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Russellianism and Explanation

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Russellianism is a semantic theory that entails that sentences (1) and (2) express the same proposition, as long as the names 'Mark Twain' and 'Samuel Clemens' refer to the same person.

- (1) Albert believes that Mark Twain is an author.
- (2) Albert believes that Samuel Clemens is an author.

Many philosophers think that the Substitution Objection decisively refutes Russellianism. This objection claims that sentences (1) and (2) can differ in truth value. Therefore, it says, the sentences express different propositions, and so Russellianism is false.

Russellians have replied at length to the Substitution Objection (McKay, 1979; Salmon, 1986, 1989; Soames, 1988, 1995; Braun, 1998). Indeed, one could easily get the impression that the Substitution Objection is the only criticism to which Russellians need to respond. But, in fact, there are others. For example, Michael Devitt (1996), Mark Richard (1990, 1997a), and Richard Heck (1995) have argued (roughly) that if Russellianism were true, then attitude ascriptions could not explain (certain sorts of) behavior. Call objections that take this sort of line Explanation Objections.

Here is a rough version of one Explanation Objection. Suppose that Albert waves, and suppose that we attempt to explain his behavior by uttering (3).

- (3) Albert wanted Twain to autograph his book, and he believed that if he waved,

then Twain would autograph his book.

A critic might claim that (3) explains Albert's behavior only if it's generally true that people with beliefs and desires like his wave. But consider Bob: he assents to 'I want Twain to autograph my book' and to 'If I wave then Clemens will autograph my book', but he dissents from 'Twain is Clemens' and so does not wave. Yet according to Russellianism, Bob believes and desires propositions that are like those that Albert does. Therefore, if Russellianism is true, then it's not the case that, generally, those who have beliefs and desires like Albert's wave. So, if Russellianism is true, then (3) cannot explain Albert's behavior. But it can, so Russellianism is false.

In this paper, I formulate a number of Explanation Objections against Russellianism, and provide Russellian replies to each. I argue that some of these objections presuppose unreasonably strict requirements for explaining behavior (and for explaining in general). Other objections rest on mistaken judgments that certain attitude ascriptions do (or do not) explain certain bits of behavior, or that certain ascriptions provide (or fail to provide) certain sorts of explanatory information about the relevant behavior.

Though the Explanation Objections that I consider target a semantic theory, they rely very heavily on assumptions about explanation. As a result, I discuss explanation in this paper at least as much as I do semantics. Unfortunately, the critics I discuss do not make their assumptions about explanation entirely explicit. I therefore formulate some views about explanation that support their objections to Russellianism. I criticize those views, and argue for some alternatives. I show that these alternatives support the claim that attitude ascriptions could explain behavior, even if Russellianism were true. Critics of Russellianism who find the

following Explanation Objections attractive might think of this paper as a challenge to them to state and defend their views about explanation explicitly, and to find fault with my alternative views.¹

Some readers who are familiar with Nathan Salmon's (1986, 1989) and Scott Soames's (1988, 1995) replies to the Substitution Objection might find my replies to the Explanation Objections surprising. Salmon and Soames hold that (1) and (2) really do express the same proposition; speakers who think that (1) and (2) can differ in truth value are confusing the proposition they semantically express with the propositions that they pragmatically convey. Readers who know Salmon's and Soames's work might expect me to argue that utterances of attitude ascriptions pragmatically convey explanatory information that is not semantically expressed by those utterances.² But I am skeptical of Salmon's and Soames's attempts to use pragmatics to explain away our anti-substitution intuitions (see Saul, 1998 and Braun, 1998). I am equally worried about using pragmatics to explain away our intuitions about explanation. Therefore, I provide replies to the Explanation Objections that do not force Russellians to rely on Salmon's and Soames's claims about pragmatics (though my replies are consistent with their claims).

There are closely related objections to Russellianism that I do not address here. Some philosophers who press Explanation Objections also argue that attitude ascriptions could not be used to predict behavior, if Russellianism were true. Some say that the property of being-a-belief-with-Russellian-content-P cannot be causally relevant to any effect of a belief (some say similar things about all species of "broad content"). Unfortunately, I do not have space to address such objections here (though I have addressed some of the issues concerning causal

relevance in Braun, 1995). In this paper, I focus exclusively on objections concerning explanation.

1. Russellianism and Ways of Taking Propositions

The theory I want to defend might better be called 'neo-Russellianism', because Bertrand Russell rejects some of its main claims. (Its other popular names--'Millianism', 'the "Fido"-Fido theory', 'the naive theory', 'the direct reference theory'--are misleading in other ways.) I call it 'Russellianism' (following Richard, 1990) because it says that the objects of certain attitudes, such as believing and desiring, are Russellian propositions: structured entities whose constituents are individuals, properties, and relations. These propositions are also the semantic contents (or simply contents) of sentences, with respect to (or in) contexts, and the objects that sentences semantically express, in contexts. The constituents of the proposition that a sentence expresses in a context are the contents of the parts of the sentence in that context. The content of a predicate, in a context, is a property or relation. The content of a proper name, or an indexical such as 'I' or 'she', in a context, is its referent, in that context. The truth value of a sentence, in a context, is the truth value of the proposition it expresses, in that context. So on this view, the sentence 'Mark Twain is an author' expresses a proposition whose constituents are Mark Twain and the property of being-an-author, which can be represented by the following ordered pair.

<Mark Twain, being-an-author>

The sentence 'Samuel Clemens is an author' expresses exactly the same proposition.³

Russellianism says that the content of the predicate 'believes', in any context, is the binary believing relation. The referent, and content, of a 'that'-clause, that S, in a context, is the

proposition expressed by S in that context. So according to Russellianism, (1) and (2) express the same proposition, whose constituents are Albert, the proposition that Twain/Clemens is an author, and the believing relation. It can be represented as follows.

<Albert, <Twain, being-an-author>, believing>

Thus (1) and (2) have the same truth value. Similar remarks hold for attitude sentences whose complements are infinitives with explicit subjects, such as 'Albert wants Twain to smile'. The infinitive clause here refers, in a context, to the proposition expressed by 'Twain smiles', in that context.⁴ Its content is its referent. The proposition expressed by the sentence can be represented by the following sequence.

<Albert, <Twain, smiling>, wanting>

There are various reasons to think that Russellianism might be true, despite its unintuitive consequences. It is appealingly simple. It is naturally suggested by the arguments of Keith Donnellan, Saul Kripke, David Kaplan, and others against descriptivist theories of proper names and indexicals. It easily accounts for our free-wheeling use of indexicals in complement clauses of attitude ascriptions. It gives the most straightforward account of quantification into complement clauses of attitude ascriptions. Finally, and very importantly, it avoids many of the difficulties that afflict its rivals. For more details, see Salmon (1986, 1989), Soames (1988, 1995), and Braun (1998).

The Russellian view that I wish to defend includes a certain metaphysics of attitudes. According to it, the binary believing and wanting relations are mediated: an agent stands in the believing or desiring relation to a proposition in virtue of standing in another psychological relation to an intermediary entity that determines the proposition that the agent believes or

desires.⁵ The intermediary entity is a way of taking the proposition. We could also call it a 'guise' or 'mode or presentation' for, or a 'way of grasping', the proposition; when the relevant attitude is believing or desiring, I shall call such a thing a 'way of believing' or 'way of desiring'. Different Russellians have different views about the nature of this intermediary. It may be said to be a natural language sentence, or a linguistic meaning, or a mental state, or a mental representation. An agent may accept a sentence or linguistic meaning; or be in a certain mental state; or have a certain mental representation in his head in the right way. When he does, he believes the proposition determined by the entity, and we can say that the agent believes the proposition in a certain way. A rational agent can believe the same proposition in two distinct ways; he can believe a proposition in one way without believing it in other ways; and he can believe a proposition in one way, while also believing its negation, in another, suitably different, way. Analogous points hold for desiring.⁶

For example, consider (4) and (5).

(4) Mark Twain is an author.

(5) Samuel Clemens is an author.

According to Russellianism, (4) and (5) express the same proposition, but an agent can believe that proposition in various different ways. If an agent believes the proposition in one way, then he will be inclined to assent to sentence (4) and think that (4) is true; but believing the proposition in that way will not incline him to assent to (5) or think that (5) is true.⁷ There is a second way of believing the proposition that has just the opposite effect. An agent could believe the proposition in the first way but not the second; he would then be inclined to assent to (4) but not to (5). An agent could even rationally believe the proposition and its negation, in suitably

different ways; for instance, he could believe it in the first way, but believe its negation in a way that "corresponds" to the negation of (5). Such an agent would then be inclined to assent to (4) and dissent from (5), and think that (4) is true but (5) is false.

Similar phenomena can occur when the relevant sentences are attitude sentences, such as (1) and (2).

(1) Albert believes that Mark Twain is an author.

(2) Albert believes that Samuel Clemens is an author.

These sentences express the same proposition. An agent could believe that proposition in a way that corresponds to (1), but fail to believe it in a way that corresponds to (2). She would then be inclined to assent to (1) and think (1) true, but have no such inclinations with respect to (2). In fact, she could believe the proposition in a way that corresponds to (1) and believe that proposition's negation in a way that corresponds to the negation of (2). She would then think that (1) is true, and be inclined to assent to it, while thinking that (2) is false, and be inclined to dissent from it. (These points lie at the core of my response to the Substitution Objection; see Braun, 1998.)

Clearly, the way in which an agent believes or desires a proposition can make a difference to that agent's behavior---for instance, to whether that agent will assent to certain sentences. But according to Russellianism, attitude ascriptions do not semantically express any information about the ways in which agents believe and desire propositions. Thus one might suspect that, if Russellianism were true, then attitude ascriptions could not explain behavior. The following objections to Russellianism attempt to make that suspicion more precise.

2. The Ordinary Explanation Objection

I wish now to turn to the objection that I sketched in the introduction. But I first need to make a few more assumptions explicit.

Suppose that Carol sincerely assents to 'If I wave, then Twain will see me' and 'I want Twain to see me'. Russellians and non-Russellians alike can agree that, under these conditions, (6) and (7) are true.⁸

(6) Carol believes that if she waves then Twain will see her.

(7) Carol wants Twain to see her.

Russellians and non-Russellians can also agree that utterances of (6) and (7), and the propositions they express, are, in a certain sense, made true by occurrences of events of certain sorts. They can agree that, necessarily, the proposition expressed by an utterance of (6) is true iff there occurs a certain sort of "believing event" that involves at least Carol, the entity denoted by the 'that'-clause of (6), and a certain relation between them. Call such events beliefs. (Two terminological points: (i) I use the term 'belief' for events of a certain sort, and not for the propositional objects of the believing relation. (ii) Some might prefer to say that beliefs (in this sense) are states, rather than events. I use the term 'event' for both events and states; I think of the latter as long-lived events.) Russellians and anti-Russellians can agree on these matters even if they disagree about the denotation of the 'that'-clause of (6) or about the constituents of the propositions expressed by utterances of (6). Similarly, Russellians and their critics can agree that, necessarily, an utterance of (7), and the proposition it expresses, are true iff there occurs a certain sort of "wanting event" that involves at least Carol, the entity specified by the infinitival clause of (7), and a certain relation between them. Call these events desires.⁹ Since utterances of

(6) and (7), and the propositions they express, are made true (in this sense) by events of these sorts, let us say that they describe beliefs and desires. Similarly, utterances of (8), and the propositions they express, describe events in which Carol waves.

(8) Carol waves.

Russellians and their critics can also agree that events of the sorts described by utterances of (6) and (7) can cause other events, such as wavings.¹⁰ Let's suppose, then, that Carol has a belief and a desire described by (6) and (7) and that those events are causes of a waving by Carol, so that (8) is true.¹¹

Now for the objection. The critic I mention below is a creature of fiction. His objection is modeled on criticisms that are presented by Devitt and Richard, but includes details that theirs do not.¹²

This critic maintains that, in the situation described above, the conjunction of (6) and (7), namely (9), explains Carol's waving. So does (10).¹³

(9) Carol wants Twain to see her, and she believes that if she waves then Twain will see her.

(10) Carol waved because she wanted Twain to see her, and she believed that if she waved then Twain would see her.

For convenience, let's concentrate on (10). The critic goes on to say that (10) can explain Carol's waving only if (roughly speaking) it's generally true that people who have attitudes like Carol's wave, other things being equal. More precisely: (10) explains Carol's waving only if psychological generalization (11) is true.¹⁴

(11) If a person wants Twain to see her, and she believes that (if she waves then Twain will see her), then, other things being equal, she will wave.

But, the critic argues, if Russellianism is true, then (11) is false, because it is falsified by cases in which the agent believes and desires the relevant propositions in mismatching ways.

To understand this last claim, consider yet another example. Suppose that Diane assents to 'I want Twain to see me' and 'If I wave then Clemens will see me'. Everyone can agree that, in these circumstances, Diane wants Twain to see her, and that she believes that if she waves then Clemens will see her. But Russellians hold that, if the latter is true, then Diane also believes that (if she waves then Twain will see her). So according to Russellians, Diane satisfies the antecedent of (11). But now suppose (further) that Diane dissents from 'I want Clemens to see me', and from 'If I wave then Twain will see me', and from 'Twain is Clemens'. Then according to Russellians, Diane believes and desires the propositions mentioned in the antecedent of (11) in mismatching ways: the way in which she takes the proposition that Twain sees her, when she desires it, is not the same as the way in which she takes that proposition, when she believes the conditional proposition that (if she waves then Twain will see her). In such mismatch circumstances, Diane won't wave. So she will fail to satisfy the consequent of (11). Therefore, the critic says, if Russellianism is true, then Diane satisfies the antecedent of (11), but fails to satisfy its consequent. So if Russellianism is true, then (11) is false.

But, the critic claims, if (11) is false, then (10) does not explain Carol's waving, even if Carol herself happens to believe and desire the relevant propositions in matching ways. Therefore, if Russellianism is true, then (10) does not explain Carol's waving.¹⁵ But (10) does explain Carol's waving. Therefore, Russellianism is false.¹⁶

Let's rearrange and summarize the main points of the objection in a slightly more formal fashion.

- (12) a. (10) explains Carol's waving.
- b. If (10) explains Carol's waving, then generalization (11) is true.
- c. Therefore, generalization (11) is true.
- d. If Russellianism is true, then generalization (11) is not true.
- e. Therefore, Russellianism is not true.

Call this the Ordinary Explanation Objection.¹⁷ My reasons for including the word 'ordinary' in the objection's title will become clear below.¹⁸

I wish to offer two replies to the Ordinary Explanation Objection (and to a revised version of the objection that will appear later). One reply is perhaps predictable, the other perhaps surprising. My (perhaps) predictable reply criticizes (12d): I say (roughly) that generalization (11) is true, even if Russellianism is correct. I argue for this point in another paper (Braun, 2000), and present only an outline of that argument below. My (perhaps) surprising reply criticizes (12b): I argue that (10) could explain Carol's waving even if generalization (11) were false. I shall start with it.

3. Explanations, Covering Laws, and the Revised Ordinary Explanation Objection

I say that (10) could explain Carol's waving even if generalization (11) were false. But I admit that premise (12b) is initially plausible. Thus I would like to examine its intuitive support before criticizing it directly.

One might hope to find some arguments for (12b) in the work of Devitt and Richard, the

real-life models for my imaginary critic. Unfortunately, they do not explicitly state any assumptions about explanation that support (12b). But their writings suggest that they accept some sort of covering-law theory of explanation. Theories of this sort say that explanations "depend upon", or are "underwritten by", lawful generalizations. Anyone who holds such a view might well find (12b) plausible. Let's consider whether any reasonable theory of this sort supports (12b).

Let's begin with a simple version of the covering-law theory, which we can call the D-N theory of ideal explanation.¹⁹ On this view, an ideal (or complete or full) explanation of a particular event is an argument of a certain sort. The conclusion of an ideal explanatory argument is an explanandum-sentence that describes the explanandum-event. The premises of such an argument (the explanans-sentences) include at least one premise describing a particular fact and at least one law sentence. The explanandum-sentence is a deductive consequence of the set of explanans-sentences. Removing any sentence from the set of explanans-sentences results in a deductively invalid argument; in that sense, every explanans-sentence is essential to the argument. An argument of this sort is a deductive-nomological argument (D-N argument). Every ideal explanation is a D-N argument.²⁰ A correct ideal explanation is a D-N argument with entirely true premises; from here on I shall (usually) use 'explanation' to mean 'correct explanation'.²¹

The D-N theory as it stands would not be acceptable to most critics of Russellianism, for most such critics would judge that (13) is an ideal explanation of Carol's waving.

- (13) a. Carol wanted Twain to see her, and she believed that (if she waved then Twain would see her).

- b. If a person wants Twain to see her, and believes that (if she waves then Twain will see her), then, other things being equal, she will wave.
- c. Therefore, Carol waved.

But generalization (13b) (which is just (11) again) is a ceteris paribus generalization. Thus the conclusion of argument (13) does not deductively follow from its premises, and so the D-N theory entails that (13) is not an ideal explanation of Carol's waving.²²

Note, however, that the premises of (13) do, in some sense, support its conclusion. So let's say that the premises of ideal explanations need not deductively entail their conclusions, but may, instead, merely support their conclusions.²³ Let's also assume that some psychological ceteris paribus generalizations are true, and are either laws, or are law-like enough, to figure in ideal explanations. A theory of explanation that includes these modifications would entail that (13) is an ideal explanation of Carol's waving, and should be acceptable to anti-Russellians.²⁴

This modified D-N theory still concerns only ideal (or full or complete) explanations. But most ordinary explanations are not ideal, in the above sense; (10), for instance, is not an ideal explanation simply because it does not contain a law-like generalization. Yet (10) seems to explain Carol's waving, just as our imaginary critic says.²⁵ Let's call sentences like (10) elliptical explanations and let's suppose that (some) such elliptical explanations are genuine explanations.²⁶ Clearly any view of explanation that can support premise (12b) must specify some requirements for elliptical explanation, in order to say how the explanatory power of (10) depends on the truth of (11).

Notice that the explanans sentence of (10), namely (9), appears in an ideal explanation of Carol's waving, namely (13).²⁷ Reflection on this fact, and other similar examples, might lead

one to the following view of elliptical explanations.

- (14) A sentence, or sequence of sentences, is an elliptical explanation of an event iff:
- (a) it is not an ideal explanation of the event, and
 - (b) its explanans-sentences appear in some ideal explanation of the event.

According to (14), if argument (13) is an ideal explanation of Carol's waving, then (10) is an elliptical explanation of her waving.²⁸ Moreover, (14) makes clear the sense in which elliptical explanations are "underwritten by" or "depend upon" law-like generalizations: a sentence counts as an elliptical explanation counts iff its explanans-sentences "mesh with" generalizations that appear in some ideal explanation.

Consider now a theory that consists of two parts: (a) the D-N theory, modified so as to allow ideal explanations to be non-deductive arguments containing ceteris paribus generalizations; and (b) thesis (14) concerning elliptical explanation. Call this the Modified D-N theory of explanation. Notice that we've dropped the term 'ideal' from the title: this is a theory of both ideal and elliptical explanation.²⁹

Our imaginary critic might try to use the Modified D-N theory to argue for premise (12b). Suppose that (10) explains Carol's waving. Then clearly it is an elliptical explanation. So, if the Modified D-N theory is true, the explanans of (10) appears in some correct ideal explanation of Carol's waving. The most obvious ideal explanation of Carol's waving is (13). But generalization (11) appears in explanation (13), and must be true if (13) is a correct explanation. So, the critic might conclude, if (10) explains Carol's waving, then generalization (11) is true.

But this argument for (12b) has a serious flaw. To see this, suppose that (11) is false. Then (13) is not a correct ideal explanation of Carol's waving. But there may still be a correct

ideal explanation of Carol's waving that contains the explanans of (10), for instance, (15).

- (15) Carol wanted Twain to see her, and she believed that (if she waved then Twain would see her). Carol had no overriding desires. If a person wants Twain to see her, and believes that (if she waves then Twain will see her), and has no overriding desires, then, other things being equal, she will wave. Therefore, Carol waved.

If (15) is a correct ideal explanation of Carol's waving, then, according to the Modified D-N theory, (10) explains Carol's waving, even if (11) is false. So the Modified D-N theory does not justify premise (12b); it does not entail that the explanatory power of (10) depends on generalization (11) in particular.

Our imaginary critic can best respond to this problem by revising the Ordinary Explanation Objection. Notice that, if Russellianism is correct, then there will be "mismatch" Russellian exceptions to the generalization in (15). So our imaginary critic could argue that this generalization is false under Russellianism. Furthermore, he could claim that any ideal explanation of Carol's waving that contains the explanans of (10) will also contain an ordinary psychological generalization that is false under Russellianism. (By 'ordinary psychological generalization', I mean a generalization that contains ordinary attitude ascriptions which do not explicitly mention ways of taking propositions.) Thus the critic could argue against Russellianism as follows.

- (12*) a. (10) explains Carol's waving.
b. If (10) explains Carol's waving, then some ordinary psychological generalization is true.

- c. Therefore, some ordinary psychological generalization is true.
- d. If Russellianism is true, then no ordinary psychological generalization is true.
- e. Therefore, Russellianism is not true.

Call this the Revised Ordinary Explanation Objection. This objection is very much in the spirit of the original (and so in the spirit of Devitt's and Richard's criticisms of Russellianism). The Modified D-N theory supports premise (12b*). So we now have a version of the objection that is well-supported by at least one covering-law conception of explanation. But how plausible is the Modified D-N Theory?

4. Problems with the Modified D-N Theory

The Modified D-N theory says that the explanans of a genuine elliptical explanation must appear in some ideal explanation. But there are apparent counterexamples to this requirement, as we can see by considering the following sentences.

(16) Don is depressed because there is a chemical imbalance in his brain.

(17) Joe died because he ate a wild mushroom.

(18) The tornado caused the building to collapse.

(16)-(18) do not satisfy requirement (14) for elliptical explanations. The explanans-sentence of (16) is 'There is a chemical imbalance in Don's brain'. But not all chemical imbalances in brains cause depression; only certain types do. So an ideal explanation of Don's depression will be more specific about the type of chemical imbalance in Don's brain. Therefore, the explanans of (16) will be redundant to any such ideal explanation, and won't appear in any such explanation.

Similarly for (17). Not all wild mushrooms are poisonous, so any ideal explanation of Joe's death will be more specific than (17). (18) presents the same problem, or worse: notice that it does not contain a full explanans-sentence, but rather an "explanans-noun-phrase".

Yet there is a strong intuitive pull to think that (16)-(18) explain their respective events (or, at the very least, that they are elliptical explanations of those events). Thus the Modified D-N theory of explanation is too restrictive.³⁰

The problem for the imaginary critic can be roughly summarized in the following way: Many ordinary explanations are more elliptical than the Modified D-N theory allows. And yet such ordinary explanations seem to be genuinely explanatory. So the Modified D-N theory is false, and the imaginary critic's argument for (12b*) relies on overly restrictive requirements for elliptical explanation.

5. Some Alternative Theories of Explanation

Further reflection on ordinary elliptical explanations like (16)-(18) will give us reason to think that (10) could explain Carol's waving, even if ordinary psychological generalizations were false.

Sentences (16)-(18) have two salient characteristics. First, they provide information about the causes of their respective explananda-events. Second, they provide some of the information that would be provided by ideal explanations of the events (this is so, despite the fact that their explanans-sentences would not appear in those ideal explanations). One might reasonably suspect that (16)-(18) are explanatory because they possess these characteristics. So one might reasonably conclude that an ordinary explanation that has both of these features is a

genuine (elliptical) explanation.

This last conclusion is, in fact, supported by two independently plausible theories of explanation, those of Peter Railton (1981) and David Lewis (1986).

Railton's theory relies heavily on his notion of explanatory information.³¹ An ideal covering-law explanation of an event is an argument, that is, a sequence of sentences. Each sentence in the argument semantically expresses a proposition. Thus corresponding to the argument there is a sequence of propositions expressed by the sentences. Call this the propositional argument or ideal propositional explanation that is semantically expressed by the (linguistic) argument or ideal explanation. According to Railton, explanatory information about an event is information that is contained in some ideal propositional explanation of the event. A proposition, or sequence of propositions, can contain some or all of the information contained in an ideal propositional explanation. A sentence or linguistic argument provides explanatory information about an event iff it semantically expresses a proposition (or sequence of propositions) that contains some of the information contained in an ideal propositional explanation of the event.³² A linguistic ideal explanation of an event provides all of the explanatory information contained in the ideal propositional explanation that it expresses.

On Railton's view, a sentence (or argument) explains an event just in case it provides some explanatory information about that event. In other words, a sentence explains an event just in case it semantically expresses a proposition that contains some information that is contained in some ideal explanation of the event. (Similarly, a proposition explains an event if it contains some information in some ideal propositional explanation of the event.) Explanations can vary in how much explanatory information they provide. Some provide more, some less, depending

on how much information they provide from their respective ideal explanations.

(16)-(18) count as explanations of their respective events, on Railton's account. Some ideal (propositional) explanation of Don's depression mentions something about the chemistry of Don's brain processes. Thus (16) provides some of the information contained in some such ideal covering-law explanation for Don's depression. So (16) counts as an explanation, even though its explanans does not appear in any ideal explanation. Similarly, some sentences about wild mushrooms figure in some ideal explanation of Joe's death, so (17) counts as explaining Joe's death. Similarly for (18).

On Railton's theory, a speaker might utter a sentence that provides explanatory information about an event, and which thus explains the event, even if the speaker does not know enough to provide an ideal explanation, and even if the ideal explanations the speaker might try to provide are incorrect. In fact, this might be the typical case. A person might utter (16), and thus provide some explanatory information about Don's depression, even though she does not know the particular-fact premises that figure in ideal explanations of those events. A speaker might successfully explain Joe's death by offering (17), even if that speaker falsely believes that anyone who eats any wild mushroom will die.

According to Lewis's theory, explanatory information about an event is information about the causes of the event. A proposition is an explanation of an event iff it contains information about the causes of the event. A sentence is an explanation iff it semantically expresses an explanatory proposition.³³ Different explanations may differ in the amount of explanatory information they provide. On Lewis's view, (16) counts as explaining Don's depression because it provides information about the causes of his depression. Similarly for (17) and (18).

Railton's theory requires ordinary explanations to be "underwritten" by laws. Lewis's theory does not. But both theories imply that a sentence that provides information about a cause of an event is an explanation of it. This is obviously so on Lewis's view; on Railton's view, such a sentence provides some explanatory information about that event, because some ideal explanation of that event mentions that cause.

Suppose now that a sentence expresses a proposition that (a) contains some information about the causes of a certain event, and (b) contains some information that is contained in some ideal propositional explanation of that event. Then Railton's and Lewis's theories entail that the sentence explains the event. If one or both theories are plausible, then we now have a plausible sufficient condition for a sentence's being an (elliptical) explanation of an event.

I shall soon employ a version of this sufficient condition to argue that (10) does explain Carol's waving. Before doing so, however, I should mention that Railton's and Lewis's theories are not entirely uncontroversial, because they are both quite liberal about what counts as an explanation.³⁴ Consider (16*) and (16%).

(16*) Don is depressed because he has a brain.

(16%) Don is depressed because the Big Bang occurred.

(16*) provides some information about the causes of Don's depression, and also some of the information contained in an ideal explanation of it. Similarly for (16%), for the Big Bang is a distal cause of Don's depression, and there is some (extremely long) ideal explanation that mentions it and concludes that Don (eventually) becomes depressed. So both provide some explanatory information, according to both theories. Railton and Lewis can say that (16*) and (16%) provide very little explanatory information about Don's depression, certainly less than

(16). Nonetheless, they count as explanations on their theories, and so one might conclude that their theories are too liberal.

I happen to think that the above consequence of Railton's and Lewis's theories is correct. I believe that attempts to draw more restrictive (or substantive) lines than theirs between explanations and non-explanations are doomed to failure. I am persuaded of this by the failures of past attempts, and by the following analogy. Suppose that we tried to formulate necessary and sufficient conditions for a sentence's being a description of an object. It's doubtful that any substantive informational requirements would stand up to scrutiny (other than the requirement that the sentence be a true sentence that, somehow, mentions the object). Some descriptions provide more descriptive information, some less, but there is no substantial distinction to be made between descriptions and non-descriptions. But explanations are merely descriptions of a certain sort, ones that focus on events, their causes, and (sometimes) laws.

However, I need not argue this point, for I can modify the above sufficient condition to make it more acceptable to those who find Lewis's and Railton's views too liberal. One intuitive difference between (16), on the one hand, and (16*) and (16%), on the other, is that the former seems to provide a substantial portion of the information contained in an ideal explanation, whereas the latter do not. (Don't take the phrase "substantial portion of the information" here to mean "more than fifty percent of the information". Instead, understand it in very roughly the way you do when you speak of a substantial portion of a pie. You provide a diner with a substantial portion of a pie when you give him (say) an eighth or more of it.) This feature of (16) suggests the following sufficient condition for explanation.

- (19) Let S be a sentence or sequence of sentences, and let E be an event. If S provides some information about the causes of E, and provides a substantial portion of the information contained in some ideal propositional explanation of E, then S explains E.

Railton's and Lewis's theories entail that (19) is a sufficient condition for explanation (though neither would accept it as a necessary condition). Of course, the expression 'substantial portion' is vague, but we can partially fix its intended extension with the following stipulation: (16)-(18) shall count as providing substantial portions of information from some ideal explanations, and any sentences that provide as much information from some ideal explanations as do (16)-(18) from theirs shall count as providing substantial portions of information from those ideal explanations.

6. First Reply to the Revised Ordinary Explanation Objection

I am now ready to criticize (12b*) directly. But it will be convenient for me first to grant, for the sake of argument, that (12d*) is true. That is, I shall grant (for the moment) that if Russellianism is true, then no ordinary psychological generalization is true. (I criticize (12d*) in section 8.) Since I wish to defend Russellianism, I shall also assume (for the sake of argument) that no ordinary psychological generalization is true. I shall argue that, even assuming all of this, (10) does explain Carol's waving. A bit more intuitively: (10) explains Carol's waving even if Russellianism is true, and all ordinary psychological generalizations are false. Given sufficient condition (19) for explanation, I will be done if I can show that, despite the truth of Russellianism and the falsity of ordinary psychological generalizations, (10) provides

information about the causes of Carol's waving and provides a substantial portion of the information contained in some ideal explanation of Carol's waving. I shall argue for these two points in turn.

Recall that (6) and (7) are stipulated to be true in our example.

(6) Carol believes that if she waves then Twain will see her.

(7) Carol wants Twain to see her.

The example also stipulates that (6) and (7) describe causes of Carol's waving. If this is so, then (10) provides information about the causes of Carol's waving. Notice, furthermore, that these stipulations are consistent with Russellianism, for the following situation is consistent with the view: (a) There occurs an event \underline{E}_1 that is a believing by Carol in the Russellian proposition that (if she waves then Twain will see her); (b) there occurs an event \underline{E}_2 that is a desiring by Carol in the Russellian proposition that (Twain sees her); and (c) \underline{E}_1 and \underline{E}_2 are causes of Carol's waving. In this situation, (10) describes some causes of Carol's waving, if Russellianism is true.

Of course, if Russellianism is true, and the above conditions hold, then Carol believes and desires the Russellian propositions in certain ways that are not mentioned by the attitude ascriptions. But (obviously) a sentence like (10) can describe events that are causes of Carol's waving, even if it does not mention all of their properties.

(10) also provides a substantial portion of the information contained in some ideal explanation of Carol's waving--even if Russellianism is true and ordinary psychological generalizations are false. For according to the Russellian metaphysics of attitudes, agents believe and desire propositions via ways of taking propositions. On such a view, there are law-like generalizations that relate believing-in-certain-ways and desiring-in-certain-ways to behavior.

So, given these Russellian assumptions, there is a correct ideal explanation of Carol's waving that looks like (20).

- (20) a. Carol wants (Twain to see her) in way W_1 , and she believes that (if she waves then Twain will see her) in way $[W_2 \text{ cond } W_1]$.
- b. If a person wants (Twain to see her) in way W_1 , and believes that (if she waves then Twain will see her) in way $[W_2 \text{ cond } W_1]$, then, other things being equal, she will wave.
- c. Therefore, Carol waves.

' W_1 ' is a constant that refers to the way in which Carol desires the proposition that Twain see her. ' $[W_2 \text{ cond } W_1]$ ' refers to the way in which Carol believes the conditional proposition that (if she waves then Twain will see her). (I use this notation to emphasize that Carol believes and desires these propositions in matching ways.) Now (10) clearly provides some of the information provided by premise (20a). So (10) provides some of the explanatory information provided by (20). Intuitively, (10) provides a substantial portion of the information provided by (20)--at least as substantial a portion as (16)-(18) provide from their ideal explanations.

Of course, if Russellianism is correct, then (10) does not tell us about the ways in which Carol believes and desires the relevant propositions, and so it does not describe all of the properties of those events that are mentioned by (20). But as we saw in many examples in previous sections, a sentence may provide a substantial portion of information from an ideal explanation without mentioning all of the properties that are mentioned in the ideal explanation.

Our imaginary critic might reply that if (20) were an ideal explanation of Carol's waving, ordinary speakers would not know it. They would not know that (20a) and (20b) are true, or be

able to formulate an ideal explanation like (20). If pressed to formulate an ideal explanation, they would provide something like (13). So, the critic might conclude, an ordinary person's utterance of (10) cannot provide information contained in (20). Reply: as we saw in the last section, a speaker can utter a sentence that succeeds in providing information contained in an ideal explanation of an event, even when he is unable to state an ideal explanation for the event, and even when the ideal explanations he might try to state are incorrect.

Therefore, (10) provides information about some causes of Carol's waving, and provides a substantial portion of the information contained in an ideal explanation of her waving. So (10) explains Carol's waving, even assuming that Russellianism is correct and all ordinary psychological generalizations are false. Thus premise (12b*) of the Revised Ordinary Explanation Objection is false, if ordinary psychological generalizations are false.

I can reformulate the argument of this section in a way that does not rely as heavily on sufficient condition (19). (10) is no more elliptical an explanation than (16)-(18) and many other ordinary explanations, even assuming that Russellianism is true and ordinary psychological generalizations are false. So if (10) is too elliptical to explain Carol's waving, under Russellianism, then (16)-(18), and many other ordinary explanations, are also too elliptical to explain. But (16)-(18), and many other highly elliptical ordinary explanations, are genuinely explanatory. So (10) does explain Carol's waving, even if Russellianism is true.³⁵

7. The Ideal Explanation Objection

As I mentioned earlier, I have a second criticism of the Revised Ordinary Explanation

Objection. But before turning to that criticism, I want to consider a new objection that might be provoked by my preceding reply. I have been arguing that ordinary explanations containing attitude ascriptions could explain behavior even if Russellianism is true. A critic might concede that I am right about ordinary explanations, but argue that Russellianism gets the facts about ideal explanation wrong. He might maintain that (13) is a correct ideal explanation of Carol's waving, that is, an ideal explanation with true premises. But, the critic might say, if Russellianism is true, then generalization (11) is false, and so (13) is not a correct ideal explanation. Therefore, Russellianism is not true. Call this the Ideal Explanation Objection.

I am, for the moment, conceding that (11) is false under Russellianism. So I must (for the moment) deny that (13) is a correct ideal explanation of Carol's waving. But I can nevertheless explain away any intuition that (13) is a correct ideal explanation. That is, I can explain away any intuition that generalization (11) is true.

Recall that the critic alleges that (11) is false under Russellianism because of certain "Russellian counterexamples". These are cases in which the agent believes and desires the mentioned propositions in mismatched ways: for instance, cases like Diane's, in which the agent assents to 'I want Twain to see me' and 'If I wave then Clemens will see me, but dissents from 'I want Clemens to see me' and 'If I wave then Twain will see me'. If Russellianism is correct, then (the critic thinks) these examples are genuine counterexamples to (11).

But notice that ordinary speakers would think that agents like Diane fail to satisfy the antecedent of (11). So they would not judge the alleged Russellian counterexamples to (11) to be counterexamples. Since they do not recognize the (alleged) Russellian counterexamples to (11), they judge that (11) is true. Thus, even assuming that generalization (11) is really false under

Russellianism, Russellians can plausibly explain away any intuitions that (11) is true, and thus any intuitions that (13) is a correct ideal explanation.³⁶

8. Second Reply to the Revised Ordinary Explanation Objection

Let's return again to the Revised Ordinary Explanation Objection. I am willing to rest my case against that Objection on my criticism of (12b*); I believe that (10) explains Carol's waving, whether or not ordinary psychological generalizations are true under Russellianism. But, in fact, I think that Russellians should not concede that ordinary psychological generalizations would be false under Russellianism. In another paper (Braun, 2000), I argue (roughly) that such generalizations would be true even if Russellianism were correct. I shall present only a few highlights of that argument here. For simplicity, I concentrate on (11).

Our imaginary critic argued for (12d*) by pointing out that there would be exceptions to generalizations like (11), if Russellianism were true. But this argument is weak, for there are non-Russellian exceptions to (11) that seem not to falsify it. For instance, suppose Eve assents to 'I want Twain to see me' and 'If I wave then Twain will see me'. She may nevertheless fail to wave if she becomes suddenly paralyzed. Exceptions like this, which seem not to falsify the generalization, we can call tolerable exceptions to the generalization. A critic of Russellianism who wants to argue for (12d*) needs to show that the Russellian mismatch exceptions to (11) are not merely tolerable exceptions, but are genuine counterexamples.

Tolerable exceptions to ceteris paribus generalizations are exceptions that occur when other things are not equal, or when suitable conditions do not hold. But (I argue in Braun, 2000) the suitable conditions associated with a ceteris paribus generalization vary from one context to

another. Therefore, whether a case counts as a tolerable exception to a generalization can vary from one context to another.³⁷ Critics who say that the generalizations would be false under Russellianism make their claims in contexts in which distinct ways of taking propositions are salient. The mismatch cases probably are genuine counterexamples to the generalizations in such philosophically sophisticated contexts. But (I argue) they are merely tolerable exceptions with respect to more ordinary contexts in which ordinary, well-informed, non-philosophical speakers consider (11), and judge it to be true (in their contexts). In such contexts, an agent satisfies the suitable conditions associated with (11) only if the agent believes and desires the relevant propositions in matching ways. If this is correct, then the mismatch exceptions are merely tolerable exceptions to (11), in ordinary contexts in which it seems true, even if Russellianism is correct. And so (11) is true in such contexts, even if Russellianism is correct.

Now (12d*) says that if Russellianism is true, then all ordinary psychological generalizations are false. Strictly speaking, this is incorrect, simply because the generalizations are context-sensitive: they are true or false only with respect to contexts. The closest we can come to (12d*), while still recognizing the context-sensitivity of the generalizations, is (12d**):

(12d**) If Russellianism is true, then every ordinary psychological generalization is false with respect to every context.

When I earlier granted (12d*), for the sake of argument, I was in effect granting (12d**). I argued (in effect) that (10) can explain Carol's waving even if all ordinary psychological generalizations are false in all contexts. But even though I granted (12d**) for the sake of argument, I reject it, for the reasons I give above: ordinary psychological generalizations like (11) are true with respect to some (ordinary) contexts, even if Russellianism is true.

Notice that if (11) is true, in some contexts, then (13) is a correct ideal explanation of Carol's waving, in some contexts. If so, then the Ideal Explanation Objection is also unsound.

This completes my replies to the Revised Ordinary Explanation Objection to Russellianism. I now wish to consider three other important objections concerning explanation. Hints of these objections can be found in Devitt and Richard, but they do not explicitly present them.

9. The Explanatory Substitution Objection

Consider (10) and (21).

(10) Carol waved because she wanted Twain to see her, and she believed that if she waved then Twain would see her.

(21) Carol waved because she wanted Twain to see her, and she believed that if she waved then Clemens would see her.

If Russellianism is true, then (10) and (21) express the same proposition. But a critic might claim that if (10) and (21) express the same proposition, then (10) explains Carol's waving only if (21) does. Yet (21), he might claim, does not explain Carol's waving. Therefore, Russellianism is not true.

This new objection is much like the Substitution Objection that I presented at the beginning of this paper, but with two significant differences. First, the old objection concerns substitution in simple attitude sentences, whereas the new one concerns substitution in attitude ascriptions that are constituents of more complex sentences. Second, and more important, the old objection concerns the truth values of sentences, whereas the new one concerns what I shall

call the explanatory values of sentences (whether or not they explain certain events, or provide explanatory information about them). In view of this, I call the new objection the Explanatory Substitution Objection.

In reply, I deny the last premise of the objection: (21) does explain Carol's waving. (21) expresses the same proposition as (10). So (21) semantically provides the same explanatory and causal information as does (10). Therefore, it explains Carol's waving, contrary to the objection.³⁸ Of course, an ordinary speaker might think that (10) explains Carol's waving, but that (21) does not. But I can explain why ordinary speakers have such mistaken intuitions about explanation, by appealing (ultimately) to different ways of taking the proposition they express.

It will be useful to begin with an analogous example that does not involve attitude ascriptions. Consider sentences (22) and (23).

(22) Twain fell because Twain stepped on a banana peel.

(23) Twain fell because Clemens stepped on a banana peel.

Suppose that (22) is true and explains Twain's fall. (23) expresses the same proposition, so it also explains Twain's fall. But clearly a speaker could rationally think that (22) explains Twain's fall and (23) does not. How? There are at least two ways in which a rational speaker can take the proposition that (22) and (23) express. A rational speaker who rejects 'Twain is Clemens' can believe the proposition they express in a way that corresponds to (22) and at the same time believe the negation of that proposition in a way that corresponds to the negation of (23). Such a speaker would think that (22) is true and (23) is false. Thus he would be very likely to think that (22) explains Twain's fall, and very likely to think that (23) does not.³⁹

We can press a bit further in our explanation, if we wish. Why would a speaker believe

the proposition in a way that corresponds to (22), while believing the negation of that proposition in a way that corresponds to the negation of (23)? There are at least two possibilities. The simpler possibility is that he could believe that (24) is true and (25) is false.

(24) Twain stepped on a banana peel.

(25) Clemens stepped on a banana peel.

That is, he could believe the proposition expressed by (24) and (25) in a way that corresponds to (24), while believing the negation of that proposition in a way that corresponds to the negation of (25). If he believed that (25) is false, he would surely reject (23). But if he believed that (24) is true, he might well conclude that (22) is true. The second possibility is more complex. A speaker could think that both (24) and (25) are true, but think that (24) and (25) "describe different events" involving different people (though he might not put it in those words). He might judge that a stepping-on-a-banana-peel by one person is unlikely to cause the fall of another. And so he might think that (22) is true and (23) is false.

The case of (10) and (21) is similar. A speaker could think that (10) is true while thinking that (21) is false.⁴⁰ He could do so because he believes the proposition that they express in one way (a way that corresponds to (10)), while believing the negation of that proposition in a suitably different way (a way that corresponds to the negation of (21)).⁴¹ If he believed that (21) is false, he would naturally think that it fails to explain Carol's waving. But if he believed that (10) is true, he could quite easily think that it does explain Carol's waving.

We can, if we wish, press on for further explanation. Why would a speaker believe the proposition expressed by (10) and (21) in a way that corresponds to (10), but believe its negation in a way that corresponds to the negation of (21)? One possibility is that he thinks that (26) is

true and (27) is false.

(26) Carol wanted Twain to see her, and she believed that if she waved then Twain would see her.

(27) Carol wanted Twain to see her, and she believed that if she waved then Clemens would see her.

That is, a speaker could believe the proposition expressed by (26) in a way corresponding to (26), while believing the negation of that proposition in way corresponding to the negation of (27). If a speaker thought that (27) is false, he would surely think that (21) is false. But if he thought that (26) is true, he might well conclude that (10) is true. The second possibility is more complex. A speaker could think that both (26) and (27) are true, but that they "describe different events" or "different sorts of beliefs and desires" (though he probably would not say this in so many words). He might think that events of the sort described by (26) are likely to cause a waving by Carol, while those described by (27) are not. And so he might judge that (10) is true and explains Carol's waving, while (21) is false and does not explain the waving. (To explain how a speaker could think that (26) and (27) "describe different sorts of belief and desires" would involve explaining why he thinks that (26) and (27) could differ in truth value. This would again involve different ways of taking the proposition expressed by (26) and (27). But let's stop here.)

Summarizing: (10) and (21) express the same proposition, so both explain Carol's waving. But, for various reasons, a speaker could rationally believe the proposition they express in a way corresponding to (10), while believing the negation of that proposition in a way corresponding to the negation of (21). Such a speaker would think that (10) is true and (21) is false, and so would naturally think that (10) explains Carol's waving, while (21) does not.

10. The Contrastive Explanation Objections

I want finally to consider two further Explanation Objections to Russellianism. (They are inspired by Lewis (1986) and Heck (1995), though for various reasons I hesitate to attribute the objections to them.⁴²) These objections do not claim that attitude ascriptions would fail to explain behavior under Russellianism. Rather, they claim that if Russellianism were true, then attitude ascriptions would fail to semantically express a certain specific sort of explanatory information.

According to Russellianism, attitude ascriptions do not semantically express information about the ways in which agents believe and desire propositions. (Attitude ascriptions on this view semantically express less information about beliefs and desires than they do according to Devitt and Richard; see also Crimmins, 1992.) Sometimes, though, this information about ways of taking propositions seems to be the explanatory information that we want, and seem to get, from attitude ascriptions. This is (very roughly) the thought behind objections to Russellianism that I call Contrastive Explanation Objections. To introduce them, I begin below with a description of contrastive explanation in general.⁴³

Why-questions are often requests for explanatory information. Usually, the questioner wants explanatory information of a certain type. If a person asks, "Why, in economic terms, did E occur?", he wants information about the economic features of the events that caused event E, and probably does not want to hear about the physical features of those events. If his auditor nevertheless describes the physical properties of E's causes, and not their economic properties, then the auditor may provide explanatory information about E (and may even explain E), but will not provide the information that the questioner wants.

A person who asks a question of (roughly) the form "Why did E_1 occur rather than E_2 ?" is also usually asking for explanatory information of a certain sort. Typically, there is some sequence of events that led up to E_1 which appears to be very similar to a (possible) sequence of events that led, or would lead, to a different type of event E_2 . The questioner wants information about important differences, or contrasts, between the actual sequence of events that led up to E_1 and the (actual or counterfactual) sequence of events that led, or would lead, up to E_2 .

For example, suppose that on both Monday and Tuesday morning, Oprah wants to eat breakfast, and looks into her kitchen cabinet. On both mornings, she sees a box of sugar-coated Fruity Flakes and a box of sugar-free Bran Bombs. On Monday, she reaches for the Fruity Flakes; on Tuesday, for the Bran Bombs. Rosie knows that Oprah saw both boxes on both occasions, and that Oprah likes Fruity Flakes more than Bran Bombs. So Rosie thinks that the events leading up to Oprah's grabbing the Bran Bombs on Tuesday are very much like the events leading up to her grabbing the Fruity Flakes on Monday. If Rosie were to ask "Why did Oprah grab the Bran Bombs on Tuesday, rather than the Fruity Flakes?", she would wish to know about differences between the causal histories of the two events. If her auditor were to say "On Tuesday, Oprah saw the Bran Bombs", he would provide some explanatory information about the events on Tuesday (since Oprah's seeing the Bran Bombs was a cause of her reaching for them on Tuesday), and would even explain Oprah's grabbing the Bran Bombs, but he would not offer the sort of information that Rosie wants. If he instead said "Oprah didn't care about eating sugar on Monday, but on Tuesday she wanted to avoid eating sugar", then he would provide some explanatory information about the causes of the Tuesday event, and also describe an important difference between the causes of the Monday and Tuesday events. He would then provide Rosie

with some contrastive explanatory information of the sort she wants.⁴⁴

A critic of Russellianism might claim that attitude ascriptions can be used to provide certain sorts of contrastive explanatory information that they would be unable to provide, if Russellianism were true. He could claim that, on the view, attitude ascriptions could not be used to answer certain questions of roughly the form "Why did x do A_1 , but not A_2 ?".

Imagine that Petra has gone to a bookstore to attend a booksigning by her favorite author.⁴⁵ She is milling about the store, waiting for the booksigning to begin. A clerk hangs a sign at one end of the store that reads, "Line up here to have your book signed by Samuel Clemens." Petra sees the sign, but continues to mill about. The clerk then replaces the sign with a second sign that reads "Line up here to have your book signed by Mark Twain." Petra sees the second sign and immediately lines up beside it.

Now consider question (28).

(28) Why did Petra line up after she read the second sign, but not after she read the first?

A critic of Russellianism might say that (29) provides a very good answer to question (28).

(29) Petra wanted Twain to sign her book. When she saw the first sign, she did not come to believe that (if she stood in line, then Twain would sign her book). But when she saw the second sign, she did come to believe that (if she stood in line, then Twain would sign her book).

In short, a critic might claim that (29) provides relevant contrastive explanatory information.

But, the critic might say, (29) does not do so if Russellianism is true, for if Russellianism is true, then the second sentence of (29) is false. When Petra saw the first sign, she came to believe that

(if she stood in line, then Clemens would sign her book). But then, according to Russellianism, she also came to believe that (if she stood in line, Twain would sign her book) when she read the first sign. So if Russellianism is true, then (29) does not describe any relevant difference in Petra between the time when she read the first sign and the time she read the second, and so (29) fails to provide relevant contrastive explanatory information. But (29) does provide contrastive explanatory information. Therefore, Russellianism is false. This is what I call the Particularized Contrastive Explanation Objection.⁴⁶

Petra's case crucially involves a difference in the ways in which Petra believes a proposition at the two times. When Petra reads the first sign, she comes to believe that (if she stands in line then Twain will sign her book) in a "Clemens"-ish way. She continues to believe that proposition when she reads the second sign, but she then begins to believe it in a new, "Twain"-ish way. Yet according to Russellianism, the belief ascriptions in (29) do not semantically express anything about those ways of believing, or their differences. So a critic could claim that, according to the view, attitude ascriptions do not provide the right sort of contrastive explanatory information about Petra's case.

Notice that the objection does not claim that attitude ascriptions cannot be used to explain Petra's behavior, if Russellianism is true. Even if Russellianism is true, attitude ascriptions such as 'Petra believed that if she lined up, then Twain would sign her book' provide information about the causes of her behavior after she sees the second sign, and provide some of the information contained in an ideal explanation of her lining up. So the claim that attitude ascriptions cannot explain her behavior under Russellianism would be incorrect. Rather, the preceding objection claims only that such ascriptions fail to provide certain sorts of explanatory information, namely

certain contrastive explanatory information, if Russellianism is true.⁴⁷

There is a more general version of the above objection that I wish to consider. A critic might claim that if (29) cannot provide contrastive explanatory information about Petra under Russellianism, then no attitude ascription can. Therefore, if Russellianism is true, then no attitude ascription can provide contrastive explanatory information about Petra's behavior. But, the critic might claim, clearly some attitude ascription can. So Russellianism is false. Call this the Generalized Contrastive Explanation Objection.

11. Replies to the Contrastive Explanation Objections

The crucial premise of the Particularized Contrastive Explanation Objection is the claim that (29) provides contrastive explanatory information about Petra's behavior after seeing the second sign. I deny this. (29) may seem (to ordinary speakers) to provide such contrastive explanatory information about Petra, but it does not.⁴⁸ Of course, I have an obligation to explain why (29) seems to provide contrastive explanatory information, even though it does not. I turn to that task below.

According to Russellianism, ordinary speakers' judgments about the truth values of attitude ascriptions are sometimes mistaken, especially in Twain/Clemens cases. For instance, most speakers would mistakenly think that (30) is false at the time when Petra reads the first sign.

(30) Petra believes that if she stands in line, then Twain will sign her book. Furthermore, most ordinary speakers would take (30) to be true with respect to the time when Petra reads the second sign (the judgment is correct in this case).⁴⁹ Naturally, someone who

mistakenly thinks that (30) is false when Petra reads the first sign, but that (30) is true when she reads the second sign, will think that (29) provides contrastive explanatory information about Petra's case (if he understands the notion of contrastive explanatory information). In short, someone who has mistaken intuitions about the truth values of these attitude ascriptions may make mistaken judgments about the explanatory information provided by them.

So the problem for the Russellian "boils down" to the problem of explaining mistaken intuitions about the truth values of attitude ascriptions like (30). But as we've seen before, Russellians have already offered explanations of such mistaken intuitions. Salmon and Soames might claim that an utterance of (30) pragmatically conveys the proposition that Petra would assent to a sentence such as 'If I stand in line, then Twain will sign my book'; ordinary speakers think that (30) is true when they think the conveyed proposition is true. The conveyed proposition is false at the time that Petra reads the first sign, but true after she reads the second sign. Thus ordinary speakers think that (30) is false when Petra reads the first sign, but true when she reads the second sign. Thus they think that (29) is entirely correct.⁵⁰

There is an alternative explanation of the mistaken intuition that avoids claims about the pragmatics of (30). Ordinary speakers think that, when Petra reads the first sign, she understands it and believes what it says. So they come to believe that Petra then believes that (if she stands in line, then Clemens will sign her book). Since she doesn't move, they (mistakenly) infer that she does not want Clemens to sign her book. When she reads the second sign, she understands it and believes what it says, and so she believes then that (if she stands in line, then Twain will sign her book). She moves, so they infer that she wanted Twain to sign her book. Ordinary speakers (mistakenly) infer from this that, when Petra read the first sign, she did not then believe that (if

she stood in line, Twain would sign her book). Thus they conclude that (29) is entirely correct. These ordinary speakers believe contradictory propositions about Petra's beliefs and desires; but they do so rationally because they believe the propositions mentioned above in suitably distinct ways.⁵¹

Let's turn next to the Generalized Contrastive Explanation Objection. Its crucial claim is this: if, according to Russellianism, (29) fails to provide contrastive explanatory information, then under that theory, no attitude ascription provides contrastive explanatory information about Petra's case. I claim, to the contrary, that it's extremely likely that there are attitude ascriptions other than (29) that can provide contrastive explanatory information about Petra. Let me explain.

Before Petra enters the bookstore, she is disposed to assent to (31) and to dissent from (32).

(31) Twain is my favorite author.

(32) Clemens is my favorite author.

(31) and (32) express the same proposition (in Petra's context). But Petra believes that proposition in a "Twain"-ish way that corresponds to (31); she fails to believe it in a "Clemens"-ish way that corresponds to (32). These facts help determine which propositions she comes to believe when she reads the two signs. When she reads the first sign, containing the name 'Clemens', she does not come to believe the proposition expressed by (33) in her context.

(33) If I stand in line, then my favorite author will sign my book.

But she does after she reads the second sign, containing the name 'Twain'. So there is a proposition that she comes to believe after reading the second sign that she does not come to believe after reading the first sign. We can ascribe this belief to her using (34).

(34) Petra believes that if she stands in line, then her favorite author will sign her book. A belief described by (34) may well have some role in causing Petra to stand in line. If so, then, contrary to the crucial premise of the Generalized Objection, some attitude ascriptions can provide some contrastive explanatory information about Petra's case, even if (29) does not.⁵²

The above response to the Generalized Objection relies on the claim that Petra believes some proposition after she reads the second sign that she did not before, namely the proposition expressed by (33). It's unclear, however, whether a similar claim can be made about all cases in which an agent changes the ways in which she believes or desires a proposition. That is, it's unclear whether a person always comes to believe new propositions whenever she undergoes a change in the way she believes a given singular proposition. There may be some recalcitrant cases in which there is merely a change in the ways the agent believes and desires propositions, with no changes in the propositions she believes and desires. There may also be cases in which two distinct agents believe and desire relevantly similar propositions, and yet believe and desire them in different ways, and so behave differently. I won't try to describe such apparently recalcitrant cases here, but they would be close relatives of John Perry's shopper with the torn sugar bag (Perry, 1979), Perry's amnesiac (Perry, 1977), and especially Lewis's two gods (Lewis, 1979) and David Austin's Two Tubes case (Austin, 1990; see Braun, 1997). Thus, if Russellianism is correct, then there may be some unusually recalcitrant cases for which no ordinary attitude ascription can provide contrastive explanatory information about the agent's (or agents') behavior.

A critic might claim, to the contrary, that it is always possible to use attitude ascriptions to provide contrastive explanatory information in cases that Russellians would describe as

different-ways-of-believing cases. But a Russellian can plausibly deny this, and (again) explain away ordinary intuitions to the contrary (in a way similar to the way I have done several times in this paper). Moreover, the critic's claim does not have much initial plausibility. We are all familiar with cases of pairs of agents who behave differently but for whom attitude ascriptions cannot provide contrastive explanatory information. Suppose that two agents believe and desire relevantly similar propositions in relevantly similar ways, but that one of them suffers from sudden paralysis while the other does not. Suppose that (consequently) one of them waves, while the other does not. A description of the paralysis of one agent would be the most straightforward way of providing contrastive explanatory information about them. No ascription of attitudes to the two agents would provide such contrastive information. Now if Russellianism is true, then there may be extremely recalcitrant different-ways-of-believing cases for which attitude ascriptions cannot provide contrastive explanatory information. But this consequence of Russellianism seems quite acceptable, in view of cases like the paralytic.

Notice, moreover, that even if Russellianism is true, there are always sentences other than attitude ascriptions that can provide genuine contrastive explanatory information in different-ways cases. These include sentences that describe the agent's, or agents', dispositions to assent and dissent, and changes in these dispositions; and sentences that explicitly mention the ways in which the agent, or agents, believe and desire the propositions. So in each different-ways case, some sentence can provide some contrastive explanatory information, even if Russellianism is true.

12. Conclusion

The above Explanation Objections to Russellianism rely on ordinary judgments about the explanatory values of attitude ascriptions. But Russellians claim that some judgments of well-informed speakers about the truth values of attitude ascriptions are mistaken, particularly in Twain/Clemens cases. Now if some speakers' judgments about truth values are incorrect, then (naturally) some of their judgments about the explanatory values of some attitudes ascriptions are likely to be incorrect. So Russellians should be expected to claim that some ordinary judgments about explanatory values are mistaken. Russellians, however, can explain away ordinary speakers' mistaken judgments about the explanatory values of attitude ascriptions, often in a way similar to the way in which they explain away ordinary speakers' mistaken judgments about the truth values of attitude ascriptions.

But many ordinary judgments about the explanatory values of attitude ascriptions are correct, according to Russellianism. Russellianism is consistent with the fact that beliefs and desires sometimes cause behavior (and other events). Thus attitude ascriptions sometimes describe genuine causes of behavior, according to Russellianism. They also provide some of the information contained in ideal explanations of behavior. So, on any plausible view of explanation, those ascriptions qualify as (elliptical) explanations of behavior. Thus, attitude ascriptions can explain behavior, even if Russellianism is true.⁵³

References

Austin, David. 1990. What's the Meaning of "This"?. Ithaca, NY: Cornell University Press.

Braun, David. 1995. "Causally Relevant Properties." Philosophical Perspectives 9, pp. 447-75.

Braun, David. 1997. Review of Austin (1990) and Yourgrau (1990). Minds and Machines 7, pp. 247-302.

Braun, David. 1998. "Understanding Belief Reports." Philosophical Review 107, pp. 555-595.

Braun, David. 2000. "Russellianism and Psychological Generalizations." Nous 34, pp. 203-226.

Crimmins, Mark. 1992. Talk About Beliefs. Cambridge, MA: MIT Press.

Devitt, Michael. 1996. Coming to Our Senses: A Naturalistic Program for Semantic Localism. Cambridge: Cambridge University Press.

Devitt, Michael. 1997. "Meanings and Psychology: A Response to Mark Richard." Nous 31, pp. 115-31.

Eberle, Rolf, Kaplan, David, and Montague, Richard. 1961. "Hempel and Oppenheim on Explanation." Philosophy of Science 28, pp. 418-28.

Heck, Richard G., Jr. 1995. "The Sense of Communication." Mind 104, pp. 79-106.

Hempel, Carl G. 1962. "Explanation in Science and in History." In R. G. Colodny (ed.), Frontiers of Philosophy, pp. 7-33. London and Pittsburgh: Allen & Unwin and University of Pittsburgh Press. Reprinted in Ruben 1993, pp. 17-41.

Hempel, Carl G. 1965a. Aspects of Scientific Explanation and Other Essays in Philosophy of Science. New York: Free Press.

Hempel, Carl G. 1965b. "Aspects of Scientific Explanation." In Hempel 1965a, pp. 331-496. Portions reprinted in Ruben 1993, pp. 42-55.

Hempel, Carl G., and Oppenheim, Paul. 1965. "Studies in the Logic of Explanation." In Hempel 1965a, pp. 245-290. Originally appeared in Philosophy of Science 15 (1948), pp. 135-75.

Kaplan, David. 1961. "Explanation Revisited." Philosophy of Science 28, pp. 429-36.

Lewis, David. 1979. "Attitudes De Dicto and De Se." Philosophical Review 88, pp. 513-43.

Reprinted in his Philosophical Papers, Volume I (1983), pp. 133-56. Oxford: Oxford University Press.

Lewis, David. 1986a. "Causal Explanation." In his Philosophical Papers, Volume II, pp. 214-40. Oxford: Oxford University Press. Reprinted in Ruben 1993, pp. 182-206.

Lewis, David. 1986b. On the Plurality of Worlds. Oxford: Blackwell.

Lipton, Peter. 1990. "Contrastive Explanation." In D. Knowles (ed.), Explanation and Its Limits. Cambridge: Cambridge University Press. Reprinted in Ruben 1993, pp. 207-27.

McKay, Thomas. 1979. "On Proper Names in Belief Ascriptions." Philosophical Studies 39, pp. 287-303.

Perry, John. 1977. "Frege on Demonstratives." Philosophical Review 86, pp. 474-97.

Perry, John. 1979. "The Problem of the Essential Indexical." Nous 13, pp. 3-21.

Railton, Peter. 1981. "Probability, Explanation, and Information." Synthese 48, pp. 233-56. Reprinted in Ruben 1993, pp. 160-181.

Richard, Mark. 1987. "Attitude Ascriptions, Semantic Theory, and Pragmatic Evidence."

Proceedings of the Aristotelian Society 87, pp. 243-62.

Richard, Mark. 1990. Propositional Attitudes: An Essay on Thoughts and How We Ascribe Them. Cambridge: Cambridge University Press.

Richard, Mark. 1997a. "Propositional Attitudes." In Bob Hale and Crispin Wright (eds.), A Companion to Philosophy of Language, pp. 197-226. Oxford: Blackwell.

Richard, Mark. 1997b. "What Does Commonsense Psychology Tell Us About Meaning?" Nous 31, pp. 87-114.

Ruben, David-Hillel (ed.). 1993. Explanation. Oxford: Oxford University Press.

Salmon, Nathan. 1986. Frege's Puzzle. Cambridge, MA: MIT Press.

Salmon, Nathan. 1989. "Illogical Belief." Philosophical Perspectives 3, pp. 243-285.

Salmon, Nathan. 1992. "Reflections on Reflexivity." Linguistics and Philosophy 15, pp. 53-63.

Saul, Jennifer. 1998. "The Pragmatics of Attitude Ascription." Philosophical Studies 92, pp. 363-89.

Soames, Scott. 1988. "Direct Reference, Propositional Attitudes, and Semantic Content." In Nathan Salmon and Scott Soames (Eds.), Propositions and Attitudes, pp. 197-239. Originally published in Philosophical Topics 15 (1987), pp. 47-87.

Soames, Scott. 1995. "Beyond Singular Propositions?" Canadian Journal of Philosophy 25, pp. 515-550.

Soames, Scott. 1994. "Attitudes and Anaphora." Philosophical Perspectives 8, pp. 251-72.

Yourgrau, Palle (Ed.). 1990. Demonstratives. Oxford: Oxford University Press.

Notes

1. Presentations of Explanation Objections (in the literature with which I am familiar) tend to be very brief and thus tend to raise real interpretive difficulties. Thus I cannot reasonably claim to have replied to every Explanation Objection that might be extracted from this literature. (In particular, there may be further objections that are based on cases like those that I describe in sections 10 and 11 below.) My hope here is to present, clarify, and distinguish among some initially plausible Explanation Objections, and to present some plausible Russellian replies to these objections.
2. Richard (1997a, p. 202) assumes that Russellians must appeal to pragmatics to account for the explanatory power of attitude ascriptions. Richard himself, when he was more favorably inclined towards Russellianism, tried to provide such a pragmatic account (Richard, 1987).
3. Because sentences (1) and (2) are tensed, it would be reasonable to think that one of the constituents of the proposition they express, with respect to a context, is a time. See, for instance, Salmon, 1986. But I shall ignore all matters of tense and time throughout this paper.
4. I am ignoring the difference in tense between 'Twain smiles' and 'Twain to smile'. See note 3.
5. See Salmon, 1986 and 1989; and Soames, 1988 and 1995. The intermediary determines the proposition believed or desired only relative to a context or a causal/historical chain.
6. It's sometimes useful to speak of a ternary relation that holds between an agent A, a proposition P, and a way of taking that proposition W, when A stands in the right psychological

relation to W (e.g., accepting) and W has P as its content. Following Salmon (1986), we could use 'BEL' to refer to this relation. An agent A believes proposition P iff there is some way W of taking P such that BEL[A, P, W]. In more ordinary English, we can speak of an agent believing a proposition in a certain way. Similar points hold for desiring.

7. I often use numerical indices of sentences as abbreviations for their quotation names, especially within complement clauses of attitude ascriptions. For example, I use (i) as an abbreviation for (ii).

(i) Albert believes that (4) is true.

(ii) Albert believes that 'Twain is an author' is true.

8. Richard (1990) holds that attitude ascriptions are context-sensitive. Thus he might hold that, even given the facts about Carol, (6) and (7) are true only with respect to certain sorts of contexts. Let's assume below that we are discussing the truth values of (6) and (7) with respect to contexts in which they are true, according to Richard; thus, we will be concerned with whether (6) and (7) can explain Carol's waving in such contexts. Devitt (1996) thinks that (6) and (7) have opaque and transparent readings. Devitt can agree that, given the facts about Carol, (6) and (7) are true on both of their readings.

9. Richard (1990) thinks that the verbs 'believe' and 'want' express different relations in different contexts; thus there is no such thing as the believing relation or the wanting relation. But he could agree that (6) is true, with respect to a context c, only if there occurs a certain sort of "believing event" that involves Carol, the relation expressed by 'believes' in c, and the proposition denoted by the 'that'-clause in c. Similarly for (7). Devitt (1996) could agree with

the claims in the main text, though he holds that the denotation of the 'that'-clause is a property, rather than a proposition.

10. A critic might argue that if Russellianism is true, then (6) and (7) cannot describe events that are genuine causes of Carol's waving. Such a critic might simply dislike my explication of the describing-relation that (I claim) can hold between events and sentences like (6) and (7). More interestingly, such a critic might agree with my explication of this notion, but have strong views about causation or causal relevance of properties. For instance, he might hold that the property of being-a-believing-by-Carol-in-Russellian-proposition-P is causally irrelevant to behavioral events. He might hold that any event that has this property fails to be a cause of Carol's waving. So he might conclude that (6) and (7) cannot describe causes of Carol's waving, if Russellianism is true. I find the last premise of this argument very implausible. In any case, I do not claim that this property is causally relevant to Carol's waving; I claim only that, if Russellianism is true, then some events that have that property might be among the causes of Carol's waving. I do not have the space to consider objections that rely heavily on claims about the nature of causation or causally relevant properties. I have not detected such arguments in Devitt and Richard (my main targets here).

11. There are a number of further assumptions that I shall make; not all of them are acceptable to anti-Russellians, but they could accept analogous assumptions. First, I assume that if Carol understands 'If I wave, then Twain will see me' and 'I want Twain to see me', and sincerely and reflectively assents to them, then she believes the propositions that they express, in the context in which she assents. I assume that, in the context under discussion, 'I' refers to Carol. Thus I

assume that Carol believes the propositions that (if Carol waves then Twain will see Carol) and (Carol wants Twain to see Carol). Second, I assume that she believes these propositions in "first-person" ways. Third, I assume that if she believes (in a first-person way) the proposition that Carol wants Twain to see Carol, then she really does want (in a first-person way) the proposition that Twain sees Carol. Fourth, I assume that (if Russellianism is true) the occurrences of 'she' and 'her' in (6) and (7) are singular terms whose contents are Carol herself. Thus, (under Russellianism) the contents of the complement clauses of (6) and (7) are propositions that have Carol herself as a constituent. (There are alternative theories about the functions of the pronouns that are consistent with Russellianism; see Salmon 1992 and Soames 1994; but the issues about these pronouns are tangential to my concerns here.)

12. See notes 16 and 17 for some further qualifications. Devitt seems to press an objection roughly like the one that follows in Devitt 1996, pp. 151-3, 182-4, 243, and 304 (but see note 17 below). There are other places where he is not particularly concerned with Russellianism, but where he emphasizes the role of "supporting" laws and generalizations in explanation of behavior; see Devitt 1996, pp. 174-5, 220-1, and 230-7; and Devitt 1997, p. 117. Richard (1997a, p. 202) seems to admit that Russellians have reasonable replies to substitution objections; he seems willing to rest his case against Russellianism on explanation objections. He presses an explanation objection roughly like my imaginary critic's in Richard 1990, pp. 126 and 173-6. (In Braun 2000, I discuss one aspect of the argument that Richard presents on p. 174.) Richard says (or implies) that ordinary psychological explanations of behavior are "underwritten by" or "implicitly invoke" psychological generalizations (1990, pp. 260-3; 1997b, p. 90); he also sometimes speaks of the premises of belief-desire explanations (1990, pp. 176, 219). He also

assumes in several places (1987; 1990, pp. 44, note 16, and 260-3) that complete psychological explanations are covering-law arguments that include psychological generalizations.

13. Similarly, some critics might maintain that sentences (i) and (ii) also explain Carol's waving.

- (i) Carol waved because she wanted Twain to see her.
- (ii) Carol waved because she believed that if she waved then Twain would see her.

But for convenience, let's imagine that our critic concentrates on the explanatory status of (10).

Since I shall often talk about (10) in what follows, I shall sketch a Russellian view about its content and truth conditions. I assume that (10) expresses a proposition of the form $\langle \underline{P}, \underline{Q}, \underline{\text{BECAUSE}} \rangle$, where \underline{P} is the proposition expressed by 'Carol waves' and \underline{Q} is the proposition expressed by (9), and $\underline{\text{BECAUSE}}$ is a relation that holds between two propositions just in case (roughly) one is true because the other is. I won't try to provide a metaphysical analysis of the $\underline{\text{BECAUSE}}$ relation, but I do want to assume the following: if there are some events that make \underline{Q} true (in the sense explicated in the main text) and an event that makes \underline{P} true, and the \underline{Q} -events are causes of the \underline{P} -event, then the $\underline{\text{BECAUSE}}$ relation holds between propositions \underline{P} and \underline{Q} .

14. A "more general" generalization, such as (i), would also subsume the sentences on both sides of the 'because' in (10).

- (i) If a person wants \underline{Q} , and she believes that [if \underline{P} then \underline{Q}], then, other things being equal, she will make it the case that \underline{P} .

But notice that if (11) is false, then so is (i). Therefore, I will concentrate on the more specific (11). I shall assume that, if Russellianism is true, then (a) the pronouns that occur in these generalizations function as variables bound by 'a person', (b) the ranges of those variables are

ordinary individuals (not, e.g., senses), (c) the complement clauses in the generalizations refer to singular propositions, relative to assignments of values to the pronouns/variables, and (d) instantiating one of these generalizations to a name of an agent results in ascriptions of attitudes towards singular propositions to the agent. See also note 11.

15. Devitt might also conclude that (10) is false, if Russellianism is true; see Devitt 1997, pp. 118-121, especially p. 121. See note 13 for a Russellian theory of the content and truth conditions of (10).

16. My imaginary critic's objection is a generic anti-Russellian objection that many anti-Russellians could endorse. Richard and Devitt might want to qualify it, to better fit their views about attitude ascriptions.

Richard (1990, pp. 133-54) holds that attitude ascriptions express different propositions in different contexts. In some contexts, (10) is true only if Carol believes and desires the propositions in matching ways; but in other contexts, it is true even if Carol believes and desires in mismatching ways (Richard 1990, pp. 174-6, 234-44). Similarly for (11): in some contexts, an agent satisfies the antecedent of (11) only if he believes and desires the propositions in matching ways; in other contexts, this is not required. Richard (1990, p. 175-6) seems to hold that (10) explains Carol's waving, in a context, only if its truth, in that context, requires Carol to believe and desire in matching ways. Now according to Russellianism, there is no context in which the truth of (10) requires Carol to believe and desire in matching ways. Thus (10) fails to explain Carol's waving in any context under Russellianism, according to Richard (1990, pp. 173-6).

Devitt (1996, esp. pp. 151-3) holds that (10) and (11) are ambiguous: each attitude ascription has an opaque reading and a transparent reading. If (11) is true when all of its attitude ascriptions are read opaquely, then (10), on this "fully opaque" reading, can explain Carol's waving. (10), on its fully transparent reading, can also explain Carol's waving, but only if it follows from true opaque ascriptions and true identities (Devitt 1996, p. 184). Ultimately, then, it seems that attitude ascriptions can explain behavior only if they have opaque readings. But according to Russellianism, they do not have opaque readings. See also note 17.

17. In personal correspondence about an earlier draft of this paper, Devitt says that he thinks that (10) does not fully explain Carol's waving, if Russellianism is true, because its explanatory power depends on the truth of opaquely construed attitude ascriptions that are unavailable under Russellianism (see note 16). But he thinks (10) may explain her waving in some less-than-full sense, under Russellianism. In addition, Devitt claims not to have asserted a premise like (12d), and is unsure whether he agrees with it. Nevertheless, he agrees that the Ordinary Explanation Objection can be constructed from elements of his view, and that it is suggested by some of his comments about the explanatory failures of Russellianism. I think the objection is well worth considering, whether or not it exactly captures Devitt's, or Richard's, intentions.

18. The Ordinary Explanation Objection is distinct from, but easily confused with, another Explanation Objection that some anti-Russellians might endorse. According to it, an explanation of an event must describe events whose occurrence is nomologically sufficient (other things being equal) for the explained event. (10) does not describe such events, if Russellianism is true; for on this view, it's nomologically possible for (9) to be true, and for other things to be equal,

even though Carol believes and desires the relevant propositions in mismatched ways, and so does not wave. Therefore, (10) does not explain Carol's waving if Russellianism is true. But (10) does explain the waving, so Russellianism is false. Call this the Nomological Sufficiency Objection. The Ordinary Explanation Objection assumes (i), while the premises of the Nomological Sufficiency Objection imply (ii).

(i) If Russellianism is true, then (11) is false.

(ii) If Russellianism is true, then (11) is not a nomologically necessary truth.

If (i) is true, then so is (ii), but not vice versa. Thus the Nomological Sufficiency Objection might be sound, even if the Ordinary Explanation Objection is not. But the first premise of the Nomological Sufficiency Objection is implausibly strong; see note 30.

19. I have relied heavily on the work of Carl Hempel to construct the following covering-law theories. See Hempel, 1962 and 1965b, and Hempel and Oppenheim, 1965. But I do not wish to imply that Hempel accepts any of the following theories.

20. Hempel (1962, 1965b) rejects the claim that every ideal explanation is a D-N explanation, for he allows there to be other (covering-law explanations) of particular events that are not deductively valid, including inductive-statistical explanations.

21. The D-N theory has at least two well-known problems that may be relevant to what occurs below. Eberle, Kaplan, and Montague (1961) show that a D-N theory of the above sort entails that just about any law can appear in a D-N explanation of just about any particular event.

Kaplan (1961) proposes some additions to the theory that may solve this problem; his additions should be acceptable to anti-Russellians. For further discussion, see these articles and the

postscript to Hempel and Oppenheim (1965). Other counterexamples point to the need for another modification. Suppose that it is a law that a star's spectrogram displays a red-shift to an observer if and only if it is receding from the observer. Then one can formulate a D-N argument such that (i) its premises include this law and a sentence saying that a certain star's spectrogram displayed a red-shift to an observer, and (ii) its conclusion says that the star is receding from the observer. On the D-N theory, this argument explains the star's recession. But this is obviously wrong; if anything, the star's recession explains the red-shift. This problem with the D-N theory can be fixed in a way that is acceptable to anti-Russellians by requiring that the particular fact premises of an explanatory argument describe causes of the explanandum event.

22. The problem with the D-N theory is not confined to psychological explanations; it also entails that (i) is not an ideal explanation, for similar reasons.

(i) Match m was struck. If a match is struck, then (other things being equal) it lights.

Therefore, match m lit.

In fact, the D-N theory may well entail that only arguments stated in the vocabulary of basic physics qualify as ideal explanations. Hempel (1962, 1965b) seems to think that ceteris paribus generalizations of the sort that appear in (13) and (i) are statistical generalizations. He presents a theory of inductive-statistical explanations of particular events that makes use of such generalizations. But his theory seems unacceptable, for reasons that I will not go into here (see Railton, 1981).

23. Here's one very rough attempt to analyze the support-relation. Let A be an argument that contains at least one ceteris paribus generalization. For each generalization (and context) there is

a suitable condition that holds when "other things are equal" (in the sense required by that generalization, with respect to that context). Say that the premises of A support its conclusion iff: for every context c, if the premises were true in c, and the suitable conditions associated with its generalizations in c held, then the conclusion would be true in c. This analysis of the supports-relation fits well with the semantic analysis of ceteris paribus generalizations that I (tentatively) provide in Braun (2000).

24. There are difficulties with these requirements that may be important to what follows. First, the original D-N theory requires the premises of an explanatory argument to be essential to it (that is, dropping any premise from the explanation should result in a deductively invalid argument). It seems that a new theory should have an analogous requirement in order to exclude explanatorily irrelevant premises. But it is unclear how to state an analogous requirement for the theory, given that ideal explanations on this view need not be deductively valid. Second, there may be problems with the modified theory analogous to those that Eberle, Kaplan, and Montague raise for the original theory; see note 21. Kaplan's proposed modifications (Kaplan 1961) do not seem suitable for the modified theory, mainly because explanations need not be deductively valid on the latter view. See also note 30.

25. Similar points hold for ordinary non-psychological explanations like 'The match lit because it was struck'.

26. The term 'elliptical explanation' comes from Hempel (1962, 1965b). Hempel distinguishes between different sorts of explanations that deviate from full or ideal explanations: some he called 'elliptical', some 'partial', and some 'explanation sketches'. Hempel admits that it is often

difficult to tell whether a given explanation is elliptical, partial, or merely a sketch. We need not distinguish between them for our purposes.

27. I use the term 'explanans-sentence' much more loosely when I discuss elliptical explanation than when I discuss ideal explanations. I won't try to make this use more precise, for I suspect that the critics of Russellianism would agree with my judgments about which sentences in ordinary elliptical explanations are explanans-sentences.

28. So is 'The match lit because it was struck'. See note 22.

29. An alternative to the Modified Theory might hold that a sentence is an elliptical explanation of event E iff it describes some events that are nomologically sufficient (other things being equal) for E to occur. See note 18. Notice that this theory would be stricter than the Modified theory, for on the latter view, a sentence can qualify as an elliptical explanation even if the events it describes are not nomologically sufficient for the explained event.

30. A defender of the Modified Theory might reply by asking me to justify my claim that the sentence 'There is a chemical imbalance in Don's brain' does not figure essentially in any ideal explanation of Don's depression. I think my claim is intuitively plausible, but defending it further would require me to rely on some explication of the notion of an essential premise that is appropriate for arguments that are not deductively valid; as I mentioned earlier (note 24), no such explication has been given, and formulating one is not easy. (See Hempel and Oppenheim 1965, Eberle, Kaplan, and Montague 1961, and Kaplan 1961 for discussions of similar issues that arise for deductive explanatory arguments. The issue arises there because there are various "logician's tricks" that can make nearly any premise essential to some ideal explanation of an

event.) But an advocate of the Modified Theory must assume that there is such an explication that is consistent with intuition, so that he can rule out certain arguments that (intuitively) have premises with no explanatory relevance (including those that rely on "logician's tricks"). I believe that any such explication of 'essential premise' would entail that the explanans of (16) is inessential to arguments that contain enough specific information to qualify as ideal covering-law explanations of Don's depression.

Notice that (16)-(18) do not describe events that are nomologically sufficient for their respective explananda-events. Since (16)-(18) (nevertheless) explain their respective events, the Nomological Sufficiency Objection is unsound (see notes 18 and 29).

31. In what follows, I distinguish more carefully than Railton does between (a) sentences, arguments, and linguistic explanations, on the one hand, and (b) propositions, propositional arguments, and propositional explanations, on the other. Doing so is much more important for my purposes than for Railton's.

32. I deviate from Railton in at least two ways. First, I use the primitive x contains information that is contained in y, which holds between (sequences of) propositions and propositional explanations, rather than Railton's notion x provides information about y, which holds between a sentence (or linguistic argument) and an ideal (linguistic) explanation. Second, because of this difference, Railton's theory may be more liberal than the version of his view that I present here, for it may be possible for a sentence to provide information about an ideal explanation, even though the proposition it expresses does not contain information that is contained in some ideal propositional explanation. For instance, a sentence may provide peculiarly negative information

about an ideal explanation; it may tell us that all ideal explanations of the event lack certain features. (See Lewis, 1986, p. 220.) Thus the proposition the sentence expresses may not contain information that is contained in an ideal propositional explanation of the event.

However, this difference will not affect the issues under discussion here.

33. This last sentence is an addition to Lewis's view, but one that conforms with its spirit. Lewis says that, in one sense of the term 'explanation', an explanation of an event is an act of providing causal information about the event. In another sense of the term, an explanation of an event is a proposition that might be expressed in such an act, that is, a proposition that contains information about the causes of that event. Lewis does not speak of explanatory sentences or arguments (though he does mention theories).

34. Thanks to Jeffrey King and Brendan Jackson for persuading me that I need to address this issue.

35. I am grateful to Jeffrey King for discussion of this last argument.

36. There are two other features of (13) that are worth noticing. First, (13a) is true, and describes causes of Carol's waving. So argument (13) provides some true explanatory information about Carol's waving, even if one of its premises is false. Second, (11) is approximately true, under Russellianism, in a relatively clear sense: (11) need only be modified to mention matching ways of believing and desiring the relevant propositions in order to be strictly true. An ideal explanation that contains one premise that is (only) approximately true may easily appear to be (strictly) correct. It's conceivable that some speakers' judgments that (13) is a correct ideal explanation might be explained by these features of (13).

37. The recognition of the context-sensitivity of (11) and other psychological generalizations would require some further complications in covering-law theories of explanation. If (11) is true in some contexts and false in others, then the premises of the ideal explanatory argument (13) would vary in their truth values from context to context. Thus (13) may be a correct explanation in some contexts, but not others. Perhaps a covering-law theorist should hold that (10) explains Carol's waving in some contexts, but not in others.

38. There is an entirely different response to the Explanatory Substitution Objection that is consistent with Russellianism. According to this response, two sentences that express the same proposition can have different explanatory values. This response would accept that (10) explains Carol's waving and that (21) does not; but it would deny the premise that (10) explains Carol's waving only if (21) does. This response would require a view of explanation on which the explanatory value of a sentence may depend heavily on its wording. It would be consistent with Russellianism, but inconsistent with the views about explanation that I endorsed in section 5.

39. A speaker could perhaps think that (10) and (21) are both true, and yet think that (10) explains Carol's waving while (21) does not. Such speakers would have to accept views about explanation that entail implausibly strong requirements for explanation (e.g., the Modified D-N theory). Thus I will ignore them here.

40. There is one salient difference between the case of (22) and (23) and the case of (10) and (21): a person who assents to 'Twain is Clemens' could rationally think that (10) is true and (21) is false, whereas it's not clear that such a person could rationally think that (22) is true and (23) is not. I discuss this difference between attitude ascriptions and simple sentences in Braun, 1998.

41. I suspect that Salmon and Soames would be inclined to appeal to a difference in the pragmatic implications of (10) and (21) to explain ordinary speakers' intuitions that they differ in truth value. Perhaps they would wish to give an account like that of Richard (1987), but I won't speculate about that any further here.

42. See note 47 for my reasons for my hesitation. Thanks to Theodore Sider for suggesting that I discuss objections and examples like those that follow below.

43. My account of contrastive explanation relies heavily on Lewis, 1986, sec. VI. For a critical discussion of Lewis's view, see Lipton, 1990.

44. Often, a person who asks about the non-occurrence of a type of event also wants contrastive explanatory information. Questions of this sort often take the form "Why didn't x do A?" For instance, suppose that Sally is ignorant of the Monday events, but knows that on Tuesday Oprah liked the taste of Fruity Flakes better than Bran Bombs. Thus Sally thinks that the events leading up to Oprah's taking the Bran Bombs on Tuesday should have caused Oprah to reach for the Fruity Flakes instead. So Sally might ask "Why didn't Oprah take the Fruity Flakes on Tuesday?" Again, it seems that Sally would want information about the causal chain leading to Oprah's reaching for the Bran Bombs that differentiates it from a (counterfactual) causal chain leading up to Oprah's reaching for the Fruity Flakes. She would, again, be seeking contrastive explanatory information.

45. This example is inspired by Lewis (1986b, pp. 58-59); it resembles an example given by Heck (1995, pp. 79-80), and also examples that John Perry (1977, 1979) uses for other purposes.

46. A similar objection could be framed around the question "Why didn't Petra line up when she saw the first sign?". See notes 44 and 47.

47. I can now say in what way the Particularized Contrastive Explanation Objection is inspired by Lewis and Heck, and why I hesitate to ascribe it to them. Lewis (1986, pp. 58-9) presents an example like that of Petra in a discussion of whether Russellian singular propositions are objects of the attitudes. But Lewis does not use his example to argue against Russellian theories of attitude ascriptions, and does not mention contrastive explanation in connection with his example. Heck (1995, pp. 79-80) gives a similar example, and does explicitly use it to argue against Russellianism. However, he does not mention contrastive explanation. Instead, he argues that, if Russellianism were true, then attitude ascriptions could not be used to explain why certain agents (like Petra) do not behave in certain ways (e.g., do not line up after seeing the first sign). I think that attempts to explain such non-occurrences are best understood as attempts to provide certain sorts of contrastive explanatory information; see notes 44 and 46. If I am correct, then a reply to the Particularized Contrastive Explanation Objection should also constitute a reply to Heck's criticism.

48. It's important to recall that I am using the expression 'provide' in a technical, semantic sense that I defined in section 5. In this sense of 'provide', a sentence provides contrastive explanatory information iff it semantically expresses a proposition that contains such information. In another, looser sense of the term 'provide', a sentence or utterance may provide such information without semantically expressing it. See below, especially notes 50 and 51. (Thanks to John Bennett for discussion of this.)

49. I am speaking very loosely here about sentences' and propositions' being true at times. To speak more accurately about these matters would require me to introduce many distracting complications concerning time and tense that are not directly relevant to my replies to the Contrastive Explanation Objections (see Salmon, 1986).

50. Salmon and Soames might claim that an utterance of (30) at the second time "provides" contrastive explanatory information, in a non-semantic, pragmatic sense of 'provide' different from the semantic sense of the term that I earlier stipulated. It's important to distinguish my technical, semantic sense of 'provide' from this looser sense of 'provide'.

51. See sections 1 and 9, and Braun, 1998. A fuller explanation of these ordinary speakers' inferences would mention the ways in which they take the various propositions about Petra's beliefs and desires. Some ordinary speakers might use further commonsense psychological reasoning to infer that Petra would dissent from 'If I stand in line then Twain will sign my book' at the first time, but that she would assent to it at the second. (They can reason their way to this conclusion even if an utterance of (29) does not pragmatically convey any proposition about Petra's assents and dissents.) This conclusion would be correct. Thus (29) might sometimes, in some loose sense, "provide" some correct contrastive explanatory information to some speakers, but not in the semantic sense of 'provide' that I earlier defined (and which is under discussion here), and perhaps not even in a pragmatic sense (via pragmatic implications).

52. This response to the Generalized Contrastive Explanation Objection is inspired by some remarks by Lewis (1986b, p. 58), though he may well disagree with it.

53. Thanks to John G. Bennett, Michael Devitt, Richard Feldman, Graeme Forbes, Tamar Szabo

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