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KNOWLEDGE, CAUSE, AND ABSTRACT OBJECTS

Causal Objections to Platonism

by

COLIN CHEYNE
University of Otago,
Dunedin, New Zealand

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For Elizabeth

TABLE OF CONTENTS

FOREWORD xi

ACKNOWLEDGEMENTS xv

1. PLATONISM AND CAUSALITY
   - 1.1. Platonic objects 1
   - 1.2. The causal objection 3
   - 1.3. Benacerraf's argument 4
   - 1.4. Reference and causality 6
   - 1.5. Platonist responses 7
   - 1.6. Further preliminaries 8
   - 1.7. Outline of my project 9

2. BELIEFS AND FACTS
   - 2.1. What are beliefs? 11
   - 2.2. Strong and weak causal theories 13
   - 2.3. Belief eliminativism 14
   - 2.4. Two traditional conditions for knowledge 15
   - 2.5. An analysis of facts as causes 16
   - 2.6. Facts and ontological commitment 18
   - 2.7. Complex facts 21

3. BELIEFS AND CAUSES
   - 3.1. Free choice and causality 23
   - 3.2. Can uncaused beliefs be knowledge? 25
   - 3.3. An amendment to the causal condition 29
   - 3.4. Non-causal criteria for knowledge 30
   - 3.5. Non-causal epistemologies 32
   - 3.6. Apsychologistic non-causal theories 33
   - 3.7. Psychologistic non-causal epistemologies 34

4. THE CASE FOR A CAUSAL CONNECTION

4.1. Defending the strong causal condition 36
4.2. Disputing knowledge claims 36
4.3. The Gettier problem 38
4.4. Epistemic value 42
4.5. The strong causal connection 44
4.6. Avoiding foundational regress 46
4.7. Paradigms of knowledge acquisition 47
4.8. The causal connection is naturalistic 47
4.9. The insufficiency of a minimalist causal theory 49
4.10. The virtues of the causal condition 52

5. IS A CAUSAL CONNECTION NECESSARY FOR KNOWLEDGE?

5.1. Objections to the causal condition 54
5.2. Perceptual knowledge 55
5.3. Inferential knowledge 56
5.4. General knowledge 57
5.5. k-causal connection 59
5.6. Knowledge of universal facts 67
5.7. The beheading counterexample 72
5.8. Non-causal correlates 74
5.9. Knowledge of non-local quantum facts 76
5.10. The *tu quoque* objection 78
5.11. The condition of the causal condition 79

6. OTHER THEORIES OF KNOWLEDGE

6.1. Connectionist conditions on knowledge 80
6.2. The truth-tracking connection 80
6.3. Truth-tracking and platonic objects 83
6.4. The law-like connection 85
6.5. Law-like connection and platonic objects 87
6.6. The explanatory connection 88
6.7. Explanation and platonic objects 90
6.8. The nondefeasibility condition 92
6.9. Nondefeasibility and platonic objects 93
6.10. Connectionist accounts and platonic knowledge 93

7. EXISTENCE CLAIMS AND CAUSALITY
7.1. Existential platonic knowledge 94
7.2. Hale's argument 94
7.3. Causal constraints on existential knowledge 95
7.4. Aboutness and existence 96
7.5. The 'non-existential' tradition 97
7.6. Defending the existential causal condition 99
7.7. The case for an existential causal condition 99
7.8. Hale's response 103
7.9. The necessary existence of platonic objects 105
7.10. Counterexamples to the existential causal condition 109
7.11. Further objections 113
7.12. Defending the eleatic principle 114
7.13. Non-natural science and the causal condition 121

8. THE BURDEN OF PROOF
8.1. Platonism's burden of proof 123
8.2. Reliabilism and platonism 126

9. PLATONIC KNOWLEDGE BY INTUITION
9.1. Varieties of intuition 131
9.2. Inferential intuition 133
9.3. ESP intuition 133
9.4. Perceptual intuition 134
9.5. Cognitive intuition 136
9.6. Direct platonic intuition 137

10. APRIORISM
10.1. *A priori* platonic knowledge 145
10.2. Platonic knowledge as conceptual knowledge 145
10.3. Realistic rationalism 149
10.4. Apriority and necessity 153

11. INDISPENSABILITY AND PLATONIC KNOWLEDGE
11.1. Postulation and indispensability 156
11.2. Field's project 158
11.3. Revisionist mathematics 160
11.4. Variable ontological commitment 161
11.5. Indispensability and causality 165
11.6. A challenge to platonists 168

12. PROBLEMS WITH PROLIFIGATE PLATONISM
12.1. Full-blooded platonism 172
12.2. The epistemology and semantics of FBP 173
12.3. Problems with reference for FBP 177
12.4. Anaemic platonism 183
12.5. True belief without knowledge 186
12.6. Platonised naturalism and principled platonism 187
12.7. Referring to the objects of PP 190
12.8. Knowledge of the PP principles 192

CONCLUSION 194

APPENDICES

I. DOES KNOWLEDGE REQUIRE BELIEF?
I.1. The traditional analysis of knowledge 196
I.2. The truth condition 196
I.3. The consistency of belief and knowledge 197
I.4. Radford's counterexample 198
I.5. Information and knowledge 201

II. CAN WE CHOOSE OUR BELIEFS?
II.1. Belief-voluntarism and epistemic justification 203
II.2. Belief-voluntarism — is it possible? 203
II.3. Direct belief-voluntarism — is it actual? 207
II.4. Belief and acceptance 211
II.5. Choosing beliefs indirectly 213

BIBLIOGRAPHY 219

INDEX 231

FOREWORD

The main purpose of this book is to argue against the claim that abstract entities exist, where abstract entities are entities that lack causal powers and are not located anywhere in space and time. My particular target is mathematical platonism. Mathematical platonism is the view that the subject matter of pure mathematics is abstract mathematical objects. Accordingly, mathematical platonism incorporates the view that our mathematical knowledge includes knowledge of the existence and properties of abstract or platonic objects. In outline, my argument against mathematical platonism is that, since it is in virtue of their causal powers that we come to know of the existence of any entity, we cannot know of the existence of causally impotent objects and, accordingly, we ought not to believe that such objects exist. It follows that we ought not to believe mathematical platonism and the same applies to any other platonist theory that appeals to the existence of abstract objects.

I have a number of aims for my project. My overall aim is to present the strongest causalist case that I can against platonism. Although anti-platonists often appeal to causal objections, few detailed accounts of such objections have been made out. So realising this aim will, at the very least, fill a gap in the literature on epistemology and the philosophy of mathematics.

A number of platonists have argued that any account of knowledge that is strong enough to rule out knowledge of abstract objects will be too strong, in that it will also rule out knowledge that we clearly have. So one of my aims is to present an account of knowledge that avoids this criticism. I offer a necessary condition for knowledge that does not allow platonic knowledge but does not disallow any of the uncontroversial examples of knowledge that defenders of platonism have raised. Now a constraint on knowledge that simply deals with these purported counterexamples may be quite implausible or *ad hoc*. However, I also hope to convince the reader that my account of knowledge is plausible and, indeed, that it is superior to other competitors.

Note that what is crucially at issue is our knowledge of the *existence* of certain entities. The fact that the relevant causal constraint need only apply to existential knowledge has often been overlooked. So I argue for a plausible constraint on our existential knowledge, one that rules out our having knowledge of the existence of platonic objects without ruling out our ability to know of the existence of other, less controversial, entities.

Even if I do not succeed in convincing the reader of the merits of my causal constraint on existential knowledge, there is a further plank in my case against platonism. Platonists owe us an account of how it is that we have mathematical knowledge, supposing that knowledge to be platonic knowledge. In the latter part of the book (Chapters 8-12) I examine several accounts of platonic knowledge and conclude that none is satisfactory.

If platonism is to be discarded, then the question arises as to what should take its place. If not abstract objects, then what is the subject matter of mathematics and the other discourses that have been given platonistic analyses? Answering this question is not one of the aims of this book. Here I simply observe that most arguments for platonism are fundamentally linguistic. They take the nature and structure of our mathematical (or some other) language to be a guide to the nature and structure of mathematical (or some other) reality. This, in itself, may be no bad thing. But we need to be cautious, lest we get the linguistic cart before the metaphysical horse. After all, we can speak of the very same fact by employing different items of language with entirely different structures. Which structure is to have priority? When problems arise, such as the epistemological problems discussed in this volume, we need to look beyond our language to the world itself, especially to our mathematical (or other) practices and to the ways in which we use our language.

My project is epistemological. The enterprise that epistemologists are engaged in is (or ought to be) directed fundamentally at answering the questions, 'What can we know?' and 'What ought we to believe?' My modest project contributes to this greater enterprise by concluding that we cannot know of the existence of abstract objects and that we ought not to believe that such objects exist. In his autobiography, John Stuart Mill wrote:

> The notion that truths external to the human mind may be known by intuition or consciousness, independently of observation and experience, is, I am persuaded, in these times, the great intellectual support of false doctrines and bad institutions...There never was a such an instrument devised for consecrating all deep-seated prejudices. (Mill 1873/1992, p. 123)

Insofar as Mill refers to truths with existential import, I support his sentiment. Mill has in mind the pernicious effects of this 'false philosophy in

morals, politics, and religion' (*ibid*). Confined to pure mathematics and the like, it may be a harmless curiosity. Nevertheless, by repudiating mathematical platonism, I believe we move the epistemological enterprise in a direction that has the beneficial effect of undermining other ill-founded and more damaging doctrines.

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This book has its origins in an undergraduate essay that I wrote for a course on the philosophy of mathematics. The topic of that essay was broadened to become the topic of my PhD thesis (Cheyne 1994). In turn my thesis was developed to provide the basis of this book. The lecturer who sparked my initial interest, the supervisor who sustained and nourished that interest, and the head of department who ensured a research environment in which this book might come to fruition was, in all cases, Alan Musgrave. I am deeply indebted to Alan for his enthusiasm, encouragement, and invaluable assistance. Any reader should also be grateful to Alan. By rescuing me from countless stylistic infelicities, he has made reading the book a less unpleasant task than it would otherwise be. Any mistakes that remain are, of course, my own bloody fault.

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Felix qui potuit rerum cognoscere causas.
Virgil

Ah, la belle chose que savoir quelque chose.
Molière

There is occasions and causes why and wherefore in all things.
Shakespeare