

The Architecture of Belief

John Fitzpatrick



A Thesis Submitted
for the
Degree of Doctor of Philosophy
of
The Australian National University

October 1989

Acknowledgements

I wish to thank my present supervisors Frank Jackson and Philip Pettit for their detailed and helpful comments. Special thanks must go to Kim Sterelny, who has continued in a supervisory role even though his leaving the ANU, for tenure across the Tasman, in no way obligated him to do so. Thanks and best wishes should also go to other past and present colleagues of the Philosophy Department R.S.S.S. whose interests have overlapped with mine viz. my co-author David Braddon-Mitchell, Paul Griffiths and Karen Neander. Thanks also to all my other colleagues and friends, both within and without the department, of the last three years—they know who they are. This work has also benefited from the stimulating intellectual environment of the Australian National University: there was never a shortage of interesting visitors and Fellows with whom to interact philosophically.

In the last weeks of writing this thesis, I was saddened to hear of the death of Don Mannison, one of my Honours year supervisors at the University of Queensland. Don was a considerable influence upon my deciding to get back into philosophy, and to undertake a Ph.D. Although he would probably not have approved of much of the content of this project, the project would not have been started, much less completed, without him.

Abstract

This thesis examines the theoretical underpinnings of *intentional realism*—the view that cognitive science and psychology will quantify over states such as beliefs and desires. Intentional realism contains the following three elements. First, it attributes a certain type of state to a system whose behaviour it is attempting to explain. I introduce the distinction between Level One and Level Two analyses of systems. Intentional realism postulates Level Two states of the system. Second, the states intentional realism quantifies over are representational states of a certain sort. In chapter 5 I distinguish relatively coarse-grained representational states, those that represent states of affairs, from fine-grained ones, and it is the former which intentional realism quantifies over. Thirdly, in chapter 6, we see that these Level Two coarse-grained representational states are deemed to be the causes of, at least, non-verbal behaviour. I go on to argue that intentional realism is weak on two fronts. On the first front, I claim that it is under Level One analysis that one individuates the properties of a system that are criterial of something's being a cognitive system, whereas The-One-True-Cognitive-Psychology seems to postulate Level Two states of a system. I claim that the potential for the supporters of intentional realism making a *Level mistake* is very real. The second front has to do with whether or not there will be Level Two representational states of the sort that intentional realism requires. I argue in chapter 9 that there is a body of evidence which seems to count against intentional realism.

Contents

Acknowledgements *iii*

Abstract *iv*

Prologue *vii*

Chapter 1

The Topography of Intentionality 2

1. Intentional Psychology 3
2. The Taxonomy 5
3. Intentional Psychology and Functionalism 9
4. Intentional States 23

Part I: Levels

Chapter 2

Complex Systems 29

1. The Two Levels 30
2. Level Mistakes 37
3. Level Two 40
4. Why Complexity? 52

Chapter 3

Autonomy 54

1. Descriptive Autonomy 56
2. Methodological Autonomy 58
3. Developmental Autonomy 64
4. Confirmation Autonomy 67
5. Function and The Neurosciences 68

Chapter 4

Cognitive Systems 72

1. Representation and Cognition 73
2. Cognitive Systems 79
3. Connectionism 92
4. Inexplicit Representation 95

Part II: Modularity

Chapter 5

Function and Domain Specificity 99

1. Domains 101
2. The Grain Problem 107
3. Proprietary Codes 110
4. Domains and Function 113
5. How Much of a Distinction? 121

Chapter 6

Cognitive State Realism 124

1. The Nature of Cognitive States 125
2. Abstraction 132
3. Cognitive State Realism at Work 134

Part III: Intentional Realism

Chapter 7

What's Wrong with Functionalism? 144

1. Chauvinism or Liberalism? 145
2. Schiffer 153
3. Putnam and Multiple Realisability 156

Chapter 8

Broad Content 163

1. Can "Beliefs Be In The Head"? 165
2. Individuation vs Constitution 172
3. Supervenience 174

Chapter 9

Two Theories of Cognitive Architecture 182

1. Vertical Faculty Theory 183
2. Implications of VFT 190
3. A Priori Arguments Against VFT 191
4. Empirical Arguments 201

Epilogue

Dispensibility 212

1. Is Folk Psychology Too Fine Grained in Its Explanations? 213
2. A Broader Conception of Psychology 218
3. The Social Sciences 220

Appendix A

Historical Antecedents to VFT 222

Appendix B

Neuropsychology 239

Bibliography 251

Prologue

The province of the philosopher, Bertrand Russell once claimed, is the unknown: philosophers speculate about the things we *don't know about*. The difference between science and philosophy is that science is what we know whereas philosophy is what we don't know (1960 p.1). While I don't think that this is an adequate description of *all* philosophical practice, I do think it nicely captures the practice of philosophical speculation—what Fodor (1975) called “speculative psychology”—about the future development of scientific psychology, what I call below The-One-True-Cognitive-Psychology. The-One-True-Cognitive-Psychology is a subdiscipline of what has become known as *cognitive science*, a generic, and as yet embryonic discipline taking as its source, disciplines as seemingly diverse as philosophy, linguistics, computer science, psychology and, perhaps, even neuroscience, depending upon who one reads.

What direction will this rising discipline take? We commonly explain and predict agents' actions by attributing states such as beliefs, desires, hopes, fears, *etc.* to agents. Many theorists about cognitive science and psychology think that The-One-True-Cognitive-Psychology will quantify over such states. I will call this view *intentional realism*.

This work hopes to lay some theoretical foundations which can, I hope, provide the basis of an answer to the question: will states such as beliefs and desires feature in The-One-True-Cognitive-Psychology? I hope this work will make intelligible the kinds of evidence that could count in deciding an answer to this question. That is because, ultimately, the answer to this question is an empirical one. Many philosophically interested theorists have claimed that we can have the answer to the question now rather than when the empirical data is in, because of certain conceptual problems inherent in the intentional realism doctrine. The foundations I present in this work count against this armchair answer to the question. That is not to say that I will be arguing *for* intentional realism; the foundations presented below will, I hope, allow one to examine some empirical data with an eye to perhaps in the future answering the question. In the final, highly speculative chapter, I examine some attempts at empirically answering our question. It is this speculative nature of any nonarmchair based attempt at answering our question where Russell's

description becomes relevant: it's where philosophical psychology meets serious empirical psychology. Having said that, I should stress that the substantial portion of this work is theoretical, in fact highly so.

The plan is this. Chapter 1 provides a taxonomy of positions regarding states such as beliefs and desires and their relation to The-One-True-Cognitive-Psychology. It's here that I begin outlining the thesis of intentional realism.

In Part I the laying of the theoretical foundations begins. If beliefs and desires are *states* of an agent then we need some account of how to go about attributing states to a system such as a cognitive agent. In chapter 2 I therefore argue that there are at least two ways that we ordinarily go about attributing states to a system, one based on input-output regularities of the system, and those based upon decompositions of that system. This difference amounts to that of speculating about the properties of a system construed either as a *black box* or as a black box which has been opened. I argue here that The-One-True-Cognitive-Psychology attributes states according to this latter mode. I also introduce in this chapter the idea of a *level of explanation-description*. On attributing states to a system according to the latter method there will be many attributions depending upon the level of explanation-description in which one is interested. If one decides upon the latter type of state attribution, then one should decide upon the relationship between these levels. Do they affect each other? Might some be redundant given the completion of a description of a system at some lower level? Does one level *reduce* to another? It is issues such as these which are tackled in chapter 3. It's important to have some views about such issues because the kind of empirically based arguments outlined in Part III depend upon these issues turning out a certain way. Chapter 4 attempts to identify the properties of systems which endow those systems with their *cognitive* status. This cognitive status is gained by possessing certain kinds of *representational* capacities. I argue that to the extent that The-One-True-Cognitive-Psychology wants to quantify over representational states of a system identified as a result of opening up the black box, it is open to making what I call a *Level mistake*.

Part II moves from the general issues regarding levels to specific cognitive issues. Chapter 5 attempts to identify the underlying principles by which state attributions to the now opened cognitive black box are made. In other words, this chapter is about how we individuate cognitive mechanisms. Some cognitive mechanisms are here deemed to manipulate representations which are *fine-grained*, in that they take as their inputs a very narrow range of information from the system's environment, while others are *coarse-*

grained. Having decided about the ways of taxonomising cognitive mechanisms, chapter 6 identifies a thesis which claims that some of the cognitive mechanisms over which The-One-True-Cognitive-Psychology quantifies will be coarse-grained. This thesis, which I call *cognitive state realism*, is an essential component of the intentional realist programme. It is this thesis which I think is problematic for intentional realism. It is the burden of Part III to show that it may well be false.

Chapter 9 is the main component of Part III. In it I argue that cognitive state realism may well be false, given certain empirically based arguments stemming from neuropsychology and cognitive psychology. I claim that there is an alternative view of representational cognitive structure, that is supported by this evidence. I call ^{this} *vertical faculty theory* (VFT). If VFT turns out to be true, then cognitive state realism is false.

However, that chapter 9 might well be considered redundant, if some traditional arguments against intentional realism were sound. So, some traditional objections are considered in chapters 7 and 8. Chapter 7 looks at Functionalism, a theory of the mind upon which intentional realism depends. There are many objections to the functionalist programme getting off the ground. I don't think those objections hold, primarily for reasons which have become evident in the earlier chapters. Hence, the foundations I offer have some weight in the philosophy of psychology.

Chapter 8 tackles the thorny issue of the semantic properties of intentional states and their relation to the states likely to be postulated by The-One-True-Cognitive-Psychology. One strongly philosophical thesis to which intentional realism is committed, through its reliance upon functionalism, is that of mind-brain supervenience. If the arguments from the content of states, such as beliefs and desires are sound, then mind-brain supervenience will fail, and hence, so does intentional realism. Needless to say, I don't think these arguments work.

The debates surrounding cognitive state realism and VFT have a history stretching back to the last century. Appendix A describes earlier incarnations of that debate. Appendix B describes in detail neuropsychological evidence which supports the empirical component to the arguments of chapter 9. Ideally, both Appendices should be read before chapter 9.