

# A SOMEWHAT RUSSELLIAN THEORY OF INTENSIONAL CONTEXTS

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## I. Introduction

Consider the following sentence schemata:

- (1) The proposition that P is F;
- (2) The property of being Q is F;
- (3) The relation of being R is F,

where 'P' is a schematic letter for a sentence, 'Q' and 'F' are schematic letters for a nonrelational predicate, and 'R' is a schematic letter for a relational predicate. For example, if we substitute 'Snow is white' for 'P', 'famous' for 'F' in (1), 'round' for 'Q', 'instantiated' for 'F' in (2), 'a father of' for 'R', and 'asymmetric' for 'F' in (3), then we obtain the following particular sentences:

- (4) The proposition that snow is white is famous;
- (5) The property of being round is instantiated;
- (6) The relation of being a father of is asymmetric.

I consider the following sentences and their corresponding sentence schemata to be mere stylistic variants of (5)/(2) and (6)/(3),

respectively:

(7) The property roundness is instantiated;

(8) The relation fatherhood is asymmetric.<sup>1</sup>

Sentences of the forms (1) - (3) have something important in common. They are all about so-called intensional objects, in particular, propositions, properties, and relations. It is well known that these intensional objects may be uniformly regarded as relations; propositions are zero-place relations, properties are one-place relations, and what we have been calling 'relations' are two- or more place relations. Also, sentences of the forms (1) - (3) are canonical forms of discourse about intensional objects. Undoubtedly there are other slightly different forms of discourse about properties and relations, e.g., (7) and (8). Yet, it remains the case that given any predicate, using its gerundive form in the manner indicated in (2) and (3) always gives us an expression for the property the predicate expresses. It seems fair to say that sentences of the forms (1) - (3) constitute a homogeneous group. We thus expect them to receive a unified semantic treatment. Against this background assumption, we shall focus on (1) and its concrete instances like (4). Our main question is this:

(\*) What is the mechanism underlying the determination of the designatum of the subject term 'the proposition that snow is white' in (4)?

We shall approach this question by first asking a closely related question:

(#) What is the logical structure of (4)?

We shall examine two popular answers to (#), rejecting both, and observe that an independently well-entrenched theory gives us a natural and plausible answer to (#). We shall then see that on that basis a certain logical apparatus which is independently motivated affords us a satisfactory answer to (\*). Finally, we shall apply the result to a particularly recalcitrant kind of intensional context, viz., belief contexts.

## II. The Name Theory

It is customary to say that 'that'-clauses like the one in (4), viz.,

(9) that snow is white,

are proper names of propositions. Correspondingly, though it is not as often said, strings like '(of) being round' in (5) and '(of) being a father of' in (6) may be said to be proper names of properties and relations, respectively.<sup>2</sup> If this sounds a little strained, we may rephrase (5) and (6) as (7) and (8) and speak of 'roundness' and 'fatherhood', and other similar strings with appropriate suffixes, as names of properties and relations.

If (9) is a name of a proposition, then (4) is analogous to

(10) The planet Mars is dry.

`Mars' is a name of a planet,<sup>3</sup> and (10) says nothing more or less than

(11) Mars, which is a planet, is dry.

Since logical analysis of relative clauses is not our main concern, let us stipulate for convenience that (11) has the logical structure

(12) Mars is a planet and Mars is dry.

Likewise, let us say that if (9) is a name of a proposition, (4) says nothing more or less than

(13) That snow is white, which is a proposition, is famous, and that the logical structure of (13) is

(14) That snow is white is a proposition and that snow is white is famous.

If (9) is a name of a proposition, then I am content to say that the logical structure of (4) is the logical structure of (14). The only remaining part of the logical structure of (14) to be unpacked is (the two occurrences of) the `that'-clause, viz., (9).

According to some theorists, all names are devoid of any semantically significant structure. On such a view, if (9) is a name, the fact that words like `snow' and `white' occur in (9) as they do has no semantic significance for the determination of the reference of (9). But I think it is evident that (9) should not be regarded as devoid of a semantically relevant structure, for it is

evident that it contains semantically relevant parts, namely, 'snow', 'is', and 'white'. The difference in reference between (9) and, say,

(15) that grass is green

stems entirely from a semantic difference between

(16) Snow is white

and

(17) Grass is green.

Thus, a plausible version of the Name Theory should read the relevant structure into (9). This means that if all names are devoid of any semantically significant structure, then there is no plausible version of the Name Theory that construes (9) as a name. Since I in fact do not think it best to construe (9) as a name, this does not disturb me. But in making my case against the Name theory, I can do better than relying on the supposition that all names are devoid of any semantically significant structure.

The simplest, and probably the best, way to read the relevant structure into (9) is to regard 'that' in (9) as a name-forming sentential operator. The operator view presupposes a certain well-behaved relation between a sentence and a proposition. Let us call that relation 'expression'. Then, for any sentence S and any proposition P, the result of applying 'that' to S refers to P if and only if S expresses P.<sup>4</sup>

But what is expression? Without an adequate articulation of

the expression relation, the theory would remain lacking. How a sentence manages to be associated to a proposition seems as much a problem as how a 'that'-clause manages to stand for a proposition. One idea is to say that the sentence 'Fa' expresses the proposition P if and only if the property the predicate 'F' expresses and the entity the term 'a' refers to constitute P. This sounds plausible until we notice two problems.

First, the idea relies on the notion of expression. This is not viciously circular, for the expression relation it relies on is the one between a predicate and a property, not between a sentence and a proposition. Nonetheless, this is worrisome. If we do not have an adequate articulation of the expression relation between a predicate and a property, we are hardly better off. What property does the predicate '(is) white' express? Notice that this is the kind of question the Name Theory prompts when applied to sentences of the form (2). Just as it considers 'that' in (1) as a sentential operator, the Name Theory considers the gerund formation in (2) and (3) as a predicative operator, resulting in a name of a property or a relation, and says that 'being white' is a name referring to the property '(is) white' expresses. But what property is that? Given the parity between propositions and properties (and relations) as intensional objects, whatever is the right answer to this question should have a counterpart for propositional expression. In fact,

there is a very good answer in this case. It is that the predicate '(is) white' expresses the property of being white. This is the most straightforward correct answer. Correspondingly, the most straightforward correct answer to the question "What proposition does (16) express?" is that it expresses the proposition that snow is white. Evidently this does not help the Name Theory, for we are back to the starting point, (9), the canonical notation for the proposition.

Second, the relation of constitution is equally in need of articulation. A standard thing to say is that entity  $e$  and property  $p$  constitute proposition  $P$  if and only if  $P$  is the result of predication of  $p$  of  $e$ . But this only prompts a further question: What is predication? The most straightforward correct answer is that the result of predicating the property of being white of snow is the proposition that snow is white, and this again throws us back to the starting point. Another popular thing to say is that entity  $e$  and property  $p$  constitute proposition  $P$  if and only if  $P$  is an ordered pair of  $e$  and  $p$ . But this way of articulating constitution is not without serious difficulty. There seems to be no theoretical reason to prefer the ordered pair  $\langle e, p \rangle$  to a different ordered pair  $\langle p, e \rangle$  as the proposition constituted by  $e$  and  $p$ . But one thing cannot be identical with two things. So, it seems that neither pair is identical with the proposition. This is reminiscent of the problem

Paul Benacerraf pointed out for identification of numbers with sets: If one way to construct numbers as sets is satisfactory, many others are; no theoretically disciplined method is available for singling out exactly one way; but nothing, not even numbers, can be two things; therefore, none of these ways is the correct way.<sup>5</sup> Again, the most straightforward correct answer to the question "What is the proposition constituted by snow and the property of being white?" is that it is the proposition that snow is white. We seem unable to shake free from the canonical notation. There is a good reason for this. We are constantly pulled back to the clause (9) because it is a *canonical* notation for the proposition the embedded sentence (16) expresses. Propositional expression should be articulated in terms of propositional designation by means of clauses of the form (9), not the other way around.

We have one more proposal concerning the expression relation to examine. Mark Richard has recently proposed an interesting idea. It makes propositional expression a matter of quasi-iconic representation.

Let's suppose that propositions are structured, and that the structure of a proposition is isomorphic with the structure of a sentence that expresses it, or at least with one straightforwardly determined by such, say by "pruning" branches



in a phrase structure tree. In fact, let's identify propositional structures with phrase structure trees. And let's assume that propositions are assigned to sentences by moving "from the bottom up" on their structures. We can identify the constituents of a proposition with what wind up annotating tree nodes when the assignment of content is finished. And the proposition a sentence expresses thus turns out to be the result of stripping expressions and labels like 'NP' and 'VP' from a sentence (which is itself an annotated phrase structure marker) and replacing the labels with propositional constituents.<sup>6</sup>

The structure of a sentence itself exhibits the structure of the proposition it expresses. In this sense, the sentence is a quasi-icon of the proposition. Let us say that the procedure sketched above for arriving at propositions from sentences determines a unique proposition for each sentence. The proposal then says that sentence S expresses the proposition which the above procedure determines for S. Is this a satisfactory articulation of propositional expression? I am afraid not.

To begin with, we should be clear about exactly what entity the procedure determines for (16). Call the proposition determined for (16) 'Pooh'. What exactly is Pooh supposed to be? Call the

annotated tree obtained from the phrase structure tree for (16) by the above procedure 'Toto'. Is Pooh a proper part of Toto, e.g., what annotates the top node of Toto? Or is Pooh Toto in its entirety? The answer is that Pooh is not a proper part of Toto, but Toto itself in its entirety. What annotates the top node of Toto is something X such that the result of a "functional application"<sup>7</sup> of the annotation corresponding to 'is white' to the annotation corresponding to 'snow' gives the value of X. Pooh and Toto are identical, according to the proposal. But this seems to generate a difficulty. Given that (16) expresses exactly one proposition (in English and relative to a time and perhaps also to a place), the proposal assumes that (16) has exactly one annotated structured object, namely, Toto. But a tree is not the only such object. Phrase structure grammar does not assign (16) a unique structured syntactic object. There are at least two ways it may be done. One way is to assign a syntactic tree. Such a tree will be converted to Toto by the above procedure. But another equally acceptable way in phrase structure grammar is to assign (16) a linear syntactic structure, using grouping devices like brackets and parentheses. All information encoded in the tree can be encoded in it, and vice versa. Such a linear annotated syntactic structure will be converted to an equally linear annotated structure, call it 'Lin', by the above procedure. Lin is not Toto; one is linear, while the other is two

dimensional. Of course, Lin and Toto are equivalent in some strong sense. But equivalence is not identity. Pooh, which is one, cannot be two. Which is Pooh, Toto or Lin? Neither has an edge over the other. So, it seems, Pooh is neither. This is the Benacerraf problem all over again.

There is yet another problem. The proposal entails that no two sentences with different phrase structures can express the same proposition. But the following two sentences, which have different phrase structures, seem to be able to express exactly the same proposition:

(18) Sisters are related.

(19) Female siblings are related.

The problem is deeper than examples like this pair indicate. The proposal entails that any two sentences from different natural languages expressing the same proposition have the identical phrase structure. There are certainly many pairs of sentences from different natural languages expressing the same proposition. Therefore, each such pair of sentences must have the identical phrase structure. Thus, the proposal leads to a rather strong form of linguistic universalism with respect to phrase structure grammar. To see how implausible such linguistic universalism is, consider the following French sentence:

(20) La neige est blanche.

(20) expresses the same proposition in French as (16) does in English, but its phrase structure contains extra parts which have no counterparts in the phrase structure of (16), viz., the node for the determiner 'la' and accompanying branches and a node. This is but one example. Comparisons of languages from more distant language groups will produce more dramatic examples.

This is not the end of trouble for the Name Theory. It faces a formidable difficulty when applied to belief sentences. But it is time to move on to the next theory. We shall return to the Name Theory and belief sentences later.

### III. The Demonstrative Theory

Suppose we say that the logical structure of

(4) The proposition that snow is white is famous  
is the same as the logical structure of

(14) That snow is white is a proposition and that snow is white  
is famous.

We are agreeing with the Name Theory so far. But suppose we then say that

(9) that snow is white  
in (4) is not a name but a demonstrative pronoun 'that' followed immediately by what is demonstrated, via which the reference of

`that' is determined. We now have a different theory, the *Demonstrative Theory*. The idea is that a `that'-clause is not a single unified string but two strings, functioning independently. The logical structure of (4) is said to be something like the following:

(4') That [Snow is white] is a proposition & that [Snow is  
white] is true,

where the two occurrences of

(16) Snow is white

in brackets are not part of the main sentence surrounding them but more like side remarks. Since obviously the two occurrences of (16) in (4') are artificially created from a single occurrence of (16) in (4) and the two occurrences of `that' in (4') are meant to be coreferential, we can clean up the clutter and awkwardness of (4') to obtain

(4d) That<sub>1</sub> is a proposition & that<sub>1</sub> is true: Snow is white.

This obviously mimics Donald Davidson's paratactic theory of indirect discourse.<sup>8</sup> (16) is merely exhibited in (4d) and this fact is indicated by the colon, or the brackets in the case of (4'). The subscripts indicate the coreferentiality of the two occurrences of `that'. But what do they refer to? Remember David Kaplan's lesson on demonstratives; reference depends on the context of utterance. The meaning of (4d) alone is insufficient for determining what

`that<sub>1</sub>' in (4d) refers to. The context in which (4d) is uttered has a crucial role to play. It may provide a certain object as something demonstrated. In a standard context of utterance for (4d), the sentence following the colon is naturally expected to be the demonstrated object. This, however, does not automatically make that sentence the referent of `that<sub>1</sub>', for in a standard context, charity may well prevail in such a way that the first conjunct of (4d) is not to be falsified. Since the demonstrated object is clearly not a proposition but a sentence, it is not to be the referent of `that<sub>1</sub>' in such a context. The demonstrated sentence is not itself the referent but does play a crucial role in determining the referent.

Suppose I see myself portrayed in a photograph. I point to the photograph and say, "That is (identical with) me". Charity demands that the demonstrative `that' in my utterance be interpreted as referring not to the photograph, the demonstrated object, but to the person portrayed in the photograph. When Quine points to his fuel gauge and says, "That is empty", charity demands that his `that' be interpreted as referring not to the gauge, the demonstrated object, but to the fuel tank connected to the gauge. This familiar type of demonstrative reference is deferred reference. The referent is something to which the demonstrated object bears a certain recognizable relation. In the case of (4d), `that<sub>1</sub>' refers to the proposition to which the sentence following the colon bears a certain

relation. The relation may vary from context to context, just like any other contextually sensitive aspect of discourse. But in a standard context, the relation in question is that of expression; for any proposition P, 'that<sub>1</sub>' refers to P if and only if the sentence following the colon expresses P. Whenever a sentence is uttered in a standard context, the proposition which (the utterance of) the sentence expresses (in that context) naturally gets associated to that utterance of the sentence. In being able to understand what it is to interpret arbitrary such utterances in a language, competent linguistic subjects are able to understand what it is to associate such a proposition to such an utterance in a standard context. Implicit knowledge of the expression relation underlies such an ability.

Lycan, and Boër & Lycan, echoing Lycan, also propose a Davidsonian analysis with something very similar to deferred reference. They call it 'deferred ostension'. I doubt propositions can be ostended. What is deferred is reference, not ostension. On their analysis, 'that<sub>1</sub>' refers to the set of all and only 'Snow is white's, viz., the set of all and only sentence tokens equivalent--in a certain appropriate sense of 'equivalent'--to the token of (16) in a given utterance of (4). Like Davidson,<sup>9</sup> they try expressly to avoid reference to propositions in their analysis. But I doubt sets can be ostended, either.<sup>10</sup>

Before criticizing the Demonstrative Theory, we should note three brief points. First, (4) is analyzed as two separate sentences, as (4d). Question: The truth value of which of the two sentences is to be the truth value of the analysandum? The answer is obviously, "The sentence preceding the colon". Second, the fact that in English one and the same word, 'that', is used as a demonstrative pronoun and also as a subordinate-clause forming operator has no philosophical significance; it is a sheer coincidence.<sup>11</sup> To see this clearly, take

(5) The property of being round is instantiated,  
which should be subject to the same type of analysis as (4). Its analysis on the Demonstrative Theory is

(5d) That<sub>1</sub> is a property & that<sub>1</sub> is instantiated: Being round.  
(5) does not contain the word 'that', even though (5d) contains 'that<sub>1</sub>'. This indicates that the fact that (4) contains 'that' on the surface level is of little importance. Third, Stephen Schiffer has a number of good objections against Davidson's analysis, and Mark Richard has a number of good objections against Boër & Lycan's analysis.<sup>12</sup> The Demonstrative Theory differs from Davidson's original analysis, Lycan's modified Davidsonian analysis, and Boër & Lycan's follow-up on Lycan's analysis significantly enough to be free from those objections.

This, of course, does not mean that the Demonstrative Theory is



satisfactory. The relation a photograph bears to what it portrays is different from the relation a gauge bears to what it gauges. This shows that in general the relation which mediates deferred reference may vary widely from context to context. This points to a very important difference between the Demonstrative Theory and the Name Theory. According to the operator version of the Name Theory, the relation between the sentence in the 'that'-clause and the proposition to which the 'that'-clause refers is fixed once and for all by the semantics of the operator 'that'. Absence of such rigidity helps the Demonstrative Theory perform better than the Name Theory in some important cases.<sup>13</sup> Ironically, the very flexibility which helps the Demonstrative Theory also haunts it. As an indexical word, the demonstrative pronoun 'that' shifts its reference from context to context, and its reference is determined by contextually perspicuous or contextually understood parameters. Suppose I utter (4) to you. As I utter it, I hold up a carrot in front of your eyes and do everything within my power to attract your undivided attention to the carrot, and succeed. If I am uttering a sentence with a hidden demonstrative in its logical structure, as the Demonstrative Theory says, then since the carrot is the demonstratum, the context of my utterance clearly determines the referent of that demonstrative to be the carrot, or some entity that bears a contextually obvious relation to the carrot. Hence my utterance will be true on the

Demonstrative Theory if and only if the carrot, or the entity that bears the contextually obvious relation to the carrot, is a proposition and is famous. This is not the right truth condition for my utterance. No matter how strongly the context may present the carrot as the demonstratum for any potential occurrence of the demonstrative 'that' in that context, the carrot remains utterly irrelevant to the truth condition of my utterance of (4). The Demonstrative Theory is incapable of explaining why.<sup>14</sup>

#### IV. Belief Sentences

Consider the following instances of (1):

(21) The proposition that bookmakers are sleazy is believed by Jane;

(22) The proposition that bookies are sleazy is believed by Jane.

Suppose that Jane is a native and competent speaker of English, and in particular, she has a complete grasp of the meanings of the words 'bookmaker' and 'bookie'. Let us agree that the words 'bookmaker' and 'bookie' are synonymous in English. Yet since she took a course in philosophy, Jane has come to doubt their synonymy, without losing her grasp of their meanings. Even though she is unable to indicate how their meanings might differ, or give a counterexample to their

synonymy herself, she is convinced that a sufficiently clever analytic philosopher would be able to articulate the difference or construct a counterexample. As a result, she thinks that the following two sentences have different truth conditions:

(23) Bookmakers are sleazy;

(24) Bookies are sleazy.

Let us suppose that Jane sincerely assents to (23) upon clear-headed reflection but sincerely dissents from (24) upon clear-headed reflection. The exact reason why she does so is unimportant. What is important is that she thinks (23) is true but (24) is not, while understanding the two sentences correctly.<sup>15</sup>

The following two-part disquotational principle has considerable intuitive plausibility:

(DQI)      If a competent English speaker X who correctly and fully understands an English sentence 'S' sincerely assents to 'S' as a result of a clear-headed reflection, then X believes that S;

(DQII)     If a competent English speaker X who correctly and fully understands an English sentence 'S' sincerely dissents from 'S' as a result of a clear-headed reflection, then it is not the case that X believes that S;

where the schematic letter 'S' should be replaced with an English

sentence which lacks indexical or pronominal devices or ambiguities.<sup>16</sup> It is understood that X assents to or dissents from 'S' while understanding it correctly and fully. I agree with Nathan Salmon when he says of (DQI),

... at least some version of this disquotational principle is unobjectionable ... What makes the principle self-evident is that it is a corollary of the traditional conception of belief as inward assent to a proposition. Sincere, reflective, outward assent (qua speech act) to a fully understood sentence is an overt manifestation of sincere, reflective, inward assent (qua cognitive disposition or attitude) to a fully grasped proposition.<sup>17</sup>

This is only in support of (DQI) but I think a parallel support for (DQII) has equal force.<sup>18</sup> Given all this, we say that (25) is true and (26) false:

(25) Jane believes that bookmakers are sleazy;

(26) Jane believes that bookies are sleazy.

Call this 'the Truth-Value Opposition Assumption on Belief', or 'TOAB'. Let us assume these colloquial sentences are mere stylistic variants of (21) and (22).<sup>19</sup> I think that TOAB is pretheoretically so intuitive, thanks to (DQI) and (DQII), that if we can avoid

violating it, we should. We also assume that belief, as expressed in (25) and (26), is a dyadic relation between a believer and a proposition. Call this 'the Dyadic Relation Assumption on Belief', or 'DRAB'. The surface structure of belief sentences strongly indicates the truth of DRAB. There is further evidence for DRAB as well.<sup>20</sup> So, if we can avoid violating DRAB, we should. Another assumption we shall make is that synonyms make exactly the same semantic contribution to the determination of the propositions expressed by sentences in which they occur. Call this 'the Semantic Parity Assumption on Synonyms', or 'SPAS'. I do not know how one could possibly deny SPAS without flouting the very notion of synonymy or semantic contribution to propositional determination.<sup>21</sup> It is a challenge to any semantic theory about sentences of the form (1) to respect TOAB, DRAB, and SPAS all at once.

It is hard to see how the Name Theory can meet the challenge. The logical structures of (21)/(25) and (22)/(26) according to (the operator version of) the Name Theory are as follows:

(21n)        That-(Bookmakers are sleazy) is a proposition & Jane  
                 believes that-(Bookmakers are sleazy);

(22n)        That-(Bookies are sleazy) is a proposition & Jane  
                 believes that-(Bookies are sleazy).

Assume SPAS. Then given the synonymy of 'bookmakers' and 'bookies', it is extremely difficult to see how a Name Theorist can avoid

commitment to the claim that for any proposition P, (23) expresses P if and only if (24) expresses P, viz., the claim that 'that-(Bookmakers are sleazy)' refers to a proposition if and only if 'that-(Bookies are sleazy)' refers to the same proposition. The mechanism underlying the operator 'that' contains nothing to drive a wedge between (23) and (24) with respect to the expression relation. If so, the Name Theory is committed to the coreferentiality of 'that-(Bookmakers are sleazy)' and 'that-(Bookies are sleazy)', given SPAS. Next, assume DRAB. Then (21n) and (22n) have the same truth value. But this contradicts TOAB.

Does the Demonstrative Theory fare better? It seems so. The logical structures of (21)/(25) and (22)/(26) according to the Demonstrative Theory are as follows:

(21d)      That<sub>1</sub> is a proposition & Jane believes that<sub>1</sub>:  
                  Bookmakers are sleazy;

(22d)      That<sub>1</sub> is a proposition & Jane believes that<sub>1</sub>: Bookies  
                  are sleazy.

In a standard context, 'that<sub>1</sub>' in (21d) refers to the proposition expressed by the sentence following the colon, viz., (23), and 'that<sub>1</sub>' in (22d) refers to the proposition expressed by the sentence following the colon, viz., (24). This conflicts with DRAB under TOAB and SPAS, in a way familiar to us from the above discussion of the Name Theory. This, however, only shows that the context, C1, in

which (25) is true and (26) false is not standard; in C1 the relation between (23) and (24) on the one hand and the propositions referred to by 'that<sub>1</sub>' in (21d) and 'that<sub>1</sub>' in (22d) on the other is not expression. If a Demonstrative Theorist stops here, the challenge of reconciling DRAB, TOAB, and SPAS is met only superficially. To give substance to the reconciliation, a satisfactory answer needs to be given to the question "What relation holds between the sentences and the propositions in C1?" It is unclear how the answer should go.

One might say that it is the relation R such that R(x,y) if and only if Jane takes x to express y.<sup>22</sup> Since Jane is a competent linguistic subject, she understands what it is to interpret an utterance of a sentence in a standard context. So, she has implicit knowledge of the expression relation. Thus the relation R is well defined. In addition, Jane fully understands (23) and (24). So, there is a particular proposition P1 such that Jane takes (23) to express P1, and a particular proposition P2 such that Jane takes (24) to express P2. Therefore, one might say, in C1 'that<sub>1</sub>' in (21d) refers to P1 and 'that<sub>1</sub>' in (22d) refers to P2. Now, SPAS and Jane's full competence in English strongly suggest the identity of P1 and P2. But this in conjunction with DRAB and TOAB lead to a contradiction; by DRAB, (21d) and (22d) predicate the same relation between Jane and P1, viz., P2, so the two sentences share the same truth condition, but at the same time, by TOAB, (21d) is true but

(22d) is not. Perhaps, SPAS and Jane's full competence in English are compatible with the distinctness of P1 and P2. But then the problem is to flesh out this compatibility in sufficient detail. A major part of such an endeavor is to say exactly what propositions P1 and P2 are, while respecting SPAS and Jane's full competence in English.

Perhaps, there is a better way for a Demonstrative Theorist to meet the challenge. If so, it remains to be spelled out.

## V. The Russellian Description Theory

So far, we have followed the customary view of 'that'-clauses that they are, or contain, referring terms, either names or demonstrative pronouns. It is time to part with this view. If we take an innocent look at the sentence

(4) The proposition that snow is white is famous, we immediately notice that its subject term contains the word 'the'; it is a definite description. And we already have a well-entrenched theory of definite descriptions, namely, Russell's theory. Why not apply it to (4)? This is the most natural approach to (4) and, I claim, the most promising. The question (#) is answered quite differently on this approach.

On Russell's theory of descriptions, 'the'-phrases are not



referring terms and (4) is not a singular statement about a particular proposition. Instead, (4) has the logical structure of the following gross form:

$$(4'') (\exists x)Ax \ \& \ (x)(Ax \supset Fx).$$

What is the internal structure of the predicate 'A'?<sup>23</sup> Whatever goes into 'A' must correspond to the sub-string, 'proposition that snow is white', in (4). One thing that is immediately evident is that 'Ax' must be a conjunction one conjunct of which means "x is a proposition". So, let us say that 'Ax' has the form 'Ox & Bx', where 'Ox' means "x is a proposition". The important question then is: What does 'Bx' mean? Notice that the answer would be easy for sentences like the following:

(27) The proposition 'Snow is white' expresses in English is famous;

(28) The proposition Jack stated is famous.

The answer for (27) would be that 'Bx' means "'Snow is white' expresses x in English", and the answer for (28) would be that 'Bx' means "Jack stated x". (4) is importantly different from (27) and (28). Unlike (27) and (28), (4) does not lay down a condition for picking out a unique denotation of the description in terms of a relatively straightforward relation, such as expression or stating, and a relatively straightforward object or objects, such as a sentence and a language, or a person. Instead, (4) uses a 'that'-

clause. To figure out 'Bx' for (4) is to figure out the role of the sentence embedded in the 'that'-clause, viz.,

(16) Snow is white.

That is, our question (#) is now split:

(#1) What is the syntactic role of (16) in the logical structure of (4)?;

(#2) What is the semantic role of (16) in the determination of the denotation of the 'the'-phrase in (4)?

The answer to (#2) is rather obvious. Whatever else might be going on in the analysis, it should make the 'the'-phrase in (4) and the proposition expressed by (16) be related to each other in such a way that the former denotes the latter. (Remember the lesson of the carrot example against the Demonstrative Theory.) An easy way to do this would be to make 'Bx' say in effect that (16) expresses x, but such a move would involve mentioning of (16), an unwanted linguistic ascent.<sup>24</sup> We need some other way to implement the answer to (#2).

The trick is to answer (#1) in such a way as to accomplish the desired result without linguistic ascent. I can think of four ways.

The first analyzes 'Bx' as

(29)  $x = \text{that}-(\text{Snow is white}),$

where 'that-( )' is a sentential operator, yielding a name of the proposition the sentence expresses (in the language understood from the context). The second analyzes 'Bx' as

(30)  $x = \text{that [Snow is white]}$ ,

where 'that' is meant to refer to the proposition expressed by the sentence in the brackets (in the language understood from the context). Evidently, these two analyses mimic the Name Theory and the Demonstrative Theory, respectively. Only the fact that the Russellian Theory analyzes (4) as a conjunction of a unique-existential sentence and a universal sentence distinguishes them from the two previously rejected theories. A moment's reflection will quickly show that these analyses inherit the difficulties of the two rejected theories. We shall therefore dismiss them as unsatisfactory.

The third analysis of ' $Bx$ ' is radically different from the first two; it does not smuggle any referring term back into ' $Bx$ '. It is supported by the conception of propositions as primary objects of thought, and claims that a sentence expresses a proposition by laying out the content that is thought when the proposition is thought. Thus, it analyzes ' $Bx$ ' as

(31)  $x$  is thought iff it is thought that snow is white.<sup>25</sup>

This avoids linguistic ascent and is free from the difficulties plaguing the first two analyses. But it is obviously unsatisfactory. The very object of analysis, the 'that'-clause, reappears in (31), and there is no way to eliminate it within the object-of-thought conception of propositions.

We are thus left with the fourth analysis, which is supported by the conception of propositions as primary bearers of truth values. The basic idea is that a sentence expresses a proposition by laying out its truth condition. Thus, it analyzes 'Bx' as

(32) x is true iff snow is white.

Fully spelled out, (4) receives the following analysis on this truth-bearer conception of propositions:

(4t) ( $\exists!x$ )(x is a proposition & (x is true iff snow is white))  
& (x)((x is a proposition & (x is true iff snow is white))  
e x is famous).

If we read 'iff' as material equivalence, (4t) is false; for obviously, under that reading of 'iff', there are infinitely many propositions that are true iff snow is white, e.g., the proposition that grass is green. Since we want (4) true--or at least do not want (4) false simply because no unique proposition is such that as a matter of material equivalence it is true if and only if snow is white--we need a reading of 'iff' stronger than material equivalence. Such a reading clearly has to be at least as strong as metaphysically necessary equivalence (MENE, for short). But is MENE strong enough? Evidently not. Infinitely many propositions are still such that they are true iff snow is white, under that reading of 'iff': e.g., the proposition that snow is white and  $1+1=2$ .

## VI. A Modal Leap

Is there any kind of necessity such that if we read 'iff' in accordance with that kind of necessity, then there is exactly one proposition  $x$  such that  $x$  is true iff snow is white? How about conceptually necessary equivalence (CONE)? Could two propositions be such that they are true iff snow is white, where 'iff' is read as expressing CONE? It seems not. For example, it is not the case that as a matter of conceptual necessity, the proposition that snow is white and  $1+1=2$  is true if and only if snow is white. A mere conception of the proposition is insufficient for the equivalence; what is needed in addition is the metaphysical necessity of the proposition that  $1+1=2$ .<sup>26</sup> So, let us say that CONE is sufficiently strong. Indeed, it seems that CONE has exactly the right strength. But this sounds too good to be true. We need to be careful. What does it mean to say that a proposition  $x$  is true iff snow is white, under the CONE reading of 'iff'? What else could it mean but that our conception of  $x$  is precisely such that in all conceivable circumstances either  $x$  is true and snow is white or  $x$  is false and snow is not white. What conception of  $x$  is that? The answer, of course, is that it is the conception of  $x$  as the proposition that snow is white. We observed before that the clause

(9) that snow is white

is a canonical notation for the proposition in question. What makes it canonical is the very fact that we conceive of the proposition primarily as the proposition that snow is white. This prompts caution. We should be cautious not to understand 'iff' in (4t) under the CONE reading in terms of the very conception of x which directly verifies the equivalence. In other words, we should not understand (4t) as a disguised form of the following:

(4c) ( $\exists!x$ )(x is the proposition that snow is white) & (x)(x is the proposition that snow is white  $\leftrightarrow$  x is famous).

This obviously throws (4) back into (4t). The definite description is not eliminated. Little is accomplished. What we need is a noncircular way to unpack 'x is true iff snow is white' under a sufficiently strong reading of 'iff', i.e., a way which does not presuppose the conception of x as the proposition that snow is white.<sup>27</sup>

One might suspect that the project is hopeless, for any kind of necessity fit for the task would be ultimately understandable only in terms of the locution 'x is the proposition that snow is white' and therefore would not avoid circularity. I am not entirely unsympathetic.

However, I think it is premature to abandon hope. I believe there is one kind of necessary equivalence which is stronger than MENE and yet understandable without giving rise to vicious

circularity. Let me explain it by introducing an additional quantification explicitly. Read 'Bx' in the Russellian analysis form for (4) as

(33)  $(w)(x \text{ is true in } w \text{ / snow is white in } w),$

where 'w' ranges over worlds and '/' means material equivalence. We leave the notion of a world open, except for the requirement that the following two notions are well defined: what it is for a proposition to be true in a world, and what it is for it to be the case that (say) snow is white in a world.<sup>28</sup> We obtain the MENE reading of 'iff' in (4t) by letting 'w' range over all and only metaphysically possible worlds. If we help ourselves to such world-talk, a straightforward way to implement the proposed suggestion within the Russellian framework becomes available. It is to let 'w' range over more than metaphysically possible worlds, i.e., over metaphysically possible worlds *and some metaphysically impossible worlds*. (Henceforth, I shall drop the adverb 'metaphysically' wherever it is readily and correctly understood.)<sup>29</sup>

The obvious idea is that if we let the right kind of impossible worlds into the range of 'w', the proposition expressed by 'Snow is white and  $1+1=2$ ' will be adequately excluded; for some impossible world  $w$ , snow is white in  $w$  and  $1+1 \neq 2$  in  $w$ , hence it is false that snow is white and  $1+1=2$  in  $w$ .<sup>30</sup> So for some  $w$ , the proposition expressed by

(16) Snow is white

is true in  $w$  but the proposition expressed by

(16a) Snow is white and  $1+1=2$

is false in  $w$ . The two propositions are thus adequately distinguished.

The obvious question then is: Which impossible worlds should be included in the range of ' $w$ '? What we need for this particular example is just one world in which snow is white and  $1+1 \neq 2$ . Include one such impossible world among all possible worlds in the range of ' $w$ ', and we have the desired result for this particular case. But such a world will not do for other propositions. In order to distinguish the proposition expressed by (16) from the proposition expressed by, say,

(16b) Snow is white and  $1+1+1=3$ ,

we need an impossible world in which snow is white and  $1+1+1 \neq 3$ . In some impossible worlds, it is the case that both  $1+1 \neq 2$  and  $1+1+1 \neq 3$ , while snow is white. But there is no guarantee that the world we pick for the first example will do for the second example as well. It is clear that picking a specific kind of impossible world will not do as a procedure to secure the desired result in general. The safest choice therefore seems to be to pick all of them. Include in the range of ' $w$ ' all impossible worlds, in addition to all possible worlds. (I hasten to add that I am not assuming that it is necessary



to include all impossible worlds in the range of 'w' in order to distinguish every proposition from every other. For instance, an impossible world in which all propositions have the same truth value(s) is useless for distinguishing any two propositions.) The resulting reading of 'iff' is sufficiently strong.

But some might say that it is too strong. For some impossible world w, snow is white in w and snow is not white in w. So, for some w, the proposition expressed by (16) is true in w and the proposition expressed by (16) is false in w. Thus, they might say, if the proposition expressed by (16a) or (16b) is adequately distinguished from the proposition expressed by (16) by the above maneuver, the proposition expressed by (16) is adequately distinguished from the proposition expressed by (16) by the same maneuver. But nothing should be distinguished, adequately or not, from itself. Therefore, they might conclude, the proposal is self-refuting.

This, however, is confused. It does not show that the proposed reading of 'iff' is too strong. What is at issue is how to secure the result that exactly one proposition satisfies (33). The proposal in question is to secure this result by regarding 'w' as ranging over all possible worlds and all impossible worlds. Call those worlds in which no proposition is true and false 'normal'; worlds in which some proposition is true and false are abnormal. If we let the range of 'w' include abnormal worlds, as the proposal implies, then the

proposition satisfying (33) is true and false in some worlds in the range of 'w'. But this does not flout the uniqueness of the proposition satisfying (33). It is expected that such a proposition is true and false in some worlds in the range of 'w', namely, some abnormal worlds. Any proposition is true and false in some abnormal worlds.

The notion of normalcy of a world is understood in terms of the notion of propositional identity; w is normal if and only if for any proposition x and any proposition y, if x is true in w and y is false in w, then  $x \neq y$ . Therefore, if the notion of propositional identity were to be understood in terms of the notion of normalcy, we would have a problem of circularity. But the proposal in question does not define propositional identity in terms of normalcy. Its definition of propositional identity is quite simple; for any proposition x and any proposition y,  $x = y$  if and only if x and y have the same truth value(s) in all (possible and impossible) worlds. In particular, the proposition that snow is white is not identical with the proposition that snow is white and  $1+1=2$ , because in some impossible worlds the former has (say) the truth value Truth and no other truth value, whereas the latter has the truth value Falsity and no other truth value. On the other hand, the proposition that snow is white is identical with the proposition that snow is white, because in every possible or impossible world in which the former has a certain truth

value, the latter has that same truth value, and vice versa. In particular, any impossible world in which the former has Truth and the latter has Falsity is a world in which snow is white and snow is not white, so it is a world in which the former has Falsity and the latter has Truth, therefore it is a world in which the former has Truth and Falsity and the latter has Falsity and Truth. That is, such a world is one in which the former and the latter have the same truth values.

A variant of the same confusion might give rise to the objection that if we include all impossible worlds in the range of 'w', no proposition whatever satisfies (33). The reason, the objection goes, is that for any proposition P, there is an impossible world in which P is true and snow is not white; therefore, for any P, there is at least one world for which the biconditional in (33) fails. To see why this objection does not work, remember that the very conception of propositions as truth bearers has it that the proposition that snow is white is true precisely when snow is white. In the impossible-worlds locution, this implies that the proposition that snow is white is true in precisely those impossible worlds in which snow is white. So, in any impossible world in which the proposition that snow is white is true, snow is white. Of course, in some impossible worlds the proposition that snow is white is true and snow is not white. But this only means that in such worlds snow is

white and snow is not white, and this merely shows that such a world is abnormal.

The underlying idea of the truth-bearer conception of propositions elaborated so far is that the essence, or the nature, of a proposition is precisely that it has a truth value in every world.<sup>31</sup> That is, truth-value-bearer-ness constitutes the essence, or the nature, of a proposition, and nothing else constitutes it. Thus, a mapping from (all possible and impossible) worlds to truth values determines a unique proposition; also, a proposition determines a unique such mapping. This means that there is a one-one onto correlation between world-to-truth-value mappings and propositions. Suppose there are exactly three distinct truth values: Truth, Falsity, and Value-Three. If, for example, a proposition is precisely neither true nor false in  $w$ , we say that the mapping corresponding to the proposition maps  $w$  to {Value-Three}. If a proposition is precisely true and false in  $w$ , we say that the mapping corresponding to the proposition maps  $w$  to {Truth, Falsity}.<sup>32</sup> There is nothing self-refuting about this.

Some might wonder what justifies our contention that possible and impossible worlds will suffice to tell all distinct propositions apart. How do we know that there are not two distinct propositions which have exactly the same truth values in all possible and impossible worlds? I do not know exactly how to answer such a



sleazy in w)) e Jane believes x);

(22r)      (>!x)(x is a proposition & (w)(x is true in w /  
                  Bookies are sleazy in w)) & (x)((x is a proposition &  
                  (w)(x is true in w / Bookies are sleazy in w)) e  
                  Jane believes x).

Assume DRAB and TOAB. Then in order to avoid a contradiction, we need the definite descriptions

(21rd)      the proposition that bookmakers are sleazy  
 and

(22rd)      the proposition that bookies are sleazy  
 to denote different propositions. The challenge is to secure this without violating SPAS. While considering the Name Theory and the Demonstrative Theory, we noted that given SPAS, it was compelling that the following expressed the same proposition:

(23) Bookmakers are sleazy;

(24) Bookies are sleazy.

We also observed that the two theories in question lacked adequate resources to counter this. As a result, we did not resist the compulsion and assumed that (23) and (24) expressed the same proposition. Moreover, we imposed that (21rd) and (22rd) should denote the propositions (23) and (24) express, respectively, as a desideratum for any adequate theory of (21)/(25) and (22)/(26)--remember the carrot example against the Demonstrative Theory. So, if

we are to hold MORT up to the same standard of scrutiny as the two previous theories without having to refute the theory, we need to deny that (21rd) and (22rd) denote the same proposition, which in turn will commit us to denying that (23) and (24) express the same proposition. And this is only the beginning. We rejected the previous two theories on the basis that neither contained any otherwise plausible mechanism in their analyses that gave any reason for denying the identity of the propositions denoted by (21rd) and (22rd) without violating SPAS; such a denial by the Name Theory was theoretically ad hoc, and the way the Demonstrative Theory managed the denial led to an absurd consequence (the carrot example). Can MORT sustain the denial in a way that is neither ad hoc nor otherwise unacceptable? Unfortunately, it cannot.

MORT allows (21rd) and (22rd) to denote different propositions, only because it allows

(21rw)      (w)(x is true in w / Bookmakers are sleazy in w)

as it occurs (twice) in (21r) and

(22rw)      (w)(x is true in w / Bookies are sleazy in w)

as it occurs (twice) in (22r) to be satisfied by different propositions. Call a world a 'Jane world' if in that world everything is exactly as Jane believes. In every Jane world bookmakers are sleazy but bookies are not.<sup>33</sup> If Jane disbelieves that Earth is flat, then in every Jane world Earth is not flat. If

Jane neither believes nor disbelieves Goldbach's Conjecture, then in every Jane world Goldbach's Conjecture is neither true nor false. Given that it is necessary that all and only bookmakers are bookies, every Jane world is an impossible world; for Jane does not believe that all and only bookmakers are bookies. Since, according to MORT, the range of 'w' in (21rw) and (22rw) includes not just possible worlds but also all impossible worlds, it includes Jane worlds. So, for some w in the range, the proposition which satisfies (21rw) is true in w and the proposition which satisfies (22rw) is not true in w. So these propositions are different propositions.<sup>34</sup>

So far so good. However, MORT does not respect SPAS. As we noted, SPAS makes it compelling that (21rd) and (22rd) denote the same proposition. MORT says that different propositions satisfy (21rw) and (22rw) as they occur in (21r) and (22r). But (21rd) denotes a proposition if and only if the proposition satisfies (21rw) as it occurs in (21r), and (22rd) denotes a proposition if and only if the proposition satisfies (22rw) as it occurs in (22r).

This itself does not make MORT flout SPAS quite yet. The reason why SPAS makes the identity of the denotations of (21rd) and (22rd) compelling is that SPAS makes it compelling that (i) 'bookmakers' and 'bookies' have the same semantic contribution to the determination of the propositions satisfying (21rw) and (22rw), while independently it appears that (ii) if (i), then (21rd) and (22rd)



denote the same proposition. So, if a theory can deny (ii) without denying (i), SPAS is not flouted. Sadly, MORT cannot do so. If (i) is accepted, then since MORT makes the rest of (21rw) and the rest of (22rw) rich enough to assure full individuation of the satisfying propositions, no room is left for MORT to maneuver to avoid accepting (ii).

#### VIII. Modal Russellian Theory Revised

This is not the end of modal Russellianism, however. There is a way to improve MORT to overcome the above difficulty. The idea is to keep the range of 'w' as less inclusive than the collection of all possible and impossible worlds and let the initial unique existential quantifier, ' $\exists!x$ ', in the Russellian analysis do the work of picking out the right proposition. The truth-bearer conception of propositions as elaborated above remains operative--that is, propositions are exactly individuated by mappings from (possible and impossible) worlds to (sets of) truth values. But unlike MORT, the Revised MORT (REMORT for short) dissociates the question of securing a unique proposition satisfying (33) from the question of individuation of propositions in terms of the truth values they have in worlds. The idea is to restrict the pool of propositions eligible for satisfying (33) tightly enough to secure uniqueness of a

proposition that satisfies (33), with 'w' ranging over less than all possible and impossible worlds. But where does the restriction come from? It comes from the pragmatics concerning the initial existential quantifier '(>!x)' and its accompanying universal quantifier '(x)' in the Russellian logical structure in which (33) is embedded:

(33')      (>!x)(x is a proposition & (w)(x is true in w / snow is white in w)) & (x)((x is a proposition & (w)(x is true in w / snow is white in w)) e x is famous).

We have implicitly assumed that the range of 'x' in those quantifiers included all propositions, or if that is impossible, one fairly comprehensive collection of propositions. But it is well known that the range of a quantifier variable shifts from context to context. I say, "There is no food", looking into my empty refrigerator. What I say is true in that context, despite the presence of food in your refrigerator. The range for the variable corresponding to my utterance of 'no' is the content of my refrigerator. I then say, "There is no food", looking into your well-stocked refrigerator and being blinded by harsh lighting inside. What I say is false in that context despite the absence of food in my refrigerator. The range has shifted to the content of your refrigerator. In general, the range of a quantifier variable is typically restricted to a certain collection of entities relevant to the discourse in progress. The

collection may be understood from the contextual cues with varying degrees of clarity.<sup>35</sup>

In the case at hand, the collection can be fairly clearly demarcated. When a sentence is uttered, the uttered sentence immediately becomes part of the context and may participate in determining contextually sensitive elements in the discourse. When (16) is uttered as part of (4), (16) may exert some influence on the determination of the range of 'x' in (33'). Indeed, given a very close connection between (16) and the proposition to be denoted by the definite description in (4), we expect some such influence. For example, the fact that for any world *w* the proposition expressed by (16) is true in *w* if and only if 'is white' applies to the referent of 'snow'<sup>36</sup> in *w* suggests the restriction of the range of 'x' to only those propositions which are true in any world *w* if and only if 'is white' applies to the referent of 'snow' in *w*.<sup>37</sup> Since  $1+1 \neq 2$  and  $1+1+1 \neq 3$  in some such worlds, this will exclude the proposition expressed by (16a) or (16b) from the range of 'x'. (Here, it is very important to understand that in order for a string to apply or refer in *w*, it is not required that the string exist in *w*, a fortiori, be part of any language used by speakers in *w*. The string is to be understood in English as we actually use it here.)

This not only takes care of this particular example, (16), but other sentences equally well. Consider, say:

(34) The proposition that  $1+1=2$  is boring.

The truth of the proposition ' $1+1=2$ ' expresses is necessary, and so is the truth of the proposition expressed by

(35)  $3+3=6$ .

The range of ' $x$ ' in the Russellian logical structure of (34) will be restricted to include only those propositions which are true in any world  $w$  if and only if '=' applies to <the value of the function expressed by '+' for the referent of '1' and the referent of '1' as arguments, the referent of '2'> in  $w$ . In some such worlds the proposition (35) expresses is false; for some such worlds are impossible worlds in which  $3+3 \neq 6$ . Hence the proposition (35) expresses is excluded from the range in question.

The range of ' $x$ ' in (33') is pragmatically restricted to those propositions which are true in any world  $w$  if and only if 'is white' applies to the referent of 'snow' in  $w$ . This pragmatic restriction in fact restricts the range of ' $x$ ' to include only one proposition, viz., the proposition that snow is white. Thus, the uniqueness is achieved pragmatically. In section V, we split the question (#) into two subquestions, one on the syntactic role of (16) in the logical structure of (4) and the other on the semantic role of (16) in the determination of the denotation of the definite description in (4). Now we have in effect answered the third subquestion:

(#3) What is the pragmatic role of (16) in the determination of

the denotation of the description?

But how about (#2)? What is the semantic role of (33) in (33')?

(33) has two roles to play: not to fail to be satisfied by the uniquely picked proposition in question, and to characterize that proposition semantically in accordance with the truth-bearer conception. Given the way 'snow' and 'is white' occur in (33), (33) plays the first role smoothly, as expected. As for the second role, it is important to realize that having the pragmatic information that 'x' in (33') ranges only over those propositions which are true (or in fact, the proposition which is true) in any world w if and only if 'is white' applies to the referent of 'snow' in w is quite insufficient for having the answer to the question: In which worlds is the proposition denoted by the description 'the proposition that snow is white' true? Knowledge of the meanings of 'is white' and 'snow' is necessary for obtaining the answer to that question. (33) in effect supplies such knowledge by specifying the truth condition of the proposition for every world compatible with matters of meaning.

We now know the answer to the question: What is the range of 'w' in (33')? It is the set of all and only semantically regular worlds, viz., worlds which violate no semantically sanctioned truth, e.g., the truths that bachelors are male, that vixens are foxes, that nightmares are dreams, that walking is moving, that what is F and G

is F, and so on. Every such truth is necessary, so every possible world is a semantically regular world. But not every necessary truth seems to be sanctioned semantically: e.g., the truths that  $5+7=12$ , that water is  $H_2O$ , that a table is not made of a hunk of matter completely different from the hunk of matter it is actually made of, that Cicero is Tully, and so on. If this is so, then not every semantically regular world is a possible world. One might decide to leave the notion of semantic regularity primitive, offering nothing further than the above intuitive explanation by a few examples. But we can do better if we are prepared to accept the notion of conceptual possibility;  $w$  is semantically regular if and only if  $w$  is conceptually possible. That is,  $w$  is semantically regular if and only if every proposition true in  $w$  is conceptually possibly true.

It is important to note that even though REMORT does not require the range of ' $w$ ' to include all worlds, it does not abandon the conception of propositions behind MORT. In particular, REMORT does not abandon the idea of propositional individuation in terms of truth values in all worlds. It is just that REMORT lets ' $w$ ' range only over semantically regular worlds and leaves the rest of the work of propositional individuation to the pragmatics concerning the range of ' $x$ '. REMORT abandons the idea that complete propositional individuation is effected by means of all and only those worlds which are semantically regular, i.e., the idea that for every proposition

$P_1$  and every proposition  $P_2$ ,  $P_1 = P_2$  if and only if for every semantically regular world  $w$ ,  $P_1$  has a certain truth value in  $w$  if and only if  $P_2$  has that truth value in  $w$ . In other words, REMORT does not disregard semantically irregular worlds in assessing propositional identity. The range of 'x' in the initial existential quantifier in the Russellian analysis of a sentence like (21) contributes to the determination of the proposition denoted by the definite description. And that range is determined not semantically but pragmatically. Thus, determination of the proposition denoted by the description is largely a matter of pragmatics. Semantics gives its truth condition for every semantically regular world, but the truth condition extends beyond semantically regular worlds. Meanings individuate propositions up to semantic equivalence (sharing truth values in all semantically regular worlds), but some semantically equivalent propositions are distinct propositions.

How does REMORT coherently deny (ii) without denying (i) then? Unlike MORT, REMORT does not make the rest of (21rw) and the rest of (22rw) rich enough to assure full individuation of the satisfying propositions. In fact, on REMORT, no proposition uniquely satisfies either (21rw) as it occurs in (21r) or (22rw) as it occurs in (22r). They are satisfied by all those propositions which are true in any semantically regular world  $w$  if and only if bookmakers are sleazy in  $w$ , or equivalently, if and only if bookies are sleazy in  $w$ . They are

thus satisfied by the same propositions. SPAS is thereby respected.

At the same time, REMORT blocks (ii). The denotation of (21rd), or (22rd), is not determined by the satisfaction of (21rw) as it occurs in (21r), or (22rw) as it occurs in (22r). This should be obvious. (21rd) may denote at most one proposition; so may (22rd). Since (21rw) as it occurs in (21r) is satisfied by many propositions, its satisfaction cannot determine the denotation of (21rd); likewise for (22rw) and (22rd). Help from pragmatics is needed to determine the denotation. Remember that pragmatics picks a certain restricted collection of propositions for the initial existential quantifier in (21r) to range over. The collection is in fact a singleton, and therefore at most one members is among the propositions satisfying (21rw) as it occurs in (21r); and that is the proposition denoted by (21rd). More specifically, the range of 'x' for (21r) only includes the proposition which is true in any world w if and only if in w the predicate 'is sleazy' applies to everything the predicate 'is a bookmaker' applies to, and the range of 'x' for (22r) only includes the proposition which is true in w if and only if in w the predicate 'is sleazy' applies to everything the predicate 'is a bookie' applies to. In some semantically irregular (hence metaphysically impossible) worlds--e.g., Jane worlds--bookmakers are sleazy but bookies are not, that is, 'is sleazy' applies to everything 'is a bookmaker' applies to but not to everything 'is a bookie' applies to. In some other



semantically irregular worlds, bookies are sleazy but bookmakers are not, that is, 'is sleazy' applies to everything 'is a bookie' applies to but not to everything 'is a bookmaker' applies to. Therefore, not only is (21rw) as it occurs in (21r) satisfied by a unique proposition, the satisfying proposition is different from the equally unique proposition satisfying (22rw) as it occurs in (22r).

## IX. Applications

(a) Deduction: REMORT provides sentences of the form 'S deduced that P' with the same general treatment, which is adequate without making propositions structured.<sup>38</sup> Suppose Holmes deduced the guilt of Mr. Hyde without deducing the guilt of Dr. Jekyll. How is this possible, given the identity of Dr. Jekyll and Mr. Hyde? The sentence

(36) Holmes deduced the proposition that Mr. Hyde is guilty has the logical structure

(36r)  $(\exists !x)(x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \ \text{Mr. Hyde is guilty in } w)) \ \& \ (x)((x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \ \text{Mr. Hyde is guilty})) \ \in \text{Holmes deduced } x).$

Let a *Holmes world* be a world in which the "theorems" of his deductive system are true, and nothing else is. In any Holmes world

Mr. Hyde is guilty but not Dr. Jekyll. Holmes worlds differentiate the propositions denoted by the descriptions 'the proposition that Mr. Hyde is guilty' and 'the proposition that Dr. Jekyll is guilty'. Since the propositions are distinct, Holmes may deduce one without deducing the other.

(b) Meaning and Expression: REMORT holds that meaning does not determine proposition even relative to a particular context of utterance. There is a prima facie difficulty with such a position. Consider:

(37) 'Bookmakers are sleazy' means that bookmakers are sleazy;

(38) 'Bookies are sleazy' means that bookies are sleazy;

(39) 'Bookmakers are sleazy' expresses that bookmakers are  
sleazy;

(40) 'Bookies are sleazy' expresses that bookies are sleazy;

REMORT says that, relative to an appropriate context of utterance, the sentences

(23) Bookmakers are sleazy

and

(24) Bookies are sleazy

mean the same but they do not express the same proposition. That is, assuming that (37) - (40) are true, the 'that'-clauses in (37) and (38) designate the same thing but the 'that'-clauses in (39) and (40) do not. It follows that either the 'that'-clauses in (37) and (39)

do not designate the same thing or the 'that'-clauses in (38) and (40) do not designate the same thing. But how can this be, given the implicit assumption that (37) - (40) are all understood relative to one and the same context?

The apparent force of this rhetorical question stems from the myopic comprehension of the 'that'-clauses in (37) - (40). Take (37) and (39), for example. They both contain the same 'that'-clause. How can that 'that'-clause fail to designate the same thing (relative to the same context)? Here is how. Remember that under the assumption that expression is a relation between a sentence and a proposition (relative to a context), we read (39) as a stylistic variant of

(41) 'Bookmakers are sleazy' expresses the proposition that  
bookmakers are sleazy.

Likewise, under the assumption that the verb 'to mean' in (37) expresses a relation between a sentence and what is meant, viz., a meaning (relative to a context),<sup>39</sup> we should read (37) as a stylistic variant of (a slightly awkward but more accurate)

(42) 'Bookmakers are sleazy' means the meaning that bookmakers  
are sleazy.

We say that the definite description in (41) denotes a certain proposition  $P^*$  and the definite description in (42) denotes a certain meaning  $M^*$ . We can then understand the designation of a 'that'-

clause in terms of the denotation of the definite description which contains the `that'-clause; the `that'-clause in (41) designates  $P^*$ , and the `that'-clause in (42) designates  $M^*$ . Since propositions are not meanings, the two `that'-clauses designate different things. The same `that'-clause functions differently when embedded in (41) and (42). In (41) it helps determine a proposition, and in (42) it helps determine a meaning.

Compare this with a case of subsentential strings. Words have meanings and some of them also express properties:

(43) `Dog' means "dog";

(44) `Dog' expresses being a dog.

Here there is not even the slightest hint of parity between (43) and (44) even on the surface. Without the double quotation marks around the last word, or some other such special device (e.g., italicization), (43) would probably be ill formed, or at best a borderline case. Even if (43) were well formed and true with the last word occurring bare in it (`Dog' means dog) the counterpart of (44) would be not quite well formed and certainly not true (`Dog' expresses dog). It does not help to switch to an obviously well-formed sentence,

(44') `Dog' expresses doghood,

which is equally removed from (43) on the surface. (43) and (44) should be read as less articulate versions of:

(45) `Dog' means the meaning "dog";

(46) `Dog' expresses the property of being a dog.

The word `dog' is functioning differently at the end of (45) and (46); in (45) it helps determine a meaning, while in (46) it helps determine a property. A fuller version of (44'),

(44'') `Dog' expresses the property doghood, gives another illustration that `dog' as it occurs as part of the word `doghood' helps determine a property, rather than a meaning. The situation with `that'-clauses are entirely parallel.

(c) Context and Utterance: It is important not to forget that the restriction on the range of `x' is sanctioned pragmatically. Suppose Mim says, "The proposition that snow is white is overworked", and Nin says, "The proposition that snow is white is overworked". Mim and Nin utter exactly the same sentence at the same time. Assuming that they are speaking the same language, viz., English, it seems that what Mim says entails what Nin says. Can REMORT support this? In general, can REMORT avoid invalidating all inferences, including one-premise inferences in which the premise and the conclusion are two tokens of one and the same sentence type?

Why not? In some impossible worlds, Mim's (actual) utterance of `is white' (in the actual context) applies to the referent of Mim's (actual) utterance of `snow' (in the actual context) but Nin's (actual) utterance of `is white' (in the actual context) does not

apply to the referent of Nin's (actual) utterance of 'snow' (in the actual context). This means that if Mim's actual context of utterance is such that the range of 'x' in the Russellian logical structure of the uttered sentence is pragmatically determined to include a proposition only if the proposition is true in any world w if and only if in w that particular utterance of 'is white' by Mim in that particular context applies to the referent of that particular utterance of 'snow' by Mim in that particular context, and also if Nin's actual context of utterance is such that the range of 'x' in the Russellian logical structure of the uttered sentence is pragmatically determined to include a proposition only if the proposition is true in any world w if and only if in w that particular utterance of 'is white' by Nin in that particular context applies to the referent of that particular utterance of 'snow' by Nin in that particular context, then the denotation of Mim's utterance will be a different proposition from the denotation of Nin's utterance. This, however, does not make REMORT incapable of respecting the validity of the inference from Mim's proposition to Nin's proposition. There are two reasons why this is so.

First, validity is preservation of truth in a certain kind of possible worlds, i.e., logically possible worlds, but Mim's proposition and Nin's proposition differ from each other only in logically impossible worlds: e.g., worlds in which Mim's utterance of

`is white' applies to the referent of her utterance of `snow' but not to the referent of Nin's utterance of `snow'. Whatever precisely logical possibility should be defined, such worlds should certainly count as logically impossible worlds. So, such worlds are irrelevant to the validity of the inference from Mim's proposition to Nin's proposition.

Second, REMORT is not even committed to the non-identity between Mim's proposition and Nin's proposition. REMORT allows that the actual context of Mim's utterance be such that the range of `x' in question includes a proposition only if the proposition is true in any w if and only if in w every utterance of `is white' sufficiently similar to Mim's utterance of `is white' applies to the referent of every utterance of `snow' *sufficiently similar* to Mim's utterance of `snow', where Nin's utterances of `is white' and `snow' are deemed sufficiently similar to those by Mim. REMORT simultaneously allows the same for the actual context of Nin's utterance; the range of `x' for Nin's utterance includes a proposition only if the proposition is true in w if and only if in w every utterance of `is white' sufficiently similar to Nin's utterance of `is white' applies to ..., where Mim's utterances are deemed sufficiently similar to Nin's. For example, suppose Mim's utterances are slow and loud, while Nin's utterances are fast and quiet. The actual contexts of their respective utterances may well allow speed and decibel levels to be

irrelevant to the sufficient similarity in question. The contexts may well allow the utterances to be sufficiently similar on the grounds, say, that they mean the same.

Thus, REMORT has the kind of contextual flexibility the Demonstrative Theory has but without the latter's problems. The contextual flexibility of REMORT does not stem from the presence of a demonstrative pronoun in the logical structure but from the presence of a quantifier.

(d) The De Re: The pragmatic nature of the determination of the range of 'x' has the consequence that once we change the set up scenario surrounding utterances of belief sentences, different restrictions may take effect. When the so-called transparent readings are intended, any substitution of coreferential names will be salva veritate. Here is an example:

Charles has been a complete stranger to Barb until now. She has just seen him and thinks he is cute. She still does not know his name. I report her belief by uttering the sentence,

(47) Barb believes that Charles is cute.

As it happens, Charles has another name, 'Kit'. So one may as well use that name, and you do so by uttering the sentence,

(48) Barb believes that Kit is cute.

Given that the transparent reading is intended, the context of my utterance of (47) makes the range of 'x' in the Russellian logical



structure of (47) include a proposition only if the proposition is true in any w if and only if in w every utterance of 'is cute' sufficiently similar to my utterance of 'cute' applies to the referent of every utterance of a singular term sufficiently similar to my utterance of 'Charles', where your utterance of 'is cute' counts as sufficiently similar to mine because of synonymy, and your utterance of 'Kit' counts as sufficiently similar to mine because of coreference. Therefore, (47) and (48), as so uttered, come out equivalent.

(e) Iteration:<sup>40</sup> Iterated belief sentences receive a straightforward treatment. The sentences (49) and (50) get the logical structures (49r) and (50r):

(49) Benson believes that Jane believes that bookmakers are sleazy;

(50) Benson believes that Jane believes that bookies are sleazy;

(49r) ( $\exists x$ )(x is a proposition & (w)(x is true in w / in w Jane believes that bookmakers are sleazy)) & (x)(... e Benson believes x);

(50r) ( $\exists x$ )(x is a proposition & (w)(x is true in w / in w Jane believes that bookies are sleazy)) & (x)(... e Benson believes x).

The 'that'-clauses in (49r) and (50r) should be further analyzed away

in an obvious manner. To do so explicitly here would be tedious and not particularly helpful. It should be already obvious that (49r) need not entail (50r).

(f) Expression: We have spoken of the expression relation but so far have left it unanalyzed. Now we can offer an analysis: For any (English) sentence S and any proposition P, S expresses P if and only if the result of plugging S into the blank in 'the proposition that ( )' denotes P. Thus, the previously mentioned desideratum for a satisfactory theory that 'the proposition that P' denote what 'P' expresses is clearly satisfied.

## X. More Applications

Let us now apply REMORT to well-known knotty cases of belief ascription and see that it handles them well. We shall assume that every belief sentence that follows should be read de dicto.

(g) Non-linguistic Believers: Gaah is an alien creature whose behavior strongly suggests a certain degree of intellectual sophistication. We want to figure out its psychology from the total physical, chemical, and non-intentionally described behavioral evidence that we can amass. In particular, we do not assume that Gaah is a language user.<sup>41</sup> After spending a reasonable amount of time collecting such evidence, we affirm (51) and deny (52):

(51) Gaah believes that Phosphorus is visible in the morning;

(52) Gaah believes that Hesperus is visible in the morning.

Let us assume that coreferential names make the same semantic contribution to the determination of propositions by sentences in which they occur.<sup>42</sup> This is an analog of SPAS for names. It is a direct consequence of SPAS if we assume that coreferential names are synonymous. The logical structures of (51) and (52) are:

(51r)      ( $\exists x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  
Phosphorus is visible in the morning in  $w$ ) & ( $x$ )( $x$   
is a proposition & ( $w$ )( $x$  is true in  $w$  / Phosphorus  
is visible in the morning in  $w$ )  $\in$  Gaah believes  $x$ );

(52r)      ( $\exists x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  
Hesperus is visible in the morning in  $w$ ) & ( $x$ )( $x$  is  
a proposition & ( $w$ )( $x$  is true in  $w$  / Hesperus is  
visible in the morning in  $w$ )  $\in$  Gaah believes  $x$ ).

Many propositions satisfy

(51rw)      ( $w$ )( $x$  is true in  $w$  / Phosphorus is visible in the  
morning in  $w$ )

as it occurs in (51r), with the range of ' $w$ ' only including semantically regular worlds, and exactly the same propositions satisfy

(52rw)      ( $w$ )( $x$  is true in  $w$  / Hesperus is visible in the  
morning in  $w$ )

as it occurs in (52r), with the range of 'w' only including semantically regular worlds. This respects the parity of 'Phosphorus' and 'Hesperus' in their semantic contribution as they occur in (51) and (52). Now, given the setup, pragmatics dictates that the range of 'x' for (51r) includes a proposition only if the proposition is true in any world w if and only if in w 'is visible in the morning' applies to the referent of 'Phosphorus'. As a result, exactly one proposition is denoted by the description 'the proposition that Phosphorus is visible in the morning' hidden in (51). And that proposition is different from the proposition denoted by the corresponding description 'the proposition that Hesperus is visible in the morning' hidden in (52), for the latter proposition is not true in every world w if and only if in w 'is visible in the morning' applies to the referent of 'Phosphorus'. In some impossible worlds, Phosphorus is visible in the morning and Hesperus is not visible in the morning. The two propositions in question differ in truth value in such worlds.

Notice that this case is perfectly parallel to the Jane case. REMORT does not treat sentences ascribing belief to creatures that are languageless (or not assumed to have a language) in any way special.

(h) Pierre and London:<sup>43</sup> Pierre sincerely assents to

(53) Londres est jolie

in Paris as a monolingual French speaker. Relying on the French version of the first leg of the disquotational principle (DQI) plus an appropriate translation, we affirm

(54) Pierre believes that London is pretty.

Let C2 be the context in which we affirm (54). The logical structure of (54) is

(54r)  $(\lambda x)(x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \text{ London is pretty})) \ \& \ (x)((x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \text{ London is pretty})) \ \in \text{ Pierre believes } x).$

Pierre then goes to London, learns English by the direct method, and dissents from

(55) London is pretty.

Relying on the second leg of the disquotational principle (DQII), we deny

(56) Pierre believes that London is pretty.

Let C3 be the context in which we deny (56). The logical structure of (56) is

(56r)  $(\lambda x)(x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \text{ London is pretty})) \ \& \ (x)((x \text{ is a proposition} \ \& \ (w)(x \text{ is true in } w \ / \text{ London is pretty})) \ \in \text{ Pierre believes } x).$

Let us assume that 'London' in C2 make the same semantic contribution

to the propositional determination by (54) in C2 as 'London' in C3 does to the propositional determination by (55) in C3. Many propositions satisfy

(54rw) (w)(x is true in w / London is pretty in w)

as it occurs in (54r), with the range of 'w' only including semantically regular worlds, and exactly the same propositions satisfy

(56rw) (w)(x is true in w / London is pretty in w)

as it occurs in (56r), with the range of 'w' only including possible worlds. This respects the parity of 'London' as it occurs in (54) in C2 and 'London' as it occurs in (56) in C3 in their semantic contribution. Now, given the setup, pragmatics dictates that the range of 'x' for (54r) includes a proposition only if the proposition is true in any world w if and only if in w 'is pretty' applies to the referent of 'London' in C2. It is an important aspect of C2 that the reason for our affirmation of (54) is Pierre's assent to (53). It is crucial that we read 'London' in (54) as we affirm it, to be a faithful translation of 'Londres' in (53) as Pierre assents to it. By 'a faithful translation', I mean whatever translation that is good enough to support application of the disquotational principle. If we translate Pierre's 'Londres' by the name of the Canadian city 122 miles west of Toronto on Route 401, we will not be entitled to use the French version of (DQI) to report Pierre's belief correctly. I

will therefore attach a subscript to 'London' in the logical structure of (54) as we affirm it--i.e., in C2--to indicate a faithful translation of 'Londres' in (53) as Pierre assents to it--i.e., in the context in which Pierre assents to it:

(54r')     ( $\rightarrow !x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  
                  London<sub>1</sub> is pretty)) & ( $x$ )(( $x$  is a proposition & ( $w$ )( $x$   
                  is true in  $w$  / London<sub>1</sub> is pretty))  $\epsilon$  Pierre believes  
                   $x$ ).

Likewise, in view of the crucial role played by Pierre's dissent from (55) in justifying our denial of (56), I attach a different subscript to 'London' in the logical structure of (56) as we deny it--i.e., in C3--to indicate a faithful translation of 'London' in (55) as Pierre dissents from it:

(56r')     ( $\rightarrow !x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  
                  London<sub>2</sub> is pretty)) & ( $x$ )(( $x$  is a proposition & ( $w$ )( $x$   
                  is true in  $w$  / London<sub>2</sub> is pretty))  $\epsilon$  Pierre does not  
                  believe  $x$ ).

Thus, the appearance that (54r) and (56r) do not differ from each other at all is illusory. They should be understood as less articulate versions of (54r') and (56r'); the subscripts were previously invisible. London<sub>1</sub> and London<sub>2</sub> are one and the same city. This makes the Pierre case parallel to the Gaah case. Include a proposition in the range of 'x' for (54) in C2 only if it is true in

any world  $w$  if and only if in  $w$  'is pretty' applies to the referent of 'London<sub>1</sub>', and exactly one proposition will be denoted by the description 'the proposition that London<sub>1</sub> is pretty' hidden in (54) in C2. And that proposition is different from the proposition denoted by the corresponding description 'the proposition that London<sub>2</sub> is pretty' hidden in (56) in C3, for the latter proposition is not true in every world  $w$  if and only if in  $w$  'is pretty' applies to the referent of 'London<sub>1</sub>'. In some impossible worlds, London<sub>1</sub> is pretty and London<sub>2</sub> is not. The two propositions in question differ in truth value in such worlds.

Kripke says that we are at a loss as to what to say about the truth value of 'Pierre believes that London is pretty' and that this is a puzzle about belief independently of any particular theory of proper names. I agree with Kripke. I also think that his point is so important that any satisfactory theory of 'that'-clauses should explain why this is so, and my proposal does just that. The context in which Kripke's Pierre sentence is under discussion makes it clear that Pierre has encountered London as a pretty city and also separately as an ugly city, without giving either encounter an upper hand over the other, as it were. This makes the context of Kripke's question, "Does Pierre or does he not believe that London is pretty?" indecisive in determining the denotation of 'the proposition that London is pretty', and specifically, schizophrenic between two



potential ranges for 'w': the collection of all and only those worlds in which Pierre's utterance of 'est jolie' in Paris applies to the referent of his matching utterance of 'Londres' in Paris, and the collection of all and only those worlds in which Pierre's utterance of 'is pretty' later in London applies to the referent of his matching utterance of 'London' in London. As a result, we are at a loss as to which range to use for our evaluation of the truth value of 'Pierre believes that London is pretty' in the context of Kripke's question. And this is so quite independently of any particular theory of proper names.

(i) Paderewski:<sup>44</sup> During a discussion of various musicians, Sue, an English speaker, assents to

(57) Paderewski was a great musician.

So, relying on (DQI), we affirm

(58) Sue believes that Paderewski was a great musician.

During a different discussion of various politicians, Sue dissents from (57). So, relying on (DQII), we deny

(59) Sue believes that Paderewski was a great musician.

One and the same Paderewski is in fact in question. The logical structure of (58) as we affirm it and the logical structure of (59) as we deny it contain 'Paderewski<sub>1</sub>' and 'Paderewski<sub>2</sub>', which are faithful translations of 'Paderewski' in (57) as Sue assents to it and 'Paderewski' in (57) as Sue dissents from it, respectively. The

rest of the story also parallels the Pierre case.

(j) Imperiled Conversationalist:<sup>45</sup> Jill is talking to Jane on the telephone. Jill does not think the person she is talking to on the phone is in danger. Jill is also watching Jane from across the street. Jill thinks the person she is watching across the street is in danger. Obviously, Jill does not realize that she is talking to the same person as the one she is watching. Pointing across the street, Jill affirms to herself,

(60) I believe that she is in danger.

Then, speaking into the phone, Jill denies

(61) I believe that you are in danger.

The logical structures of (60) and (61) are:

(60r) ( $\neg x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $she_1$  is in danger)) & ( $x$ )(( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $she_1$  is in danger))  $\in$  I believe  $x$ );

(61r) ( $\neg x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $you_2$  are in danger)) & ( $x$ )(( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $you_2$  are in danger))  $\in$  I believe  $x$ ).

Here the subscripts indicate the anaphoric relation between pronouns. In the context of Jill's affirmation of (60), ' $she_1$ ' and ' $I$ ' in (60r) refer to Jane and Jill, respectively. In the context of Jill's denial of (61), ' $you_2$ ' and ' $I$ ' refer to Jane and Jill, respectively. The rest of the story parallels the Pierre case, with contextual

relativization explicitly added for the indexical pronouns.

(k) The De Se:<sup>46</sup> The same as above except that Jill is not on the phone, that she is simply watching a person across the street, and that the person she is watching is herself. As before, Jill affirms (60) to herself. Also to herself, Jill denies

(62) I believe that I am in danger.

This is parallel to the previous case, except that 'I' replaces 'you<sub>2</sub>' in the context C4 of Jill's denial of (62). Therefore, (60) does not entail (62).

Note that REMORT does not treat belief de se in any way special. Whatever is special about belief de se has to come from the unpacking of how Jill comes to believe or disbelieve a particular proposition like the one expressed by 'I am in danger' in (62) in C4, not from some special element postulated by an analysis tailor-made for de se belief sentences. This is as it should be.

(l) Two Tubes:<sup>47</sup> David is simultaneously looking at a colored patch through a tube with his right eye, calling the patch "this", and a colored patch through another tube with his left eye, calling the patch "that". They are one and the same patch but he does not realize it. Talking to himself, he affirms (63) and (64) but denies (65):

(63) I believe that this is red;

(64) I believe that that is red;

(65) I believe that this is that.

Given the way the reference of each demonstrative in these sentences are meant to be determined, this appears to make David an irrational believer. The logical structures of the sentences, again supplemented with explicit subscripts, are as follows:

(63r) ( $\exists x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $this_1$  is red in  $w$ ) & (( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $this_1$  is red in  $w$ ))  $\in$  I believe  $x$ );

(64r) ( $\exists x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $that_2$  is red in  $w$ ) & (( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $that_2$  is red in  $w$ ))  $\in$  I believe  $x$ );

(65r) ( $\exists x$ )( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $this_1$  is  $that_2$  in  $w$ ) & (( $x$  is a proposition & ( $w$ )( $x$  is true in  $w$  /  $this_1$  is  $that_2$  in  $w$ ))  $\in$  I believe  $x$ ).

Let us say that David worlds are worlds in which the proposition expressed by (66) in the context C5 of David's affirmation of (63) is true, and the proposition expressed by (67) in the context C6 of his affirmation of (64) is true, but the proposition expressed by (68) in the context C7 of his denial of (65) is false:

(66) This is red;

(67) That is red;

(68) This is that.

David worlds are impossible worlds, and `the proposition that this is

red' denotes in C5 a different proposition from the one 'the proposition that that is red' denotes in C6; these propositions differ in truth value in David worlds. So, David can coherently disbelieve the proposition denoted by 'the proposition that this is that' in C7.

### XII. Epilogue

Our discussion of belief sentences under REMORT has consistently taken the following form: we start by assimilating 'S believes that P' to 'The proposition that P is believed by S' and assuming that belief is a relation between S and the proposition denoted by 'the proposition that P'. On this basis, we explain how apparently puzzling belief ascriptions are not really puzzling, without denying any of the important philosophical theses which are independently plausible. We also avoid introducing a tertium quid--like "modes of presentation"--to mediate the dyadic belief relation. This reduces our theoretical baggage. Thus, the dialectical situation is this: Accept Russell's theory of descriptions for canonical descriptions of propositions, in conjunction with talk of possible and impossible worlds, and we can obtain a powerful theory of propositional discourse with a lean and mean subtheory on belief ascriptions. Let us summarize some important results such a subtheory supports:

- (A) The treatment of belief sentences is subsumed under a general treatment of sentences of the form (1);
- (B) The treatment of sentences of the form (1) is subsumed under a general Russellian treatment of definite descriptions;
- (C) 'S believes that P' is not made to entail any metalinguistic sentence about 'P';
- (D) Belief is a dyadic relation between a believer and a proposition (DRAB);
- (E) Propositions are not assumed to be structured;
- (F) Synonyms occurring in 'P' in 'S believes that P' make the same semantic contribution to the determination of the proposition S is said to believe by the belief sentence (SPAS);
- (G) Coreferential names occurring in 'P' in 'S believes that P' make the same semantic contribution to the determination of the proposition S is said to believe by the belief sentence (An analog of SPAS for names);
- (H) Intuitive judgements about the truth values of belief sentences are not violated (TOAB, e.g. Pierre's case);
- (I) The disquotational principle is not flouted;
- (J) The validity of the inference "S1 believes that P. S2 believes everything S1 believes. Therefore, S2 believes

that P" is not flouted (cf. the Mim-Nin example);<sup>48</sup>

(K) The echo principle, "If S1 and S2 use a sentence in such a way that its constituents are coreferential, then if S1 can express his belief using the sentence, S2 can use the sentence to ascribe that belief to S1", is not flouted as intended (cf. the Mim-Nin example);<sup>49</sup>

(L) Customary translations are respected; e.g., the proposition expressed by 'Snow is white' is the same as the proposition expressed by 'La neige est blanche' (cf. the notion of faithful translation in Pierre's case).<sup>50</sup>

(M) Fregean senses are not invoked;

(N) Mentalese is not invoked;

(O) Modes of presentation are not invoked.

As far as I know, no other coherent theory of belief ascription supports all of the above. Also as a bonus, REMORT yields an adequate definition of the expression relation. All this makes REMORT very attractive.<sup>51</sup>

## NOTES

1. We might note in this connection that there is no obvious variant of (4) à la (7) and (8).
2. That the word 'of', unlike the word 'that' for propositions, usually drops out seems to be a quirk of English. I know of at least one natural language in which there is a perfect symmetry between propositional talk on the one hand and property and relation talk on the other.
3. Disregard 'Mars' as a name of a Roman god, or of anything else other than the fourth planet of the solar system.
4. See, for example, Scott Soames, "Semantics and Semantic Competence", James E. Tomberlin (ed.) Philosophical Perspectives, 3: Philosophy of Mind and Action Theory, 1989 (Atascadero, CA: Ridgeview Publishing Company, 1989), 575-96. Soames lists four assumptions on p. 585, one of which says, "The expression  $j$ the proposition that  $P$   $k$  is a directly referential singular term that refers to the proposition expressed by  $P$ ". Soames says of the four assumptions, "Indeed, I am willing to accept them". For a slightly different view, see Nathan Salmon, Frege's Puzzle (Cambridge, MA: MIT Press, a Bradford Book, 1986), 169, note 4: "One should think of the 'that'-operator as analogous to quotation marks, and of a 'that'-term  $j$ that  $S$   $k$  as analogous to a quotation name, only referring to the information content of  $S$  rather



than S itself".

5. Paul Benacerraf, "What Numbers Could Not Be", Philosophical Review 7 (1965), 47-73.

6. Mark Richard, "Articulated Terms", James E. Tomberlin (ed.) Philosophical Perspectives, 7: Philosophy of Language, 1993 (Atascadero, CA: Ridgeview Publishing Company, 1993), 211. See also his "Semantic Competence and Disquotational Knowledge", Philosophical Studies 65 (1992), 37-52. Richard cleverly appropriates the core idea of structuralist possible-world semanticists: see Rudolf Carnap, Meaning and Necessity (University of Chicago Press, 1947), David Lewis, "General Semantics", D. Davidson and G. Harman (eds.) Semantics of Natural Language (Dordrecht: Reidel, 1972), 169-218, M. J. Cresswell, Structured Meanings (Cambridge, MA: MIT Press, A Bradford Book, 1985).

7. Richard, ibid., 212.

8. See his "On Saying That", Synthese 19, 1968, 130-146. The most striking difference between Davidson's analysis and (4d) is that the former makes 'that<sub>1</sub>' refer to an utterance but the latter makes it refer to a proposition. Davidson has since softened his anti-proposition stance considerably: in "What is Present to the Mind?", Enrique Villanueva (ed.) Philosophical Issues, 1, Consciousness, 1991 (Atascadero, CA: Ridgeview Publishing Company, 1991), 209, he says, "Since utterances, sentences and propositions are so closely related, the chances are if one choice will serve, the others can be made to

serve".

9. But see the previous note for Davidson's softening.

10. See W. G. Lycan, "Davidson on Saying That", Analysis 33 (1972-73), 138-39, "The Paradox of Naming", 1985, and S. Boër & W. G. Lycan, Knowing Who, 1986, 50-52. The dot quotes are a common-noun forming operator, due to Wilfrid Sellars.

11. Davidson's resort to Oxford English Dictionary on this score is misplaced in a philosophical article. Stephen Schiffer makes a mocking criticism out of this fact in Remnants of Meaning (Cambridge, MA: MIT Press, A Bradford Book, 1987), 125. But it should not be held against a Davidsonian theory which is not motivated by this uninteresting linguistic coincidence.

12. See Stephen Schiffer, op. cit., 122-137, and Mark Richard, Propositional Attitudes: An Essay on Thoughts and How We Ascribe Them (Cambridge University Press, 1990), 87-102. See also S. Blackburn, "The Identity of Propositions", Meaning, Reference, and Necessity, S. Blackburn (ed.) (Cambridge University Press, 1975), 182-205, R. Arnaud, "Sentence, Utterance, and Samesayer", Noys 10 (1976), 69-96, J. McDowell, "Quotation and Saying That", Reference, Truth, and Reality, M. Platts (ed.), 1980, 206-37, and M. Platts, Ways of Meaning: An Introduction to a Philosophy of Language (London: Routledge and Kegan Paul, 1979).

13. Such cases include belief sentences. See Lycan, op. cit., and Boër

& Lycan, op. cit.

14. Getting a hint from the case of sortal variables, one might say that the demonstrative in question is a sortal demonstrative. Just as a variable may only range over a particular sort of things, a demonstrative may only refer to a particular sort of thing. The sort relevant to our discussion is "proposition". Since a carrot is not a proposition, the demonstrative in question does not refer to it. There are two problems with this defense of the Demonstrative Theory. First, if I clearly, emphatically, and exclusively demonstrate a chair and say to you, "This man is a spy", the most natural reaction for you is puzzlement, even if there happens to be a man perspicuously standing next to the chair. The man is the most salient candidate for the reference of my utterance of 'this man', but my demonstration clearly and distinctly points to the chair. A natural thing to say therefore is that my utterance of 'this man' refers to the chair. The 'this'-part of the demonstrative phrase outweighs the 'man'-part, as it were. The situation does not change if I say instead, "This is a spy", where 'this' is a sortal demonstrative with the sort "man". Similarly with the carrot example with a sortal demonstrative with the sort "proposition". Second, it is not at all obviously impossible that there should be some proposition that is more conspicuously demonstrated in a way relevant to demonstrative reference than the proposition expressed by the sentence in the 'that'-clause. If such a

context of utterance is possible, then the conspicuously demonstrated proposition will replace the carrot in the original counterexample as the spoiler, and the sortal move will buy nothing.

15. I owe the idea behind this example directly to Steven Rieber, "Understanding Synonyms Without Knowing That They Are Synonyms", Analysis 52 (1992), 224-28.

16. See Saul Kripke, "A Puzzle About Belief", A. Margalit (ed.) Meaning and Use (Dordrecht: Reidel, 1979), 239-83.

17. Nathan Salmon, Frege's Puzzle, 129-30.

18. What I have in mind in support of (DQII) is the result of replacing 'belief' and 'assent to' with 'non-belief' and 'dissent from' in the quoted passage. Salmon himself would not approve of (DQII); see, e.g., "Being of Two Minds: Belief With Doubt", Noûs 29 (1995), 1-20. But apart from some theoretical axe to grind, the intuitive appeal of the two DQ principles seems to be equal.

19. I do not mean to imply that this assumption is philosophically innocent. (21) and (22) clearly exhibit prima facie commitment to propositions, whereas (25) and (26) do not. The assumption is merely an easy way to facilitate DRAB below. The underlying idea is obviously a general one which encompasses non-attitudinal sentences: e.g., 'That snow is white is famous' and 'The proposition that snow is white is famous'.

20. See, e.g., Mark Richard, "Direct Reference and Ascriptions of

Belief", Journal of Philosophical Logic 12 (1983), 425-52, and Nathan Salmon, "Being of Two Minds: Belief With Doubt", section IV.

21. Disregarding direct quotational contexts, of course.

22. For other belief sentences, R may be different. If, e.g., the believer does not understand English (the language of the belief sentence), it may be something like the following:  $R(x,y)$  if and only if for some sentence S in the belief subject's language which translates x, the subject believes S expresses y. It is perfectly legitimate to let R shift like this from context to context, given the context sensitivity of demonstrative reference.

23. (4'') is a form of the logical structure of (4). This means, in particular, that I am not assuming that 'A' is a primitive predicate. Otherwise, the following discussion in the text would be unintelligible.

24. Proposals of linguistic ascent have been made by, among others, Rudolf Carnap, Meaning and Necessity, §§ 13-15, James Cargile, "Moore's Proposition W", Notre Dame Journal of Formal Logic 13 (1972), 105-17, Kent Bach, Thought and Reference (Oxford University Press, 1987). For the undesirability of such linguistic ascent, see Alonzo Church, "On Carnap's Analysis Of Statements of Assertion and Belief", Analysis 10 (1950), 97-99, "Intensional Isomorphism and Identity of Belief", Philosophical Studies 5 (1954), 65-73, William W. Taschek's review of Kent Bach's Thought and Reference, Journal of Philosophy (1990), 38-45,

Nathan Salmon, "The Very Possibility of Language", delivered at UCLA on May the 11th, 1994.

25. Or, to make thinking explicitly relational,  $(y)(y \text{ thinks } x \text{ iff } y \text{ thinks that snow is white})$ .

26. I chose the proposition that  $1+1=2$  because it is an obvious choice for metaphysical necessity. But if you think it is also conceptually necessary, simply shift to a proposition which is metaphysically necessary but not conceptually necessary. Saul Kripke has convincingly argued for the existence of such propositions in Naming and Necessity (Cambridge, MA: Harvard University Press, 1980), first published in D. Davidson and G. Harman (eds.) op. cit., 253-355.

27. Notice in this connection that ' $x$  is true iff snow is white' should not be read as ' $x$  is true iff the proposition that snow is white is true' (or ' $x$  is true iff the proposition that snow is white holds' or ' $x$  is true iff the proposition that snow is white is the case', etc.). Obviously, such a reading would be equally unhelpful.

28. This precludes the conception of a world as a set of propositions; for under such a conception, the locution ' $\text{Snow is white in } w$ ' would have to be understood in terms of ' $\text{the proposition that snow is white is a member of } w$ ', thus reintroducing the definite description.

29. For some of the arguments for impossible worlds, see Alexius Meinong, "The Theory of Objects", R. Chisholm (ed.) Realism and the Background of Phenomenology (New York: Free Press, 1960), William

Lycan, "The Trouble with Possible Worlds", M. J. Loux (ed.), The Possible and the Actual: Readings in the Metaphysics of Modality (Cornell University Press, 1979), 274-316, Hugh Chandler, "Plantinga and the Contingently Possible", Analysis 36 (1976), 106-9, Terence Parsons, Nonexistent Objects (Yale University Press, 1980), Nathan Salmon, Reference and Essence (Princeton University Press, 1981), 229-52, "Impossible Worlds", Analysis 44 (1984), 114-17, "Modal Paradox: Parts and Counterparts, Points and Counterpoints", French, Uehling, and Wettstein (eds.), Midwest Studies in Philosophy XI: Studies in Essentialism (University of Minnesota Press, 1986), 75-120, "The Logic of What Might have Been", Philosophical Review 98 (1989), 3-34, Edward N. Zalta, Intensional Logic and the Metaphysics of Intentionality (Cambridge, MA: MIT Press, A Bradford Book, 1988), Takashi Yagisawa, "Beyond Possible Worlds", Erkenntnis 53 (1988), 175-204.

30. I say "some impossible worlds", not "all impossible worlds". It is a mistake to assume that all propositions are true in all impossible worlds, for in some impossible worlds the usual propositional logic that governs the entailment relation between propositions breaks down so that a contradiction does not entail every proposition; such worlds are logically impossible worlds.

31. I am ignoring the possibility of truth-value gaps. For our purposes, we may consider any such gap as an additional truth value.

32. We might then read (33) as "(w)((x has Truth in w/ snow is white

in w) & (x has Falsity in w / snow is not white in w) & (x has Value-Three in w / (it is not the case that snow is white in w & it is not the case that snow is not white in w)))".

33. I am not interested in settling the question of how many Jane worlds there are. I use the locutions 'every Jane world' and 'Jane worlds' to convey generality. If there is only one Jane world, they are equivalent to 'the Jane world'.

34. Jane worlds, in which not all and only bookmakers are bookies, are not the only kind of impossible worlds in which bookmakers are sleazy but bookies are not. Another such kind of impossible worlds are those in which all and only bookmakers are bookies but bookmakers are sleazy while bookies are not. Jane worlds flout the necessity of analytic coextensiveness, whereas the latter kind of worlds flout the indiscernibility of the identical.

35. As David Lewis puts it in On the Plurality of Worlds (Oxford: Blackwell, 1986), 164, "... part of the ordinary meaning of any idiom of quantification consists of susceptibility to restrictions; and restrictions come and go with the pragmatic wind". See also, W. V. Quine, Mathematical Logic (Cambridge, MA: Harvard University Press, 1940), Wilfrid Sellars, "Presupposing", Philosophical Review 63 (1954), 197-215, Martin Davies, Meaning, Quantification, Necessity (London: Routledge and Kegan Paul, 1981), Stephen Neale, Descriptions (Cambridge, MA: The MIT Press, 1990).



36. I am innocently assuming that 'snow' is a referring term. If it is not, speak of what 'snow' stands for or applies to, instead of what it refers to.

37. I intend to elucidate the expression relation in the final analysis along the lines we are following. For this reason, I do not suggest that the range of 'x' should include as its members only those propositions which are true in any world  $w$  if and only if (16) is true in  $w$ . Sentential truth is parasitic on propositional truth; a sentence is true if and only if the proposition it expresses is true.

Application of a predicate is equally parasitic on the possession relation between an entity and the property the predicate expresses; a predicate applies to something if and only if that thing has the property the predicate expresses. I do not mind property expression to be an undefined element in the theory of propositional denotation which also elucidates propositional expression, for there is no threat of circularity in such a theory. However, a threat is real in any theory of property denotation which also elucidates property expression. Since I am committed in the end to a Russellian analysis of property denotation, I need to face the threat eventually. I believe I have a way to meet it successfully. No space is available here for me to elaborate, but the idea is to decompose a predicate into component parts, e.g., 'is white' into 'is' and 'white', and use the relation between 'white' and whiteness. No circularity threatens, for 'white'

cannot be used to denote a property the way 'being white' is; 'the property of white' is not even well formed, let alone denote the property of being white.

38. Thus, Cresswell's challenge in his op. cit., 77-80, is met. Also see Robert Stalnaker, Inquiry (Cambridge, MA: MIT Press, A Bradford Book, 1984)., Richard, Propositional Attitudes, 30-31.

39. The unfortunate linguistic accident that, unlike 'expression' and 'proposition', English has the same word, 'meaning', for the relation and the second relatum of the relation, should not confuse us here.

40. See Benson Mates, "Synonymity", University of California Publications in Philosophy 25 (1950), also in L. Linsky (ed.), Semantics and the Philosophy of Language (University of Illinois Press, 1952), 111-36.

41. We may think of this as the initial part of the endeavor of a radical interpreter, as characterized by David Lewis in "Radical Interpretation", Synthese, (23) 1974, 331-44.

42. Without such an assumption, the example is uninteresting.

43. See Saul Kripke, "A Puzzle About Belief", A. Margalit (ed.) Meaning and Use (Dordrecht: Reidel, 1979), 239-83.

44. Saul Kripke, ibid. Nathan Salmon's example of the befuddled Elmer in his Frege's Puzzle is a variant.

45. See Mark Richard, "Direct Reference and Ascriptions of Belief", and Propositional Attitudes, 117 ff.

46. The phrase 'de se' is due to David Lewis, "Attitudes De Dicto and De Se", Philosophical Review 88 (1979), 513-43. See also H-N Castañeda, "Indicators and Quasi-Indicators", American Philosophical Quarterly 4 (1967), 85-100, "On the Logic of Attributions of Self-Knowledge to Others", Journal of Philosophy 65 (1968), 439-56, John Perry, "The Problem of the Essential Indexical", Noûs 13 (1979), 3-21, David Kaplan, "Demonstratives", J. Almog, J. Perry, and H. Wettstein (eds.) Themes From Kaplan (Oxford University Press, 1988), 481-563.
47. See David Austin, What's the Meaning of "This"?: A Puzzle About Demonstrative Belief, (Ithaca: Cornell University Press, 1990), 20-25.
48. Richard, Propositional Attitudes, 75-78.
49. See Richard, ibid, 80.
50. Richard is compelled to cast doubt on this to save his theory. See ibid. 170.
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