From Mechanical Brains to Philosophical Zombies



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Gottfried Leibniz, La Monadologie (1714)

"And it is only in this binary notation that the perfection of the traditionally sacred number seven is made evident."







And supposing there were a machine so constructed as to think, feel, and have perception...

Gottfried Leibniz, La Monadologie (1714)







The Imitation Game





The Turing Test





The Universal machine U consists of a set of instructions in the TABLE that can "execute" the correctly-formulated "code number" of any arbitrary Turing machine \mathcal{M} on its TAPE. (Entries in the TABLE are fictitious; drawing partially after Davis (2000), p. 164.





Monday, October 8, 12

I failed the Turing test





does the Chinese Room understand Chinese?















zombie attack!

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The Zombie Attack on the Computational Conception of Mind*

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> Is it true that if zombies—creatures who are behaviorally indistinguishable from us, but no more conscious than a rock—are logically possible, the computational conception of mind is false? *Are* zombies logically possible? Are they *physically* possible? This paper is a careful, sustained argument for affirmative answers to these three questions.

1 Introduction

Many proponents of computationalism,¹ the view that cognition is computation, are busy trying to practice what they preach: they are trying to build artificial persons. Two such proponents are the philosophers John Pollock and Daniel Dennett. In his last two books, *How to Build a Person* [45] and *Cognitive Carpentry: A Blueprint for How to Build a Person* [44], Pollock argues that in the future his OSCAR system will be a full-fledged person. For Dennett, the person-to-be is the robot COG, or a descendant thereof, a being taking shape with Dennett's help at MIT.² I have advanced a number of arguments designed to establish that the "for building project" will invitably fail, but that it will manage to produce artifacts capable of

I, Zombie

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Certain recent philosophical theories offer the prospect that zombies are possible. These theories argue that experiential contents, or qualia, are nonphysical properties. The arguments are based on the conceivability of alternate worlds in which physical laws and properties remain the same, but in which qualia either differ or are absent altogether. This article maintains that qualia are, on the contrary, physical properties in the world. It is shown how, under the burden of the *a posteriori* identification of qualia with physical properties, a reasoned choice can be made between the two types of theories which ultimately favors materialism and rejects zombies. © 2001 Elsevier Science (USA)

In the Monadology, Leibniz asks us to "Suppose that there were a machine so constructed as to produce thought, feeling and perception, we could imagine it increased in size while retaining the same proportions, so that one could enter it as one might a mill. On going inside we should only see the parts impinging on one another; we should not see anything that would explain a perception" (Leibniz, p. 181). One lesson to take away from Leibniz is this: You cannot find thought by peering into the brain. There is nothing red or leaf-shaped in the brain when you perceive a red leaf. You have to look elsewhere for the content. The same is true

THE ANTI-ZOMBIE ARGUMENT

By Keith Frankish

The zombie argument has come to occupy a central role in the case for a non-physicalist theory of consciousness. I seek to turn the tables on 'zombists' by showing that a parallel argument can be run for physicalism. This argument invokes anti-zombies, purely physical creatures which are conscious. I show that using the same resources as those employed by zombists, it is possible to construct an argument from the conceivability of anti-zombies to the truth of physicalism. I go on to defend the claim that anti-zombies are conceivable, and to argue that the anti-zombie argument can be defeated only at the cost of rendering the zombie argument itself redundant. The moral is that dualists should not be zombists.

Kline had mentioned several reports suggesting that a chemical antidote was administered to the zombi victim in the graveyard at the time of his resurrection.... When I asked [Marcel] if he would be able to prepare it for us, he looked momentarily bewildered. Naturally, he replied, one would never make the poison without making the antidote.

(W. Davis, The Serpent and the Rainbow, New York: Warner, 1987, p. 111)

In recent years the 'zombie argument' has come to occupy a central role in the case against physicalist views of consciousness, in large part because of the powerful advocacy it has received from David Chalmers.¹ In this paper I seek to neutralize it by showing that a parallel argument can be run for physicalism, an argument turning on the conceivability of what I shall call anti-zombies. I shall argue that the result is a stand-off, and that the zombie argument offers no independent reason to reject physic



DO ZOMBIES HUNGER FOR HUMEAN BRAINS?

NEIL E. WILLIAMS (University at Buffalo)

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INTRODUCTION

John Heil's *From an Ontological Point of View* (Heil 2003) is a tremendous philosophical work. The neo-Lockean ontology the reader finds within its 267 pages is a sensible and refreshing alternative to the neo-Humean ontologies which presently occupy the vast majority of the metaphysical literature. What Heil offers is a much needed change in perspective. Nor are the strengths of the book limited to Heil's willingness to approach central metaphysical problems in largely untried and unpopular way; the book is very clear in its presentation, accessible to wide readership, and tightly argued throughout. Heil's efforts in this book are to be applauded, and the result is one that warrants serious consideration by all those interested in serious metaphysics. But the interest should not end there: the lessons of Heil's book are ones that almost all philosophers ought to take seriously.

Despite the criticism that follows, my overall position should not be taken as anything short of a whole-hearted endorsement of Heil's book. Nonetheless, when philosophy is one's trade, there is always going to be something to disagree about, however much one is amenable to a view.

METAPHYSICS COMES FIRST

One of the central theses of Heil's book is that in philosophy, metaphysics comes first. Once the metaphysics is in place, the problems of other various philosophical sub-disciplines are to be solved through applications of that metaphysic. For instance, Heil claims of the philosophy of mind that "if you get the ontology right problems in the philosophy of mind take care of themselves." (Heil, 2003: 240). He

a blueprint of a car is not a car





The Queen's Pawn (e4) and King's Pawn (d4) openings.



A truncated decision tree for the opening moves **e4** and **d4** with the evaluation function applied to the terminal leaves.

```
000
                                                                                                                   N<sup>2</sup>
                                                    minimax.c
minimax.c
     int minimax(POSITION *p, int depth)
 1
 2 🔻
         ł
         MOVE list[MAXMOVES];
 3
         int i,n,bestvalue,value;
 4
 5
         if(checkwin(p))
 6
             {
 7 🔻
             if (p->color == WHITE)
 8
                 return -INFINITY;
 9
             else
 10
                 return INFINITY;
 11
             }
 12 🔺
 13
         if(depth == 0)
 14
             return evaluation(p);
 15
 16
         if(p->color==WHITE)
 17
             bestvalue = -INFINITY;
 18
         else
 19
             bestvalue = INFINITY;
 20
 21
         n = makemovelist(p,list);
 22
         if(n == 0)
 23
             return handlenomove(p);
 24
 25
         for(i=0; i<n; i++)</pre>
 26
             {
 27 🔻
             domove(&list[i],p);
 28
             value = minimax(p,d-1);
 29
             undomove(&list[i],p);
 30
             if(color == WHITE)
 31
                 bestvalue = max(value,bestvalue);
 32
             else
 33
                 bestvalue = min(value,bestvalue);
 34
             }
 35 ▲
 36
         return bestvalue;
 37
         }
 38 🔺
 39
```

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Detroit World Computer Chess Championship (1979)





