INDETERMINACY, OPACITY AND THE IDENTITY THEORY

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1. *Indeterminacy and the Identity Theory**

Consider the following argument, which I will label Argument A.

Argument A

Premise A_1: If we cannot imagine any decisive evidence for or against P, then it is indeterminate whether P.

Premise A_2: We cannot imagine any decisive evidence for or against the claim that Jane is in mental state M.

Therefore,

Conclusion A: It is indeterminate whether Jane is in mental state M.

Arguments of this form might raise some eyebrows. But, questionable or not, this kind of move —from lack of a conceivable test, to a lack of a fact of the matter— shows

up regularly in the literature.[1] So, for the sake of argument, I will grant (for the moment) that this inference is legitimate. My primary concern in this paper lies elsewhere, with an extension of this argument that I will call Argument B.

Argument B

Premise B_1 (i.e. Conclusion A): It is indeterminate whether Jane is in mental state M.

Premise B_2: It is *not* indeterminate whether Jane is in physical state P.

Conclusion B: Mental state M is not identical to physical state P.

This simple and (prima facie) persuasive argument presents no worry to those who think the grounds for mental state attributions are on all fours with the grounds for physical state attributions. They will, in the general case, be in a position to deny Premise A_2. And, so far as I can tell, if they deny Premise A_2 they have no good reason for accepting Conclusion A. Hence they have no reason for endorsing Premise B_1.[2] Where there *is* cause for concern

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[1] Two samples: 1. "When 'the fact of the matter' about proper function is controversial —when more than one interpretation is well supported— there is no fact of the matter." (Dennett 1987; p. 300); 2. "If no conceivable test could decide between the hypothesis under which system accurately represents x and the hypothesis under which that system misrepresents y, then there is no fact of the matter concerning which representational state that system is *really* in." (Kenyon 1993; p. 13). See Dennett (1991) for further examples of this line of reasoning.

[2] Should there arise an exceptional circumstance in which Premise A_2 looks plausible, that will undoubtedly be a circumstance in which Premise B_2 looks *implausible* —again, assuming physical and mental state attribution are not evidentially unequal. Here too, then, the inference to Conclusion B would be blocked.

is among that rather large group of philosophers —among them Davidson (1970) and Dennett (1987)— who maintain that: (a) many (all?) mental state attributions go beyond what the evidence does or could warrant; and (b) all physical state attributions are perfectly determinate. For, Argument A would then make many (all?) mental state attributions indeterminate. And Argument B would then seem to establish that identity claims between physical states and many (all?) mental states are false.[3] One can, however, get around this.

2. *Opacity*

The contexts *There is evidence that* and *We cannot imagine that* are both opaque. That is to say, one cannot substitute co-referential singular terms in these contexts and be sure of preserving truth. This fact can be established by means of examples.

Example one

Let us suppose, as may be the case, that the number of basic physical forces in the universe happens to be the same as the number of planets. That is:

(1) the number of planets = the number of basic physical forces.

Even given this identity, the truth value of (2a) and (2b) may diverge.

(2)

(a) There is evidence that [the number of planets] is greater than eight.

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[3] See Kenyon (1993) for an illuminating discussion. As he (correctly) points out, the problem arises for both type and token identity theories.

(b) There is evidence that [the number of basic physical forces] is greater than eight.

Consider the set W of possible worlds that are just like the actual world in terms of what data scientists have at their disposal. In these worlds, sentence (2a) is true; because there is, in the actual world, a great deal of evidence to the effect that there are more than eight planets. But, in all the worlds in W, sentence (2b) is false. That is because, in the actual world, current evidence suggests that there are at most four basic physical forces: electromagnetic, gravitational, strong nuclear and weak nuclear. Now, there surely are worlds within W in which the number of planets is the same as the number of basic physical forces —despite the evidence. In those worlds, sentences (1) and (2a) are true, but sentence (2b) is false. The lesson? One cannot substitute the singular term *the number of basic physical forces* for *the number of planets* in the context *There is evidence that* and be assured of preserving truth —even when these are co-referential singular terms.

There is evidence that is opaque. That's the first big step. Here's the final small step: I gather my conclusion holds even if one injects the word *decisive* into *There is evidence that*. Sad but true: there could be decisive evidence in favour of the number of basic physical forces being exactly four, even if there are actually eight basic physical forces. So *There is decisive evidence that* is opaque.[4]

Example Two

Suppose that Rodney's favourite geometric figure is the square. That is,

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[4] This result is initially surprising. It should become less so when one reflects that evidence, even decisive evidence, is an epistemic notion.

(3) Rodney's favourite geometric figure = the square.

Whatever Rodney's actual preferences with regard to shapes, we can certainly imagine that Rodney's favourite geometric figure is the circle. Given this, (4) is surely true. Nevertheless, (5) is just as surely false.

(4) We can imagine that [Rodney's favourite geometric figure] has no sides.

(5) We can imagine that [the square] has no sides.

The lesson is the same: one cannot substitute the singular term *the square* for *Rodney's favourite geometric figure* in the context *We can imagine that* while preserving truth —even though, ex hypothesis, these are co-referential singular terms.

Given that *There is decisive evidence that* and *We can imagine that* are opaque, embedding the first construction within the second will produce a context that is also opaque. In brief, there is every reason to think that the context *We can imagine that there is decisive evidence that* is opaque too. Ditto for its negation, *We cannot imagine that there is decisive evidence that.*

3. *Indeterminacy, opacity and the identity theory*

It remains unclear how, exactly, one ought to cash out claims of indeterminacy. But, whatever the correct analysis of the operator *It is indeterminate whether*, I feel safe in saying this: IF Premise A_1 is true THEN (6) and (7) are very closely connected.

(6) We cannot imagine that there is decisive evidence that _____

(7) It is indeterminate whether _____

These notions must be closely connected, if Premise A_1 is true, because that premise says that the inability to imagine decisive evidence is a sufficient condition for indeterminacy.

And now the punch line: such an intimate connection, if it obtains, is surely such that if either context induces opacity, the other likely does as well. As I have said, (6) is an opaque context. So, assuming Premise A_1 is true, it is reasonable to conclude that (7) also induces opacity. But in that case, Argument B is unsound, because it commits the intentional fallacy: if *It is indeterminate whether* is an opaque context, one cannot validly infer non-identity from non-substitutivity salva veritate in this context.[5]

To sum up: if Premise A_1 is not true, it cannot support Conclusion B. On the other hand, if Premise A_1 is true, then there must be a close connection between inability to imagine a decisive test and indeterminacy. In which case, *It is indeterminate whether* is very likely opaque, because *We cannot imagine that there is decisive evidence that* is. In which case, Argument B is unsound. (It commits the intentional fallacy.) Hence, even if Premise A_1 is true —which I doubt— Conclusion B does not follow from it, together with Premises A_2 and B_2. This is a happy result for those philosophers who wish to hold the following cluster of views:

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[5] In a word: if *It is indeterminate whether* truly is opaque then Argument B is exactly parallel to the fallacious argument below:

> Premise 1: John believes that Cicero was a great man.
>
> Premise 2: It is not the case that John believes that Tully was a great man.

Therefore,

> Conclusion: Cicero is not identical to Tully.

A. (Many) mental state attributions go beyond what the evidence does or could warrant.

B. Every mental state is identical to some physical state.

C. Physical state attributions are determinate.

REFERENCES

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RESUMEN

En este artículo trato de refutar el siguiente razonamiento:

Premisa 1: Si no podemos concebir ninguna evidencia concluyente a favor o en contra de P, entonces es indefinido si P.

Premisa 2: No podemos concebir ninguna evidencia concluyente a favor o en contra de la afirmación de que Jane está en el estado mental M.

Premisa 3: *No* es indefinido si Jane está en el estado físico P.

Conclusión 1: Es indefinido si Jane está en el estado mental M.

Conclusión 2: El estado mental M no es idéntico al estado físico P.

   Al generalizarse, este razonamiento parece mostrar que nadie puede sustentar simultáneamente el siguiente conjunto de perspectivas filosóficamente comunes:

A. (Muchas) atribuciones del estado mental van más allá de lo que la evidencia garantiza o podría garantizar.
B. Todo estado mental es idéntico a algún estado físico.
C. Las atribuciones del estado físico están definidas.

   Sostengo que este razonamiento —inspirado por los trabajos de Tim Kenyon— no es convincente. Aproximadamente: si la premisa 1 no es verdadera, entonces el razonamiento es falso. Por otro lado, si la premisa 1 es verdadera, entonces *Es indefinido si* es, con toda probabilidad, un contexto opaco. En cuyo caso, nuevamente, el razonamiento es falso.

[*Traducción: Claudia Chávez A.*]