



# Attitude Reports: Do You Mind the Gap?

Berit Brogaard\*

University of Missouri and Australian National University

---

## Abstract

Attitude reports are reports about people's states of mind. They are reports about what people think, believe, know, know a priori, imagine, hate, wish, fear, and the like. So, for example, I might report that *s* knows *p*, or that she imagines *p*, or that she hates *p*, where *p* specifies the content to which *s* is purportedly related. One lively current debate centers around the question of what sort of specification is involved when such attitude reports are successful. Some hold that it is specification of the precise content of a mental state; others hold that it is specification of the content of a mental state only relative to a mode of presentation; yet others hold that it is merely a description or characterization of the content of a mental state. After providing a brief introduction to the traditional debate on attitude reports, this entry argues that for certain kinds of knowledge reports and for so-called *de re* attitude reports, descriptive theories emerge as the most plausible. The entry concludes with a discussion of how the characterizing relation between attitude reports and mental states might be construed.

---

## 1. The Traditional Debate

Superman just is Clark Kent. So, Superman can fly just in case Clark Kent can. In other words, since 'Superman' and 'Clark Kent' refer to the same person, (1) is true iff (2) is:

- (1) Superman can fly
- (2) Clark Kent can fly

'Superman' and 'Clark Kent' are said to be intersubstitutable in (1) and (2) *salva veritate*, i.e., without any change in the truth-value of the reports. A principle of intersubstitutability of co-referring terms can be formulated as follows:

Intersubstitutability: *if* two terms refer to the same individual in a given linguistic environment (or context), then in that environment they are intersubstitutable *salva veritate*.<sup>1</sup>

Intersubstitutability is compelling. It is motivated by semantic considerations of compositionality. In compositional semantics, the truth-value of an (uttered) sentence is determined by the reference (denotation, extension)

of the constituents of the sentence.<sup>2</sup> So, if two terms co-refer, substituting one for the other in a sentence ought to have no effect on truth-value. But attitude contexts appear to pose a problem for this principle. Consider:

- (3) Lois Lane *believes* that Superman can fly
- (4) Lois Lane *believes* that Clark Kent can fly

Intuitively, (3) is true and (4) false (in the world of Superman). So, if ‘Superman’ and ‘Clark Kent’ co-refer when embedded under ‘Lois Lane believes’, then ‘Superman’ and ‘Clark Kent’ do not satisfy Inter-substitutability. This is Frege’s puzzle. (Frege himself presented the puzzle in terms of ‘Hesperus’ and ‘Phosphorus’. Even though ‘Hesperus’ and ‘Phosphorus’ both refer to Venus, it is possible for someone to believe that Hesperus is the brightest object in the evening sky without believing that Phosphorus is.)

Frege’s own solution was to reject the assumption that terms like ‘Superman’ and ‘Clark Kent’ co-refer when embedded in an attitude context (call this the *Fregean approach*). To motivate this Frege stipulates that in attitude contexts, terms undergo a reference shift: they refer to the concept (or sense) that they express. In its technical sense, the sense or concept of a name is a function from worlds (indices, circumstances of evaluation) to individuals which satisfy certain properties associated with the name (Carnap). But senses may also be thought of as ways of presenting things. For example, the sense of ‘Superman’ may be thought of as a way of presenting Superman as a flying superhero, and the sense of ‘Clark Kent’ may be thought of as a way of presenting Clark Kent as a mild-mannered office worker.

Since ‘Superman’ and ‘Clark Kent’ do not co-refer in attitude contexts, if Frege is right, the non-intersubstitutability of ‘Superman’ and ‘Clark Kent’ in (3) and (4) does not violate Intersubstitutability. Frege’s solution has more recently been defended by, for example, Graeme Forbes (‘Indexicals and Intensionality’; ‘Indispensability of *Sinn*’), Christopher Peacocke, Ed Zalta, Michael McKinsey, Paul Horwich, and Jesper Kallestrup (‘Paradoxes about Belief’).<sup>3</sup>

Frege’s solution has been criticized along several lines (see, e.g., Salmon, *Frege’s Puzzle*; Donnellan; Recanati; Clapp, ‘How to be Direct and Innocent’; ‘Beyond Sense and Reference’; Schiffer, *Things We Mean*; Pautz). If one stipulates (with Kripke (*Naming and Necessity*) and contra Frege) that in non-attitude contexts at least, the meaning of a name is its referent (and not a concept), then Frege’s solution violates a second compelling principle, namely:

Semantic Innocence: Linguistic expressions have the same (propositional) meaning in all linguistic contexts.

Semantic Innocence is motivated by the fact that the (propositional) meaning or content of an expression is determined by the expression’s character.

The character of an expression is a non-variable function from context (of utterance) to content. For example, the character of 'I' is a function from context to the speaker of the context, and the character of 'now' is a function from context to the time of speech (see Kaplan, 'Demonstratives'). Since the character of an expression does not vary with the linguistic environment in which the expression is embedded, and meaning is determined by character, the meaning of an expression does not vary with the linguistic environment in which the expression is embedded.

Assuming that in non-attitude contexts at least the meaning of a name is its referent, as argued by Kripke, Semantic Innocence entails the following principle:

Semantic Innocence-Names: Names have the same reference in all linguistic contexts (including attitude contexts).

Semantic Innocence-Names is incompatible with the Fregean hypothesis that names undergo a reference shift in attitude contexts. And as Semantic Innocence-Names is entailed by Semantic Innocence, Semantic Innocence too is incompatible with the Fregean hypothesis that names undergo a reference shift in attitude contexts. So combining the Fregean assumption that names undergo a reference shift in attitude contexts with the hypothesis that in non-attitude contexts at least the meaning of a name is its customary referent has the unfortunate consequence that Semantic Innocence must be rejected. Of course, this objection has no force against Fregeans, who unapologetically deny that the meaning of a name is its customary referent in any context.

The other main objection to the Fregean solution is that it violates Exportation (Schiffer, *Things We Mean* 24–7; Pautz).<sup>4</sup> Exportation states that it is legitimate to move a name from an internal or narrow-scope position with respect to an attitude verb or operator to an external or wide-scope position. By Exportation one can infer the following sentence from (3):

(5) Superman is such that Lois Lane believes that he can fly.

Given a Fregean reference-shift semantics, the inference from (3) to (5) is invalid. The reason it is invalid is that the Fregean view entails that while sentences like (3) may be true, sentences like (5) are either non-truth-evaluable or false. Given a Fregean semantics, propositions containing *individuals* (as opposed to concepts) are not truth-evaluable. So, it will not do to say that (5) is true iff Superman is such that 'Lois believes that  $x$  can fly' is true for the assignment of Superman to ' $x$ '. It will not do to say this, because Fregeans deny that the result of assigning Superman to ' $x$ ' in 'Lois believes that  $x$  can fly' is truth-evaluable. Nor will it do to say that (5) is true iff there is a concept  $c$  which is the customary referent of 'Superman' such that 'Lois believes  $x$  can fly' is true for the assignment of  $c$  to ' $x$ '. For, as the occurrence of 'Superman' in (5) is not embedded

under an attitude verb, its customary referent is Superman, not the Superman concept. So if the only condition under which (5) is true is when there is a concept  $c$  which is the customary referent of ‘Superman’, then (5) is false.

The fact that a strictly Fregean approach violates exportation is thought to be a forceful reason against the view. Fregeans could bite the bullet (Pautz), but we would still be left with the unintuitive consequence that wide-scope attitude ascriptions like (5) cannot be true.

A second kind of solution to Frege’s puzzle is the *hidden-indexical theory*. Defenders of this and related approaches include Stephen Schiffer (‘Naming and Knowing’; ‘Belief Ascription’; ‘Hidden-Indexical Theory’s Logical-Form Problem’), Mark Crimmins and John Perry, Mark Richard (*Propositional Attitudes*), Mark Crimmins, François Recanati, Kasia Jaszczolt (*Discourse, Beliefs, and Intentions*; ‘Default-Based Context-Dependent’), and David Chalmers (‘Propositions and Attitude Ascriptions’).<sup>5</sup> The hidden-indexical theory denies an assumption we have taken for granted above, namely, the assumption that ‘believe’ is a two-place predicate that ascribes a relation between a subject and a proposition. The hidden-indexical theorists hold that ‘believe’ is a three-place predicate that ascribes a relation among a subject, a proposition and a mode of presentation (sense, guise). On Schiffer’s approach (‘Belief Ascription’), for instance, (3) is of the form:

(3a)  $\exists m(\phi^*m \ \& \ \text{Bel}(L, \langle \text{Superman, ability to fly} \rangle, m))$

where  $\phi^*$  is an ‘implicitly referred to and contextually determined type of mode of presentation’ (503). Sentence (3) says that there is an entity  $m$  such that  $m$  is a particular contextually determined type of mode of presentation (e.g., the superhero type), and Lois believes under  $m$  that Superman has the ability to fly.

Both (3) and (4) receive different truth-values relative to different modes of presentation. So, it is true that Lois Lane believes Superman can fly under the superhero mode of presentation but not under the office worker mode of presentation. The hidden-indexical theory has the *prima facie* advantage over the Fregean approach that it preserves (i) the Kripkean view that the meaning of a name is its referent, and (ii) Semantic Innocence. It preserves both because it does not posit a shift in the reference of ‘Superman’ and ‘Clark Kent’. Rather, it stipulates that the predicate ‘believe’ takes three arguments rather than just two.

One problem for the hidden-indexical theory is that it violates Compositionality – the principle alluded to earlier:

Compositionality: the truth-value of a sentence is a function of its grammatical structure and the extension (denotation, reference) of its constituents.

As the hidden indexical theory posits indexical entities which have no counterpart in grammar, Compositionality must be rejected.<sup>6</sup>

A third kind of solution to Frege's puzzle is the *neo-Russellian approach* defended by Tom McKay ('On Proper Names'; 'Representing De Re Beliefs'), Nathan Salmon (*Frege's Puzzle*), Scott Soames ('Direct Reference'; 'Beyond Singular Propositions'), David Braun ('Understanding Belief Reports'; 'Russellianism and Psychological Generalizations'), and Michael Nelson ('Puzzling Pairs'; 'Problems of Puzzling Pairs'). Neo-Russellians reject the assumption that (4) is false. Lois Lane believes that Clark Kent can fly, even if she would not assent to the sentence 'Clark Kent can fly'. The neo-Russellians claim to have the advantage over the Fregean and hidden-indexical theories that they preserve (i) the view that the meaning of a name is its referent, (ii) Semantic Innocence, and (iii) Compositionality. But they preserve these at a high cost. They must deny the intuition that Lois Lane doesn't believe Clark Kent can fly.

Neo-Russellians tend to soften the blow of having to accept (4) as false by explaining our intuitions pragmatically.<sup>7</sup> For example, it might be said that (3) pragmatically implicates (or communicates) the true proposition that Lois Lane believes Superman can fly under the superhero guise, whereas (4) pragmatically implicates (or communicates) the false proposition that Lois Lane believes Superman can fly under the office-worker guise. While many find this move persuasive, others are convinced that their intuitions about the truth-values of (3) and (4) really do concern their truth-values and not just the truth-values of propositions which they pragmatically implicate.

None of the solutions just outlined denies Intersubstitutability; and for good reasons (see Sosa; Francis). Saul Kripke ('Puzzle about Belief' §3) introduced a variation on Frege's puzzle which does not rest on Intersubstitutability. Consider:

- (6) Peter believes that Paderewski has musical talent
- (7) Peter disbelieves that Paderewski has musical talent

As Kripke set up the puzzle, (6) and (7) may both be true (in different settings) because Peter fails to realize that Paderewski, the statesman, is identical to Paderewski, the composer. But if 'believe' is a two-place predicate, and the meaning of a name is its referent, the assumption that (6) and (7) could both be true is puzzling, for the embedded clauses express the very same proposition.

Since Kripke's puzzle is not a substitution puzzle, it cannot be solved by denying Intersubstitutability. So if one were to reject Intersubstitutability in response to the substitution puzzles, one would need to solve Kripke's puzzle in a different way. This is not to say that one could not adopt a solution to the substitution puzzles that would involve denying Intersubstitutability, but only that this move by itself does nothing to solve Kripke's puzzle. For a rejection of Intersubstitutability to be justified, however, a serious argument against it would be needed, as Intersubstitutability is independently motivated by the notion that the reference, or

denotation, of the parts of a sentence determines the truth-value of the whole. In other words, rejecting Intersubstitutability means rejecting Compositionality. So if the language is compositional, which is highly plausible, Intersubstitutability is non-negotiable.

In what follows we shall focus on the two Russellian approaches (*hidden indexical theory* and *neo-Russellianism*) and set aside the strictly Fregean line. With respect to their prospects as solutions to the puzzles posed by attitude reports, the hidden-indexical and neo-Russellian views have similar profiles of strengths and weaknesses. The hidden-indexical theory respects Intersubstitutability, the Kripkean thesis that the meaning of a name is its referent, Semantic Innocence, and the intuition that substitution can make a difference to the truth-value of an attitude report, but it does not preserve Compositionality. The neo-Russellian view respects Intersubstitutability, the Kripkean thesis that the meaning of a name is its referent, Semantic Innocence, and Compositionality but it violates the intuition that substitution can make a difference to the truth-value of an attitude report. However, as we will now see, despite the initial appeal and few limitations of the Russellian approaches, there is some reason to question their generality.<sup>8</sup>

## 2. The Specification Assumption

### 2.1. BELIEF SENTENCES VS. BELIEF REPORTS

Several authors have argued that we ought to reject a further assumption which we have taken for granted above, namely, the assumption that attitude reports, if correct, specify precisely the content of a mental state (see e.g., Bach, 'Do Belief Reports Report Beliefs?'; Fara). Kent Bach ('Do Belief Reports Report Beliefs?') has dubbed this assumption the 'specification assumption', and it may be formulated as follows.

*The Specification Assumption:* A sentence or clause embedded in a propositional attitude context, when disambiguated, specifies precisely the content to which the subject in question is related.<sup>9</sup>

Bach thinks the traditional belief puzzles motivate us to reject the specification assumption. His main argument runs as follows. If the specification assumption were true, (6) and (7) would report something true only if Peter believes and disbelieves the same thing; but (6) and (7) may be used to report something true even if Peter does not believe and disbelieve the same thing. They may be used to report something true if Peter believes one thing that requires the truth of (6) and believes another thing which requires the truth of (7) (for example, that Paderewski, the musician, has musical talent, and that Paderewski, the politician, has musical talent). So, the specification assumption is false.<sup>10</sup>

On Bach's view, belief reports are things communicated by belief sentences, and belief reports require for their truth that the believer believe something which necessitates the truth of the proposition expressed by the *that*-clause, but the *that*-clause does not specify the exact content of the belief. It merely plays a role in describing it. Bach offers the following analogy. 'Adam bit a certain apple' does not specify which apple Adam bit, even though it entails that there is one that he bit. Likewise, (6) does not specify which sort of Paderewski-has-musical-talent belief Peter has but only that he has one, and (7) does not specify precisely what it is Peter disbelieves but only that there is a certain kind of thing he disbelieves. To take the analogy a bit further: 'Adam bit a certain apple' may be used to communicate something that specifies more precisely which apple Adam bit. Likewise, one and the same belief sentence may be used to communicate different things with different truth-values. For example, in a context in which the conversationalists are talking about composers, (6) may communicate something true, for example, the proposition that Peter believes that Paderewski, the statesman, has musical talent, and in a context in which the conversationalists are talking about politicians, (6) may communicate something false, for example, the proposition that Peter believes that Paderewski, the politician, has musical talent. Likewise, in some contexts (where Lois's way of thinking about Superman matters), the use of 'Clark Kent' instead of 'Superman' in (3) may communicate something false, for example that Lois believes that Clark Kent, the mild-mannered office worker, can fly.

One virtue of the descriptive view is that it heeds most of the basic platitudes outlined at the outset of this entry. The descriptive view respects Intersubstitutability, the Kripkean thesis that the meaning of a name is its referent, Semantic Innocence, and Compositionality. It respects these platitudes because belief sentences have exactly the content they seem to have. Both (3) and (4), for example, express exactly the same proposition, namely the proposition that Superman can fly.

Unfortunately, Bach's version of the descriptive view is not entirely happy. It violates the intuition that pairs of *sentences* like (3) and (4) have truth-values. Here is why. Suppose for reductio that belief *sentences* have truth-values. Then given Bach's descriptive view, it is possible for the sentences 'Lois believes Superman can fly' and 'Lois believes Clark Kent can fly' to have different truth-values in spite of the fact that 'Superman' and 'Clark Kent' refer to the same individual. So, Intersubstitutability fails. But this is bad news, as Intersubstitutability is non-negotiable (if the language is compositional).

Bach accordingly denies that belief *sentences* have truth-values. On his view, belief sentences are semantically incomplete (the information they contain is not sufficient for them to be truth-evaluable). Nonetheless, belief sentences may be used to communicate something with a truth-value. So, in spite of the fact that belief sentences like (3) and (4) are semantically

equivalent, if Bach is right, they may be used to communicate different things. Or as Bach puts it: they may be used to make different belief reports (where a belief report, for Bach, is something that is communicated by a belief sentence).<sup>11</sup> Bach's view thus violates the intuition that belief sentences like (3) and (4) (and not just the things communicated by them) may have different truth-values.

As we will see below, there is a way of avoiding this consequence (and of taking uttered belief sentences to have truth-values), but it requires the defender of the descriptive view to give up on the traditional view that the Russellian content of *that*-clauses plays a role in determining the truth-value of attitude sentences. Before offering some variations on the descriptive view, however, let us consider some further evidence against the specification assumption (and in favor of the descriptive view).

## 2.2. CLOSURE

Delia Graff Fara offers an independent argument against the specification assumption. Consider the following desire ascription:

(8) Joe wants to smoke a cigarette

If the occurrence of 'want' in (8) is treated as a *propositional* attitude verb, (8) has the underlying form 'Joe wants *that Joe smokes a cigarette*'. On the most natural reading, (8) does not say that there is a cigarette (e.g., the one you are smoking) such that Joe wants to smoke it. Rather, it says that Joe wants to smoke some cigarette or other. Yet as Joe's desire is not satisfied if he smokes a soiled cigarette, his desire is not satisfied if he smokes some cigarette or other (it matters which kind he smokes), which is to say, Joe does not have a desire with the exact content of 'Joe smokes a cigarette'.

Fara argues that a desire ascription of the form '*s* wants that *p*' is true iff *s* has a desire with proposition *q* as its exact content for some *q* that entails the proposition expressed by the embedded clause '*p*'. As 'Joe smokes an unsoiled, whole, new. . . cigarette' entails that 'Joe smokes a cigarette', Fara's entailment condition is satisfied in the envisaged circumstances.

Arguably, Fara's entailment condition is too strong. Any proposition entails any necessary truth. So, 'I am drinking a beer' entails 'Fermat's last theorem is true'. Yet, it may be that I want a beer, even if I do not want that Fermat's last theorem be true (perhaps I desire that it be false because I believe I have a disproof of it). Likewise, it may be true that I want that a contradiction obtains (e.g., the negation of Fermat's last theorem). But any proposition is entailed by a contradiction. So, if I want that a contradiction obtains and Fara's entailment condition is correct, then I want that anything obtains, which of course is absurd.

Even if we think it is not possible to want something impossible, there are potential counterexamples to the idea that 'want' is closed under

necessary consequence. ‘You open the email I sent you or you delete it’ is a necessary consequence of ‘you open the email I sent you’ but it may well be that I want you to open the email but don’t want you to open the email or delete it.

One way to deal with this problem is to substitute a more plausible closure relation for the consequence relation. One promising candidate is *obviously relevant and necessary consequence*.<sup>12,13</sup> Obviously relevant and necessary consequence is stronger than necessary consequence. If  $q$  is an obviously relevant and necessary consequence of  $p$ , then you are in a position to determine easily that  $q$  follows from  $p$ , and the subject-matter of  $q$  will have some obvious relevance to the subject-matter of  $p$ . But this need not be the case if  $q$  is a necessary consequence of  $p$ . On the assumption that ‘want’ is closed under obviously relevant and necessary consequence, if  $s$  wants that  $p$ , and  $q$  is an obviously relevant and necessary consequence of  $p$  for  $s$ , then  $s$  wants that  $q$ . So, if it is true that Joe wants an unsoiled, whole, new . . . cigarette, and ‘Joe smokes a cigarette’ is an obviously relevant and necessary consequence of ‘Joe smokes an unsoiled, whole, new, . . . cigarette’ for Joe, then it is also true that Joe wants a cigarette. On the other hand, ‘Fermat’s last theorem is true’ is not an obviously relevant and necessary consequence of ‘I drink a beer’, and ‘I drink a beer’ is not an obviously relevant and necessary consequence of ‘Fermat’s last theorem is false’. So, it may be true that I want a beer, even if I do not want that Fermat’s last theorem be true, and it may be true that I want that Fermat’s last theorem be false, even if I do not want a beer. As we will see below, however, even if we substitute ‘obviously relevant and necessary consequence’ for ‘consequence’, it is not quite right that an attitude ascription of the form ‘ $s$   $\phi$ s that  $p$ ’ is true iff  $s$  has a  $\phi$ -attitude with proposition  $q$  as its exact content for some  $q$  that entails the proposition expressed by the embedded clause ‘ $p$ ’. However, the point still stands that the standard assumption that an attitude report, if correct, specifies the exact content of a mental state is less than obviously true.

To sum up: there seems to be good reason to question the assumption that attitude reports, if correct, specify the exact content of a mental state. We will now argue that knowledge reports and de re attitude ascriptions give us further reason to question this assumption.

### 3. Knowledge-wh Reports

Most of the previous discussion has focused on belief. It is generally thought that the correct solution to the puzzles about belief will carry over to analogous puzzles about other mental states. If knowledge is a mental state, as suggested by Timothy Williamson (ch. 1), the correct solution to the puzzle about belief should carry over to puzzles about knowledge.<sup>14</sup> However, as we will see, there is an important asymmetry between belief and knowledge reports. ‘Believe’ takes *that*-clauses as

complements, but ‘know’ sometimes takes *wh*-clauses rather than *that*-clauses as complements.<sup>15</sup> We will now argue that the Russellian assumption that attitude reports, if correct, specify the content of a mental state is even less plausible for attitude reports with *wh*-complement clauses than it is for attitude reports with *that*-clauses. As examples of knowledge-*wh* reports consider the following attitude ascriptions:

- (9) Lois Lane knows what Superman did at 3 p.m.  
 (10) Superman knows why Luthor reprogrammed one of the U.S. test missiles.

On the standard approach to knowledge-*wh*, *wh*-complement clauses are (implicit) questions which denote their true answers (Hintikka; Boër and Lycan; Higginbotham; Bach, ‘Questions and Answers’; Braun, ‘Now You Know Who’; Kallestrup, ‘Knowledge-*Wh*’; ‘Knowing-*Wh*’).<sup>16</sup> The standard account can be given as follows (Higginbotham): *s* knows-*wh* iff there is a *p* such that *s* knows *p*, and *p* (correctly and appropriately) answers the indirect question of the *wh*-clause.

On the received view of questions, the propositional meaning of a question is a set of possible (correct and incorrect) exhaustive propositional answers (Groenendijk and Stokhof; Brogaard, ‘Number Words’). So, the propositional meaning of ‘Is it Monday or Tuesday?’ is the set containing the propositions *that it is Monday* and *that it is Tuesday*. At most one of these answers is correct in any given context of utterance. If it is Monday, then ‘it is Monday’ is the correct answer. So, the *wh*-clause ‘whether it is Monday or Tuesday’ as it occurs in ‘John knows whether it is Monday or Tuesday’ denotes the proposition that it is Monday, if it is Monday, and it denotes the proposition that it is Tuesday, if it is Tuesday (and it fails to have a denotation if it is neither Monday nor Tuesday).

Some questions have more than one true answer (Groenendijk and Stokhof; Bach, ‘Questions and Answers’; Brogaard, ‘What Mary Did Yesterday’). As examples of questions with more than one true answer consider ‘what do (any) two of these computers cost?’, ‘where can I buy some vegemite?’, and ‘how might we account for attitude ascriptions?’. ‘The old desktop and the new laptop cost \$3500’ and ‘the new desktop and old laptop cost \$2500’ may both be true answers to ‘what do (any) two of these computers cost?’. Likewise, ‘you can buy vegemite in Suprabarn’ and ‘you can buy vegemite in University House’ may both be true answers to ‘where can I buy some vegemite?’. So, the *wh*-clause ‘where he can buy some vegemite’ as it occurs in ‘John knows where he can buy some vegemite’ denotes the set of true (propositional) answers to the question ‘where can I buy vegemite?’, for instance, the set containing the proposition that you can buy vegemite in Suprabarn and the proposition that you can buy vegemite in University House.

Questions may have different appropriate answers in different contexts. For example, ‘we are in New York’ may be a contextually appropriate answer to the question ‘where are we?’ if we are on a train from Jacksonville

to New York but it wouldn't be if we just got out of a taxicab that was supposed to take us from Times Square to the East Village. The *wh*-clause 'where we are' as it occurs in 'John knows where we are' will thus denote different contextually appropriate answers in different contexts.

Some standard theorists claim that *s* knows-*wh* only if *s* knows a contextually appropriate and true answer to the indirect question of the *wh*-clause, others think that *s* knows-*wh* even if *s* knows only a contextually inappropriate (but true) answer to the indirect question of the *wh*-clause (Braun, 'Now You Know Who').<sup>17</sup> In what follows we shall simply assume without argument that *s* knows-*wh* only if *s* knows a contextually appropriate and true answer to the indirect question of the *wh*-clause.

Given this assumption, the standard account yields the following predictions for (9) and (10). The indirect question of the *wh*-clause 'what Superman did at 3 p.m.' is 'what did Superman do at 3 p.m.?'. So, on the standard view, Lois knows what Superman did at 3 p.m. iff she knows a true and contextually appropriate answer to 'what did Superman do at 3 p.m.?'. If 'Superman landed on the roof at 3 p.m.' is a true and contextually appropriate answer to 'what did Superman do at 3 p.m.?', and Lois knows that Superman landed on the roof at 3 p.m., then she knows a true and contextually appropriate answer to the indirect question of the *wh*-clause in (9). So, (9) is true in the envisaged circumstances.

Likewise, the indirect question of the *wh*-clause 'why Luthor reprogrammed one of the U.S. test missiles' is 'why did Luthor reprogram one of the U.S. test missiles?'. So, Superman knows why Luthor reprogrammed one of the U.S. test missiles iff he knows a true and contextually appropriate answer to 'why did Luthor reprogram one of the U.S. test missiles?'. If 'Luthor reprogrammed one of the U.S. missiles because he hoped to cause a major earthquake in California' is a true and contextually appropriate answer to 'why did Luthor reprogram one of the U.S. test missiles?', and Superman knows that Luthor reprogrammed one of the U.S. test missiles because he hoped to cause a major earthquake in California, then Superman knows a true and contextually appropriate answer to the indirect question of the *wh*-clause in (10). So, (10) is true.

The standard view must be distinguished from what Kent Bach ('Questions and Answers') calls the 'stupid view'. On the stupid view, if 'Superman landed on the roof at 3 p.m.' is an (intended?) true and contextually appropriate answer to 'what did Superman do at 3 p.m.?', then 'Lois knows what Superman did at 3 p.m.' expresses the proposition that Lois knows that Superman landed on the roof at 3 p.m. The stupid view has never been defended in print, presumably due to its prima facie implausibility. One reason the view may be thought to be implausible is that it seems to yield the wrong result for iterated knowledge ascriptions (Brogaard, 'Knowledge-*The*'; Kallestrup, 'Knowing-*Wh*'). 'Perry knows that Lois knows what Superman did at 3 p.m.' may be true even if Perry doesn't know what Superman did at 3 p.m. but if 'Lois knows what

Superman did at 3 p.m.’ expresses the proposition that Lois knows that Superman landed on the roof at 3 p.m., then ‘Perry knows that Lois knows what Superman did at 3 p.m.’ expresses the proposition that Perry knows that Lois knows that Superman landed on the roof at 3 p.m. This entails that Perry knows that Superman landed on the roof at 3 p.m.<sup>18</sup> But Perry need not know this in order to know what he does.

On an alternative to the standard view – call it the ‘predicate view’ – *wh*-complement clauses (e.g. ‘what Superman did at 3 p.m.’) function as predicates much like ‘read the newspaper’ or ‘visited one of four students from Boston’ (Broggaard, ‘What Mary Did Yesterday’; ‘Knowledge-*The*’). In truth-functional contexts predicates denote sets whose elements are the entities that satisfy the properties expressed by the predicates. ‘Read the newspaper’ denotes the set of people who read the newspaper, and ‘visited one of four students from Boston’ denotes the set of people who visited one of four students from Boston. In attitude contexts predicates denote the properties expressed by the predicates. On the predicate view, then, the complement clause ‘what Superman did at 3 p.m.’ denotes the property of being a (salient) thing Superman did at 3 p.m. rather than a true answer to the implicit question of the *wh*-clause. The sentence structure of (9) provides a wide-scope existential quantifier. Sentence (9) is true iff for some entity *e*, Lois Lane knows that *e* is what Superman did at 3 p.m. That is, (9) is true iff for some entity *e*, Lois Lane knows that *e* is a (salient) thing Superman did at 3 p.m. Likewise, ‘why Luthor reprogrammed one of the U.S. test missiles’ denotes the property of being a (salient) reason why Luthor reprogrammed one of the U.S. test missiles. So (10) is true iff for some entity *r*, Superman knows that *r* is a (salient) reason that Luthor reprogrammed one of the U.S. test missiles.

On either approach to knowledge-*wh*, puzzles analogous to the puzzles of belief would seem to arise. Let us consider the standard view first. If ‘Superman’ and ‘Clark Kent’ co-refer, ‘what did Superman do at 3 p.m.?’ and ‘what did Clark Kent do at 3 p.m.?’ have the same true propositional answer, for instance, the proposition that Superman (= Clark Kent) landed on the roof at 3 p.m. So, if (9) is true iff there is a *p* such that Lois knows *p*, and *p* answers the indirect question of the *wh*-clause, then Lois knows what Superman did at 3 p.m. iff she knows what Clark Kent did at 3 p.m. Next let us consider the predicate view. On the predicate view, *s* knows-*wh-F* iff there is an *x* such that *s* knows that *x* is *wh-F*. But for any event *e*, *e* is what Superman did at 3 p.m. iff *e* is what Clark Kent did at 3 p.m. So, if all that is required for the truth of (9) is that for some *e*, Lois Lane knows that *e* is what Superman did at 3 p.m., then Lois knows what Superman did at 3 p.m. iff Lois knows what Clark Kent did at 3 p.m. But intuitively, Lois may know what Superman did at 3 p.m. without knowing what Clark Kent did at 3 p.m.

Unlike the puzzles about belief, the new puzzle resists treatment by the traditional Russellian approaches. Recall that the Russellian approaches

take attitude reports, if correct, to specify the content of a mental state. However, (9) and (10) do not specify the content of a mental state even if correct. On the standard view, the content of a *wh*-complement clause is the content of a question (e.g., the content of ‘what did Superman do at 3 p.m.’?). The content of a question is a set of possible (correct or incorrect) answers. But (9) does not require for its truth that Lois have a mental state with a set of possible (correct or incorrect) answers as its content. It requires that she have a mental state with the content of, say, ‘Superman landed on the roof at 3 p.m.’.

On the predicate view, the semantic value of a *wh*-complement clause is a propositional function (e.g.,  $x$  is what Superman did at 3 p.m.). So, given the specification assumption, (9) requires for its truth that Lois have a knowledge state with the content of ‘ $x$  is what Superman did at 3 p.m.’ for some assignment of an event to ‘ $x$ ’. But intuitively (9) does not require for its truth that Lois has a mental state with the content of ‘ $x$  is what Superman did at 3 p.m.’, not even relative to the assignment of some event to ‘ $x$ ’. It seems (9) may be true if Lois has a general attitude with the content of ‘Superman landed on the roof of some apartment building (or other) at 3 p.m.’. The content of ‘Superman landed on the roof of some apartment building (or other) at 3 p.m.’, familiarly, is not a singular or object-dependent proposition directly about some event but a general proposition which contains no individuals (except perhaps the time referred to).

Since Russellians take attitude reports, if correct, to specify the exact content of a mental state, but *wh*-complement clauses do not specify the exact content of a mental state, knowledge-*wh* reports cast doubt on the generality of the Russellian view.

#### 4. Quantifying In

We have argued that knowledge-*wh* reports give us reason to question the generality of the Russellian assumption that attitude reports, if correct, specify the exact content of a mental state. Attitude ascriptions which quantify into attitude context give us further reason to reject this assumption. To set the stage for the argument in the offing consider the following attitude ascription:

(11) John believes the murderer of Smith is insane

(11) can be read in two different ways, depending on whether ‘the murderer of Smith’ takes wide or narrow scope with respect to ‘believe’ (this was noticed already by Russell). On a wide-scope reading, (11) is of the form ‘the murderer of Smith is an  $x$  such that John believes  $x$  is insane’. The latter is standardly thought to be true iff John has a singular belief directly about the murderer of Smith to the effect that he or she is insane. On a narrow-scope reading, (11) is of the form ‘John believes the murderer of

Smith is insane'. The latter is thought to be true if John has a general belief to the effect that the murderer of Smith (whoever that may be) is insane. Narrow-scope attitude ascriptions are sometimes said to be *de dicto* (about a dictum or proposition). This is because they appear to be true (if true at all) in virtue of the subject having an attitude with a non-singular or general content. Wide-scope attitude ascriptions are sometimes said to be *de re* (about a *res* or thing) because they appear to be true (if true at all) in virtue of the subject having a singular attitude directly about some individual.

The *de re/de dicto* distinction has been subject to much debate. One controversial issue is that of whether the *de re/de dicto* distinction really does correspond to the distinction between wide and narrow scope (as argued by Russell) or whether it perhaps corresponds to a distinction between a referential and a non-referential use of descriptions (Partee, Fodor and Sag defend the latter, Kripke the former). A second issue concerns whether *de re* attitude ascriptions require that the subject be *directly acquainted* with the *res* in question (Kaplan, 'Qualifying In' says 'yes', Holton, 'Attitude Ascriptions' says 'no'). A third issue is that of whether *de dicto* (or narrow-scope) attitude ascriptions may be true in virtue of the subject having an attitude with a singular content (the traditional answer is 'no', Ludlow and Neale say 'yes'). A fourth issue, which is the one we will focus on in what follows, is that of whether *de re* (or wide-scope) attitude ascriptions may be true in virtue of the subject having an attitude with a non-singular or general content (for related discussion see Holton, 'Attitude Ascriptions'; 'Sources and Leapfrogging'; Pickles; Brogaard, 'Knowledge-*The*').

Consider the following variation on Kaplan's S.O.B. case ('Demonstratives', 555, note 71).<sup>19</sup> Suppose detective Brown just discovered that the infamous New Jersey carjacker is identical to the less well known New Jersey pickpocket. One afternoon Brown overhears John say to his pal 'the person who stole my wallet just sent me a letter from Newton'. Upon his return to the office Brown says to his colleague:

- (12) Remember the New Jersey carjacker? Well, I just met a guy who thinks that the S.O.B. sent him a letter from Newton.

Suppose the New Jersey carjacker (alias the S.O.B.) is the person who stole John's wallet. In that case, Brown's utterance could be true. But this is not what the Russellian approach gives us. As John does not have a belief with the content 'the S.O.B. sent me a letter from Newton', he does not have a general belief with the content of the *that*-clause of (12). So, we cannot assign narrow scope to the description 'the S.O.B.'. On a wide-scope reading, the second sentence in (12) is of the form 'the S.O.B. is an *x* such that I just met a guy who thinks that *x* sent him a letter from Newton'. This is true only if John has a belief with the content of '*x* sent me a letter from Newton' for the assignment of an individual (who

happens to be the New Jersey carjacker) to 'x'. That is, it is true only if John has a singular belief directly about the New Jersey carjacker (alias the S.O.B.) to the effect that he or she just sent him a letter from Newton. But John does not have a belief directly about the New Jersey carjacker in the envisaged circumstances. He has a general belief with the content of 'the person who stole my wallet (whoever that may be) sent me a letter from Newton', that is, he has a belief that is only indirectly about the New Jersey carjacker.

Here is another case, a variation on Kripke's ('Speakers Reference') Hoover case.<sup>20</sup> After a press conference at which Henry Kissinger, Nixon's impending security advisor, is mentioned by Hoover, Hoover tells his assistant:

- (13) The Berrigans believed that their accomplices would kidnap the official I mentioned at the press conference

Intuitively, (13) could be true if the Berrigans had guesstimated that their accomplices would kidnap the impending president's security advisor (whoever that would turn out to be), and so did not have a belief directly about Kissinger. Yet on the Russellian view, (13) can be true only if the Berrigans had a belief with the content of the *that*-clause or a belief directly about Kissinger to the effect that their accomplices would kidnap him. So, on the Russellian view, (13) is false in the envisaged circumstances.

In sum: because the Russellian approaches heed the assumption that attitude reports, if correct, specify the content of a mental state, they predict that wide-scope (or de re) attitude ascriptions, if true, are true in virtue of the subject having a singular belief. But there is good reason to think that wide-scope attitude ascriptions may be true in virtue of the subject having a general belief. And so, there is good reason to be suspicious of the assumption that attitude reports, if correct, specify the exact content of a mental state.

### 5. Structured Extensions

Let us conclude with some remarks on how the characterizing relation between attitude reports and mental states might be construed if indeed the specification assumption is false.

While an utterance of the sentence 'the Berrigans believed their accomplices would kidnap the official I mentioned at the press conference' does not require for its truth that the Berrigans had a belief with the content of the *that*-clause or a singular belief directly about the mentioned official, it does require that they had a belief which is *about* the individual the report is about in some sense yet to be specified. On the Russellian account, a belief is about an individual only if the content of the belief is singular. For example, a belief is about Henry Kissinger only

if its content is a Russellian proposition containing Kissinger. But this notion of aboutness is too strong. To arrive at a weaker notion, let us introduce what we shall call the ‘structured extension of a sentence’ (Brogaard, ‘Knowledge-*The*’). The structured extension of a sentence, as we envisage it, is a composite of the extensions (denotations, referents) of its syntactic constituents. The structured extension of ‘John is male’, for example, consists of John and the set of males, and the structured extension of ‘the author of *Naming and Necessity* is male’ consists of Saul Kripke and the set of males.<sup>21</sup> Given the notion of structured extension, we can offer the following constraint on attitude reports which integrates the candidate closure principle considered in section 2.2 (*t* is a name or quantifier phrase).<sup>22</sup>

Extensional constraint: ‘*s* believes that *t* is *F*’ is correct only if *s* has a belief with the structured extension of a sentence that has ‘*t* is *F*’ as an obviously relevant and necessary consequence.

To see how the extensional constraint constrains what can count as a correct attitude report, let us reconsider some of our previous examples. Let us begin with the S.O.B. case. As ‘the person who found John’s wallet’, and ‘the New Jersey carjacker’ denote the same person in our envisaged circumstances, they have the same structured extension. So, if John has a belief with the exact content of ‘the person who stole my wallet sent me a letter from Newton’, it may be correct to say that John believes that the New Jersey carjacker sent him a letter from Newton.

Next let us turn to the Hoover case. As ‘the impending president’s security advisor’, and ‘the official Hoover mentioned at the press conference’ both denote Henry Kissinger in our envisaged circumstances, they have the same structured extension. So, if the Berrigans had a belief with the exact content of ‘our accomplices will kidnap the impending president’s security advisor’, it may be correct for Hoover to say ‘the Berrigans believed that their accomplices would kidnap the official I mentioned at the press conference’.

Finally, let us consider the case of knowledge-*wh*. We shall focus on the predicate view. On the predicate view, *s* knows *wh-F* iff ‘*s* knows *x* is *wh-F*’ is true for the assignment of some individual to ‘*x*’. Knowledge-*wh* ascriptions are thus wide-scope (or de re) attitude ascriptions. Nonetheless they may be true even if the subject does not have a relevant attitude directly about some relevant individual. For example, ‘Lois knows what Superman did at 3 p.m.’ may be true even if Lois does not have an attitude directly about some event performed by Superman at 3 p.m. The extensional constraint allows for this possibility. ‘Landed on the roof is what Superman did at 3 p.m.’ is bound to be an obviously relevant and necessary consequence of ‘Superman landed on the roof at 3 p.m.’. Moreover, where ‘*e*’ is a name of a landing on the roof by Superman at 3 p.m., ‘landed on the roof at 3 p.m. is what Superman did’ and ‘*e* is what

Superman did at 3 p.m.’ have the same structured extension. So, if Lois knows that Superman landed on the roof at 3 p.m., then Lois has a knowledge mental state with the structured extension of a sentence that has ‘*e* is what Superman did at 3 p.m.’ as an obviously relevant and necessary consequence. So, it may be correct to say that Lois knows what Superman did at 3 p.m. in these circumstances.

So far, so good. However, a problem remains. The right-hand side of the extensional constraint does not appear to be sufficient for the left-hand side. As any creature with a kidney happens to have a heart, ‘has a heart’ and ‘has a kidney’ both denote the set of creatures with a heart/kidney. So, ‘Bill has a heart’ and ‘Bill has a kidney’ have the same structured extension. Yet it seems possible for someone to believe that Bill has a heart without believing that Bill has a kidney.

There are several ways in which the extensional constraint may be supplemented so as to yield a full account of attitude reports (Brogaard, ‘Knowledge-*The*’). I will mention three.<sup>23</sup>

### 5.1. THE NEO-RUSSELLIAN APPROACH

The first option is to go neo-Russellian. As noted at the outset, neo-Russellians typically explain apparent substitution failure pragmatically (see e.g., Salmon, *Frege’s Puzzle*). For example, the appearance that ‘Clark Kent’ cannot be substituted for ‘Superman’ in ‘Lois believes that Superman can fly’ may be explained on the assumption that ‘Lois believes Superman can fly’ pragmatically implicates the true proposition that Lois believes Superman can fly under the super-hero guise whereas ‘Lois believes Clark Kent can fly’ pragmatically implicates the false proposition that Lois believes that Clark Kent can fly under the office-worker guise.

Similarly, the appearance that ‘has a kidney’ cannot be substituted for ‘has a heart’ in ‘John believes that Bill has a heart’ may be explained on the assumption that ‘John believes that Bill has a heart’ pragmatically implicates the proposition that John believes something with the structured extension of ‘Bill has a heart’ under a creature-with-a-heart guise, whereas ‘John believes that Bill has a kidney’ pragmatically implicates the proposition that John believes something with the structured extension of ‘Bill has a kidney’ under a creature-with-a-kidney guise.

On this view, the right-hand side of the extensional constraint is sufficient for the left-hand side. So, ‘*s* believes that *t* is *F*’ is correct iff *s* has a belief with the structured extension of a sentence that has ‘*t* is *F*’ as an obviously relevant and necessary consequence.

This version of the descriptive view has the advantage over Bach’s version that it heeds the assumption that belief sentences are truth-evaluable. But just like the original version of neo-Russellianism, it violates the assumption that substitution may make a difference to the truth-value of a belief sentence.

## 5.2. THE HIDDEN-INDEXICAL APPROACH

A second option is to take a hidden-indexical approach. We might take attitude verbs to express three-place relations among a subject, a structured extension and a guise (or Fregean sense) rather than three-place relations among a subject, a Russellian proposition and a guise. Given this approach, the truth-conditions for belief ascriptions may be given as follows (building in our candidate closure principle).

'*s* believes that *t* is *F*' is correct iff *s* has a belief with an '*t* is *F*'-appropriate Fregean component and with the structured extension of a sentence which has '*t* is *F*' as an obviously relevant and necessary consequence.

As the extension of 'has a heart' and 'has a kidney' is the set of individuals with a kidney, 'has a heart' and 'has a kidney' have the same extension. So, if we were to treat the right-hand side of the extensional constraint as sufficient for the left-hand side, it would follow that John believes Bill has a heart iff he believes that Bill has a kidney. The hidden-indexical view does not have this consequence. When someone utters the sentence 'John believes Bill has a heart', it is the Fregean sense of 'Bill has a heart' that is contextually appropriate, and when someone utters the sentence 'John believes Bill has a kidney', it is the Fregean sense of 'Bill has a kidney' that is contextually appropriate. So it may be that John believes Bill has a heart, even if he doesn't believe that Bill has a kidney.

The hidden-indexical view has the advantage over the neo-Russellian approach and Bach's descriptive view that it respects the assumption that substitution may make a difference to the truth-value of a sentence used to report an attitude. But unlike the neo-Russellian approach and Bach's descriptive view, the hidden-indexical approach violates Compositionality because it posits indexical entities which have no counterparts in grammar.

## 5.3. THE TWO-DIMENSIONAL APPROACH

A third option is to go two-dimensional. Epistemic two-dimensionalists think every expression has two different kinds of meaning: a non-Fregean and a Fregean meaning (see e.g., Chalmers, *Conscious Mind*; 'On Sense and Intension'; 'Foundations of Two-Dimensional Semantics'; 'Scott Soames' Two Dimensionalism'; 'Two-Dimensional Semantics'; for discussion, see also Gendler and Hawthorne 'Introduction'; Brogaard, 'That May be Jupiter'). On standard two-dimensional accounts, the two kinds of meaning are the Russellian intension (a function from worlds considered counterfactually to extensions) and the Fregean intension (a function from worlds considered as actual to extensions). The extension of an expression at a world can be derived from either kind of meaning by keeping the world constant. And the structured extension of a complex expression can

be derived from the extensions of its syntactic constituents. So, if every expression has a Russellian intension and a Fregean intension, then arguably it also has a structured extension.

Given a two-dimensional framework, we can say that 'believe' expresses two kinds of relations: a relation between a subject and a structured extension, and a relation between a subject and a Fregean sense. Building in our candidate closure principle, we arrive at the following truth-conditions:

's believes that *t* is *F*' is correct iff *s* has a belief with an '*t* is *F*'-appropriate Fregean component and with the structured extension of a sentence which has '*t* is *F*' as an obviously relevant and necessary consequence.

It may be noticed that these truth-conditions are exactly the same as those yielded by the hidden-indexical view. The main difference between the hidden-indexical version and the two-dimensional version of the descriptive view is this. For the hidden-indexicalist, 'believe' ascribes a three-place relation among a subject, a structured extension and a Fregean sense. For the two-dimensionalist, 'believe' expresses two distinct two-place relations: a relation between a subject and a structured extension, and a relation between a subject and a Fregean sense.

One loose end: it may seem that the two-dimensional account fails to respect Intersubstitutability. Even though 'Superman' and 'Clark Kent' refer to the same individual, they express different Fregean senses, and so substituting one for the other in a belief report may make a difference to the truth-value of the report. Or so it seems. However, the appearance that the two-dimensional account violates Intersubstitutability is illusory. On the two-dimensional account, names such as 'Superman' and 'Clark Kent' do not refer to individuals in all linguistic environments. In attitude contexts they refer to pairs of an individual and a concept (both are needed to determine the truth-value of the whole).<sup>24</sup> The two-dimensional account thus predicts that if 'Superman' and 'Clark Kent' refer to the same individual and the same concept in a given linguistic environment (and context of utterance), then in that environment (and context) they are intersubstitutable *salva veritate*. As Intersubstitutability says that if two terms co-refer in a given linguistic environment, then in that environment they are intersubstitutable *salva veritate*, the two-dimensional account respects Intersubstitutability.

The two-dimensional account has the advantage over the neo-Russellian approach and Bach's view that it respects the intuition that substitution may make a difference to the truth-value of a sentence used to report an attitude. Moreover, unlike the hidden-indexical account, the two-dimensional approach respects Compositionality. But unlike the other three approaches, it requires us to reject the Kripkean assumption that *the* meaning of a name is its referent.

We shall not attempt in this entry to choose among the descriptive accounts, but at least it seems clear that even if the traditional Russellian

approaches to attitude ascriptions must ultimately be rejected, a systematic account can be given of the characterizing relation that obtains between attitude reports and mental states.

## 6. Conclusion

Russellian approaches to attitude reports take attitude reports, if correct, to specify the exact content of a mental state. The view is meant to be general enough to be extendable to propositional attitude verbs other than 'believe'. Unfortunately, the view cannot be extended to account for knowledge reports, as 'know' may take *wh*-complement clauses (e.g., 'Lois knows what Superman did at 3 p.m.') in addition to *that*-clauses (e.g., 'Lois knows that Superman landed on the roof at 3 p.m.'). There is good reason to think *wh*-complement clauses do not specify the exact content of a mental state. For example, 'what Superman did at 3 p.m.' as it occurs in 'Lois Lane knows what Superman did at 3 p.m.' does not specify the exact content of one of Lois's knowledge mental states. So, the Russellian assumption that attitude reports, if correct, specify the exact content of a mental state is not true for the general case. Wide-scope attitude ascriptions cast further doubt on this assumption. Hoover's utterance of 'the Berrigans believed their accomplices would kidnap the official I mentioned at the press conference' may be true even if the Berrigans did not have a belief directly about an official mentioned by Hoover at a press conference and did not have a belief with the content of the *that*-clause. A more plausible approach to attitude reports, it seems, is one that takes attitude reports to describe or characterize a mental state.

As noted at the outset there are plenty of other attitude verbs to consider besides 'believe' and 'know', for instance, 'fear', 'hope', 'realize', 'imagine', and so on. Not everything we have said about belief and knowledge reports will carry over to other attitude reports. Evidently the closure principles that obtain for cognitive attitudes such as belief and knowledge will not hold for many of the emotive attitudes (e.g., fearing, being afraid, being sorry, regretting, and so on). Even though 'Jim exists' is an obviously relevant and necessary consequence of 'Jim is a pirate' for me, it may well be that I fear that Jim is a pirate but don't fear that he exists. More research is needed to determine to what extent the existing accounts of belief and knowledge reports will carry over to other kinds of attitude reports, in particular reports of our emotive attitudes.

## Acknowledgments

The paper has benefited from correspondence with Kent Bach, David Braun, David Chalmers, Jamie Dreier, Paul Egré, John Greco, Jesper Kallestrup, Ernie Lepore, Peter Ludlow, Matt McGrath, Duncan Pritchard, Ian Rumfitt, Jonathan Schaffer, Scott Soames, and Jason Stanley. Special

thanks to an anonymous referee, David Chalmers, Tamar Szabo Gendler, Joe Salerno, and Brian Weatherson for written comments on an ancestor of this entry. A version of this entry was presented at a Philosophy RSSH seminar at ANU. I am grateful to the audience for helpful comments.

### Short Biography

Berit Brogaard's research is located at the intersection of philosophy of language, philosophical logic, metaphysics and epistemology; she has authored or co-authored papers which have appeared in various journals and edited volumes, including: *Noûs*, *Philosophy and Phenomenological Research*, *Philosophical Quarterly*, *Australasian Journal of Philosophy*, *Philosophical Perspectives*, *American Philosophical Quarterly*, *Analysis*, *Mind and Language*, *The Monist*, *Pacific Philosophical Quarterly*, *Synthese*, and *Canadian Journal of Philosophy*. Her book manuscript *Transient Truths: An Essay in the Metaphysics of Propositions* is a defense of David Kaplan's thesis that tenses are modal operators on temporal content. Current research involves research on epistemic modals, counterpossibles, conditionals, concealed questions, knowledge-*wh*, attitude ascriptions, and epistemic two-dimensionalism. She currently holds a research fellowship from the RSSH Philosophy Program and Centre for Consciousness at the Australian National University, and is an Assistant Professor of Philosophy at the University of Missouri, St. Louis. Before coming to University of Missouri, Brogaard taught at Southern Illinois University. She holds a B.A. from University of Copenhagen and a Ph.D. from the State University of New York at Buffalo.

### Notes

\* Correspondence address: Department of Philosophy, University of Missouri, Lucas Hall, St. Louis, MO 63121, USA. Email: brogaardb@gmail.com.

<sup>1</sup> Intersubstitutability is sometimes formulated as the principle that expressions which co-refer (in normal truth-functional contexts) are intersubstitutable *salva veritate* (in all contexts). As Fregeans hold that names that co-refer in normal truth-functional contexts may not co-refer in belief contexts, Fregeans reject this latter principle.

<sup>2</sup> 'Reference' is sometimes used synonymously with 'direct reference'. In this entry, however, it will be used synonymously with the more neutral terms 'extension' and 'denotation'. As a rule, if an expression refers to *x*, then *x* contributes to the determination of the truth-value (if any) of the sentence in which the expression occurs.

<sup>3</sup> McKinsey's solution is not strictly Fregean. However, given that it takes belief reports to ascribe relations to *linguistic meanings*, it may be construed as Fregean. Kallestrup ('Paradoxes about Belief') defends Frege's account of proper names against the indirect criticism that it is worse off than anti-Fregean accounts with respect to the puzzles of belief.

<sup>4</sup> The objection presented here differs slightly from the one presented in Schiffer and Pautz. They argue that Fregeans must reject the move involved in going from 'John believes Pegasus is a flying horse' to 'Something is believed by John to be a flying horse'.

<sup>5</sup> Schiffer ('Naming and Knowing') and Recanati take the *that*-causes to undergo reference-shifts and Richard (*Propositional Attitudes*) takes 'believe' to express different binary relations in different

contexts of utterance. *That*-clauses refer to RAMs (Russellian annotated matrices). For example, in (4) the embedded RAM is: <<'can fly', being able to fly>, <'Superman', Superman>>. Chalmers (manuscript) offers a two-dimensional account that differs in numerous respects from the hidden-indexical view (see below). Larson and Ludlow propose a variation on the hidden-indexical view where *believe* is a relation between a subject and an interpreted logical form.

<sup>6</sup> Because Richard (*Propositional Attitudes*) takes 'believe' to be context-sensitive and propositions to be RAMs, he avoids this problem. See the previous note. But if he is to preserve Semantic Innocence, he must treat propositions uniformly as RAMs.

<sup>7</sup> However, see Braun ('Understanding Belief Reports'). Braun argues that the neo-Russellian can explain the apparent truth-value difference between pairs of sentences like (3) and (4) by appealing to the distinction between *what* is believed and *how* it is believed. As Braun points out, while neo-Russellians take 'believe' to ascribe a binary relation, they typically hold that the relation is mediated; one believes that *p* in virtue of standing in a certain psychological relation to a way of taking *p*.

<sup>8</sup> For more detailed discussion of belief reports, see McKay and Nelson. McKay and Nelson focus on the example 'Lois believes Superman is stronger than Clark Kent'. Substituting 'Superman' for 'Clark Kent' yields: 'Lois believes Superman is stronger than Superman'. This is initially odd, as Lois disbelieves that Superman is stronger than himself. Salmon ('Reflexivity'; 'Reflections on Reflexivity'), Soames ('Direct Reference'), and McKay ('Representing De Re Beliefs') have replied that 'is stronger than Superman' and 'stronger than oneself' express different properties. For arguments in favor of the non-lazy approach to reflexive pronouns, see also Jacobson and Brogaard ('Number Words'; 'What Mary Did Yesterday').

<sup>9</sup> This is Fara's formulation of it. Fara also denies the specification assumption (see below). On the distinction between belief states and belief reports, see also Perry; McGinn 216; Loar. Sententialists – who take attitude reports to express relations to sentences as in 'Lois Lane believes-true "Superman can fly"' – also deny it. See e.g., Carnap.

<sup>10</sup> Bach's proposal is not unlike the version of naïve Russellianism defended by Braun ('Understanding Belief Reports').

<sup>11</sup> When given its standard meaning, an attitude report just is an uttered attitude sentence. We shall chiefly be concerned with its standard meaning in this entry.

<sup>12</sup> 'Obviously' modifies 'relevant and necessary consequence'. I shall not try to analyze the notion of relevance, but leave it intuitive. It is a bit tricky how to analyze it. We do not want 'I open the letter or burn it' to be an obviously relevant and necessary consequence of 'I open the letter'. For, arguably, it may be that I want to open the letter, even if I do not want to open it or burn it. On a rough characterization, *q* is a relevant consequence of *p* only if, if *q* introduces a new minimal non-logical constituent (e.g., a common noun), the constituent expresses an essential property of the denotation of a minimal constituent in *p*. But even this will not quite do. 'Your cat exists' is an obviously relevant and necessary consequence of 'I kill your cat', but on the face of it, 'I want to kill your cat' doesn't entail 'I want your cat to exist'. Of course, it is arguable that if I want that your cat doesn't exist, then I do not have a desire with the content of 'I want to kill your cat'. Rather, I have a conditional desire with the content of 'if your cat exists, then I kill it'. At any rate, it will be assumed here that belief, desire and knowledge are closed under obviously relevant and necessary consequence (knowledge is also closed under some form of known consequence). Different attitudes may, of course, require different closure principles.

<sup>13</sup> See Soames ('Gap between Meaning and Assertion') for a similar closure principle. Soames argues that assertion is closed under obvious, necessary and a priori consequence (for the ascriber).

<sup>14</sup> Note that one need not agree with Williamson that 'know' is an unanalyzable mental state operator in order to hold that knowledge is a mental state. A knowledge mental state may just be a belief state that satisfies certain mental conditions.

<sup>15</sup> It may seem that 'believe' does not always take *that*-clauses as complements. Consider, for instance, 'John believes what Mary said'. However, this seeming is illusory. 'John believes what Mary said' may be interpreted as an attitude ascription which quantifies into an attitude context, namely, 'for any proposition *p* such that Mary said *p*, John believes that *p*'. 'John knows who the author of *Naming of Necessity* is', on the other hand, is not of the form 'for any individual

$x$  such that  $x$  is the author of *Naming of Necessity*, John knows  $x$ '. For, the latter requires for its truth that John be personally acquainted with every author of *Naming and Necessity*. For a discussion of the distinction between the 'know' of acquaintance and the propositional 'know', see e.g., Nathan.

<sup>16</sup> For a variation on the standard view see Schaffer, 'Knowing the Answer'. For replies to Schaffer, see Bach, 'Questions and Answers'; Brogaard, 'What Mary Did Yesterday'; Kallestrup, 'Knowledge-*Wh*'. Stanley and Williamson argue that ' $s$  knows *how* to  $A$ ' reduces to 'there is a contextually relevant way  $w$  which is a way for  $s$  to  $A$ , and  $s$  knows that  $A$  is a way for her to  $A$ ' (426). Stanley and Williamson also defend the view that interrogative complement clauses denote sets of (true) answers to the indirect question of the *wh*-clause.

<sup>17</sup> Context may affect the content of knowledge-*wh* ascriptions if, for example, *wh*-clauses contain hidden domain variables. On quantifier-domain restriction more generally, see Stanley, 'Context and Logical Form'; 'Nominal Restriction'; Stanley and Szabo.

<sup>18</sup> The inference from 'Perry knows that Lane knows that Superman landed on the roof at 3 p.m.' to 'Perry knows that Superman landed on the roof at 3 p.m.' is valid given two plausible principles about knowledge. One is the principle that knowledge entails truth, that is, the principle that if  $s$  knows that  $p$ , then  $p$ . The other is the principle that knowledge is closed under known consequence, that is, the principle that if  $s$  knows  $p$ , and  $s$  knows that  $p$  entails  $q$ , then  $s$  knows that  $q$ . Knowledge may, of course, also be closed under obviously relevant and necessary consequence.

<sup>19</sup> Kaplan's original example was 'John thinks the S.O.B. who took my car is honest'.

<sup>20</sup> Kripke's original example was 'Hoover charged that the Berrigans plotted to kidnap a high American official'.

<sup>21</sup> This is a simplification. Strictly speaking, the structured extension of 'John is male' consists of the set containing the referent(s) of 'John', the set of males, and a relation  $R$ , and the structured extension of 'the author of *Naming and Necessity* is male' consists of two sets (namely, the set of authors of *Naming and Necessity* and the set of males) and a relation  $R$ . In both cases the relevant relation ( $R$ ) can be defined as follows:  $Rxy$  iff  $x$  has exactly one member, and  $x$  is a subset of  $y$ .

<sup>22</sup> Of course, different attitude verbs will require different closure principles. However, belief and knowledge may well turn out to be closed under obviously relevant and necessary consequence.

<sup>23</sup> It may seem that there is a way around this problem which does not require us to posit Fregean senses at the level of semantics or pragmatics. Jeff King argues that the components of propositions are united by their relations to the syntactic structure and the lexical items of the sentences that express them. On this view, predicates that differ in grammatical structure or contain lexical items with different semantic values make different contributions to propositions. So, 'John ran 3 miles' and 'John ran 5 kilometers' will express different proposition in spite of the fact that 'ran 3 miles' and 'ran 5 kilometers' pick out the same properties. If we extend King's suggestion to structured extensions, then 'has a heart' and 'has a kidney' make different contributions to structured extensions. So, 'Bill has a heart' and 'Bill has a kidney' have different structured extensions. Unfortunately, this proposal is unsuccessful. For if the constituents of structured extensions are united by their relations to the lexical items of the sentences that 'express' them, then even if the New Jersey carjacker is the person who stole John's wallet, 'the New Jersey carjacker sent John a letter from Newton' and 'the person who stole John's wallet sent John a letter from Newton' have different structured extensions. So, if we extend King's suggestion to structured extensions, then structured extensions can no longer be used to formulate an adequate account of wide-scope attitude ascriptions.

<sup>24</sup> Though two-dimensionalists hold that all expressions have two kinds of meaning, they do not hold that all expressions refer to both kinds of meaning in all linguistic environments. In ordinary truth-functional contexts, names refer to individuals.

## Works Cited

- Bach, K. 'Do Belief Reports Report Beliefs?' *Pacific Philosophical Quarterly* 78 (1997): 215–41.  
 ———. 'Questions and Answers'. Comments on Jonathan Schaffer's 'Knowing the Answer'.  
 Bellingham Summer Philosophy Conference, August, 2005.

- Boër, S. and W. Lycan. *Knowing Who*. Cambridge: Cambridge UP, 1986.
- Braun, D. 'Now You Know Who Hong Oak Yun Is'. *Philosophical Issues*. Eds. E. Sosa and E. Villanueva. 16 (2006): 24–42.
- . 'Russellianism and Psychological Generalizations'. *Noûs* 34 (2000): 203–36.
- . 'Understanding Belief Reports'. *The Philosophical Review* 107 (1998): 555–95.
- Brogaard, B. 'Knowledge-*The* and Propositional Attitude Ascriptions'. *Knowledge and Questions*, special issue of *Grazer Philosophische Studien*. Ed. Franck Lihoreau. Forthcoming.
- . 'Number Words and Ontological Commitment'. *The Philosophical Quarterly* 57 (2007): 1–20.
- . 'That may be Jupiter: a Heuristic for Thinking Two-Dimensionally'. *American Philosophical Quarterly* (October 2007).
- . 'What Mary Did Yesterday: Reflections on Knowledge-*wh*'. *Philosophy and Phenomenological Research*. Forthcoming.
- Carnap, R. *Meaning and Necessity: A Study in Semantics and Modal Logic*. 2nd ed. Chicago, IL: U of Chicago P, 1958.
- Chalmers, D. *The Conscious Mind: In Search of a Fundamental Theory*. Oxford: Oxford UP, 1996.
- . 'The Foundations of Two-Dimensional Semantics'. *Two-Dimensional Semantics: Foundations and Applications*. Eds. M. Garcia-Carpintero and J. Macia. Oxford: Oxford UP, 2006. 55–139.
- . 'On Sense and Intension'. *Philosophical Perspectives* 16 (2002): 135–82.
- . 'Propositions and Attitude Ascriptions: A Fregean Account'. Manuscript, 2006.
- . 'Scott Soames' Two-Dimensionalism'. Author-meets-critics session on Scott Soames' *Reference and Description: The Case Against Two-dimensionalism*, the Central Meeting of the American Philosophical Association, Chicago, April 29, 2006.
- . 'Two-Dimensional Semantics'. *Oxford Handbook of the Philosophy of Language*. Eds. E. Lepore and B. Smith. Oxford: Oxford UP, 2006. 574–606.
- Clapp, L. 'Beyond Sense and Reference: An Alternative Response to the Problem of Opacity'. *The Pragmatics of Propositional Attitude Reports*. Ed. K. M. Jaszczolt. Oxford: Elsevier Science, 2000. 43–75.
- . 'How to be Direct and Innocent: A Criticism of Crimmins and Perry's Theory of Attitude Ascriptions'. *Linguistics and Philosophy* 18 (1995): 529–65.
- Crimmins, M. *Talk about Beliefs*. Cambridge, MA: MIT Press, 1992.
- and J. Perry. 'The Prince and the Phone Booth: Reporting Puzzling Beliefs'. *Journal of Philosophy* 86 (1989): 685–711.
- Donnellan, K. S. 'Belief and the Identity of Reference'. *Contemporary Perspectives in the Philosophy of Language* 2. Eds. P. A. French, T. E. Uehling, and H. K. Wettstein. Midwest Studies in Philosophy 14. Minneapolis, MN: University of Minnesota Press, 1989.
- Fara, D. G. 'Desires, Scope and Tense'. *Philosophical Perspectives* 17: *Philosophy of Language and Philosophical Linguistics* (2003): 141–63. [Originally published under the name 'Delia Graff'.]
- and I. Sag. 'Referential and Quantificational Indefinites'. *Linguistics and Philosophy* 5 (1982): 355–98.
- Forbes, G. 'Indexicals and Intensionality: A Fregean Perspective'. *The Philosophical Review* 99 (1987): 3–33.
- . 'The Indispensability of *Sinn*'. *The Philosophical Review* 99 (1990): 535–63.
- Francis, B. 'Defending Millian Theories'. *Mind* 107 (1998): 703–27.
- Frege, G. 'On Sense and Reference'. *Translations from the Philosophical Writings of Gottlob Frege*. Eds. P. T. Geach and M. Black. Oxford: Basil Blackwell, 1952 [1892]. 56–78.
- Gendler, T. S. and J. Hawthorne. 'Conceivability and Possibility'. *Conceivability and Possibility*. Eds. T. Gendler and J. Hawthorne. Oxford: Clarendon Press, 2002. 1–70.
- Groenendijk, J. and M. Stokhof. 'Questions'. *Handbook of Logic and Language*. Eds. J. van Benthem and A. ter Meulen. Amsterdam: Elsevier Science, 1994. 1055–124.
- Higginbotham, J. 'The Semantics of Questions'. *The Handbook of Contemporary Semantic Theory*. Ed. S. Lappin. Oxford: Blackwell, 1996. 361–83.
- Hintikka, J. 'Different Constructions in Terms of the Basic Epistemological Verbs: A Survey of Some Problems and Proposals'. *The Intentions of Intentionality and Other New Models for Modalities*. Dordrecht: Reidel, 1975. 1–25.
- Holton, R. 'Attitude Ascriptions and Intermediate Scope'. *Mind* 103 (1994): 123–30.

- . ‘Sources and Leapfrogging: Reply to Pickles’. *Mind* 104 (1995): 583–4.
- Horwich, P. ‘A Defense of Minimalism’. *The Nature of Truth: Classic and Contemporary Perspectives*. Ed. M. Lynch. Cambridge, MA: MIT Press/Bradford Books, 2001. 559–77.
- Jacobson, P. ‘Binding Connectivity in Copular Sentences’. *Proceedings of the Fourth Conference on Semantics and Linguistic Theory*. Eds. M. Harvey and L. Santelmann. Cornell Working Papers in Linguistics. Ithaca, NY: Cornell University, 1994. 161–78.
- Jaszczolt, K. M. ‘The Default-Based Context-Dependent of Belief Reports’. *The Pragmatics of Propositional Attitude Report*. Ed. K. M. Jaszczolt. Oxford: Elsevier Science, 2000. 169–85.
- . *Discourse, Beliefs, and Intentions: Semantic Defaults and Propositional Attitude Ascriptions*. Oxford: Elsevier Science, 1999.
- Kallestrup, J. ‘Knowing-*Wh* and the Problem about Knowledge of Knowledge’. Manuscript. 2007.
- . ‘Knowledge-*Wh* and the Problem of Convergent Knowledge’. *Philosophy and Phenomenological Research*. Forthcoming.
- . ‘Paradoxes about Belief’. *Australasian Journal of Philosophy* 81 (2003): 107–17.
- Kaplan, D. ‘Demonstratives’. *Themes from Kaplan*. Eds. J. Almog, J. Perry and H. Wettstein. New York, NY: Oxford UP, 1989. 481–563.
- . ‘Quantifying In’. *Synthese* 19 (1967): 178–214.
- King, J. ‘Structured Propositions and Complex Predicates’. *Nous* 29 (2005): 516–35.
- Kripke, S. *Naming and Necessity*. Cambridge, MA: Harvard UP, 1980.
- . ‘A Puzzle about Belief’. *Meaning and Use*. Ed. A. Margalit. Dordrecht: D. Reidel, 1979. 239–83.
- . ‘Speaker’s Reference and Semantic Reference’. *Midwest Studies in Philosophy* 2 (1977): 255–76.
- Larson, R. and P. Ludlow. ‘Interpreted Logical Form’. *Synthese* 95 (1993): 305–55.
- Lewis, D. ‘Whether Report’. *320311: Philosophical Essays Dedicated to Lennart Åqvist on his Fiftieth Birthday*, Uppsala, Filosofiska Studier. 194–206. Cited as reprinted in *Papers in Philosophical Logic*. Eds. T. Pauli et al. Cambridge: Cambridge UP, 1998 [1982]. 45–56.
- Loar, B. ‘Social Content and Psychological Content’. *Contents of Thought*. Eds. R. H. Grimm and D. D. Merrill. Tucson: U of Arizona P, 1988. 99–110.
- Ludlow, P. and N. Stephen. ‘Indefinite Descriptions: In Defense of Russell’. *Linguistics and Philosophy* 14 (1991): 761–825.
- McGinn, C. *The Character of Mind*. 2nd ed. Oxford: Oxford UP, 1997 [1982].
- McKay, T. ‘On Proper Names in Belief Ascriptions’. *Philosophical Studies* 39 (1981): 287–303.
- . ‘Representing De Re Beliefs’. *Linguistics and Philosophy* 14 (1991): 711–39.
- and M. Nelson. ‘Propositional Attitude Reports’. *The Stanford Encyclopedia of Philosophy*. Winter 2006 Ed. E. N. Zalta. 2006. <<http://plato.stanford.edu/archives/win2006/entries/prop-attitude-reports/>>.
- McKinsey, M. ‘The Semantics of Belief Ascriptions’. *Noûs* 33 (1999): 519–57.
- Nathan, L. E. ‘On the Interpretation of Concealed Questions’. Diss. (Massachusetts Institute of Technology, 2006).
- Nelson, M. ‘The Problems of Puzzling Pairs’. *Linguistics and Philosophy* 28 (2005): 319–50.
- . ‘Puzzling Pairs’. *Philosophical Studies* 108 (2002): 109–19.
- Partee, B. ‘Opacity, Coreference and Pronouns’. *Semantics of Natural Language*. Eds. D. Davidson and G. Harman. Dordrecht: Reidel, 1972. 415–41.
- Pautz, A. ‘An Argument against Fregean “That”-Clause Semantics’. *Philosophical Studies*. Forthcoming.
- Peacocke, C. ‘Demonstrative Truth and Psychological Explanation’. *Synthese* 49 (1981): 187–217.
- Perry, J. ‘The Problem of the Essential Indexical’. *Nous* 13 (1979): 3–21.
- Pickles, D. ‘Holton on Attitude Ascriptions and Intermediate Scope’. *Mind* 104 (1995): 577–82.
- Recanati, F. *Direct Reference: From Language to Thought*. Oxford: Blackwell, 1993.
- Richard, M. ‘Defective Contexts, Accommodation and Normalization’. *Canadian Journal of Philosophy* 25 (1995): 551–70.
- . *Propositional Attitudes*. Cambridge: Cambridge UP, 1990.
- Russell, R. ‘On Denoting’. *Mind* 14 (1905): 479–93.
- Salmon, N. *Frege’s Puzzle*. Cambridge, MA: MIT Press, 1986.

- . ‘Reflections on Reflexivity’. *Linguistics and Philosophy* 15 (1992): 53–63.
- . ‘Reflexivity’. *Propositions and Attitudes*. Eds. N. Salmon and S. Soames. Oxford: Oxford UP, 1988. 240–74.
- Schaffer, J. ‘Knowing the Answer’. *Philosophy and Phenomenological Research* 75 (2007): 383–403.
- Schiffer, S. ‘Belief Ascription’. *Journal of Philosophy* 89 (1992): 499–521.
- . ‘Direct Reference, Propositional Attitudes, and Semantic Content’. *Propositions and Attitudes*. Eds. N. Salmon and S. Soames. Oxford: Oxford UP, 1988. 240–74.
- . ‘The Hidden-Indexical Theory’s Logical-Form Problem: A Rejoinder’. *Analysis* 56 (1996): 92–7.
- . ‘Naming and Knowing’. *Midwest Studies in Philosophy* 2 (1977): 28–41.
- . *The Things We Mean*. Oxford: Oxford UP, 2003.
- Soames, S. ‘Beyond Singular Propositions’. *Canadian Journal of Philosophy* 25 (1995): 515–49.
- . ‘The Gap between Meaning and Assertion: Why What We Literally Say often Differs from What Our Words Literally Mean’. *Asserting, Meaning and Implying*. Eds. M. Hackl and R. Thornton. Forthcoming.
- Sosa, D. ‘The Import of the Puzzle about Belief’. *Philosophical Review* 105 (1996): 373–402.
- Stanley, J. ‘Context and Logical Form’. *Linguistics and Philosophy* 23 (2000): 391–424.
- . ‘Nominal Restriction’. *Logical Form and Language*. Eds. G. Preyer and G. Peter. Oxford: Oxford UP, 2002. 365–88.
- and Z. G. Szabo. ‘On Quantifier Domain Restriction’. *Mind and Language* 15 (2000): 219–61.
- and T. Williamson. ‘Knowing How’. *Journal of Philosophy* 98 (2001): 411–44.
- Williamson, T. *Knowledge and its Limits*. Oxford: Oxford UP, 2000.
- Zalta, E. *Intensional Logic and the Metaphysics of Intentionality*. Cambridge, MA: MIT Press/Bradford Books, 1988.