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CONSCIOUSNESS EXPLAINED

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DANIEL C. DENNETT

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PENGUIN BOOKS

For Nick, Marcel, and Ray

Preface

My first year in college, I read Descartes's *Meditations*

PRELUDE: HOW ARE HALLUCINATIONS POSSIBLE?

1. THE BRAIN IN THE VAT

Suppose evil scientists removed your brain from your body while you slept, and set it up in a life-support system in a vat. Suppose they then set out to trick you into believing that you were not just a brain in a vat, but still up and about, engaging in a normally embodied round of activities in the real world. This old saw, the brain in the vat, is a favorite thought experiment in the toolkit of many philosophers. It is a modern-day version of Descartes's (1641) ¹

PROBLEMS AND METHODS

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EXPLAINING CONSCIOUSNESS

1. PANDORA'S BOX: SHOULD CONSCIOUSNESS BE DEMYSTIFIED?

And here are trees and I know their gnarled surface, water, and I feel its taste. These scents of grass and stars at night, certain evenings when the heart relaxes — how shall I negate this world whose power and strength I feel? Yet all the knowledge on earth will give me nothing to assure me that this world is mine. You describe it to me and you teach me to classify it. You enumerate its laws and in my thirst for knowledge I admit that they are true. You take apart its mechanism and my hope increases.... What need had I of so many efforts? The soft lines of these hills and the hand of evening on this troubled heart teach me much more.

ALBERT CAMUS, *The Myth of Sisyphus*

A VISIT TO THE PHENOMENOLOGICAL GARDEN

1. WELCOME TO THE PHENOM

Suppose a madman were to claim that there were no such things as animals. We might decide to confront him with his error by taking him to the zoo, and saying, “Look! What are those things, then, if not animals?” We would not expect this to cure him, but at least we would have the satisfaction of making plain to ourselves just what craziness he was spouting. But suppose he then said, “Oh, I know perfectly well that there are these things — lions and ostriches and boa constrictors — but what makes you think these so-called animals are *animals*”

A METHOD FOR PHENOMENOLOGY

1. FIRST PERSON PLURAL

You don't do serious zoology by just strolling through the zoo, noting this and that, and marveling at the curiosities. Serious zoology demands precision, which depends on having agreed-upon methods of description and analysis, so that other zoologists can be sure they understand what you're saying. Serious phenomenology is in even greater need of a clear, neutral method of description, because, it seems, no two people use the words the same way, and everybody's an expert. It is just astonishing to see how often "academic" discussions of phenomenological controversies degenerate into desk-thumping cacophony, with everybody talking past everybody else. This is all the more surprising, in a way, because according to long-standing philosophical tradition, *we all agree*

AN EMPIRICAL THEORY OF THE MIND

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MULTIPLE DRAFTS VERSUS THE CARTESIAN THEATER

1. THE POINT OF VIEW OF THE OBSERVER

There is no cell or group of cells in the brain of such anatomical or functional preeminence as to appear to be the keystone or center of gravity of the whole system.

WILLIAM JAMES, 1890

Pleasure-boaters sailing along a tricky coast usually make sure they stay out of harm's way by steering for a mark. They find some visible but distant buoy in roughly the direction they want to go, check the chart to make sure there are no hidden obstacles on the straight line between the mark and where they are, and then head straight for it. For maybe an hour or more the skipper's goal is to aim directly at the mark, correcting all errors. Every so often, however, skippers get so lulled by this project that they forget to veer off at the last minute and actually hit the buoy head on! They get distracted from the larger goal of staying out of trouble by the reassuring success they are having with the smaller goal of heading for the mark. In this chapter we will see how some of the most perplexing paradoxes of consciousness arise because we cling too long to a good habit of thought, a habit that usually keeps us out of trouble.

Wherever there is a conscious mind, there is a *point of view*

TIME AND EXPERIENCE



I can indeed say that my representations follow one another; but this is only to say that we are conscious of them as in a time-sequence, that is, in conformity with the form of inner sense.

IMMANUEL KANT, *Critique of Pure Reason*

THE EVOLUTION OF CONSCIOUSNESS



Everything is what it is because it got that way.

D'ARCY THOMPSON (1917)

1. INSIDE THE BLACK BOX OF CONSCIOUSNESS

The theory sketched in the last chapter goes a little way towards showing how consciousness might reside in the human brain, but its main contribution was negative: toppling the dictatorial idea of the Cartesian Theater. We have *begun*

HOW WORDS DO THINGS WITH US



Language, like consciousness, only arises from the need, the necessity, of intercourse with others.

KARL MARX, 1846

Consciousness generally has only been developed under the pressure of the necessity for communication.

FRIEDRICH NIETZSCHE, 1882

Before my teacher came to me, I did not know that I am. I lived in a world that was a no-world. I cannot hope to describe adequately that unconscious, yet conscious time of nothingness.... Since I had no power of thought, I did not compare one mental state with another.

HELEN KELLER, 1908

1. REVIEW: E PLURIBUS UNUM?

In [chapter 5](#)

THE ARCHITECTURE OF THE HUMAN MIND

1. WHERE ARE WE?

The hardest part is over, but there is plenty of work still to do. We have now completed the most strenuous exercises of imagination-stretching, and are ready to try out our newfound perspective. Along the way we had to leave several topics dangling, and tolerated quite a lot of handwaving. There are promises to keep, and postponed acknowledgments and comparisons to make. The theory I have been developing includes elements drawn from many thinkers. I have sometimes deliberately ignored what these thinkers consider the best parts of their theories, and have mixed together ideas drawn from “hostile” camps, but I suppressed these messy details in the interests of clarity and vividness. This may well have left some serious mind-modelers squirming with frustration, but I couldn’t see any other way to get different kinds of readers up to the same new vantage point together. Now, though, we’re in a good position to take stock, and secure some essential details. The point of going to all the trouble of constructing a new perspective is, after all, to see the phenomena and the controversies in a new way. So let’s take a look around.

In a Thumbnail Sketch, here is my theory so far:

There is no single, definitive “stream of consciousness,” because there is no central Headquarters, no Cartesian Theater where “it all comes together” for the perusal of a Central Meaner. Instead of such a single stream (however wide), there are multiple channels in which specialist circuits try, in parallel pandemoniums,

THE PHILOSOPHICAL PROBLEMS OF CONSCIOUSNESS

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SHOW AND TELL



1. ROTATING IMAGES IN THE MIND'S EYE

The first challenge, before we tackle the philosophical thought experiments, comes from some real experiments that might seem to rehabilitate the Cartesian Theater. Some of the most exciting and ingenious research in cognitive science in the last twenty years has been on the human ability to manipulate mental images, initiated by the psychologist Roger Shepard's (Shepard and Metzler, 1971) classic study of the *speed of mental rotation*

DISMANTLING THE WITNESS PROTECTION PROGRAM

1. REVIEW

In [Part I](#)

QUALIA DISQUALIFIED

1. A NEW KITE STRING

Thrown into a causal gap, a quale will simply fall through it.

IVAN FOX (1989), p. 82

When your kite string gets snarled up, in principle it can be unsnarled, especially if you're patient and analytic. But there's a point beyond which principle lapses and practicality triumphs. Some snarls should just be abandoned. Go get a new kite string. It's actually cheaper in the end than the labor it would take to salvage the old one, and you get your kite airborne again sooner. That's how it is, in my opinion, with the philosophical topic of qualia, a tormented snarl of increasingly convoluted and bizarre thought experiments, jargon, in-jokes, allusions to putative refutations, "received" results that should be returned to sender, and a bounty of other sidetrackers and time-wasters. Some messes are best walked away from, so I am not going to conduct an analytical tour of that literature, even though it contains moments of insight and ingenuity from which I have benefited (Shoemaker, 1975, 1981, 1988; White, 1986; Kitcher, 1979; Harman, 1990; Fox, 1989). I've tried in the past to unsnarl the issue (Dennett, 1988a), but now I think it's better if we try to start over almost from scratch.

It's not hard to see how philosophers have tied themselves into such knots over qualia. They started where anyone with any sense

THE REALITY OF SELVES

Suppose that there be a machine, the structure of which produces thinking, feeling, and perceiving; imagine this machine enlarged but preserving the same proportions, so that you could enter it as if it were a mill. This being supposed, you might visit its inside; but what would you observe there? Nothing but parts which push and move each other, and never anything that could explain perception.

GOTTFRIED WILHELM LEIBNIZ (1646–1716), *Monadology*

CONSCIOUSNESS IMAGINED

1. IMAGINING A CONSCIOUS ROBOT

The phenomena of human consciousness have been explained in the preceding chapters in terms of the operations of a “virtual machine,” a sort of evolved (and evolving) computer program that shapes the activities of the brain. There is no Cartesian Theater; there are just Multiple Drafts composed by processes of content fixation playing various semi-independent roles in the brain’s larger economy of controlling a human body’s journey through life. The astonishingly persistent conviction that there is a Cartesian Theater is the result of a variety of cognitive illusions that have now been exposed and explained. “Qualia” have been replaced by complex dispositional states of the brain, and the self (otherwise known as the Audience in the Cartesian Theater, the Central Meaner, or the Witness) turns out to be a valuable abstraction, a theorist’s fiction rather than an internal observer or boss.

If the self is “just” the Center of Narrative Gravity, and if all the phenomena of human consciousness are explicable as “just” the activities of a virtual machine realized in the astronomically adjustable connections of a human brain, then, in principle, a suitably “programmed” robot, with a silicon-based computer brain, would be conscious, would have a self. More aptly, there would be a conscious self whose body was the robot and whose brain was the computer. This implication of my theory strikes some people as obvious and unobjectionable. *“Of course*

APPENDIX A (FOR PHILOSOPHERS)

There are places in the book where I leap swiftly and without comment over major philosophical battles, or in other ways egregiously fail to fulfill the standard obligations of an academic philosopher. Philosophers who have read the manuscript of this book have raised questions about these gaps. The questions address issues that may not interest nonphilosophers, but they deserve answers.

You seem to pull a fast one at the end of

APPENDIX B (FOR SCIENTISTS)

Philosophers are often correctly accused of indulging in armchair psychology (or neuroscience or physics or...), and there are plenty of embarrassing tales about philosophers whose confident *a priori*

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Figure 2.3

Abelson, R., [258](#)

