

Persistence and modality

Penelope Mackie¹

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Abstract It seems plausible to say that what changes an entity can or cannot survive depends on its persistence conditions, and that these depend, in turn, on its sortal kind. It might seem to follow that an entity cannot belong to two sortal kinds with potentially conflicting persistence conditions. Notoriously, though, this conclusion is denied by ‘contingent identity’ theorists, who hold, for example, that a permanently coincident statue and piece of clay are identical, although the persistence conditions associated with the kinds *statue* and *piece of clay* are potentially conflicting. A clash with Leibniz’s Law is avoided by treating modal predicates as what Harold Noonan has called ‘Abelardian predicates’, as in the version of ‘inconstant’ counterpart theory developed by David Lewis. In addition to other difficulties, however, there is a question whether this ‘Abelardian’ theory does justice to the intuitions expressed in such statements as that the piece of clay could, while the statue could not, have survived a radical reshaping of its matter. I present an argument, which I call ‘the vacuous satisfaction argument’, for the conclusion that the theory does indeed fail to capture the significance of such *de re* modal statements.

Keywords Sortals · Persistence · Identity · *De re* modality · Coincidence

1 Introduction

Some theorists hold that a statue and a piece of clay that coincide throughout their existence are identical, although a statue and a piece of clay that coincide for the first

✉ Penelope Mackie
penelope.mackie@nottingham.ac.uk

¹ Department of Philosophy, University of Nottingham, University Park, Nottingham NG7 2RD, UK

part of their existence, and then diverge (or, more generally, a statue and a piece of clay coincident for only part of their existence) are distinct entities. These ‘contingent identity theorists’ thus hold that permanent coincidence is identity, although temporary coincidence is not identity. (E.g., Gibbard 1975; Lewis 1971, 1986, Ch. 4; Noonan 1991, 1993.)¹

These theorists find it intolerable to suppose that a statue and a piece of clay could completely coincide throughout their existence, sharing all their matter and micro-physical parts, and yet fail to be identical. However, they also hold that it is possible for a numerically distinct statue and piece of clay to coincide merely temporarily. For in the case of merely temporary coincidence, they maintain, the statue and the piece of clay have different properties (for example they exist at different times and places), and hence, by Leibniz’s Law, are numerically distinct.

It seems hard to deny that the persistence conditions for statues are significantly *different* from the persistence conditions for pieces of clay. For example, it seems that the persistence conditions for statues preclude a statue’s continuing to exist if it is radically reshaped, whereas the persistence conditions for pieces of clay allow a piece of clay to survive such a radical reshaping—indeed *require* it to survive such a radical reshaping, as long as its matter is retained in one coherent mass. Similarly, it seems that the persistence conditions for statues allow a statue to survive a replacement of its matter that would destroy the piece of clay that constitutes it.

Obviously, the contingent identity theorist is committed to the view that it is possible for a single entity to have the persistence conditions of both a statue and a piece of clay. But what, if anything, is problematic about this supposition? Why *shouldn’t* a single entity have both the persistence conditions of a statue and those of a piece of clay, even if these persistence conditions are different? For although different, why suppose that they are incompatible?

In this paper, I shall do the following. First, I shall show (Sects. 2 and 3) that if persistence conditions were exhausted by *de dicto* modal principles, there need be nothing problematic about the view that the persistence conditions for statues and pieces of clay, although different, are compatible. A problem of compatibility arises only if the persistence conditions for statues and pieces of clay are taken to have a *de re* modal aspect as well as a *de dicto* modal aspect.

In the remainder of the paper (Sects. 4–6), I discuss the standard response of the contingent identity theorist to this ‘*de re* modal challenge’. The standard response is that even if persistence conditions do have a *de re* aspect as well as a *de dicto* aspect, the appearance of incompatibility that this creates is, in fact, deceptive.

The contingent identity theorist’s strategy [the ‘Abelardian’ strategy, as I shall call it, following Harold Noonan (1991, 1993)] is controversial. Rather than survey well known objections, however, I shall raise a challenge to the strategy that as far as I know has not been discussed in the literature. My challenge, which I call ‘the vacuous satisfaction argument’, concerns whether the Abelardian strategy does justice to our

¹ This position has also been referred to as ‘moderate monism’ by Noonan (2008, 2013), as ‘strictly moderate monism’ by Fine (2003, pp. 198–199), and as ‘intermediate monism’ (Mackie 2008). It contrasts both with pluralism (the view that neither permanent coincidence nor temporary coincidence is identity) and with ‘extreme monism’: the view that temporary coincidence as well as permanent coincidence is identity.

intuitions that the modal implications of persistence conditions cannot be captured by purely *de dicto* principles.

2 *De dicto* persistence conditions

For simplicity, I shall assume, without argument, that both *statue* and *piece of clay* are sortal concepts, and moreover that they are substance sortals: sortals that apply to an object throughout its existence if they apply to it at any time in its existence.²

Substance sortals are, by definition, what have been called ‘necessarily permanent’ properties (Parsons 2005, p. 9), where a necessarily permanent property is one that obeys the principle (NP):

(NP) Necessarily (for all x , if x is (an) F at any time in its existence, then x is (an) F at all times in its existence).

It is important to note that (NP) is a *de dicto* principle, not a *de re* principle. (NP) is silent on the question whether a thing that is (an) F in one possible world is also (an) F in other possible worlds. As a consequence, if something is a necessarily permanent property it does not follow that it is an essential property, in the standard sense according to which an essential property of an object is one that it could not have existed without having, or has in all possible worlds in which it exists. In fact, it is obvious that there are necessarily permanent properties that are not essential properties in this sense, such as the property of being a permanent bachelor (defined as being a male human being who in fact never marries) or the property of originating in New Zealand.³

On the assumption that *statue* is a substance sortal, we have the following *de dicto* principle (S)(1):

(S)(1) Necessarily (for all x , if x is a statue at any time in its existence, then x is a statue at all times in its existence).

But as well as being necessarily permanent, the sortal *statue* appears to provide ‘passing away conditions’ and ‘preservation conditions’, represented by *de dicto* principles such as the following:

(S)(2) Necessarily (for all x , if x is a statue, then, if the matter that constitutes x at t is radically reshaped at t , x then ceases to exist).

(S)(3) Necessarily (for all x , if x is a statue, then, if a small portion of the matter that constitutes x at t is removed and immediately replaced by exactly similar matter, and no other change is made to x , x survives).

Like (S)(1), (S)(2), and (S)(3) are *de dicto* modal principles. They appear to have, by themselves, no *de re* modal implications.⁴ If so, they have no implications for the

² See Mackie (2006, Chs. 7–8) and also Grandy (2016). The notion of a substance sortal (or ‘substance concept’) is prominent in the work of Wiggins (1980, 2001).

³ For the ‘permanent bachelor’ example, see Mackie (2007).

⁴ At the end of this section I discuss the suggestion that this appearance is deceptive.

modal properties of things that are statues and pieces of clay. (S)(1), (S)(2), and (S)(3) appear to be silent on the question whether a thing that is a statue in one possible world is a statue in other possible worlds.

Suppose that the persistence conditions of statues and pieces of clay can be represented entirely by *de dicto* modal principles, such as those above and the following (for pieces of clay):

(P)(1) Necessarily (for all x , if x is a piece of clay at any time in its existence, then x is a piece of clay at all times in its existence).

(P)(2) Necessarily (for all x , if x is a piece of clay, then, if the matter that constitutes x at t is radically reshaped at t but preserved in one coherent mass, x survives).

The persistence conditions for statues and pieces of clay represented by these *de dicto* principles are evidently different. And they are evidently *potentially* conflicting. If some entity *is* subjected to a radical reshaping of its matter in which all the matter is preserved in one coherent mass, then it cannot satisfy all of the *de dicto* principles (S)(1), (S)(2), (P)(1) and (P)(2).⁵

However—at least if we interpret the conditionals in the *de dicto* principles as material conditionals—this need represent no difficulty for the contingent identity theory. The theory holds that it is only in a permanent coincidence case that a statue and a piece of clay are identical. And, of course, in any permanent coincidence case, the statue (i.e., the piece of clay, according to the contingent identity theorist) is *not* subjected to a radical reshaping of its matter. Hence it satisfies, vacuously, the antecedent of the conditional ‘if the matter that constitutes x at t is radically reshaped at t , x then ceases to exist’ in (S)(2), and also the antecedent of the conditional ‘if the matter that constitutes x at t is radically reshaped at t but preserved in one coherent mass, x survives’ in (P)(2). Thus the contingent identity theorist can accept all of the *de dicto* persistence conditions represented by (S)(1), (S)(2), (P)(1), and (P)(2), while still consistently holding that a single entity can be both a statue and a piece of clay, as long as the conditionals in the *de dicto* principles are read as material conditionals. In sum: on this reading, the *de dicto* persistence conditions, although potentially conflicting, are perfectly compatible, and can be satisfied by one and the same entity, just as the contingent identity theory requires.

At this point, it may be suggested that it is inappropriate to interpret the conditionals in the *de dicto* principles (S)(2) and (P)(2) in this fashion.⁶ Interpreted as non-material conditionals, they may require more, for their truth, than the falsity of their antecedents; if so, the argument for the compatibility of the *de dicto* persistence conditions for statues and pieces of clay given above is undermined.

⁵ Where the persistence conditions of statues and pieces of clay are ‘potentially conflicting’, the following is true: There is some change C such that, necessarily, a thing that has the persistence conditions of a statue does not survive that change, whereas necessarily, a thing that has the persistence conditions of a piece of clay does survive that change, or vice versa.

⁶ Thanks to an anonymous referee for raising this issue.

While this is true, I propose to leave this possibility aside. The reason is that, if the conditionals in the *de dicto* principles (S)(2) and (P)(2) are given an interpretation that makes the persistence conditions they imply for statues and pieces of clay genuinely incompatible, as opposed to merely potentially conflicting, I think this can only be because, on this interpretation, the *de dicto* principles are interpreted as having *de re* modal implications. Rather than explore the complications this interpretation would involve, I propose, for simplicity, to interpret the *de dicto* principles, from now on, as involving material conditionals, and hence as having, by themselves, no *de re* modal implications. This might be called the ‘pure *de dicto*’ interpretation of principles such as (S)(2) and (P)(2).

3 Beyond the *de dicto*: persistence conditions and *de re* modality

The conclusion of the previous section is that, on the assumption that the persistence conditions for statues and pieces of clay are exhausted by *de dicto* principles with no *de re* modal implications, there need be no genuine conflict (incompatibility) between the persistence conditions for statues and pieces of clay.

However, most theorists suppose that the persistence conditions for statues and pieces of clay do have an additional *de re* modal aspect. In particular, many theorists hold that, even in a permanent coincidence case, both of the following *de re* statements are true:

(1M) The statue *could not* have been subjected to a radical reshaping of its matter without being destroyed;

(2M) The piece of clay *could* have been subjected to a radical reshaping of its matter without being destroyed.

(1M) and (2M) are, clearly, *de re* modal statements. They go beyond the *de dicto* principles listed above: (1M) goes beyond (S)(2), and (2M) goes beyond (P)(2).⁷ For example, consider the contrast between (1M) and (S)(2). Whereas (S)(2), being a *de dicto* principle, is silent on the question whether a statue is still a statue in other possible worlds, (1M) appears to imply that it is—that in different possible worlds it is still a statue, and hence is destroyed by radical reshaping in those worlds.⁸

With the addition of these *de re* statements (if taken to represent implications of the persistence conditions of statues and pieces of clay), there really is, now, a challenge of compatibility that the contingent identity theorist needs to answer. The addition of the ‘*de re* persistence conditions’ represented by (1M) and (2M) threatens to transform the merely potential conflict of *de dicto* persistence conditions into an actual conflict of modal properties. For, on the face of it, (1M) and (2M) appear to attribute incompatible

⁷ As explained at the end of the previous section, I am now adopting, for simplicity, what I there called the ‘pure *de dicto*’ interpretation of (S)(2) and (P)(2).

⁸ What exactly does (1M) add to (the *de dicto*) (S)(2)? On a natural interpretation of (1M), it requires, for its truth, the further *de re* claim that the statue is *essentially* a statue—or, at least, that it is essentially ‘statue-like’, in the following sense: *in all possible worlds in which it exists*, it has persistence conditions that include the relevant passing-away conditions for statues (i.e., those represented by (S)(2)).

modal properties to the statue and the piece of clay, thus entailing that, by Leibniz's Law, the statue and the piece of clay are not identical, even in a permanent coincidence case.

Nor, it is worth emphasizing, is the problem confined to the claim that there is a change that the statue *could not* have survived although the piece of clay could, or vice versa. For example, even if we are sceptical about (1M), if we accept an apparently more modest counterfactual claim, such as:

(3M) If the statue had been subjected to a radical reshaping of its matter (including one in which all its matter was preserved in one coherent mass), then it *would* have been destroyed,

this still appears to lead to a conflict, in combination with (4M):

(4M) If the piece of clay had been subjected to a radical reshaping of its matter in which all its matter was preserved in one coherent mass, then it *would* have survived.

The counterfactual statements (3M) and (4M), although different from (1M) and (2M), are still *de re*. And (3M) and (4M) also appear to attribute to the statue and the piece of clay incompatible modal properties: in this case incompatible counterfactual properties (being such that it would not have survived a radical reshaping, and being such that it would have survived a radical reshaping).

4 The contingent identity theory and *de re* modal statements: the Abelardian strategy

Notoriously, contingent identity theorists respond to this '*de re* challenge' by adopting the theory that modal predicates are what Noonan (1991, 1993) has called 'Abelardian' predicates, where an Abelardian predicate is one that can stand for different properties depending on the subject term to which it is attached. The most familiar version of this strategy is probably the 'inconstant' version of counterpart theory advocated by David Lewis in 'Counterparts of Persons and Their Bodies' (1971) and subsequently in *On the Plurality of Worlds* (1986). According to Lewis's version of the strategy, we may interpret (1M) as:

(1M*) The statue has no *statue-counterparts* that are subjected to a radical reshaping of their matter without being destroyed,

and interpret (2M) as:

(2M*) The piece of clay has *piece-of-clay counterparts* that are subjected to a radical reshaping of their matter without being destroyed.

There is no obvious problem about claiming that (1M*) and (2M*) are both true, even if the statue and the piece of clay are identical. If the statue is identical with the piece of clay, then it has both statue-counterparts (i.e., counterparts under the *statue* counterpart relation) and *piece-of-clay* counterparts (counterparts under the *piece-of-clay* counterpart relation). But (according to the Abelardian theory) it is the

statue-counterparts that are invoked by referring to it as ‘the statue’, whereas it is the piece-of-clay counterparts that are invoked by referring to it as ‘the piece of clay’.⁹

Evidently, if this Abelardian strategy is successful, the contingent identity theorist can agree that the persistence conditions associated with being a statue and being a piece of clay are not exhausted by *de dicto* principles, but also have *de re* implications, and also that their *de re* implications include the truth of such pairs of *de re* statements as (1M) and (2M), and (3M) and (4M). For if the strategy is successful, the contingent identity theorist can nevertheless maintain that, in spite of the apparent modal difference represented by these *de re* modal statements, there is no genuine difference in modal properties between the statue and the piece of clay in the permanent coincidence case.

5 Does the Abelardian theorist do justice to the *de re* significance of persistence conditions?

The Abelardian strategy has come under attack on semantic grounds, from Kit Fine (2003). In this paper, however, I shall pursue a different line of argument. This is to question whether this strategy really does justice to our intuition that, for example, the statue could not, while the piece of clay could, have survived a radical reshaping.

5.1 The explanation argument

One argument for the conclusion that the Abelardian strategy does not do justice to this intuition appeals to the following considerations.¹⁰ I shall call this ‘the explanation argument’. Can the Abelardian theorist give an adequate explanation of why, in a *temporary* coincidence case in which a statue *is* subjected to a radical reshaping in which all its matter is preserved in one coherent mass, the statue does not survive, whereas the piece of clay with which it has so far coincided throughout its existence does survive? Doesn’t the explanation of why the statue and the piece of clay ‘go their separate ways’ in the temporary coincidence case require a *genuine* difference in their modal properties, and not merely an apparent difference? And if so, does this not undermine the claim that the apparent difference in the modal properties of the statue and the piece of clay in the permanent coincidence case is merely apparent?

In spite of its superficial plausibility, though, this ‘explanation argument’ against the Abelardian strategy (and the contingent identity theory) is, I think, unsuccessful, for reasons given by Harold Noonan (2013).¹¹ Consider a statue, Statue, and a piece

⁹ Although I shall not spell out the details here, this Abelardian counterpart theory can evidently also be applied to reconcile the counterfactual statements (3M) and (4M) with the claim that the statue and the piece of clay are identical, consistently with Leibniz’s Law.

¹⁰ An argument along these lines was originally presented by Stone (2005), and discussed in Mackie (2007), where I describe the argument as proposing a ‘modal dilemma’ for the contingent identity theorist. For further discussion, see Noonan (2008, 2013).

¹¹ Noonan (2013, pp. 110–113) elaborates the argument given in Noonan (2008, p. 93). Readers should note that what follows is merely my own sketch of Noonan’s argument, and should consult the works cited for his own presentation.

of clay, Piece, which coincide from the very beginning of their existence until a later time at which their matter is radically reshaped but remains in one coherent mass. The *de dicto* principles (S)(2) and (P)(2), together with (S)(1) and (P)(1), entail that, when the radical reshaping occurs, Statue goes out of existence, whereas Piece survives. The proponent of the explanation argument claims that this entailment is insufficient to explain the phenomena, and that a satisfactory explanation must appeal to a difference in the modal properties of Statue and Piece in the temporary coincidence case. In response, Noonan argues (to my mind convincingly) that this explanatory demand depends on the illegitimate assumption that the *explananda* in question—for example, that Statue goes out of existence when it is radically reshaped—require a causal explanation. Of course, a causal explanation is required *for why the matter of Statue is radically reshaped*. But in connection with the further question: ‘why did the radical reshaping of the matter of Statue put an end to Statue’s existence?’, the demand for a causal explanation is misguided. No *causal* explanation of the fact that the radical reshaping means the demise of Statue is either required or even appropriate. An entirely satisfactory explanation of why the radical reshaping of Statue’s matter, when it occurs, puts an end to Statue’s existence, is provided by the fact that Statue is a statue, together with the *de dicto* principles (S)(1) and (S)(2).¹²

There is, however, a different argument for the conclusion that the Abelardian theory does not do justice to the *de re* aspect of the persistence conditions relevant to the items in a permanent coincidence case, an argument that has not, as far as I am aware, been discussed in the literature. To this argument I now turn.

5.2 Vacuous satisfaction and the inadequacy of *de dicto* principles

The argument—which, for reasons I hope will become apparent, I shall call ‘the vacuous satisfaction argument’—is an argument for the conclusion that the Abelardian strategy defeats the purpose of introducing *de re* conditions into the persistence conditions for statues and pieces of clay.

The vacuous satisfaction argument begins by noting that, as we have seen, it is crucial to the defence of the contingent identity theory that there is nothing in the *de dicto* persistence conditions of statues and pieces of clay that rules out their being possessed by one and the same entity. Suppose, though, that it were to turn out (as I shall suggest it does) that the reason why we think there is a *de re* aspect to persistence conditions, in addition to the *de dicto* aspect, is precisely that we think the *de dicto* principles alone make it *too easy* for something to be both a statue and a piece of clay. If that were the reason for insisting on further *de re* principles, the Abelardian strategy would obviously be undermined.

¹² Noonan (2008, 2013) uses this response to what I have called ‘the explanation argument’ to defend the contingent identity theory (or what he terms ‘moderate monism’) against the objection that it cannot give an adequate explanation, in modal terms, of why a statue goes out of existence when it is radically reshaped although the piece of clay with which it temporarily coincides does not. However, Noonan’s response does not *require* the adoption of the contingent identity theory. It can (and, if it is cogent, as I think it is, *should*) also be endorsed by a pluralist about coincidence cases (that is, by one who rejects the contingent identity theory, and believes that even a permanently coincident statue and piece of clay are distinct entities).

To see this, consider some uncontroversial cases where it is clear that the modal implications of a concept cannot be captured by *de dicto* principles alone, and where part of the reason for this appears to be that the relevant *de dicto* principles can be, in a sense, *vacuously* satisfied. For example, consider the properties of bravery and cowardice. And consider the following *de dicto* modal principles that might be taken to represent some of their modal implications—principles analogous (in certain respects) to the *de dicto* modal principles that apply to statues and pieces of clay:

(B) Necessarily (for all [persons] x , x is brave only if, if x is confronted with danger, x stands firm).

(C) Necessarily (for all [persons] x , x is a coward only if, if x is confronted with danger, x runs away).

The description of the behaviour associated with bravery and cowardice given in the principles (B) and (C) is, of course, absurdly simplistic, and hence open to obvious counterexamples. But even if this were not so, the (*de dicto*) principles (B) and (C) would still fail to do justice to the modal difference between bravery and cowardice, for a quite different reason. The reason is that there is nothing in the necessary conditions for bravery and cowardice specified in these principles (standing firm if confronted with danger, and running away if confronted with danger) to prevent a single person from satisfying both of them trivially (or vacuously).¹³ All it takes is that the person be fortunate enough to avoid being confronted with a situation of danger. And this fails to capture the overwhelmingly plausible intuition that if a person S is brave, then even if S is never confronted with danger, it is true that if he had been, he *would* have behaved in certain ways—for example that he would have stood firm, rather than running away. But to say that a brave person S *would* have done such a thing is to make *de re* modal claim (more specifically, a *de re* counterfactual claim) about S . Similarly, we have an overwhelmingly plausible intuition that the claim that someone is a coward has certain *de re* counterfactual implications: for example, that the person *would* have run away if confronted with danger.¹⁴

But—and here is the crucial point—suppose that the reason why we think such additional *de re* conditions are needed in order to capture the modal difference between bravery and cowardice is that it is ‘too easy’ for someone to satisfy the *de dicto* conditions (B) and (C) for being both brave and a coward, by doing so ‘vacuously’. If so, it would defeat the purpose of insisting on these additional *de re* conditions if they were to be reconstrued, in Abelardian fashion, in such a way as to make it equally easy for someone to satisfy the *de re* conditions too. For example, if to say:

(CM) Wimpy William would have run away if he had been confronted with danger,

¹³ Note that throughout this section I am employing the ‘pure *de dicto*’ interpretation of such principles that I adopted at the end of Sect. 2 above.

¹⁴ Here, of course, I am continuing to pretend that the simplistic account of the behaviour associated with bravery and cowardice that is indicated by (B) and (C) is adequate. This is obviously far too crude, but the crudity does not matter to the use I make of the example.

and

(BM) Brave Bill would have stood firm if he had been confronted with danger

is just to say something about what Wimpy William's cowardly counterparts do, and about what Brave Bill's brave counterparts do, then the combination of (CM) and (BM) does not rule out—any more than does the combination of (B) and (C)—the possibility that Wimpy William and Brave Bill are the same person, a person who is both brave and cowardly.

The same structure is evident when we consider other dispositions, such as solubility. Intuitively, the modal conditions necessary for being (water-) soluble and for being (water-) insoluble are not exhausted by the merely *de dicto* principles:

(WS) Necessarily (for all x)(x is (water-) soluble only if, if x is put in water, x dissolves).

(WI) Necessarily (for all x)(x is (water-) insoluble only if, if x is put in water, x does not dissolve).

Why so? This is because, even if we ignore other potential inadequacies in these principles,¹⁵ it is obviously possible for something to satisfy, trivially and vacuously, both the necessary condition for being soluble and the necessary condition for being insoluble represented by the *de dicto* principles (WS) and (WI). All it takes is for the thing never to be put in water. Yet clearly we think that part of what is involved, modally, in being soluble is that if something is soluble, then even if it never is put in water, if it *had* been, it would have dissolved. And this, of course, is a *de re* claim. Similarly, we think that part of what is involved, modally, in being insoluble is that if something is insoluble, then even if it never is put in water, if it had been, it would not have dissolved—again, a *de re* claim.¹⁶ Once again, though, the Abelardian strategy, if applied here, would undermine the prospect of treating these *de re* conditions as representing a modal difference between solubility and insolubility that the *de dicto* principles fail to capture. For, example, if such *de re* conditions are interpreted in terms of an Abelardian counterpart theory, and the same entity can have both soluble and insoluble counterparts, which are invoked by referring to it in different ways, then it might be the case that for some entity x , and some description 'D', of x , the *de re* counterfactual statement: 'If D had been put in water, it would have dissolved' is true, while for some other description, 'D*', of the very same entity x , the *de re* counterfactual statement 'If D* had been put in water, it would not have dissolved' is also true.

To sum up: I have suggested that there are cases of certain properties (in my examples, certain dispositional properties), where all of the following are true:

¹⁵ As is well known, such conditions appear to be vulnerable to counterexamples. See, for example, Choi and Fara (2016).

¹⁶ Here, of course, I am, for simplicity, ignoring the problems mentioned in the previous note concerning whether the conditions represented by (WS) and (WI) really are necessary conditions for solubility and insolubility. As in the case of the example of bravery and cowardice, however, this oversimplification is harmless in connection with my argument.

- (1) Purely *de dicto* modal principles are insufficient to do justice to the modal implications of these properties.
- (2) This is because the conditions involved in the relevant *de dicto* modal principles can be, in a sense, vacuously satisfied.
- (3) An appeal to certain *de re* modal statements captures the modal implications that the *de dicto* principles fail to capture in these ‘vacuous satisfaction’ cases.
But, crucially,
- (4) The truth of (3) requires that the relevant *de re* modal statements are construed as involving the *non-Abelardian* predication of modal properties (in particular, certain counterfactual properties).

But what bearing does this have on the application of the contingent identity theorist’s Abelardian strategy to the case of the permanently coincident statue and piece of clay? As I indicated at the beginning of this section, the relevance is this. It is, I suggest, very plausible to suppose that the reason *why* we think that the persistence conditions for statues and pieces of clay must involve a *de re* aspect—why we must ‘go beyond the *de dicto*’ in order to do justice to their persistence conditions—is precisely that it is ‘too easy’ for something to satisfy merely *de dicto* persistence conditions such as those discussed in Sect. 2 above. It is too easy, for example, to satisfy both (S)(2) (a condition for being a statue) and (P)(2) (a condition for being a piece of clay), by doing so ‘vacuously’. But if this is correct, the Abelardian strategy for the interpretation of *de re* modal predicates, applied to this case, is in conflict with the very motivation for insisting that an account of the persistence conditions of statues and pieces of clay in terms of *de dicto* principles alone is inadequate, and that it needs supplementation with *de re* principles. I call this argument against the Abelardian contingent identity theorist ‘the vacuous satisfaction argument’.¹⁷

Before proceeding, I need to counter an objection.¹⁸ The reader might wonder whether there is a significant difference between the vacuous satisfaction argument, which I endorse, and the ‘explanation argument’ mentioned in Sect. 5.1 above, which I claim to reject. My response is that there is a significant difference between the arguments, one which allows me consistently to accept the first and reject the second. The explanation argument rests on the assumption that a genuine difference in modal properties is required to explain why, in a temporary coincidence case, a statue fails to survive a change that the piece of clay that coincides with it for the first part of its existence does not. This is the assumption criticized by Noonan. By contrast, my vacuous satisfaction argument does not require the attribution of this explanatory role to the genuine difference in modal properties in temporary coincidence cases. Instead, what drives my vacuous satisfaction argument is the thesis that, even if we restrict

¹⁷ Supporters of context-relative counterpart theory may claim that the theory provides an explanation of the context-relativity of *de re* modal statements that is otherwise unavailable. I cannot do justice to this controversial issue here. However, I take my vacuous satisfaction argument to show that the Abelardian version of context-dependent counterpart theory that is invoked by the contingent identity theorist goes beyond any uncontroversial claims about the context-relativity of *de re* modal statements, and conflicts with our intuitions about the point of the *de re* modal statements in question.

¹⁸ Thanks to an anonymous referee for raising this issue.

our attention solely to permanent coincidence cases, a genuine difference in modal properties is required to match our intuitions.

This response to the objection would, of course, be inadequate if it were the case that the intuitions lying behind both arguments are essentially the same. However, I maintain that this is not so. Consider the intuition that my vacuous satisfaction argument appeals to. This ‘too easy’ intuition is that there is a modal difference that prevents a statue from being identical with a piece of clay that purely *de dicto* principles cannot capture, because it is consistent with the joint satisfaction of the *de dicto* principles for being a statue and being a piece of clay. The mere fact that a statue and piece of clay would have behaved differently in certain circumstances is enough to ensure that they are not identical, even if those circumstances never arise.

It is true that, if we do think that there is such a *de re* modal difference between statues and pieces of clay—a genuine difference in their modal properties—we might be tempted to give this *de re* modal difference a further explanatory role. If my counter to the explanation argument is correct, that would be a mistake. But this further step is not mandatory. Hence my vacuous satisfaction argument represents a way of isolating an intuition that there is a genuine difference in modal properties between statues and pieces of clay that is independent of any explanatory role that might be attributed to this difference. (For my response to the charge that, thus construed, my vacuous satisfaction argument begs the question against the contingent identity theorist, see the next section.)

6 Conclusion

If successful, my ‘vacuous satisfaction argument’ shows that there is an important respect in which the Abelardian contingent identity theory fails to do justice to our *de re* modal intuitions: namely, that the theory’s treatment of *de re* modality is at odds with the very intuitions that lead us to think that a purely *de dicto* theory of the persistence conditions associated with sortal concepts is inadequate. My vacuous satisfaction argument does, however, require, for its defence, a defence of my claim that the justification for thinking that the modal implications of the persistence conditions for statues and pieces of clay are not exhausted by *de dicto* principles (such as those discussed in Sect. 2 above) depends on the fact that those *de dicto* principles can be jointly satisfied by being vacuously satisfied. Although I think this claim is plausible, it requires more defence than I can provide here. I do, however, want to end by proposing a challenge to the Abelardian contingent identity theorist who would deny this claim. This challenge is important, *inter alia*, in attempting to rebut the charge that my vacuous satisfaction argument simply begs the question against the contingent identity theorist.

The Abelardian contingent identity theorist accepts that, in order to do justice to the persistence conditions for statues and pieces of clay, we must accept that these persistence conditions do have *de re* implications [such as (1M) and (2M), and (3M) and (4M) (Sect. 3 above)] that go beyond the purely *de dicto* (although of course they argue that these further *de re* implications can be reconciled with the contingent identity theory). But—and here is the challenge—what good *reason* does the Abelardian

contingent identity theorist have for agreeing that the persistence conditions for statues and pieces of clay have such additional *de re* implications at all? Why not suppose, instead, that the persistence conditions for statues and pieces of clay are exhausted by purely *de dicto* persistence conditions, and that no further *de re* element is involved?

Reflecting on the legacy of Quine's scepticism about *de re* modality, John Divers has pressed, on behalf of the Quinean (or other) *de re* modal sceptic, the question what the point of *de re* modality is, and 'why we should struggle to accommodate *de re* modalizing in our total theory' (2007, p. 57). The attempt at the accommodation of the *de re* that is most prominent in Divers's paper is, however, that of David Lewis, with its employment of an 'inconstant' (and Abelardian) version of counterpart theory. The discussion in my paper suggests that, at least with regard to modal questions concerning persistence, the Lewisian may be particularly *ill*-placed to answer Divers's challenge. If my vacuous satisfaction argument concerning the rationale for the introduction of a *de re* element to the persistence conditions for things such as statues and pieces of clay is correct, the Lewisian accommodation may be achieved only at the cost of sacrificing what rationale there is for regarding purely *de dicto* persistence conditions as inadequate.

When confronted with the contingent identity theorists' Abelardian attempt to accommodate the apparent *de re* implications of sortal concepts, I think many people's initial reaction is to suspect that the contingent identity theorist has merely paid lip-service to the phenomena, without doing justice to the intuitions that lie behind them: in effect, that an Abelardian account of *de re* modality does not take *de re* modality seriously. If I am right, then this suspicion, at least in the case of the apparent *de re* modal consequences of sortal concepts and their persistence conditions, is justified.

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