlı kaynak iste tıp ve fizyoloji çalışmalarınıdır. İşte tam bu nedenle bugün bile bilimsel psikoloji kendi içerisinde şiddetli bir yarılmayı, gerilimi barındırmaktadır. Halen psikoloji ve psikiyatri bilimlerinde fizyolojik yaklaşım ile HP'nin çağdaş, deneysel versiyonları çekişmektedir.

Eleyici materyalistler nerelerde HP bilimsel psikolojiye destek ve nerelerde köstek olabilir üzerine yoğun şekilde çalışmışlardır. Şimdi bu noktaları görelim.

III. HP gerçekten bir albatros mudur?

HP, der eleyici materyalist, bilimsel psikolojinin sinirbilimlerle irtibat kurmasına engel teşkil etmektedir. Yani HP, bilimsel psikolojinin insan zihni, davranışı ve kültürünü anlamak konusunda başarıyla ilerlemesine bazı özel güçlükler çıkarmaktadır. Bunlar neler olabilir? İlki herhalde HP'nin, insan davranışının gerçek dinamikleri ve mimarisini incelemek yerine, onun nasıl olduğu veya olması gerektiğine dair önsel bir inanış dayatması olmalıdır. Bu inanışın özünde, insan

davranışının temelde rasyonel olması yatar. Bu husus sadece felsefe veya psikolojide değil aslında anaakım iktisatta da uzun süre tartışma konusu olmuştur. Orada anaakım iktisat bu açıklama çerçevesinin önsel olduğunu ve ampirik çalışmalar tarafından çürütülemeyeceğini savunmuşlardır. Çok ilginç bir şekilde, felsefi HP tartışmaları da onyıllardır paralel şekilde gitmektedir. Acaba bu çerçevenin açıklamakta çok zorlandığı insanlar veya durumlar neyden kaynaklanıyor olabilir? İlk akla gelen yanıt tekil insanlar söz konusu olduğunda bahsi geçen insanların eğer sürekli olarak rasyonalite ihlali yapıyorsa bilişsel yetilerinde problem olduğunu savunmaktır. Gerçekten de bazı insanların karar alma süreçlerindeki şaşkıncı davranışları bu türden bilişsel engellerle bilimsel olarak açıklanabilmektedir. Obsesyon, demans veya şizofreni burada olağan suçlulardır.

Burada hemen hatırlatmak zorunda olduğum husus şudur: HP sadece gündelik hayattaki açıklamalarla alakalı değildir. Aynı zamanda başta siyaset bilimi, antropoloji, iktisat, psikoloji ve psikiyatri olmak üzere kimi bilimsel disiplinler temelde HP terminolojisini kullanır. Bunların açıklamalarının merkezinde inanışlar, arzular ve benzerleri yer alır. Diğerlerinden farklı olarak psikiyatride, ilgili hastalar söz konusu olduğu ölçüde, rasyonalitenin varlığı yerine yokluğu daha çok varsayılmaktadır. Buna rağmen açıklamalarda inanç ve istek terimleri çok yaygındır. Örneğin şizofren birey, yaptıklarında rasyonel, tutarlı olmasa da aslında kendi inanışlarıyla alakalı şekilde hareket eder gibi gözükmektedir. Burada birey global bir inanç tutarlılığı sergilemez, en fazla lokal bir tutarlılık görülür. Zaten oyun da esasen burada oynanmaktadır. İnanç tutarlılığı ne demektir? İnanç tutarlılığı en yüksek seviyesini mantıksal gerektirme durumunda sergiler. Davranışsal iktisat onyıllardır ve karar verme sürecine dair sınırlı bilimsel çalışmalar son senelerde bu tür mantıksal tutarlılığın bıraktığı anormal psikolojik durumlarda, sıradan sağlıklı zihne sahip bireylerde bile sıklıkla arıza verdiğini ortaya koymuştur. Yanlış anlaşılmasın. Davranış bilimlerdeki hiçbir bulgu bir olgunun kesin varlığı olarak değerlendirilmez. Bunlar daha çok onlarcası yan yana geldiğinde bir anlam ifade eder. Deneysel de olsa davranış bilimleri, insan ve

toplumun devasa karmaşıklığında, fiziksel bilimlerdeki uzaktan bile benzeyebilecek türden kontrollü deneylere kolay kolay izin vermez. Ya “gerçek hayata uzak,” fazlasıyla yapılandırılmış ortamlarda “görece güvenilir” ama “hayata uzak” sonuçlar elde edilir yahut “hayata yakın” ama “rigor düzeyi düşük” sonuçlara ulaşılır. Bu nedenle kimi felsefecinin tümüyle anlamsız göreceği bir bulgu bazılarınca insan zihninin derinlerine dair son derece önemli içgörüyü sebep olmaktadır. Örneğin bazı davranış bilimciler öğrencilerin kendi dilleri ile ilgili hiç çalışmadan pek çok soruyu doğru yapabilmelerine rağmen on sene boyunca matematik dersi alan yüz binlerce öğrencinin üniversiteye giriş sınavındaki son derece basit matematik sorularından tek bir doğru soru bile yapamamasını, insan zihninin klasik bilgisayar programlarına benzemediğine dair bir ek olgu olarak görmüşlerdir. (Türkiye söz konusu olduğunda, yakın tarihte, Temel Matematik denilen, kırk soruluk, aşırı basit matematik testinden *dört yüz bin öğrenci* sıfır çekmiştir.) Diğer yandan, analitik felsefede yetişmiş birçok felsefeci bu gözlemden bu sonucun çıkarılmasının saçmalık olduğuna hükmetmiştir.

Freud, örneğin, insan davranışı ve hatta kültürünü açıklamak için sıklıkla bilinaltı öğelere ve süreçlere başvurmuştur. Özellikle ilk dönemlerinde, Freud insan zihni ve davranışı şaşkıncı derecede mekanistik bir çerçevede değerlendirmiştir. Bugün birçok Amerikan üniversitesinde Freud bilimsel-dışı olarak görülse de halen dünyanın birçok yerinde Freud benzeri bilimsel araştırma programları vardır. Bu tür programlar yine insanın özünde rasyonel olduğu fikriyle çatışır. Yine de bu tür paradigmlar inanç ve arzu gibi temel mentalistik nosyonların hakimiyetinden pek fazla kurtulamamışlardır. Fakat sinir bilimsel çalışmaların bir kısmı farklı bir doğrultuya işaret etmektedir.

Burada örneğin özgür iradenin geleneksel kavranışı bir türlü beyinsel karşılık bulamadıkça sinir bilimciler bu terimi kullanmak yerine ona alternatif terimlere göç etmişlerdir. Bunlardan en bilineni benlik-kontrolü denilen kavramdır. Geleneksel özgür iradenin karar verme durumlarını ikili yani var-yok şeklinde görmesine karşın benlik-kontrolü derecelendirmeye çok daha yatkındır. Bu çok

önemli bir ilerlemeyi temsil ediyor gibi gözükmektedir. Özgür irade nosyonunun sosyal yaşantımızın çok ama çok önemli boyutları olan hukuki ve ahlaki sorumluluk paylaşırma ve atfı noktasında eksik kalan gücü, benlik kontrolü terimi ile gerçek hayattaki pratiklerimize denk gelecek derecede karmaşıklaşmıştır. Örneğin, “bilinçli taksirle adam öldürmek” gibi kanun kategorileri her ne kadar HP’nin tümüyle dışında olmasa da onun hudutlarında dolaşmakta ve sınırlarını zorlamaktadır. Bilinç çalışmaları açınsındansa birçok bilinç bozukluğu ilgili bireyi biliçli halde veya bilinçsiz halde şeklinde nitelendirmeyi imkansız hale getiriyor.

Körgörüş denilen olgu son derece ünlüdür. Körgörüşün iki ana tipi vardır. İlkinde hiçbir şey göremediğini iddia eden hastaların incelenmesi üzerine keşfedilmiştir. Hiçbir şey göremediğini iddia eden hasta bilim insanları eşliğinde yapılan bir deneyde önündeki engellere takılmadan koridoru geçebilmiştir. Bunun tesadüfen olma ihtimali yoka yakındır. Altta bir takım görüşle alakalı becerilerin korunduğunu akla getirir. İkinci tipte ise normal denekler bilgisayar başına konulur. Onlardan ekranda hızlıca belirecek olan işaretin belirlediği yere dokunmaları istenir. Fakat işaret o kadar hızlı yanıp sönerken denekler bunun farkına varamaz. İşaretin nerede olduğu kendilerine sorulduğunda işaretin belirmediğini söylerle. İşte bu tür durumlar bilişsel körlük olarak adlandırılır.

Bilişsel körlükte aslında beyin görsel alandan gelen bilginin bir kısmını işleyebilecek bir dizi sağlam görsel beyin bölgesine sahiptir. Denekler veya hastalar bunun farkına varamaz. Burada bir tür bilinçdışı bilişsel aktiviteler söz konusudur. Bilinçli şekilde sorulara cevap verilirken bu şaşırtıcı başarıları mümkün kılan bir dizi yolak olmalıdır. Neden şaşıyoruz? Basit, çünkü bu örneklerde farkında olmadığımız şeyleri bir nevi görüyor, algılıyoruz gibi bir durum ortaya çıkmaktadır. Fakat nasıl farkında olmadan algılıyoruz? Bu olgu, HP’nin sınırlarını öylesine zorlamaktadır ki, bu tür olgulara inanmayan, bunların yalancı olgular olduğunu söyleyen çok sayıda kimse çıkmıştır. Duyum, algı, deneyim, deneyimin öznel boyutu, farkındalık, bilinç ve benzeri kavramlarımızın içerisinde bir türlü tam oturmeyen körgörüş aslında çok sayıdaki nöropsikolojik

olgudan sadece bir tanesidir. EM'nin HP'ye yaptığı itirazların kapsamını ve gücünü tam takdir edebilmek için bu tür olgulardan yüzlercesine seneler boyunca maruz kalmak gerekmektedir.

Şimdilik HP'nin problemlerini bir kenara bırakıp HP'ye neden ihtiyaç duyulduğunu ve nerelerde sanki kaçınılmazmış gibi gözüktüğünü inceleyelim.

IV. HP nerelerde güç gösterisi sergilemektedir?

HP aslında insan zihni, davranışı ve kültürünün söz konusu olduğu her yerde değişen derecelerde işimize yarayan terimler ve ilkeler sağlamaktadır. Bunu hiç kimse inkar edemez. Peki bu alanların başında hangileri gelmektedir? Kanunlarımızı düşünelim. Kanunlarda niyetler her şey değildir ama istek ve inançlar çok önemlidir. Kanunlarımızın sosyal ve bireysel yaşantılarımızdaki hayati önemi tartışılmayacağına göre bu örnek HP'nin kuvvetinin görebilmek için harikadır. Çağdaş yasa sistemlerinin genelinde bir şeyi isteyerek yapmak ve istemeden yapmak arasında sonuçları yani ceza ve yaptırımları bakımından kategorik farklar bulunmaktadır.

Kolay olsun diye inançlardan başlayayım. Bizim kendi kanunlarımızda Ceza Kanunu dışında belirli bir kanunu bilmemek o kanunla ilgili yaptırımdan kurtulmak için işe yarayabilir. Yani Ceza Kanunu dışında örneğin Kabahatlar Kanununu bilemeyecek derecede izole bir yaşamınız varsa bu kanundaki bazı maddelerin ihlalden kaynaklı yaptırımdan, örneğin para cezasından kurtulabilirsiniz. Çünkü toplumsal yaşamda kanunları ihlal etmemek için o kanunları bilmeniz gerekmektedir. Niyet konusunda ise genelde sadece niyet olarak kalmış, fiile dökülmemiş düşünce ve hatta planlar genelde günümüz hukukunda suç sayılmamaktadır. Elbette hukukta her şeyin istisnası bulunmakta, kanunlar sıklıkla revize edilmekte ve hukukun temel ilke ve esasları olarak tanımlanan çerçeve hem tarih boyunca evrilmekte hem de dünyanın farklı köşelerinde farklı şekilde belirlenmektedir. Benim örnek verdiğim genelde

günümüz Türk kanunlarıdır. TCK der ki: “Madde 21- (1) Suçun oluşması kastın varlığına bağlıdır. Kast, suçun kanuni tanımındaki unsurların bilerek ve istenerek gerçekleştirilmesidir.” Bilmek, bilinecek şeye haklı şekilde inanmamız gerekir der klasik epistemologlar. Ancak bu koşullara oluşursa kast olur ve kast oluşmazsa suç da oluşmaz. Böylelikle, toplumsal hayatımızın tam göbeğinde kast ve inancı buluruz. Kast kategorisinin altında olası kast ve yanında taksir kategorileri bulunmaktadır. Taksirin altındaysa bilinçli taksir gibi ara bir kategori daha görüyoruz. Bunların varlığı istek, niyet ve bilmek gibi kavramların yetersizliğine dair dolaylı desteklerdir.

Başka bir çağa gidersek, mesela, kadim Babil kanunlarında cinayet suçunu bilip de bildirmeyen de cinayeti işleyen kadar cezaya tabidir. Bu son derece ilginçtir; modern Batı hukuk anlayışındaki suç ve ceza atfı mantığından son derece farklıdır. Bir ihtimal burada suçun azaltılması ve aydınlatılmasının hızlandırılması niyeti Babil kanununa rengini çalmıştır. Kanunları hem sosyal yaşamın gerçekleri ve insan hakkındaki bildiklerimiz hem de onu ne hale getirmek istediğimizle ilgilidir. Yani özünde kanun normatif olsa da dünya hakkında bildiğimiz betimlerden yola çıkar. Normativite toplumsal yaşamın her yerine sinmiştir. İşte bu nedenle HP hem normatif hem de betimseldir. Hem değer yargıları hem de tespitler içerir. En önemlisi niyetlerimize bizi ulaştıracak ceza ve yaptırımlar geliştirilir. HP'nin normatif boyutu onun ampirik çalışmalarla tarihin çöplüğüne gömülemeyeceği gibi garip bir sonucu birçok insanın aklına getirmiştir. EM her şeyden önce bu iddianın reddidir. Yani HP'nin eksiklerinden hatta eğer varsa ölümcül kusurlarından daha öncelikle mesele HP açıklama çerçevesinin ampirik çalışmalarla önemli bir revizyona ve hatta zorunlu kalırsa tümünden terkine imkan olup olmadığıdır. Bu iki nokta benim tezimin beşinci kısmında, tartışmanın EM1 ve EM7 olarak isimlendirdiğim boyutlarıdır ve tarihi bakımdan orijinal EM bu ikisinden ibarettir. Nitekim HP'nin çok büyük sorunları olduğunu kabul eden birçok düşünür EM'nin orijinal formunda EM1 ve EM'yi temsil ettiğini bilmedikleri için ona şiddetle reddiye çekmişlerdir.

EM'nin bu boyutları açıkçası günümüzde biraz geride kalmıştır. Bugün önemli olan nelerin ne ölçüde revize edilmesinin gerekli olduğudur. Diğer yandan EM'nin pozitif önerisi olan bazen sinirbilimsel berimsel epistemoloji (SBE) ise farklı bir meseledir ve ancak HP'nin nerelerde çok başarısız kaldığı ve buralarda bir ilerleme sağlamanın mümkün görünmediği ortaya çıkarsa devreye girme imkanına kavuşacaktır. SBE klasik epistemolojideki mantıksal gerektirme üzerine kurulu rasyonel tutarlılığın yerine farklı türden bir rasyonelliği öngörür. Yanlış anlaşılmasın, elbette modern insan yaşamında mantıksal gerektirmenin geçerli olduğu ve yakın zaman yerinden edilmesi mümkün gözükmeyen yerler vardır. Matematik, bilgisayar bilimleri ve benzerleri bunların başında gelmektedir. Belki strateji gibi bazı oyunlar da kesin kurallarla oynanabildiği için bu kategorinin altında değerlendirilebilir. Sezgilerimiz bize tüm doğa bilimlerinin aynı özelliklere sahip olduğunu ve hatta bir şeye bilim denebilmesi için mantıksal gerektirmenin o alandaki bilgilerimiz arasında geçerli olması gerektiğini söyler. Bu doğru değildir. En idealde, ultra soyut bir gelecek biliminde bu belki böyle olabilir. Ama günümüzdeki aktüel bilimler ne yazık ki bu noktadan çok daha uzaktır.

Kastettiğimiz şey doğal mantık diyebileceğimiz şey değildir. Yani Ali Mehmet'ten uzunsa ve Mehmet'ten Ayşe'den uzunsa ve bu üç sözcük insanlara atıfta bulunuyorsa ve çok garip bir matematik evrenin değilsek Ali'nin Ayşe'den daha uzun olduğunu düşünmek doğal ve rasyoneldir. Tabii burada kelimelerin standart şekilde kullanıldığını da varsaymamız lazım. Biçimsel mantığın farklı bir sistemi vardır. Doğa bilimlerine tümüyle uymaması bu nedenledir. Bu noktayı ne kadar vurgulasam azdır. EM hakkındaki ve hatta çok daha genel bir kategori olarak doğalcı epistemoloji hakkındaki en temel yanlış anlamaların altında biçimsel mantığın doğa bilimleri ve benzerlerinde pek uygulama bulamadığını iddia etmenin o alanlarda doğal mantığın reddi olarak yorumlanmasıdır. Bir kere bu yorum çürütülebilirse birçok şey zincir halinde doğalcı epistemolojisinin lehine dönecektir. Ne yazık ki eleştiriciler biçimsel mantığa gelen itirazları rasyonaliteye

bir itiraz olarak görmüş ve doğalcıları bilimin nesnelliğini inkar etmekle suçlamışlardır.

Burada aslında son derece üst seviye teknik meseleler ortaya çıkmaktadır. Tezimin bu Türkçe tanıtımında böyle şeylerden bu sayfaya kadar tümüyle kaçındım; ama, belki birkaç sayfa teknik hususlara değinmek faydalı olabilecektir. Bunlar tümcesel olmak ifadesinin olası anlamları ve kapsamı ekseninde değerlendirilecektir.

V. Tümcesel olmak nedir ve kapsamı ne olabilir?

İngilizce genelde *sentential* veya *propositional* denilen ve çeşitli nedenlerle dilimize “tümcesel” olarak çevrilen terim teknik bir terimdir. Bazı iki terim gündelik dilde veya kimi bilimlerde birbirinden farklı olarak kullanıyor olabilir. Hatta felsefenin kimi alt alanlarında da muhtemelen birçok durumda birbirinin yerine kullanmak sakınca yaratacaktır. Fakat EM ve HP tartışması bağlamında her ikisi de içeriği belirli, doğru ve yanlış değerlerini almaya müsait ve içerikleri arasındaki bağlantı mantıksal olan temsilleri nitelemek için kullanılır. Böylelikle bilişsel temsiller dünya hakkında olur ve ya dünyayı doğru ya da yanlış temsil ederler. Doğruluk burada kilit terimdir. Bu tür temsilleri nitelemek için sadece *propositional* değil ama aynı zamanda *sentential* ifadesinin kullanılıyor olması o kadar çok karışıklığa yol açmıştır ki belki bu terimlerinden ilkinin İngilizce felsefede kullanılmaktan vazgeçilmelidir. Okuyucu eğer İngilizce biliyorsa benim tümcesel olarak çevireceğim terimi *propositional* olarak değerlendirirse söylediklerim kendisine daha açık gelecektir. Analitik felsefenin ortaya çıkışındaki erken dönem tartışmalara hakim okur, buradaki temsillerin Frege'nin “düşünceler” olarak adlandırdığı nesnelere ne kadar çok benzediğine bakabilir. Böylelikle akla mantık ve matematikte var olduğu pek tartışma götürmeyen ama idealde tüm doğa bilimlerinde olması gereken türde cümleler, düşünceler gelir. Burada kastettiğimiz cümle, düşüncenin taşıyıcısı olan cümle değildir. Tümcenin, yani düşüncenin kendisidir. Fakat bu dar bağlamda bile cümlesel olmak ve

tümcesel olmak farklıdır diyen az sayıda bilişsel bilim felsefecisi bulunmaktadır. Ben bu küçük azınlığı bu çalışmamda ihmal edeceğim.

Tekrar etmek pahasına, tümcesel temsiller doğruluk değeri alabilen nesnelere. İçerikleri belirlidir ve içerikler arasında mantıksal bir ilişki bulunmaktadır. Bir noktayı hemen şimdi şiddetle vurgulamalıyım. Beyindeki ne tümcesel ne matematiksel ne de başka türlü temsiller aramak nafiledir. Beyinde veya daha doğrusunu söylersek merkezi sinir sisteminde sadece et, yağ ve su vardır. Burada söylenen şey bu materyal yapının modellenmesinin en doğru ve verimli şekilde ne türden temsillerle yapılabileceğidir. Bu unutulduğu için EM'nin pozitif karakteri üzerinde çalışanların söyledikleri sıklıkla alay konusu olmuştur. Bazı genç yazarlar EM'yi beyinde cümleler olmamasına dayanan saçma bir fikir olarak göstermişlerdir. Elbette beyinde cümleler yoktur. Önemli olan beyindeki biyokimyasal süreçleri modellerken kullanmamız gereken temsillerin yapısıdır. "Klasik bilişsel bilim" veya "bilişin klasik mimarisi" olarak adlandırılan görüş ailesi, zihni modellemek için seri, dijital bilgisayarlardan yola çıkmak gerektiğini sıkıca savunmuştur. Aslında burada bilgisayar mimarisinden çok programların niteliği esastır. Çok farklı şekillerde bilgisayar programları geliştirilebilir. En klasik programlar gerçekten de cümlelerden cümle benzeri yapılardan oluşur. Burayı netleştirmek lazım. Kast edilen şey programların istenirse tümüyle doğal dillerdeki cümlelerle ifade edilebileceğidir. Peki doğal dildeki cümlelerle ifade edilemeyen türde bilgisayar programları nasıl bir şey olabilir ve klasik programlamaya göre üstünlükleri nelerdir? Bu üstünlüklerden hangileri EM'yi destekler niteliktedir?

İşte buradan itibaren tartışmanın teknik kısmının göbeğine inmiş bulunuyoruz. Öncelikle bir yaygın kaniya daha karşı çıkmak istiyorum. Bazen EM'ye karşı veya EM ve HP'yi uzlaştırmak adına her türden temsilin tümcelere indirgenebileceği önerilir ve bunun matematiksel olarak gösterildiği söylenir. Ben burada kolaylık olsun diye bu iddianın matematiksel olarak gösterildiğini kabul ederek yoluma devam edeyim. Bu gösterim neyi kanıtlar? Öncelikle bu matematiksel kanıtlar bir

dizi tartışmalı varsayımdan hareket ettiği için doğru olabilmesi için ilgili olgunun yorumlanması EM'nin o olguyu yorumlayışından farklı olabilir. Biz bunu da ihmal edelim. Diyelim ki tam olarak aynı şey modellenmeye çalışılıyor ve matematiksel bakış açısından tümcesel temsiller, içeriği ilişkisel olan türden temsilleri ifade edebilecek güce sahiptir. İki soru hemen beliriyor. Ne pahasına? Çok daha karmaşık programlar pahasına. İkincisi ise klasik temsiller üzerinde mantıksal manipülasyonlar mümkünken ilişkisel temsiller üzerinde bu mümkün olsa bile son derece uzun ve hantal programlar ve devasa bellekler ile aşırı güçlü merkezi işlemciler bize lazım olacaktır. Turing'in matematiksel gösterimi de aynı şekilde hiçbir bellek sınırı olmayan durumlar için en kuvvetli ifadesini bulur. EM taraftarları ise başarılmak istenen şeyleri başaracak modeller ve onları uygulamaya sokacak makinelerin bu kapasite olmadan da işe yaramasını arzu etmektedir.

Bu husus merkezi önemde olmasına rağmen ısrarla ihmal edilmektedir. Sorun, ilkesel olarak hangi tür temsillerin ve hesaplamaların insan bilişini açıklayabileceği değildir. Önemli olan bunun aynı insan sinir sisteminin yaptığı gibi, sınırlı bir bellek kullanarak, aşırı enerji tüketimine ihtiyaç duymadan ve hızlıca yapılabileceğini keşfetmek ve onu bu kısıtlar temelinde modellemektir. Tam bu noktada şimdiye kadar açıklamadan geçtiğim temsil, hesap, içerik, içeriklerin birbirleriyle ilişkisel ve mantıksal olması gibi merkezi kavramları detaylandırmak zorundayız.

VI. Temsiller, hesaplar, içerik ve bağlantılar: sembolik, mantıksal, ilişkisel

İnsan sinir sistemi dış dünyanın kendisi-içi-önemli (*me-relevant*) kısım ve boyutlarını ve ayrıca beynin kendisi ve vücudun geri kalanını sürekli takip etmek zorundadır. Bu takip içsel, bilişsel temsiller aracılığıyla gerçekleşmektedir. Bir temsil ne demektir, temsil ettiği şeyle ilişkisi ne türdür? Temsiller özünde bilgi içeren birimlerdir. İngiliz dilinde temsil sözcüğünün karşılığı temsiline, temsil ettiği şeyi yeniden sunduğuna, onu tekrar var ettiğine dikkati çeker.

Örneğin, haritalar, haritaladığı şeyleri temsil ederler, onu kağıt üzerinde yeniden ve haritaladığı şeyin genel yapısını, iç bağlantılarını bozmadan var eder. Görüldüğü üzere burada bir denk olma, benzeme, yapı-koruma, ilişki-koruma özellikleri ve işlevleri öne çıkmaktadır. Çok farklı harita tipleri, çok farklı materyallerle yapılabileceği gibi, bu haritaların amaçları ve doğruluk düzeyleri son derece değişebilmektedir. Haritalardaki temsiliyet, tipik olarak tümcesel olarak nitelenmez. Daha çok görsel, resimsel olarak adlandırılır. Dolayısıyla HP taraftarları genelde HP'nin temsil biçiminin harita tipi olmadığını düşünürlerken EM taraftarları, kendi pozitif projelerini örneklemek için sıklıkla harita benzetmesine başvururlar. Harita tipi temsiller gerçekten müthiş derecede verimlidirler ve sinir bilimcilerin insan beyni ve bilişinin nasıl çalışıyor olabileceğine dair öngörülerine yüksek derecede örtüşürler.

Biz harita temsillerini yakından ele almadan önce klasik tümcesel temsilleri kısaca inceleyelim. Bu tür temsiller arasındaki ilişki mantıksaldır. Ancak üzerinde mantıksal manipülasyonlar yapılabiliyorsa bir temsil tümceseldir. Bu tür temsiller en çok biçimsel mantık ve matematik gibi alanlarda işe yarıyor gibi gözükmektedir. Dolayısıyla normative alanlarda bu tür temsilleri görmeyi beklemek doğaldır. Hemen bu noktada kafa karıştırması kuvvetle muhtemel olan bir dizi ayrıma dikkat çekmek elzemdir. Biz kolay olsun diye HP'den bahsederiz. Fakat HP diye andığımız çerçevenin tümcesel versiyonu genelde Batı dünyasında geçerlidir ve felsefi dünyada daha çok analitik felsefe kapsamında yaygındır. HP'yi tümcesel olarak kavramayan felsefeler olduğu gibi HP'deki temsillerin arasındaki ilişkiyi mantıksal olarak görmeyen halklar da bilinmektedir. Yanlış anlaşılmasın, bu halklar mantıksız ve mantık-öncesi halklar değildir. Sadece, bizim bakış açımızdan, bize söyledikleri açıkça çelişkili gözükmektedir. Bunlar belki de mantıksal değil ama pragmatik çelişki olarak görülmelidir.

En klasik örneği, iyi bilindiği için Hindistan'daki bazı dini inanışlardan vereyim. Bu ülkedeki büyük insan grupları, yani yüz milyonlarca inanan, Tanrı'nın evreni yaratmadan önce var olup olmadığı şeklindeki soruya ne hayır ne de evet şeklinde

cevap verilemeyeceğini söylemektedirler. Yanlış anlaşılmasın, bu insanlar bir cevap vermekten imtina etmiyorlar. Onların cevabı, Tanrı'nın evreni yaratmadan önce ne var olduğu ne de var olmadığı şeklindedir. Bu pozitif bir cevap olarak düşünülmektedir. Bu tartışmayı, sezgilerimizin güvenilirliği üzerine başka bir yazımda daha uzun tartıştığım için burada uzatmayacağım. Tek eklemek istediğim, bahsettiğim insanların, Hindistan'ın en ücra kırsal bölgelerinde, dünyadan kopuk yaşayan kabile insanlarından ibaret olmamasıdır. Aralarında binlerce akademisyen, beyaz yakalı, devlet yöneticisi ve diğer türlü çok yüksek eğitilmiş insanlar da bulunmaktadır. Batılı bakış açısından sıklıkla, “bu nasıl olabilir, çelişkiye düşmeden nasıl bunu savunabilirsiniz,” şeklindeki soruya gülerek yanıt veren bu insanlar için bu durumda tuhaf hiçbir şey yoktur. Klasik epistemoloji bize insanların açıktan doğruluğunu kabul ettikleri şeyler arasında belirgin çelişkilerin olmayacağını söyler, en azından karşıdaki insan temel terimlerin anlamını biliyorsa ve bilişsel kapasitesinde sorun yoksa. Devasa şirketlerin en üst yöneticileri ve diğer bakımdan son derece normal gözüken ve çok başarılı akademisyenlerin bilişsel kapasitelerinde sorun olduğunu iddia etmek veya onları, temel terimlerin anlamını bilmemekle suçlamak hiç de zekice bir hareket olmayacaktır.

Ezotik kültürlere gitmeye hiç gerek yok. Davranışsal iktisat ve karar alma sahasındaki nörofizyolojik çalışmalar uzun süredir sıradan Batılı insanın da benzer tuhaflıkları sıklıkla sergilediğini göstermiştir. Gerçek insanların gerçek inançları arasında sıklıkla çelişkiler bulunmaktadır. Fakat bu kafa karıştırıcı durum, insanın bir sorunu olmaktan çok biçimsel mantığın bir sorunu olabilir. Şimdilik bunu bir kenara bırakalım ve bir seviye daha ilerleyerek bu tür inançların temsili sorununa gidelim.

“Yağmur yağıyor” ifadesi yağmurun yağdığı bir durumun temsilidir. Peki, ama bu ifadelerin bilişteki ve hatta beyindeki temsilleri nasıl olabilir? Pek çok biliş modellemesi olabilir. Bazıları cümle düzeyinde ifade edilen ilişkileri yine cümle düzeyinde modelleyebilir. Bazıları ise bunları çok boyutlu uzaylarda cümle-altı

yapılarla modelleyebilir. Bu ikincisi EM'nin pozitif önerisidir: yepyeni bir epistemoloji. İlki ise daha çok Fodor tipi bilişsel modellemeyi temsil etmektedir. Arada çok sayıda renk ve ton bulabilirsiniz. Klasik ve bağlantısalcı modelleri sentezleyen birçok araştırma programı bulunmaktadır. Başka türlü zaten çok alışılmadık bir şey olurdu. Neden? Basit, birincisi bilim insanları son derece pragmatisttir. Elbette mühendisler kadar fırsatçı ve eklektik olmasa da bilim insanı bir bilinmezi, bilinir hale getirmek için aklına gelen ve yapma kapasitesinde bulunan herhangi bir şeyi deneyecektir. Bilim insanı için *-izm* diye bir şey yoktur. Araştırma programları olabilir ama bunlara kökten bağlılık anlamsızdır. Programlar işe yaradıkları ölçüde savunulur, gereken her yerde revize edilir veya diğer programlardan takviye görür. Bir yerden sonra vadesini doldurunca terk edilir.

Burada yine sıklıkla kafa karıştıran bir husus var. Açıklanması gereken her şeyi "şimdi hemen" açıklama niyetiyle eklektik kuramlara sarılmak son derece tehlikelidir. Mühendis için bu herhangi bir sorun teşkil etmez. Mühendis, daha doğrusu bu bağlamda yapay zeka araştırmacısı, adı üzerinde yapay bir zeka ile ilgilenmektedir. Doğal zekayı olduğu gibi taklit etmek onun nadiren amaçları arasına girer. Gerçek insan bilişini açıklamak isteyenler hangi araştırma programına mensup olurlarsa olsunlar diğer paradigmalardan kapsayabildiği bazı şeyleri açıklayamayacaktır. Evet, bilimci ait olduğu paradigmanın kölesi değildir ve onu artiküle ederken kısmen de ihtiyaçlara göre revize eder. Fakat, takıldığı her yerde alternatif okullardan borç kavram alması stratejik olarak hatalıdır. Bilim insanı kullandığı araç ve kavramlarda mümkün olduğunca süreklilik aramalıdır. Bilim insanı pragmatisttir, mühendisler gibi fırsatçı olamazlar.

Kötü ünlü bilim felsefecisi Thomas Kuhn kendisinden pek beklenmeyecek şekilde bilimde dogmaların olumlu yanlarını kuvvetle vurgulamış ve bilimcilerin ait oldukları paradigmayı aksi yöndeki onca kanıta rağmen terk etmemesinin kesinlikle irrasyonelce olmadığını savunmuştur. Dahası bir paradigmanın tam gücünün ortaya çıkabilmesi için bir miktar bilimcinin o paradigmayı sonuna kadar

savunmakta direnmelerini bilimin müthiş kuvvetinin kaynaklarından biri olarak değerlendirmiştir. Aksi takdirde bilimsel çerçeveler yamalı bohçalara benzerler. Elbette veriler, nihayetinde, birbirine zıt gibi gözükken iki paradigmanın gerçekten de birbirine eklenmesi zorunluluğunu dayatabilir. Ama bu sadece eklenme kaçınılmaz gözüktüğünde kabul edilmelidir.

Temsillerin doğası ve yapısı meselesine şimdi geri dönelim. Dedğimiz gibi sinirsel temsil diye biricik bir şeyden söz etmek yerine, “sinir sisteminde olan biteni hangi temsillerle modellersek amacımıza daha etkin şekilde erişiriz,” dememiz gereklidir. Burada söylediğim şeyin realizm ve karşıtları tartışmasıyla bağı yok denecek kadar zayıftır. Tek hücreli kimi organizmalarda veya az hücreli kimi canlılarda temsil sistemi çok yalın olduğu gibi her bir fizikokimyasal veya biyofiziksel durum ile her bir tanımlanabilir davranış veya tutum arasında birebir eşleşmeler ilkece bulunabilir.

Bu konuda aslında şaşırtıcı ilerlemeler kaydedilmiştir. Bunlar daha çok bellek ve öğrenme çalışmaları üzerinden bilinmektedir. Her ne kadar tümüyle soyut düzeyde ve sadece ilkesel bakılırsa her tür canlı için benzer bir durumun geçerli olması gerektiğini düşünebiliriz. Fakat bu kadar soyut bir ilkenin bize ne faydası olabilir ki? Bir beyin teorimizin bile olmadığı bir dünyada soyut ilkeler üzerinden sinirsel temsilin biricik ve gerçek, o her ne demekse, yapısını bulmak yerine çeşitli modelleri deneyip birbirleriyle karşılaştırarak bir ilerleme kaydetmek tek makul seçenektir. Bu bir “dene-ve-gör” stratejisidir. Daha fazla teknik konuya değinmeyip şimdi pek çok okuyucunun merak edeceğine emin olduğum birkaç meseleyi birbirleriyle ilişkisi içinde ele almak istiyorum. Hangi tür eksikleri EM'nin pozitif epistemolojisi çözmeyi vadedmiştir? İlk akla gelebilecek olan yeni doğmuş bebekler, hayvanlar ve sağır-dilsiz doğanların dünyayı nasıl temsil ettikleri sorusudur. Bu soru hayvan bilinci, bilişi, zekası, ahlakı ve kültürü gibi çok güncel tartışmaları çerçevelemektedir.

VII. Hayvan bilinci, bilişi, ahlakı, dilin varlığı ve benzeri hususlar

EM, yetmişlerin sonu ve seksenler boyunca, en güncel formunda savunulmaya başlandığında hayvan bilinci ve bilişi son derece tartışmalı bir konuydu. EM taraftarlarından bazıları, en azından omurgalı hayvanlar söz konusu olduğunda bilincin varlığından hiç şüphe etmemişlerdir. Bugün memeliler ve kuşlar için bilincin varlığı tartışması çok daha az ateşli hale gelmiştir. Bu hayvanlar için eksik olan daha çok kendilik bilinci olarak görülmektedir. Kendilik bilinci ile birey olmak doğal olarak içten alakalıdır. Hayvanlara birey olma niteliği atfetmek, onlara zihin atfetmekten daha radikal bir karardır. Peki bunların konumuzla ilgisi nedir?

Burada iki düzeyli bir tartışmayı görüyoruz. İlki birçok analitik felsefeci ve klasik bilişsel bilimci için dil ile zihin arasında kuvvetli bir ilişki olmasıdır. Zihin, yargı gücünü aklına getirir ve yargı gücü nasıl dil kapasitesine sahip olmayan canlıların bir kapasitesi olabilir? Nitekim, hayvanlarda ahlaka benzeyen sosyal kurallar var gibi gözükse de hayvanların dil kapasitesi olmaması üzerine hayvanların ahlaki yargı gücüne sahip olmadıkları iddiasıyla onlara bir ahlak atfetmekten imtina edilmiştir. En fazla ahlak-öncesi davranışsal eğilimler kabul edilmiştir.

Şu anda biraz farklı düşünülse de yakın zamana kadar bilimciler arasında hayvan kültürü ifadesi hayal ürünü olarak değerlendirilmiştir. Bugün hayvan kültürü ifadesi eski kadar hayal görülme de bu sefer insan ile hayvanı ayırmanın kültürlerin insanda evrilmesi hayvanda ise evrilmemesi olduğu fikri benimsenmiştir. Kuşkusuz bir miktar bilişsel veya davranışsal bilimci hayvanlarda sadece bilinci ve zihni değil, aynı zamanda ahlaki yargı ve kültürel evrimi de kabul etmektedir.

Dilin varlığı olmadan zihin, bilinç ve ahlaktan söz edilemeyeceği fikri EM taraftarlarına göre HP'nin temel varsayımlarından biridir. Bu varsayım yarım asır önce söylendiğinde çok büyük bir doğruluk payı içermekteydi. Bugün ise daha az

HP taraftarı bu tür fikirleri savunmaya devam etmektedir. Ahlaki yargı ve kültürel evrim kategorileri ise halen hayvanlara HP taraftarları tarafından atfedilmez.

EM farklı düşünür. EM taraftarları zihin ve dil arasındaki bağı tümüyle reddetmez. Ama insan tipi dilsel yapıların hayvanlara dil ve ahlak atfetmek için zorunluğu olduğunu iddiasını şiddetle reddederler. Burada kafa karıştırmaları kesin olan bir derin mevzuya değinmeden devam edemeyiz. Burada kastedilen tümcesel temsillerin olup olmadığı mıdır yoksa gündelik hayatta seslendirdiğimiz gerçek cümlelerin fiilen kurulup kurulamamasıdır? Birçok yazar bu ikisi arasında katı sınırlar koyar. Derler ki dilin olmaması başkadır, düşüncenin dilin yapısında olması başkadır. Bu mantıklı olabilir ama kimin lehinedir? Aslında bunu söyleyenler genelde EM'nin HP'ye yönelttiği eleştirinin haksız olduğunu göstermek için bu argümanı kullanırlar. Bu eleştiricilere göre EM temel bir noktayı anlamakta zorlanmaktadır. Düşüncenin dili denilen şeye sahip olmak için insan diline değil düşüncenin dilin formatına sahip olmasına ihtiyaç vardır. Yani demek isterler ki, dil ile zihin arasında kurulan bağ, bazı hayvanlara zihin atfedilmesine kesinlikle engel değildir. Bu argüman dil öncesi çocuklar ve sağır-dilsiz doğan insanların zihne sahip olmasını açıklarken HP kullanmamızın bir engel olmadığını önerir. Olabilir. Eğer bu üç gruba zihin atfetmekten imtina etmiyorsanız EM'nin size yönelttiği itirazlardan bir kısmı artık size yöneltilemez.

EM kampındaki düşünürler evrim kuramı gereği insan ile diğer hayvanlar arasında bir süreklilik olması gerektiğini düşünürler. Ama süreklilik ile kopuş arasındaki diyalektik ve niceliksel farkların bir yerde niteliksel farka yani kategorik değişime dönüşmesi ilkeleri evrim kuramı ile tümüyle uyumludur. Yani insan ile hayvan arasında çok güçlü bir süreklilik olsa bile birçok hayvan türünün kalan tüm türlerden ayrık bazı özellikleri olabildiği gibi insan türünün de kuyruksuz maymunlardan bu tür farkları olabilir.

Aslında bu biraz da beklenmelidir. Neden? Basit, bugün günümüz insanının içinde yer aldığı cins kategorisinde yaşayan başka hiçbir biyolojik tür yoktur. Bunlar her

nasılsa yok olmuşlardır. İnsanla şempanzenin ortak atasının 5-8 milyon sene önce yaşadığı tahmin edilmektedir. Şempanzenin ortak ataya göre insandan daha çok evrildiği hesaba katıldığında insanın şempanzeden *biraz* veya bayağı ve hatta *çok* farklı bazı özelliklere sahip olması asla şaşırtıcı olmayacaktır. Ne yazık ki bu basit bilgiler ve mantık ilkeleri unutulunca, süreklilik tezinin söz konusu olduğu her yerde, bu ihmal tezin tekil sahiplerini olmadık iddiaları savunmaya itmekte; öte yandan, tezin eleştiricileri ise bu tezin dikkatli savunucularını bile karikatürize etmektedir.

Ama olay sadece bu ihmal ve dikkatsizlikten mi kaynaklanmaktadır? Tabii ki hayır. Daha önemli ikinci sorun şudur. Hayvanların inanç ve arzuları olsa bile bunlar onları rasyonel kararlara iter mi? Hayvan inanç ağı insaninkine benzer şekilde tutarlılık sergiler mi? Veya tutarlılık tam olmasa bile beklentimizin tutarlılık olması gerekir mi? Rasyonel kararlar alması için eğitilen şirket yöneticileri veya doktorasını işletme ve iktisat alanlarında yapanlar bile tümüyle optimal kararları alamıyorken, duygular ve evrensel mantık safsatmaları söz konusuysen, hayvanların çok daha fazla duygu ve hislere dayalı gibi gözükten dünyasında alınan kararlar ne ölçüde mantık sınırları içerisinde kalınarak açıklanabilir? Bu çok mühim bir soru ve sorundur. İlk öncelikle, belki kuyruksuz maymunlar, balinalar ve bazı kuş türleri istisna olmak üzere, hayvanlar ile şirket yöneticileri arasında rasyonalite bakımından çok büyük farklar olduğunu kabul etmeliyiz. İleride bunun aksi gösterilebilir ama şu anda görüntü budur.

Bu neyi gösterir? Neyi neyle kıyaslamak adil olacaktır? Sıradan insanla şirket yöneticisinin bireysel kararlarını ve yöneticinin bireysel kararları ile dev şirketlerin yönetim kurulu kararlarını kıyaslırsak ne görürüz? Bazı aşırı izole kabilelerdeki insanları ile laboratuvarda büyümüş bazı şempanze veya kargaları karşılaştırsak ters yönden çok şaşırtıcı bulgularla karşılaşır mıyız? Ya kabile insanları, ya kırk bin sene önceki insanlar, ya sıradışı hayvan bireyleri? Kafesteki hayvan ile doğal ortamındaki hayvan, insanın uydurduğu problemler karşısında hayvan ve doğal ortamında doğal sorunları karşısında hayvanlar? Nerede aramalı

rasyonaliteyi ve neyi neyle karşılaştırmalı? Bunların her biri on yıllardır büyük tartışmalara yol açmaktadır. Hangi olguların açıklanması gerektiği sorusu bu bağlamda hangi bulguların olgu statüsüne terfi edebileceğine dair tahminlerimizi gerektirmektedir. Bulgu, olgu ve kuram burada biraz farklı anlamlar kazanacak olabilir doğa bilimlerine göre. Ne yazık ki çoğunlukla üzerlerinde üç aşağı beş yukarı anlaşılmiş olgulardan çok her yönden eleştiriye açık bulgulara esiriz bu tartışmada.

Şimdiyse başka bir kritik öneme sahip hususa değinelim: açıklama seviyeleri itirazı ve paralel düzeylerde açıklamanın denkliği sorunu.

VIII. Açıklama seviyeleri ve açıklamaların denkliği meselesi

Felsefenin bazı alanlarında açıklama seviyesi denilen bir problem büyük çekişmelere neden olmuştur. Mantıksal düşünme alışkanlığının bir ürünü olarak bazı felsefeciler birbirine paralel ama önemli açılardan denk açıklama düzeylerinden bahsetmiştir. Öncelikle bu cesur varsayımı kabul edip konumuza etkilerini inceleyim. Ardından varsayımın kendisinin doğruluğunu tartışalım.

Bu varsayımın sahipleri ideal bir dünyada, birbirinden bağımsız hareket etme gücüne sahip sosyoloji, psikoloji, fizyoloji ve fizik bilimlerinin kendi içinde diğerlerine dokunmadan ilgilendikleri konuyu tam açıklama şansına sahip olduklarına inanırlar. Gerçek hayattan ve bilim tarihinden bildiğimiz şeylerle şiddetli gerilim barındıran bu varsayımı bir anlığına kabul edelim. Böyle bir durumda sinirbilimsel gelişmeler ne olursa olsun aynı konu hakkındaki psikolojik düzeydeki açıklamaları bırakın ıskartaya çıkarmayı onları etkilemeyecektir bile. İyi ama, bir disiplin olarak psikolojiden kurtulma niyeti EM’de yok ki. Sinirbilim ve psikoloji arasında beklenen şey, “zamanla olgunlaşacak bir evlilik” olarak metaforize edilmiştir. Çok soyut bir bilimsel dünyada gerçekten sinirbilimden yardım almadan açıklama nesnesini tümüyle açıklayabilecek bir bilimsel psikoloji gerçekleşebilecek olsaydı bile, aynı olguların sinirbilimsel açıklamaları psikolojik

olanların en azından sağlamasını almak için işe koşulacaktır. Aksi takdirde, psikolojik düzeydeki açıklamanın tam ve doğru olduğuna neden inanalım? Burada en makul strateji değişik düzeylerin sonuçlarının birbirine yakınsamasını istemektir.

Peki az önce sözünü ettiğimiz varsayım neden bir fanteziden ibarettir? Bu, bilimlerin doğasıyla ve tarihi ile alakalıdır. Bilimler sıradan insan düşüncesinin içinden rafine olarak gelişmiştir. Tekil disiplinlerse diğerlerinin içinden evrilerek ayrılırlar. Türleşme benzeri bir süreç muhtemelen devrededir. Yukarıda söylediğim üzere çağdaş bilimsel psikoloji, halk psikolojisinin içinden evrimleşerek felsefe bölümlerine girmiş ama hızlıca fizyolojinin etkisine kapılmış ve bu iki kaynak arasındaki çatışma günümüzde halen çok şiddetli şekilde yaşanmaktadır. Birbiriyle ilişki içinde doğan veya evrimleşen bilimler örtüşen konu sahalarına sahiptirler. Bu örtüşme zamanla artabilir veya azalabilir. Bunlar, birbirlerini düzelterek, birbirlerine ışık tutarak, birbirlerinden kavram ve yöntem ödünç alarak ilerlerler. Birçok durumda açıklanacak şeyin en gelişkin açıklaması bir disiplinin sınırları içerisinde değil ama komşu disiplinleri kapsayan şekilde elde edilebilmektedir. Bu nedenle birçok davranış bilimci çağımızda biyososyopsikolojik paradigma dedikleri bir yaklaşımı benimserler.

Demiyorum ki, birbirine komşu olsun olmasın, bazı bilimler tam olarak aynı şeyleri açıklamaya çalışırlar. Bu da ters yönde bir fantezidir. Bazı problemler doğal yuvalarını belirli disiplinlerde bulabilirler; ama bu, ilgili problemin tam çözümünün o sahanın sınırlarında mümkün olacağı şeklinde yorumlanmamalıdır. Ne saf sinirbilimsel bir açıklamadan ne de saf psikolojik açıklamadan söz etmek akıllıca bir yol değildir. Öyleyse şimdi gelelim saf sinirbilimsel açıklama karikatürüne karşı gerçek sinirbilimsel açıklamalarının yapısını incelemeye.

IX. EM aksiyon halinde: zihne dair sinirbilimsel açıklamalardan örnekler

EM'nin pozitif projesi kimilerinin aklına çok komik açıklama türlerini getirmiştir. HP'nin kolayca açıklayabildiği bir gözlemi ve ayrıca açıklamakta çok zorlandığı, mesela bir tür beyin bozukluğunu sırasıyla inceleyelim. Senaryomuza göre ilk durum HP'nin kolaylıkla ve tümüyle açıklamış olduğu bir durum olduğuna göre sinirbilimin yapabileceği şey en fazla o açıklamayla uyumlu, alt seviyede paralel bir açıklama geliştirmektir. İşte bir önceki kısımda genel olarak fantezi olarak nitelediğim “paralel ama tümüyle denk açıklamalar” burada fantezi olmaktan çıkmaktadır. İnsan davranışının çok azı bu kategoriye girebilir ama örneklendirme ve bir önceki kısımdaki tartışmayı ilerletme adına ideal bir durumu teşkil etmektedir.

Örnek bu çalışmamın başlarından hatırlayacağınız Boston–Ankara evrak kargosu problemidir. Bir anlığına problemdeki tüm önemli parametlerin yukarıda ele alındığını varsayalım. Bu doğru değildir, yukarıda bilerek ihtimaller, sonuçları karşılaştırma, sonuçların birey açısından değeri ve çeşitli olasılıklarla eşleşen geçmiş duygusal deneyimler türünden majör faktörler ihmal edilmiştir. Ama biz bir kere daha diğer faktörleri dışlayacağız. Ortada bir gariplik kalmış mıdır? Bence özellikle kılı kırk yaran birisi değilseniz ortada özel olarak açıklanması gereken bir şey yoktur. HP olayı amaçlar, istekler, inançlar temelinde rasyonel şekilde açıklamıştır. Birey başka türlü de çözmeyi deneyebileceği bir problemi 105 dolar ve 74 sent karşılığı Türk lirası ödeyerek çözmüştür.

Şimdi kendisinin hayali arkadaşını ele alalım. Yine kargomuz Boston'dan Ankara'ya gelmektedir. Tarihler aynıdır, fiyat seçenekleri aynıdır. Hava durumu ve ilgili şeyler aynıdır. Hayali arkadaşım üç günlük yerine on günlük kargo seçeneğini kullanarak son teslim tarihini birkaç gün kaçırma riskini alır. Arkadaşım irrasyonel midir? Bir düşünelim. Risk aldığı kesindir. Ama “kesin bir riski” almadığı da açıktır. Bunun nedeni konuyla ilgili yönetmelikteki bir maddedir. Bu madde özel durumlarda Enstitü kararıyla tezlerimizin sunumdan bir

ay sonraki son teslim tarihini en fazla bir kere olmak üzere bir ay daha uzatabilmektedir. Enstitü bu kararı verecek mi? Önceden bilmek imkansız. Kargonun iddia edildiği gibi tam on iş gününde kurumumuza varacağı da kesin değil. Biz Türkler kargolarımızın söylenen tarihte ulaşmayabileceğini hesap ederiz, ek birkaç gün öngörür ve öyle postalama yaparız. Bu tehlikeli oyunun tutmaması, senelerce süren bir emeğin çöpe gitmesinin ötesinde hayali arkadaşımın bildiği tek iş olan akademisyenliğe veda edeceğinin bir işareti olacaktır. Akademisyenlik dışında hiçbir meslekte mutlu olamayacağına inanan arkadaşım acaba zihinsel olarak hasta mıdır?

Kendisinin cimri olduğu ve bunu bazen abartarak patolojik düzeye çektiği güzel bir açıklama olabilir. Kargoyu gönderen tarafın, “bizim kurumda böyle paralar ödeniyor” demesi üzerine, o tür kargoların yavaş geleceği bilinmesine rağmen, arkadaşım teklifi kabul etmiştir. Çünkü cebinden gidecek paranın gitmeyecek olması kendisini çok mutlu etmiştir. Bir tahmin yapmış ve Amerikan kargosunun tam gününde varacağını bu tahmine sokmuştur. Geç gelmesi durumunda bir şekilde kurumumuzda sorunun çözüleceğini tümevarımla düşünmüş ve denkleme dahil etmiştir. Bu senaryoyu daha çok geliştirebilirim. Senaryonun rasyonel ve irrasyonel temelli açıklamalarının ikisi de meseleyi temel HP çerçevesiyle açıklayacaktır. Duygular da bu çerçevenin parçasıdır ve bu sıradan insan için böyledir. Duygusuz HP, halkın değil de felsefeci ve davranış bilimcilerin ürünüdür. Felsefecilerin HP’si sıradan insanın HP’sinin rafine halidir. Aynısını davranışsal iktisat alanında da görebiliyoruz.

Nerede bunun sinirsel açıklaması? Hayali arkadaşım kararını verirken fonksiyonel MRI cihazına sokulabilir. O esnada hangi beyin bölgelerinin aktive olduğuna bakabiliriz. Daha önceden aşırı cimrilik veya korku ile ilişkili bölgelerin aşırı aktivitesinden hemen sonra karar verdiği görülebilir. Önce bu kararı verdiği sonra o bölümlerin yandığı ise başka bir olasılıktır. Ayrıntılar önemli değil. Sonra onu kişiliğini anlamak üzere başka türlü genetik ve elektro-fizyolojik testlerden geçirebiliriz. Birçok psikolojik test bataryasından geçirmeyi de unutmamalıyız.

İrrasyonel temelde açıklama yapacaksa kendisinin beyinde bir tümörün olup olmadığına bakabiliriz. Beyin tümörleri bazen insanların kişiliğini radikal şekilde değiştirebilir. Tümörü bulursak temizleriz ve aynı saçma davranışı tekrarlayıp tekrarlamadığına bakabiliriz. Ya tümör temizlendikten sonra aynı davranışı sergilerse? İlk akla gelecek şey, tümörle arkadaşımın kararındaki tuhafılık arasında bir ilişki olmadığı mıdır yoksa tümörün aslında tümüyle temizlenemediği midir? İkisi de başlangıç için makul alternatiflerdir.

İrrasyonel cimrilik davranışı için değil ama çocuk tacizliği için bir durumda gerçekten bu senaryo yaşanmıştır. Normalde tacizci olmayan bir birey, birgün çocuk tacizine başlamış, beyinde tespit edilen tümör temizlenince hasta düzelmiş fakat sonra tekrar aynı davranışı sergilemiştir. İkinci kontrolde tümörün kalıntısı bulunmuş, hasta tekrar ameliyat edilmiş ve tümörün tam temizlendiği keşfedilmiş, ardından hasta normale dönmüştür. Dileyen okur bu anlatımın kendisinde tümcelerle ve rasyonel temelde anlatılmayan bir şey olmadığını iddia edebilir. Büyük ölçüde haklı olabilir okur. Fakat hastanın istek, inaç ve amaçları merkezli bir açıklama eksik kalmıştır. Yani HP bir dizi eklemeye burada çalışacaktır.

Dikkatli okur bu senaryoların hiçbirinde HP'yi *yere serecek* bir kanıtın olmadığını hemen fark etmiştir. Yere serecek kanıt değil ama kuvvetli rüzgar gibi HP'yi sarsabilecek özellik tümör ve tümörün tekrar alınmasıyla normale dönüştür. Sadece bu noktada HP ek açıklamalar kullanmak zorundadır. Bu HP için bir revizyondur. Onun çöplüğe gitmesini asla gerektirmez.

İşte tam bu noktadan itibaren hangi yönde ilerlerseniz ilerleyin HP açısından irili ufaklı revizyonlar ihtiyaç halinde kendini dayatacaktır; çünkü bizim basit senaryolarımız bile hızlıca ek faktörlere ve alt seviye olayların varlığını hesaba katan olasılıklara kaymaktadır. Zaten ilk kısımda birkaç örnek olarak listelediğim durumların hepsi birden ancak bu revizyon ihtiyacını yüksek boyutlara çıkarmaktadır. Yani geniş ölçekli revizyon da eliminasyon değildir. Eliminasyon ancak büyük ölçekli revizyonlar yetmezse ve ayrıca alternatif paradigma ileride

başarılı olacağına dair kimi ilk belirtileri verdiyse olanaklı hale gelir. Olanaklı hale gelmesi bile olacağını göstermez. Fakat bazen de bazı davranış veya düşünceler nörotransmitterlerin adı geçmeden, çok zor, tam bir açıklamaya kavuşacaktır.

Herhangi bir kuram çokça değiştikten sonra nerede yeni bir kuram olarak adlandırılmalıdır? Bunun kesin ve açık bir cevabı yoktur. Burada tarihsel kazalar, pragmatik faktörler ağırlık kazanacaktır. Eski kuram yok mu olmuştur yoksa sadece değişmiş midir? Bazı insanlar eğer kuramda bir iyileşme olduysa kuramın korunduğunu düşünür. Diğer bazılarıysa kuram ana açıklama sahasını korumuşsa, o kuramın değiştiğini ama yerini yenisine bırakmadığına kanaat getirir.

Neden basit gibi gözükse de bu sorunun basit bir cevabı yoktur? Bir ihtimal bunun nedeni şudur. Her tür aktüel bilimsel ilerlemede, özellikle indirgeme yönünde kimi gelişmeler yaşıyorsa: indirgeme, revizyon ve kısmen eliminasyonun üçünün birlikte yaşanıyor olmasıdır. Bilimsel değişimler o kadar tuhaf bir doğaya sahiptir ki aynı tarihsel olaya bakanlar, değişimin revizyon mu, paralel bir açıklama yani tanımlama mı yoksa eliminasyon mu olduğuna karar verme konusunda ayrıışmışlardır. Hatta bazıları bu konuda zamanla fikrini değiştirmiştir. Bilimsel kavramların bazıları nasıl elastikse indirgeme, revizyon ve eliminasyon kavramları da bir o kadar plastiktir.

Yer kalmadığı için daha tuhaf durumlar ve onları açıklamak için nasıl giderek daha aşağı düzey biyolojik açıklamalara ihtiyaç duyduğumuzu aydınlatacak örneklere giremedim. Sadece uç bir örnek olarak, beyin aktivitesindeki bireysel fabrika ayarlarının kişilerin aynı uyarılara verdiği farklı yanıtları açıklamak için yakın zamanda öne sürüldüğünü not edeyim. Yani bir kişi için sabit ayarlardan bahsetmiyorum ama arkaplandaki sinirsel aktivasyon örüntüsünün biricikliğini ve bu biricikliğin dışsal uyarıcıların algılanmasını nasıl modifiye ettiğini gösteren çalışmalardan bahsediyorum. Örneklerin ilerleyişi okuyucuya iyi bir fikir vermiş olmalıdır. Mecbur kaldığım için artık bitirmek zorundayım.

X. Çeşitli meseleler ve sonuç

Bu felsefe mi? Gerçekçi mi? Bilimsel olarak geçerli mi?

Felsefe, felsefecilerin yaptıkları şeydir. Felsefeci ise kaliteli felsefe yaptığına inandığımız kişilerdir ve bu kişileri kaliteli olduğuna inandığımız felsefe bölümlerinde bulabiliriz. En iyi dergilerde taraftarlarını ve şiddetli eleştirmenlerini yarım asırdır bulduğumuz EM tümüyle felsefi bir pozisyondur. Birçok kişiye tümüyle hatalı gözükabilir ve hatta kendi savunucuları açısından bile yanlış olduğu ilerde ortaya çıkarılabilir, bu başka. Felsefe binlerce senedir hem coğrafi hem de tarihsel bakımdan çok farklı şekillerde icra edilmiş ve bu değişimin ve çeşitliliğin azalmasını beklemek için görünürde bir sebep yoktur.

Gerçekçi mi? Bu soru EM'nin pozitif projeleri için söylenmiştir. Bu da EM'nin özünde ne söylediğinin yanlış anlaşılmasından kaynaklanmaktadır. EM'nin pozitif tarafı bir "dene-ve-gör" stratejisidir. Tezimin ikinci kısmında ve sonra beşinci kısmında bunları detaylıca tartıştım. Burada tekrarlamayacağım. Sadece şunu not etmek isterim. EM, HP'nin sorunları karşısında zihin ve bilim felsefesini ilerletme amacına ek olarak, bilişsel ve davranışsal bilimlerde bir taraf tutmuştur. HP'nin bu bilimlerdeki etkisinin geriletilmesi, daraltılması ve ona alternatif paradigmaların denenmesi EM'nin özü ve özetiştir.

Bilimsel geçerlilik. EM'nin pozitif projesi bilimsel bir paradigma olarak kabul edilen belirli tipte bir network-tipi bilişsel bilim okuluna dayanmaktadır. Buna PDP yaklaşımı denmektedir.

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