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What Mary Couldn't Know: Belief about Phenomenal States

I. Introduction

Everyone familiar with the current mind-body debate has probably heard about Frank Jackson's neurophysiologist Mary.¹ So I tell her story very briefly. Mary knows everything there is to know about the neurophysiological basis of human colour vision but she never saw colours herself (she always lived in a black-and-white environment). When Mary is finally released into the beauty of the coloured world, she acquires new knowledge about the world and — more specifically — about the character of the visual experiences of others. This appears clear at first sight. In the ongoing philosophical debate, however, there is no agreement about whether Mary really gains new knowledge and about whether this would, if it were so, represent a problem for physicalism. Those who defend the so-called argument from knowledge (or 'knowledge argument') think that it does.²

Most participants in the debate agree that there is a strong intuition in favour of the thesis that Mary makes a genuine epistemic progress after her release. But there is disagreement about whether this intuition survives critical investigation and also about how the apparent or genuine epistemic progress can be adequately described. Most work about the argument from knowledge has focussed on the question whether it leads — as was originally intended — to the ontological result that there are non-physical facts.

¹ For the title compare Jackson 1984b. The example of Mary is presented in Jackson 1984a.

² The assumption in the example is, more exactly, that Mary knows everything there is to know about human colour perception except for what she cannot possibly know given her colour deprivation.

The epistemologically interesting questions raised by the Mary-example, however, have not yet been considered in much detail. It seems clear to me that an intuitively adequate theoretical description of what Mary learns after her release has not been proposed so far — neither by those who attack nor by those who defend the knowledge argument. Such a description requires, I think, the use of an epistemological distinction (between phenomenal and nonphenomenal belief) that will be proposed in the present paper. Using this distinction it will be possible to say in a precise manner what Jackson's Mary learns, when she finally is allowed to see colours and why she could not have learned all this before. Most philosophers use Nagel's term of 'knowing what it's like' in this context.³ But this metaphorical locution is misleading and does not capture the intuition underlying the knowledge argument.

I have been considering Mary's specific epistemic situation so far. But, of course, the controversy addressed in this paper is not — or only at a superficial level — about how we should describe the counterfactual situation of a fictitious person. One of the deeper questions behind this is, whether there really is — as Mary's example seems to suggest — a specific kind of factual knowledge about the experiences of others that is only accessible to an epistemic subject who is acquainted by personal experience with the type of mental state at issue. The answer to this question is 'yes' for phenomenal knowledge as introduced below. Once we accept that there is such knowledge (knowledge that presupposes acquaintance with certain specific phenomenal states), then it appears that any description of a conscious being capable of phenomenal experience that uses only terms that the physicalist accepts as unproblematic will be — in a sense — epistemically incomplete, since it is characteristic for such a description that it can be understood and believed to be true by any rational epistemic subject independently of the specific kinds of phenomenal qualities it is able to experience given its physiological 'apparatus'. (See Nagel 1986: 13 ff.)

My main concern in this paper is to convince the reader that the epistemological distinction I propose between phenomenal and nonphenomenal belief concerning the experiences of others makes sense and that it is useful for certain philosophical purposes. I hope to show this by using the distinction in the following. (I will introduce the distinction only for the special case of belief and other propositional attitudes concerning colours and colour experiences, but the distinction naturally carries over to belief about other phenomenal states.⁴) You might convince yourself of the usefulness of this distinction, e.g. for explicating certain philosophical intuitions, even

³ The term was introduced by Thomas Nagel, see his famous paper Nagel 1974.

⁴ The conditions that must be fulfilled in general in a case where the distinction makes sense are discussed in Nida-Rümelin 1996b, section 3.

if you do not — in the end — agree with the view here presented about the knowledge argument.

II. An Unusual Epistemic Situation

To introduce the distinction between phenomenal and nonphenomenal belief, I will change Mary's example. Like Mary, Marianna has always lived in a black-and-white environment. Also, there are no colours, we may suppose, in her dreams and visual phantasies and imaginations. Maybe Marianna has — like Mary — detailed knowledge about physiology, but this is of no importance for the following.⁵ Marianna has agreed to participate in a psychological experiment which requires that she does not leave the house where she has always been living. But the interior decoration is now radically changed. She sees artificial objects (walls, tables etc.) of all colours, but is not taught the names of these colours. She already knows of a number of natural objects (like leaves, sunflowers, etc.) that they are called 'green', 'yellow' etc. But she is not allowed to see any of these objects (she is not allowed to see ripe tomatoes, photographs of landscapes or realistic paintings, she is somehow prevented from seeing the natural colours of her own body, she does not see the sky, etc.). In the course of the psychological experiment Marianna undergoes the following test: She is visually presented with four slides showing clear cases of blue, red, green and yellow, and she is asked which of the four slides shows a clear case of the colour she believes to be experienced by normal people when they look at the sky. Marianna is especially impressed by the beauty of the red slide. Having been told about the beauty of the sky on a sunny summer day she says after some reflection, pointing to the red slide: 'I believe it's this one.' Two more details are relevant for the following discussion: Marianna believes herself to be normally sighted and this belief is correct.⁶

Already, before she has been presented with colours for the first time, Marianna has acquired the belief that the sky appears blue to people with normal colour perception. It appears correct to ascribe this belief to her since a number of those conditions are clearly fulfilled which normally — according to the usual practice of belief ascription — lead us to the claim that a person believes that *p*: Marianna would say (when asked the appropriate question) 'the sky appears blue to normally sighted people'; she intends to thereby express the belief that is normally expressed using these

⁵ The example is used here only to introduce an epistemological distinction and, contrary to Jackson's use of his example, it does not serve for a direct attack on physicalism. This is why I do not need the assumption of 'complete physical' knowledge about human colour perception.

⁶ Only under this assumption we are allowed to draw the conclusion that will be drawn in the following, namely that Marianna believes — in a certain sense — that the sky appears red to normally sighted people. If Marianna were red/green blind or pseudonormal (for pseudonormality see footnote 13), it would be a mistake to conclude this.

words and she belongs to a language community where people normally use the above sentence to claim that the sky appears blue to normally sighted people.⁷ So, if we wish to describe the beliefs Marianna holds before her acquaintance with colours, then we have reason to claim:

- (1) Marianna believes that the sky appears blue to normally sighted people.

But, when she was finally presented with colours, Marianna did not give up this original belief. Her answer in the above described experiment is not accompanied by a revision of her original opinion about how the sky appears to normally sighted people. Therefore, (1) is still correct when claimed about Marianna with respect to the later moment considered. In a sense, Marianna still believes that the sky appears blue to normally sighted people. She still trusts those who told her that this is so. Furthermore, Marianna would therefore contradict the verbally (and without ostension) expressed opinion that the sky appears red to normally sighted people. So we also have reason to claim (with respect to her later epistemic situation):

- (2) Marianna does not believe that the sky appears red to normally sighted people.

On the other side, there are strong intuitions against (1) and (2). Marianna believes herself to be normally sighted and she is normally sighted. The red slide appears red to her and she is right in assuming that she has the same type of colour experience when looking at the slide as other people with normal colour vision.⁸ In a sense she believes, therefore, that the slide appears to others like it appears to her, namely red. And she believes that the sky appears to normally sighted people with respect to colour like this slide, red therefore, and not blue. Viewed in this way it appears correct to ascribe to Marianna the following beliefs:

- (3) Marianna believes that the sky appears red to normally sighted people.
 (4) Marianna does not believe that the sky appears blue to normally sighted people.

So, on the one side, there is a tendency to claim that Marianna believes that the sky looks blue and not red to normally sighted people, where this intuition is based on the fact that Marianna belongs to a certain language

⁷ More precisely, this sentence is normally used to claim that the sky appears blue_p to normally sighted people (see Nida-Rümelin 1996c: section 5). But I have not yet introduced the subscribing convention to distinguish phenomenal and nonphenomenal belief at this point of the present paper.

⁸ By assuming that normally sighted people have the same type of colour experience when looking at the slide I do not mean to claim that they experience exactly the same shade of red. I just assume that for every normally sighted person the slide appears in the same basic hue (red). In every such case, what is seen is a clear case of red.

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community. On the other side, it appears obvious that Marianna believes of the wrong visual quality (namely with respect to red) that it is the colour experienced by normally sighted people, when looking at the sky on a sunny day. She clearly has, in a sense, mistaken beliefs about the character of the colour experiences of others. When imagining the sky in the way it appears to others, she would imagine a red sky. In a certain sense she does not know, which colour is the colour of the sky.

To account for these conflicting intuitions with respect to Marianna's epistemic situation, we should distinguish two readings of belief descriptions containing colour terms in their that-clause. One quickly realizes that the distinction makes sense not just for cases where the that-clause contains a 'colour appearance term' like 'appears red to . . .' but for any occurrence of a colour term (as in 'Marianna believes that the sky is red' or in 'Marianna believes that Peter saw a red flower in his dream last night').⁹ A first attempt to resolve the conflict between (1) and (4) and (2) und (3) could consist in distinguishing phenomenal and nonphenomenal belief in the following way:

- (1') Marianna believes nonphenomenally that the sky appears blue to normally sighted people.
- (2') Marianna does not believe nonphenomenally that the sky appears red to normally sighted people.
- (3') Marianna believes phenomenally that the sky appears red to normally sighted people.
- (4') Marianna does not believe phenomenally that the sky appears blue to normally sighted people.

But consideration of examples with several occurrences of colour terms in the belief context shows that we need to distinguish for every occurrence of a colour term in the that-clause whether it is used to ascribe phenomenal or nonphenomenal belief (compare belief description (5) below). I therefore propose to attach the subscripts 'p' (for 'phenomenal') and 'np' (for 'non-phenomenal') to colour terms within belief contexts to express the intended distinction. Using this subscripting convention we may describe Marianna's epistemic situation by the following claims:

- (1') Marianna believes that the sky appears blue_{np} to normally sighted people.
- (2') Marianna does not believe that the sky appears red_{np} to normally sighted people.

⁹ The relation between belief about colour properties of concrete objects ('x believes that roses are red') and belief about colour appearances ('x believes that roses appear red to normally sighted people') is discussed in Nida-Rümelin 1993, chapter 5.

- (3') Marianna believes that the sky appears red_p to normally sighted people.
- (4') Marianna does not believe that the sky appears $blue_p$ to normally sighted people.
- (5) Marianna believes that $blue_{np}$ objects appear red_p to normally sighted people.

Colour terms should only be thus subscripted within belief contexts and — more generally — within the description of propositional attitudes and they are used to distinguish different possible readings of the description as a whole. Accepting this subscripting convention within the description of propositional attitudes does not force us to introduce subscripts for colour terms also outside such contexts. In my view, there is no way to introduce a corresponding distinction for colour terms outside propositional attitudes.¹⁰

I have been assuming and will argue below that phenomenal belief (and nonphenomenal belief as well) is belief about something that may or may not be the case. Most contemporary philosophers think of such beliefs as having propositions as their content. Therefore, for them the question immediately arises how we should describe the propositions believed in phenomenal and in nonphenomenal belief. Furthermore, who thinks that believing is a relation between a believer and a proposition will ask whether the distinction here introduced is meant as a distinction between two kinds of belief relations (in this case there would be different ways of believing a proposition) or whether the distinction is concerned with the second *relatum* of the belief relation and thus is meant as a distinction between different kinds of propositions. What ontological consequences result from the knowledge argument depends on the view one takes about this question. But

¹⁰ If there were a 'corresponding distinction' (in the sense here intended) between ' red_p ' (which would be a colour term taken on its 'phenomenal reading') and ' red_{np} ' (colour term on its nonphenomenal reading), then this distinction between phenomenal and nonphenomenal interpretations of colour terms could be used to distinguish the content of phenomenal and nonphenomenal beliefs. The content of the belief that the sky appears $blue_{np}$ would then be given by the content of the sentence 'the sky appears $blue_{np}$ ' and analogously for phenomenal belief. The reason why I think this picture is completely misguided, is — very roughly — that there is no nonphenomenal concept of red such that whoever believes something of the colour red nonphenomenally, believes it about red 'under this nonphenomenal concept'. What people who have nonphenomenal beliefs about a colour share is not their conceptual access to the colour at issue but rather the way their belief is acquired and the way it is thereby embedded in a certain social context of a specific language community. I do not deny that it might make sense to distinguish different senses of colour terms outside belief context. I just deny that such a distinction would correspond, in the simple way sketched above, to the epistemological distinction here proposed.

a clear understanding of the distinction does not presuppose a decision between the two views about it sketched above.¹¹

The distinction is not meant as a diagnosis of a normal kind of ambiguity that is already there in natural language.¹² By a 'normal kind of ambiguity in natural language' I mean cases where a hearer of a sentence containing the ambiguous term has first to find out, e.g. by the context or by asking, in which of the two senses the term is presently used, before he can possibly understand the assertion at issue. This is not so in the case of sentences that describe propositional attitudes with respect to colour. If someone says in a normal life situation about a person who refuses to buy green salad tomatoes 'she thinks that green tomatoes are immature', we can understand what he asserts without disambiguating. There is no need to ask 'in which of the two senses do you mean this belief description?' So, the distinction between phenomenal and nonphenomenal belief (and the corresponding distinction for other propositional attitudes) does not correspond to a normal ambiguity in natural language in the sense explained above. The reason for this is, simply, the following: in normal life situations the truth conditions for phenomenal and those for nonphenomenal belief are always simultaneously fulfilled, or at least we normally implicitly assume that this is so. Unusual epistemic situations that are in relevant respects analogous to the one of Marianna normally do not occur.¹³ But it is only in these unusual situations that the truth conditions for phenomenal and nonphenomenal belief may 'fall apart', and only when this may happen is it necessary to add what reading is meant in the relevant belief descriptions.

¹¹ An analogous question arises in the case of *de se* belief. Some have claimed that *de se* belief has a special content (*de se* propositions), others think that *de se* attitudes involve a specific relation to the proposition at issue, still others claim that *de se* belief is not propositional at all. In this case too, one must — in a sense — have gained a clear understanding of what is meant by '*de se*' beliefs before one can start to discuss these issues (see e.g. Perry 1979; Chisholm 1981; Sosa 1983).

¹² I owe this insight to a discussion with Andreas Kemmerling.

¹³ An exception would be the case of pseudonormal people if they really exist which is presented and discussed at length in Nida-Rümelin, 1995. I will use this example several times in the following and therefore I here explain the case briefly. According to an empirical hypothesis about the inheritance of red/green blindness, there are people who have their receptors on the the retina filled with photopigments in a specific unusual way. For this specific unusual distribution of photopigments, the so-called opponent process theory of colour vision predicts an 'inversion' of red and green, that is to say: what appears greenish to normal people appears reddish to them, and vice versa. Pseudonormal people would call those objects red that appear green to them (and vice versa). They would express the opinion that something appears green_p to a person, using the term 'red'. To describe the epistemic states of pseudonormal people the distinction between phenomenal and nonphenomenal belief is needed (for a discussion of this thesis and its consequences for the philosophy of language see Nida-Rümelin, 1996a). The assumption that pseudonormal people exist does not imply the possibility of undetectable qualia inversion, nor the possibility of qualia inversion in a case of functional 'equivalence'. For scientific literature about the empirical hypothesis of pseudonormal vision see Piantanida 1974 and Bovnton 1979.

III. A Few Remarks About the Status of the Proposed Distinction

This section addresses questions that are likely to occur to readers familiar with the discussion of propositional attitudes within the analytical tradition when they are first confronted with the present epistemological proposal. The results of this section are only presupposed in the following discussion in the sense that they answer objections that are likely to be raised against the proposed distinction between phenomenal and nonphenomenal belief.

One might be tempted to think that the phenomenal / nonphenomenal distinction here proposed is only a special case of the so-called *de re / de dicto* distinction. On this view, phenomenal beliefs would be *de re* beliefs that have a special kind of entity, namely colours, as their objects. But this interpretation is likely to evoke misunderstandings. One might erroneously conclude that the well-known problems of the *de re / de dicto* distinction need to be solved before one can reasonably accept the distinction between phenomenal and nonphenomenal belief. Also, one might be tempted to conclude that the proposals for a precise account of the *de re / de dicto* distinction proposed in the literature could simply be taken over to account for the phenomenal / nonphenomenal distinction. I cannot discuss these possible claims in detail here, but I wish to explain briefly how I think one should see the interconnection between the phenomenal / nonphenomenal and the *de re / de dicto* distinction.¹⁴

The intuition behind the *de re / de dicto* distinction can be seen by a comparison of the following two cases. Anna believes that the best dolphin swimmer of Munich is broad-shouldered and her reasons to believe this are certain general convictions: She believes that every good dolphin swimmer is broad-shouldered, she thinks there is one person who is the best at this swimming discipline in the Bavarian capital and she thinks that there are good dolphin swimmers in Munich. Anna has no idea who is the best dolphin swimmer in this city. Maria, by contrast, knows the best dolphin swimmer of Munich (without however knowing that he is the best). Maria saw this person in a swimming competition and she saw that he is broad-shouldered. So Maria too believes (in a certain sense) that this person (the best dolphin swimmer in Munich) is broad-shouldered. Maria's belief is — in a sense — about this individual person (about this 'thing', this 'res', the belief is a paradigm case of so-called '*de re* belief'). Anna, by contrast, does not seem to have any opinion about this particular person. Her belief is a typical example for the idea underlying the notion of a 'mere' *de dicto* belief.

It is common to distinguish between the *de re / de dicto* dichotomy on the level of belief descriptions on the one side and the corresponding dichotomy on the level of the beliefs themselves on the other. The difference between *de re* and *de dicto* belief descriptions can be explained by their hidden

¹⁴ For a concise and clear presentation of the *de re / de dicto* debate see Haas-Spohn 1989.

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logical structure. Thus the following belief description (6) if interpreted on its *de dicto* reading can be paraphrased by (6')

- (6) Anna believes that the best dolphin swimmer of Munich is broad-shouldered.
- (6') Anna believes that there is someone who is the best dolphin swimmer of Munich and who also is broad-shouldered.

By contrast, the assertion (7), if interpreted on its *de re* reading can be paraphrased by (7')

- (7) Maria believes that the best dolphin swimmer of Munich is broad-shouldered.
- (7') There is a person who is the best dolphin swimmer of Munich and who is believed by Maria to be broad-shouldered.

The quantifier ('there is someone who . . .') appears within the range of the belief predicate in (6') (the quantifier has 'narrow scopus') whereas in (7') it appears outside the belief predicate (the quantifier has wide scopus). It is sometimes claimed that there is nothing more behind the so-called *de re* / *de dicto* distinction than this syntactic ambiguity. Whoever tends to think that way, might suspect that there is nothing more to the phenomenal / nonphenomenal distinction here proposed either. If this were true then the phenomenal reading of (8) could be captured by paraphrasing with 'wide scopus' — see (8').

- (8) Maria believes that the sky appears blue_p to normally sighted people.
- (8') There is a colour such that it is the colour blue and it is believed by Marianna to be the colour in which normally sighted people see the sky.

But this reformulation of (8) does not exclude a nonphenomenal reading. Marianna has learned the term 'blue' by people who refer to the colour blue using this term. Her nonphenomenal belief that the sky appears blue_{np} to normally sighted people, is, therefore, in a sense a belief about this colour, namely about blue. So the phenomenal / nonphenomenal distinction cannot be captured simply by pointing out the syntactic ambiguity at issue and the latter ambiguity cannot replace the distinction between phenomenal and nonphenomenal belief.

De re belief descriptions face the well-known problem that Quine pointed out using his famous Orcutt-example:

There is a certain man in a brown hat whom Ralph has glimpsed several times under questionable circumstances on which we need not enter here; suffice it to say that Ralph suspects he is a spy. Also there is a gray-haired man, vaguely known to Ralph as rather a pillar of the community, whom Ralph is not aware

of having seen except once at the beach. Now Ralph does not know it, but the men are one and the same. (Cited from Quine 1953.)

It would be natural to describe Ralph's beliefs as follows:

(9) Ralph believes that the man with the brown hat is a spy.

(10) Ralph does not believe that the man at the beach is a spy.

These beliefs are beliefs about one and the same person whose name 'Orcutt' in Quine's story. Interpreted as *de re* belief descriptions (9) and (10) would have to be paraphrased by (9') and (10')¹⁵:

(9') There is a man named Orcutt who is believed by Ralph to be a spy.

(10') There is a man named Orcutt who is believed by Ralph to be no spy.

We thus have arrived at ascribing conflicting beliefs to Ralph which already appears problematic. Serious problems arise if one further accepts the following belief description (11) for the epistemic situation at issue and then paraphrases (11) with 'wide scopus' like in (11'):

(11) Ralph does not believe that the man at the beach is a spy.

(11') There is a man named Orcutt who is not believed by Ralph to be a spy.

As is well-known, there is a controversy about whether (11') should be accepted for Ralph's epistemic situation. I cannot enter the debate about Quine's example here. I only recalled Quine's problem because it can help to gain a better understanding of how the phenomenal / nonphenomenal distinction and the *de re* / *de dicto* dichotomy are related to one another.

Confronted with Quine's problem one might at first think that the problem can be avoided by restricting *de re* belief descriptions to cases where the epistemic subject has a sufficiently direct epistemic access to the object of his or her belief. The reason why the difficulty arises in Quine's example is obviously the fact that Ralph does not recognize a person he already knows in new circumstances. So the relation of a person to the object of his or her belief should be so intimate that such a case is excluded. Restricting *de re* belief descriptions to such cases would therefore solve Quine's problem. But one quickly realizes that there does not seem to be any way to give a general characterization of the 'epistemic intimacy' required which is not *ad hoc* and which still allows *de re* belief descriptions to be at least sometimes adequate. This is so since 'it is in principle always thinkable that we do not recognize even the most familiar object in unusual circumstances

¹⁵ In the formulations with 'wide scopus' the terms 'the man with the brown hat' and 'the man at the beach' occur outside the belief context and therefore can be replaced by an expression that designates the same person without thereby changing the truth value.

and thus mistake one thing for two'.¹⁶ The situation is different in the case of belief about colours. Quine's problem can here be avoided in a natural way by simply restricting *de re* belief descriptions to phenomenal belief about colours. It is impossible for a rational person to have conflicting beliefs about one and the same colour. One will immediately see that this is so when trying to find counterexamples.¹⁷ One might describe the situation as follows: We could say that a genuine *de re* belief in an intuitively obvious sense is a belief where the subject is so intimately related to the object of his or her belief that he or she is just incapable to commit the mistake that gives rise to Quine's problem. Phenomenal beliefs about colour are genuine *de re* beliefs in this sense and maybe phenomenal beliefs in general are the only kind of beliefs that are in this sense 'genuinely *de re*'. (This thesis and similar ones about the relation between the two epistemological distinctions at issue obviously can be considered only after having introduced the phenomenal / nonphenomenal distinction independently, without thereby already using the *de re* / *de dicto* distinction).

The above considerations should have shown among other things: (1) The precise relation between the two epistemological distinctions is a theoretical question that requires detailed examination. (2) It is possible to introduce the phenomenal / nonphenomenal distinction without thereby presupposing the *de re* / *de dicto* distinction and without thereby being committed to solving first the well-known problems of the latter.¹⁸

I will not assume in the following (although I think the claim can be defended) that phenomenal belief about colours is *de re* belief about colours. One more reason for not doing so is that this thesis seems to commit its proponent to saying something clarifying about the difficult question of what 'res' these special beliefs are about. But no special philosophical theory about the ontological status of colours is needed for a clear understanding and for a precise account of the epistemological distinction between phenomenal and nonphenomenal belief.

One might furthermore be tempted to think that phenomenal belief about the experiences of others is just a special kind of *de se* belief (of belief about oneself). When Marianna learns that the sky appears blue_p to normally sighted people, she thereby acquires the belief that the sky appears to those people with respect to colour like this slide (the blue one) appears to her*.¹⁹

¹⁶ Cited from Haas-Spohn 1989: S. 64 (my translation).

¹⁷ This thesis is discussed in more detail in Nida-Rümelin 1993, 61 f. The idea underlying this solution of Quine's problem for belief about colours is of course related to the old idea that colours (and phenomenal qualities in general) are in a sense directly presented to the perceiver in his or her perception (or more general to the subject in his or her experience).

¹⁸ Whoever makes a conceptual proposal should of course relate this proposal to concepts that are already commonly accepted. There is no room to do this here (but see Nida-Rümelin 1993: 48–63).

¹⁹ I use Castañeda's '*' to indicate *de se* belief. See e.g. Castañeda 1967.

It might therefore appear as if Marianna's progress could be described in the following way: If we select an object that appears blue to Marianna, then we can describe her epistemic progress as consisting in having learned that the sky appears to others with respect to colour like this object appears to her*.

This thesis is interesting in the context of the argument from knowledge if combined with the view that the locution 'O appears to S in the same colour as O' appears to S' or 'O appears to S with respect to colour like O' appears to S' can be explicated in purely physicalist terms. Let us call 'physical *de se* knowledge', knowledge that involves self-attribution of physical properties (or of properties that can be explicated in physicalist terminology). Then according to the thesis at issue, phenomenal knowledge about the experiences of others would be physical *de se* knowledge. But, it is common opinion that *de se* belief and *de se* knowledge does not represent a problem for physicalism.²⁰ It would follow that the notion of phenomenal belief cannot help much in a defence of the knowledge argument.

But the thesis that phenomenal belief (in the sense here introduced) is nothing but physical *de se* belief is untenable. This thesis assumes the equivalence of the following two assertions:

(12) Marianna believes that the sky appears red_p to Peter.

(13) Whenever Marianna is visually presented with a red object she forms the *de se* belief that the sky appears to Peter with respect to colour like this object presently (*de nunc*) appears to her*.²¹

But the equivalence between (12) and (13) only holds under the assumption that the red object actually appears red to Marianna in the given circumstances. It does not hold if Marianna is pseudonormal or if she is visually presented with the object at issue under unusual lighting conditions that make it appear e.g. brown.²² So (13) must be changed into (13') in order to get an assertions that is true just in case (12) holds of Marianna:

(13') When Marianna is visually presented with an object that appears red to her under the then prevailing conditions, she forms the *de se* (and *de nunc*) belief that this object presently (*de nunc*) appears to her* (*de se*) with respect to colour like the sky appears to Peter.

Now, quite obviously, the equivalence between (12) and (13') is to be explained in the following way: When Marianna is visually presented with an object that appears red to her under the then prevailing circumstances, she

²⁰ It do not subscribe to this view here but it would be bad for my argument if I first had to show that this view is false.

²¹ *De nunc* belief is belief we normally express using the term 'now'. For a discussion of *de nunc* belief see e.g. Sosa 1983.

²² For pseudonormality see footnote 13.

knows that the object presently (*de nunc*) appears red_p to her* (*de se*). That the epistemic subject does have this *de nunc-de se* belief in the circumstances at issue is implicitly assumed in the claim that (12) and (13') are equivalent. This is not a decisive argument but a hint at what is wrong with the claim under consideration. A genuine refutation of the claim that phenomenal belief is physical *de se* belief can be accomplished using a more complex thought experiment (there is no room, however, to present it here).²³

Furthermore, phenomenal belief is not just a kind of indexical belief. This idea might appear plausible since we could inform Marianna about what she did not yet know (in the phenomenal sense about the experiences of others, e.g. when they look at the sky) by 'ostensive teaching' (e.g. by pointing to a blue object saying 'this is what we call "blue"'). This might lead to the conclusion that (12) can be paraphrased by (15):

(15) Every red object O is such that the the following holds: If Marianna is visually presented with O, then she will form an indexical belief that she could express saying while demonstratively referring to O (e.g. by pointing): 'The sky appears to Peter with respect to colour like *this*'.

However, neither the conclusion of (15) from (12), nor the conclusion of (12) from (15), is valid in general. For example, if Marianna is pseudonormal (green objects appear red to her and red objects appear green to her), (15) can be true and (12) false: If Marianna does not know that she* is pseudonormal then she will express her phenomenal belief that the sky appears red_p to Peter by demonstrative reference to green objects (that appear red to her) and she will have no tendency to express the relevant indexical belief when presented with red objects. The same example refutes the claim that (15) implies (12). The non-equivalence of (12) and (15) can be seen in another way: Suppose there is a measuring instrument that allows blind people to identify the colour of objects on the basis of their physical surface properties. Then a blind person who is allowed to use this instrument when confronted with a coloured object can fulfill the property ascribed to Marianna in (15) although he or she does not have the belief ascribed to Marianna in (12).²⁴

Having this last counterexample in mind a proponent of the indexical interpretation of phenomenal belief might try to defend his position requiring a visual confrontation of the subject with the object at issue in a revised version of (15). But this move does not help for a defence of the claim that phenomenal belief is just a special kind of indexical belief. If phenomenal

²³ This refutation is presented in Nida-Rümelin 1993, section 4.3.

²⁴ I owe this example to a comment of Michael Pietroforte. The two articles Spohn 1996 and Nida-Rümelin 1996a discuss in detail the related question whether colour terms are hidden indexicals.

beliefs were nothing but indexical beliefs then the way in which the corresponding demonstrative reference is achieved should not matter.

IV. Marianna's Epistemic Progress

Jackson's example appears in a new light when reconsidered having Marianna's case in mind. When Mary is finally released she acquires new knowledge about the experiences of others (she learns e.g. that the sky appears blue_p to people with normal colour perception). But Mary does not gain this item of knowledge simply by gaining sight and thereby acquaintance with colours. A disadvantage of Jackson's example is that it fails to distinguish two steps of epistemic progress that can be distinguished clearly in Marianna's case. When Marianna gains sight and thereby acquaintance with blue, green, yellow and red she takes a first step of epistemic progress which consists in her gaining *epistemic access* to questions that she could not have considered before. Only after this first step, namely when she knows red, green, blue and yellow by personal experience, can she consider the question whether the sky appears blue_p or red_p or yellow_p or green_p to normally sighted people. She can weigh these four possibilities against each other, she might assign subjective probabilities to these alternatives. These four possibilities were epistemically inaccessible to her before she left her black-and-white environment. Having gained epistemic access to questions she could not have considered before, is already a kind of *epistemic progress* — although she has not yet gained any new item of the relevant propositional knowledge.

A second step of epistemic progress is required to find out which of the hypotheses she is now able to consider is in fact true. Jackson's Mary seems to take these two steps at once. This is why Jackson's case fails to show explicitly that there is a kind of knowledge inaccessible to blind Mary which *does* involve the elimination of 'hitherto open possibilities'.²⁵

Using the notion of phenomenal belief we can describe more in detail what happens when Marianna takes the second step of epistemic progress. Before her release Marianna believes that the sky appears red_p to normally sighted people. She expects the sight of a red_p sky for the moment in which she will leave the house. She entertains — in other words — the *de se* expectation that the sky will appear red_p to her*. When she finally leaves the house on a sunny day she will realize with surprise that her *de se* expectation was mistaken. She will then rationally conclude (since she believes herself to be normally sighted) that — contrary to what she had

²⁵ David Lewis (1988) has objected to the view that Mary gains propositional knowledge after her release by pointing out that the acquisition of 'knowledge of what it's like' does not seem to be connected with an elimination of hitherto open possibilities. Using the notion of phenomenal belief to describe Mary's epistemic progress allows for an answer to this objection. Every acquisition of an item of phenomenal knowledge involves the exclusion of other hitherto open *epistemic* possibilities.

thought — the sky appears $blue_p$ to normally sighted people. When Marianna finally sees the sky she also detects an error in her former assumptions about the normal use of language. When she still believed that the sky appears red_p to normally sighted people, she thought — so to speak — of the wrong colour that it was the colour referred to by 'blue'. More precisely her mistake about language should be described this way: She believed that red_p objects are called 'blue' and she believed that 'object O appears blue to person S ' is truly asserted of a person S just in case O appears red_p to that person. Note that a precise formulation of her mistake about language already requires the use of the notion of phenomenal belief. Marianna can make this mistake only when she is capable of entertaining phenomenal belief, so only after she has taken the first step of epistemic progress described above. (Her epistemic progress involves the capability to make new errors, which might seem paradox at first sight but is not on a second: who gains epistemic access to new questions also acquires the new ability to believe in the wrong answers). In the present context it is important to see the following: Marianna's second step of epistemic progress does not *consist* in her revision of a mistake about language (although it goes along with such a revision). It would be a mistake to think that Marianna, when she finally sees the sky, does not learn more than that $blue_p$ objects are called 'blue' and that something is said to appear 'blue' just in case it appears $blue_p$. Given her rich background knowledge this new knowledge about language is necessarily accompanied by the acquisition of a rich body of new phenomenal knowledge. Suppose she had learned that objects appear $blue_{np}$ to a person iff certain physiological conditions are fulfilled. Then her new knowledge about language goes along with the acquisition of the new item of phenomenal belief that things appear $blue_p$ to human beings iff these conditions obtain.

V. Phenomenal Knowledge as Knowledge about What is the Case

Before I answer possible objections against the view that phenomenal knowledge is knowledge in the strict sense about something that is the case, I will briefly sketch a few positive reasons for this claim.

- (1) The epistemological notion here introduced allows for the distinction between belief and knowledge. Marianna believes e.g. that the sky appears red_p , but she does not know this, since what she believes is false. There is no analogous pair of notions (phenomenal belief on the one hand and phenomenal knowledge on the other) in the case of practical capacities, nor is there any such analogous pair of notions in the case of so-called knowledge of what it's like. That there is a corresponding notion of belief is of course typical for knowledge in the full-fledged sense.

- (2) In normal cases of belief about something that is the case we can specify the conditions under which the belief of the person is correct using normal assertive sentences. For the case of 'knowing what it's like to have a perception of blue' it is hard to see how one could fulfil this possible requirement. First of all, one would have to explain what could be meant by a corresponding notion of belief about 'what it is like to have a perception of blue', second one would have to find a sentence S such that S is true iff the corresponding belief is true. This task appears almost unsolvable in the case of knowing what it's like. For most cases of phenomenal belief, by contrast, it does not represent any problem.²⁶ Marianna's phenomenal belief that the sky appears red_p to Peter would be true iff the sentence 'the sky appears red to Peter' were true.
- (3) Phenomenal belief and phenomenal knowledge can be ascribed in the normal way, by using that-clauses, which again is typical for belief and knowledge about something that is the case. Also — as in the case of *de re*, *de dicto*, *de se* and *de nunc* beliefs — the distinction naturally carries over to other propositional attitudes: Marianna may hope that the sky appears red_p to normal perceivers, she may wonder whether the sky appears red_p or she may doubt that it appears red_p to normal perceivers, etc.
- (4) Also, as in the case of other opinions about what is the case, one can easily construct situations in which Marianna might rationally assign some specific subjective probability to the alternative that the sky appears red_p to normal perceivers. This observation too strengthens the intuition that phenomenal belief is belief about something that might or might not be the case.
- (5) It makes sense to ask whether a specific phenomenal belief is rationally justified. Consider the following case. Marianna has seen a painting showing a landscape with a red sky. She has reason to think that the painting is naturalistic. She has reason to think that she* is normally sighted and that she saw the painting under normal lighting conditions. In this case Marianna may have good reason to think that the sky appears red_p to normally sighted people. The fact that there is room for the notion of rational justification is one more reason to think that phenomenal belief is belief in the full sense of belief about a state of affairs.

The above arguments in favour of the thesis that phenomenal knowledge is factual knowledge would have to be defeated by a proponent of the view

²⁶ An exception is e.g. the belief that blue_{np} things appear blue_p (for a discussion of this see Nida-Rümelin, 1996b, section 6).

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that Mary only gains a bundle of practical capacities after her release. But, all the same, I wish to examine this kind of objection more closely (I will call this objection the 'ability objection'). The reason why the ability objection seems to me to deserve a more detailed discussion is the observation that it appears to be surprisingly resistant against counterarguments and conflicting intuitions in discussion with many people (maybe one main cause for this is the celebrity of one of its proponents). The above mentioned properties of phenomenal knowledge that are typical for genuine knowledge are not shared by knowledge of what it's like.²⁷ This counts against the thesis that knowledge of what it's like is genuine knowledge. So the ability thesis may actually appear plausible as long as one starts from the assumption that Marianna's progress after her release is properly described by saying that she acquires knowledge of what it's like. Let us now see how the analogous objection would have to be formulated once it is accepted that the notion of phenomenal knowledge provides a more adequate account of Mary's real or apparent epistemic progress.

Some of these abilities normally mentioned in this context can quickly be excluded as a possible basis for an analysis of phenomenal knowledge, because Marianna already acquires these abilities after her first step of epistemic progress when she still has not acquired the relevant items of phenomenal knowledge at issue. Marianna is able, for instance, to imagine something blue at will or to remember something blue before she learns that the sky appears blue_p to human beings with normal colour perception.

A first answer to this defence against the ability objection could be the following: The relevant sense of 'ability to imagine (or to remember) something blue' is the ability to obey to the verbally given imperative 'imagine something blue' or 'remember an occasion when you saw something blue'. Marianna indeed gains this capacity only after her second step of epistemic progress. At a point of her history when she still believes that the sky appears red_p to normally sighted people she will imagine something red or remember an experience of red when trying to obey to the above imperatives. So the defence above cannot be repeated here. But this does not show that Marianna's progress (after her second step) is not a genuine epistemic one that involves new knowledge of facts. It is quite common that the gaining of factual knowledge goes along with the acquisition of the practical ability to obey to certain imperatives (consider: 'point to the person who is the thief!' or 'choose the right answer!'). In these normal cases the new factual knowledge explains why the person has acquired the capacity at issue. Now, quite obviously, this also applies in the case presently under consideration. Marianna is able to obey to those imperatives after her second step of epistemic progress *because* she now has acquired

²⁷ An analysis of 'knowing what it's like' in terms of phenomenal belief is proposed in Nida-Rümelin 1996b: section 6 and in Nida-Rümelin 1993: 70-6.

the phenomenal knowledge needed for this practical ability. Before Marianna corrects her mistake about the normal use of language she believes that a person who wishes to obey to the imperative 'Imagine something blue!' must imagine something red_p and that a person must remember an experience of red_p in order to obey to the second imperative mentioned above. So her incapacity to obey to these imperatives is due to a lack of phenomenal knowledge and her capacity to do so after her second step of epistemic progress is due to an acquisition of new phenomenal knowledge.

There is a further interesting capacity sometimes mentioned in this context, namely the capacity to predict the behaviour of others by imaginative experiments. (See Nemirow 1979; 1980.) Now there certainly is an interesting connection between the capacity to make such predictions on the basis of 'correct empathy' on the one hand and phenomenal knowledge on the other, but in this case too it appears obvious to me that the capacity at issue does not constitute the kind of knowledge at issue, but is, rather, in fortunate cases the *result* of phenomenal knowledge. Unfortunately, there is no room for further elaboration of this point in the present paper.²⁸

Whoever claims that phenomenal knowledge is nothing but a bundle of practical capacities, should propose a concrete analysis of phenomenal knowledge in terms of such abilities. How could such an analysis look like? A proponent of this view might propose (17) as an analysis of (16):

(16) Marianna knows that ripe tomatoes appear red_p to normally sighted people.

(17) Marianna has acquired the practical capacity to select (on the basis of visual perception) those objects that appear to normally sighted people with respect to colour like ripe tomatoes.

But this proposal can again be refuted by considering the case of pseudonormal people. (See footnote 13.) If Marianna were pseudonormal without knowing that she is, she could fulfil (17) and still believe that ripe tomatoes appear green_p (and do not appear red_p) to normally sighted people. Again, this counterexample renders intuitively quite obvious what is wrong with the analysis considered here. Under normal conditions, when Marianna has acquired the item of phenomenal knowledge ascribed to her in (16), then she also has the capacity described in (17) since, when presented with red objects, she knows that these objects appear red_p to her and she believes herself to be normally sighted. The practical capacity described in (17) is only a symptom for her having the phenomenal knowledge at issue but it can be — in unusual circumstances, as is shown by the example of pseudonormal vision — a symptom of a different phenomenal belief as well.

²⁸ A precise account of the relation between phenomenal knowledge and successful empathy (correct imagination of what other people experience) is proposed in Nida-Rümelin 1996c.

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The proponent of the ability objection against the claim that phenomenal knowledge is genuine knowledge, also has to give an analysis of phenomenal belief (not just of phenomenal knowledge). So the question arises how he could interpret for instance (18):

(18) Marianna believes that the sky appears red_p to normally sighted people.

He might consider the following proposal (19):

(19) If Marianna were asked to select those objects (out of several differently coloured objects) that have the colour that normally sighted people experience when looking at the sky, then she would select the red objects.

But again, (19) could be true of Marianna and (18) false, if Marianna is pseudonormal but does not know that she is.

I wish to leave the development of more sophisticated versions to the proponent of the ability objection. I hope to have convinced the reader that the ability objection loses its intuitive appeal once one accepts that Mary's epistemic progress is adequately described in the way here proposed (as an acquisition of phenomenal knowledge and not as an acquisition of 'knowing what it's like') and that it certainly is not obvious how the claim that phenomenal knowledge too is nothing but a bundle of practical abilities could be argued for in a convincing manner.

VI. A New Look at the Argument from Knowledge

Assuming that phenomenal knowledge is a special kind of factual knowledge about phenomenal states (knowledge about something that is the case), the argument from knowledge can be stated quite simply in the following way: There is a kind of knowledge about phenomenal states that is accessible only to an epistemic subject who knows the kind of phenomenal state at issue (the kind of state the relevant item of knowledge is about) by personal experience (by having been in that kind of state). But it is commonly accepted that an understanding of a description given in purely physicalist terms does not presuppose being acquainted with any special kind of phenomenal state by personal experience.²⁹ Therefore, a description of a conscious being given in purely physicalist terminology is epistemically incomplete in the following sense: A rational epistemic subject who is able to understand any physicalist description of whatever kind, may lack

²⁹ As is common in the discussion 'physicalist' terminology is used here in a very broad sense that includes not just the terms of physics but also of e.g. chemistry and neurobiology. Functionalist and behaviourist terminology is included as well. 'Physicalist terminology' also includes the terminology used in future developments of the mentioned empirical disciplines as long as they do not use mentalist vocabulary in an irreducible manner. 'Physical' knowledge is all knowledge that can be conveyed using physicalist terminology.

specific items of knowledge about another conscious being that in principle cannot be communicated to the subject at issue by any physicalist description, no matter how detailed and complex this description may be.

Note that for this formulation of the argument it is unnecessary to speculate about the epistemic situation of a person who has 'complete knowledge' in some relevant respect. Instead, it is sufficient to assume that the kind of knowledge at issue (contrary to so-called physical knowledge) presupposes having had certain specific kinds of experiences. When formulated this way several objections raised against the original version of the knowledge argument can be immediately rejected as irrelevant. This is true for those objections that are based on the claim that a physiologist who really knew everything 'physical' there is to know about human colour vision could immediately decide which colour is the red one when visually confronted with colours for the first time. (Cf. Churchland 1985; Hardin 1992.) The debate about this claim is irrelevant since the argument is already saved if it is accepted that e.g. a person born blind cannot have phenomenal knowledge about the experiences of others although he or she can acquire every kind of 'physical knowledge'. The question when and under what conditions a person born blind would *acquire* phenomenal knowledge when she finally gains sight is then, obviously, of no importance.

I have argued that Mary gains new factual knowledge after her release. But, in general, new factual knowledge does not necessarily involve knowledge of new facts. This can be seen by the example of *de se* knowledge. Maria might know that Maria is in Munich and yet not know that she* is in Munich (she might have forgotten that she* is Maria). When she finds out that she* is in Munich she certainly gains new knowledge. But there is good reason to doubt that she thereby has gained knowledge of a new fact, a fact she did not know before in some other way. After all, what she believes in her belief that Maria is in Munich is true iff Maria is in Munich and the same holds for her *de se* belief: Maria's belief that she* is in Munich is true just in case Maria is in Munich. This observation seems to support the view that in gaining the new item of knowledge that she* is in Munich Maria gets to know an old fact (that she already knew before) in a new way, namely in what one might call the '*de se* mode'.

One might consider the view that the analogous claim holds for phenomenal belief. Many philosophers have argued that Mary gains new factual knowledge but thereby gains knowledge of old facts that she already knew before in some other way.³⁰ The original intention of the knowledge argument was to show that there are non-physical facts, facts that cannot be expressed in a physicalist language. But the above version of the argument

³⁰ The thesis that Mary gains new knowledge about facts she already knew before in another way has been sustained by several authors (see e.g. Horgan 1984; Loar 1990; Tye 1986).

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only has an epistemological result that does not yet lead to the intended ontological conclusion. What is needed is a further assumption that can take the following form: The content of phenomenal beliefs are special propositions that cannot be believed in a 'nonphenomenal' way and what is known in phenomenal knowledge are facts that cannot be known otherwise. The following thesis (20) is one possible version of this additional assumption.

(20) Marianna has knowledge of the fact expressed by 'the sky appears blue to Peter' iff Marianna knows that the sky appears blue_p to Peter.

A possible formulation of the contrary opinion could be based on some version of the view that types of mental states are identical with certain types of physiological states. The proponent of such an identity thesis could base his rejection of (20) on the following claim: for an appropriately chosen brain state S the two sentences 'the sky appears blue to Peter' and 'the sky causes under appropriate circumstances a brain state of kind S in Peter's brain' express one and the same fact. If Marianna knows that the sky produces this kind S of a physiological state in Peter's brain, then she has knowledge of the same fact that is also the content of her item of phenomenal knowledge that the sky appears blue_p to Peter. Therefore, according to the identity theorist, (20) is unacceptable and the argument from knowledge does not lead to the ontological result that was originally intended.³¹

I do not wish to comment this possible objection of the identity theorist here which would require a detailed discussion. Let me just note the following: the claim that new phenomenal knowledge does not involve knowledge of new facts is considerably more problematic than the analogous thesis sketched above for *de se* knowledge. In both cases the claim implicitly assumes a specific view about the conditions under which facts that are verbally expressed in different ways are numerically identical. In the case of the claim at issue for *de se* knowledge, the implicitly accepted sufficient condition for identity of facts is based on the notion of identity of individuals (the facts at issue are considered identical because Maria is identical with the person Maria refers to using the term 'I'). The sufficient condition for 'fact identity' presupposed in the corresponding claim about phenomenal knowledge, by contrast, is based on a notion of identity between properties (between the property of being in a specific brain state and having an impression of blue). Numerical identity is certainly applicable to concrete individual things. It is, however, questionable whether numerical identity between properties is an acceptable notion at all and how — if the answer is positive — identity between properties should be explicated.³²

³¹ For a discussion of (20) and other versions of a further assumption that can be used to get to the ontological consequence at issue see Nida-Rümelin 1996b, sections 7 and 9.

³² For a recent discussion of this issue see...

So I will content myself with the weaker, only epistemological result of the argument from knowledge here. Actually, it is possible to show that this result is stronger than it might appear at first sight. The result is sufficient for the defence of several central antimaterialist intuitions. For example, using this epistemological result it is possible to argue for the indispensability of phenomenal vocabulary in the empirical sciences of conscious beings. Contrary to a wide-spread opinion among materialists, certain well-founded epistemic interests that the empirical sciences can and should respond to, cannot be satisfied by these sciences unless they make use of phenomenal terminology. A precise account of this claim and of how it can be argued for can be based on the here proposed version of the argument from knowledge. But there is no room left here to elaborate this point.³³

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³³ A detailed presentation of this argument is the topic of Nida-Rümelin 1996b.

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