Using Descriptions

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Referential uses of descriptions have been extensively studied from both semantic and pragmatic perspectives. This paper proposes a new treatment of this phenomenon which uses the multidimensional tools developed to account for what now goes under the label of expressive or use-conditional meaning. The basic idea is to treat the "descriptive content" of referential descriptions as use-conditional. We show that doing so allows a satisfying explanation of their meaning and use. From the semantic side, the theory brings out interesting parallels to pronous, appositive constructions and theories of proper names; from the pragmatic side, it allows an explanation of the cooperative aspects of misdescriptions.

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1 The Attributive vs. Referential Distinction

In a classic 1966 paper, Donnellan introduces the difference between two uses of descriptions, namely what he calls the *attributive use* and the *referential use* of definite descriptions. The difference is best illustrated by an example.

(1)   **The murderer of Smith** (is insane.)

On the attributive use of (1), the speaker uses the definite description to state that whoever is the murderer of Smith is insane. The speaker does not necessarily need to know who that individual is, and hence does not need to have a specific individual in mind of whom she wants to predicate insanity. In contrast, on the referential use of (1), the speaker wants to refer to a specific person and uses the description as a means to establish this reference. Crucially, the truth of the descriptive content seems to be crucial for the attributive case, whereas it seems secondary in the referential use. In Donnellan's (1966:285) words,

> the referential use of the definite description is merely one tool for doing a certain job—calling attention to a person or thing—and in general any other device for doing the same job, another description or a name, would do as well. In the attributive use, the attribute of being the so-and-so is all important, while it is not in the referential use.

Despite being introduced almost 50 years ago, there is still no consensus on how to account for Donnellan's attributive vs. referential distinction (see, amongst many others, the contributions in Reimer and Bezuidenhout 2004 or the recent discussion in Elbourne 2013:chap. 5). There

have been many suggestions of very different characters, including, but not exhausted by, the following proposals: Indexical or underspecification accounts try to find a minimal core of both readings and let context do the work to derive the two different uses (Donnellan 1966, Reimer 1998). Some proposals assume a plain semantic ambiguity between two kinds of determiners (Peacocke 1975, Devitt 2004), while others assume that one reading is the basic literal reading while the other is derived from it by pragmatic considerations (Grice 1969, Kripke 1977). Some recent proposals further assume that the differences between the readings can be traced back to different syntactic structures (Elbourne 2013, Neale 2004). In addition to this multitude of proposals, it is also not clear how the distinction between attributive and referential descriptions relates to the debate between Russellean quantificational analyses and Strawsonian presuppositional approaches to definite descriptions, as, for instance, some of the mentioned approaches to referential descriptions involve presuppositions, while others do not.

Reasons of space keep us from attempting to scrutinize all these different proposals, their conceptual foundations, and how they relate to each other. Instead, we want to revisit Donnellan's distinction in the light of recent progress made in formal semantics (and pragmatics) in the analysis of expressive or use-conditional meaning. We will explore an alternative treatment of referentially used descriptions by using the multidimensional tools developed to account for use-conditional meanings in the recent literature (Kaplan 1999, Potts 2005, 2007, McCready 2010b, Gutzmann 2012, to appear).[1]

By taking this route, we aim to accomplish three things. First, we want to illustrate the usefulness of these approaches by extending them beyond the cases for which they have been developed. That is, by an application to descriptions, we want to show that these approaches have an empirical reach that goes beyond the usual suspects like expressive adjectives, discourse particles, or honorifics. Second, we believe that this new approach can shed some new light on Donnellan's conceptualization of referentially used descriptions and situate his remark within a broader formal semantic theory. This project leads to the third goal: to gain new insight into the communicative strategies associated with use-conditional meanings.

In the following, we will refer to referentially (attributively) used definite descriptions just as referential (attributive) descriptions, or RDs (ADs) for short. The paper is structured as follows. In Section 2, we motivate a multidimensional approach to RDs by going back to Donnellan's (1966) original conceptualization and by focusing on cases of so-called misdescriptions (Neale 2004:sect. 3.6). In order to spell-out these considerations formally, we introduce the formal apparatus in Section 3, before we apply it to an analysis of RDs in Section 4. The development of the use-conditional analysis will also lead us to explore the relation of RDs to other phenomena like pronouns and appositives. As we will see, our approach will enable us to give a unified analysis of referntial expressions. In Section 5, we will then consider some of the communicative strategies that are connected with the use of RDs, and thereby try to further motivate our analysis. Section 6 concludes.

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[1]For the sake of keeping the analysis streamlined, we will for the most part assume a simple lexical ambiguity regarding the definite determiner *the* that is responsible for the attributive and referential article. However, this is not meant as an empirical claim (which, we believe, would likely be false), but just a simplification we have to employ due to space limitations. However, using more complex denotations and type shifting operations, one can arrive at a more principled distinction between the two readings of definite determiner that does not rely on postulating a lexical ambiguity. See section 4.3 for some suggestions.

2 Multidimensionality and Misdescriptions

As we already alluded to in the introduction, Donnellan (1966) gives a very distinct character to attributive and referential descriptions. In the attributive case, it is important that the description's content is true of what the description refers to. That is, according to him, "the definite description might be said to occur essentially, for the speaker wishes to assert something about whatever or whoever fits that description" (Donnellan 1966:285). In contrast, in the case of RDs, the definite description is merely used as a tool in order to accomplish reference to a specific individual or object. Whether its content is actually true of that referent becomes secondary. Therefore, we call RDs "reference vehicles": once you arrive at the reference, how you got there does not matter. This property of RDs and how they differ from attributive descriptions becomes most apparent in cases of so-called misdescription. Coming back to (1), Donnellan (1966:286) discusses a case in which Smith actually had not been murdered, but committed suicide. Both the attributive and referential use of *the murderer of Smith* in this situation presuppose – in a non-technical sense – that there is a murderer of Smith. However, as Donnellan reasons, the outcome of this unfulfilled presupposition in this situation is quite different. In the case of an AD, where the applicability of the content itself establishes the referent, there is no referent in this case and hence no predication can take place. However, as he notes, "in the [referential] case, where the definite description is simply a means of identifying the person we want to talk about, it is quite possible for the correct identification to be made even though no one fits the description we used" (Donnellan 1966:286). That is, even if no one actually murdered Smith, the RD *the murderer of Smith* can still manage to refer to, say, Jones, the person that is suspected of murdering Smith. This reference may even be recovered in some cases if the hearer does not share the assumption that Jones is Smith's murderer. Thus, RDs differ from ADs in that what they presuppose about their referent is not a presupposition in the technical Strawsonean sense as its failure does not lead to reference failure (and the resulting truth-value gaps.)

However, though the reference may successfully be established even in such a case of misdescription and what matters for the truth of the assertion is whether the referent, Jones, is insane, we still have access to the descriptive content and can still judge whether it applies to Jones or not. That is, in cases of misdescription, we are facing contrary intuitions. As Neale (1990:91, his emphasis) puts it:

> We feel an uneasy tension when we are presented with such cases. As several authors have noted, we want to say that *S* did something right but *also* that *S* did something *wrong*. After all, the description he used *failed to fit* the person *S* wanted to "talk about," and to that extent the speech act was defective.

Conceptually, this tension can be formulated as follows, given the assumption that a sentence can express more than one non-conjoined proposition (Bach 1999), which can be achieved by allowing sentences to introduce content in more than one dimension. In the case of RDs, assuming that we have two different dimensions according to which a RD can be evaluated, we get the following.

(2) *First dimension: propositional content*
Does the main predication hold for the individual to which the speaker refers?

(3) *Second dimension: description content*
Does the content of the description hold for that referent?

In case of (1), we then have the following two meaning dimensions.

(4)   The murderer of Smith is insane.

        a.   *First dimension:* Jones is insane.
        b.   *Second dimension:* Jones is the murderer of Smith.

Crucially, as we have seen, the reference to Jones may work even if Jones is not the murderer, which means that we can evaluate these two dimensions independently from each other. That is, given the two dimensions of content in (4), we have four possible combinations for our example.

(5) $2 \times 2 = 4$ possible values

        a. $\langle 1, 1 \rangle$ Jones is insane and he is the murderer of Smith.
        b. $\langle 0, 1 \rangle$ Jones is not insane but he is the murderer of Smith.
        c. $\langle 1, 0 \rangle$ Jones is insane but he is not the murderer of Smith.
        d. $\langle 0, 0 \rangle$ Jones is neither insane nor is he the murderer of Smith.

This observation raises an important point against treatments of RDs which make use of presupposition to distinguish them from ADs (under a non-Russellean presuppositional analysis). One of the defining properties of *presuppositions* (in the technical sense) is that there is a dependency between presuppositional and propositional content: the latter *presupposes* (in an intuitive sense) the former. The details of how this dependency is spelled out formally of course depends on the particular choice of theory, but the empirical generalization that if the presupposition is not satisfied, it should have a noticeable effect on the propositional content (see Sudo 2012 for a recent exception). Hence, in contrast to the four possibilities in (5), we can only have three sensible cases for sentences like (6).

(6)   Peter knows that Jones likes Martini.

(7) $2 \times 2 - 1 = 3$ possible values

        a. $\langle 1, 1 \rangle$ Peter knows that Jones liked Matini and Jones likes Martini.
        b. $\langle 0, 1 \rangle$ Peter does not know that Jones liked Matini and Jones likes Martini.
        c. $\langle *, 0 \rangle$ (Jones does not like Martini.)

That is, even if presuppositions can be conceived as introducing multidimensional content, they induce what can be called *hierarchical* multidimensionality in the sense that the ordinary truth-conditional content depends on the truth of the presupposed content. In contrast, RDs exhibit what can be called *parallel* multidimensionality.

     Multidimensional content, especially that of the parallel kind, has received a lot of attention in the last few years, especially in the form of what is called *expressive* and *use-conditional* content (Gutzmann 2013). Substantial progress has been made in developing formal frameworks to account for this kind of multidimensional semantic content. Given that RDs introduce content at multiple levels or dimensions, it seems natural to look to these theories for an analytical framework. Before we turn to the specific empirical task, let us briefly outline the formal system that we will apply to RDs in the remainder of this paper.

3 Hybrid Semantics

As illustrated in the last section, the truth of the description's content is not what is important in the use of RDs as long as the description suffices to establish reference. However, there is also the intuition expressed by Neale that in cases of misdescriptions, one may still sense that the speaker has *used* an inadequate expression. This distinction between truth (conditions) and use (conditions) is most clearly expressed in a influential manuscript by David Kaplan, who notes that "[f]or certain expressions of natural language, a correct Semantic Theory would state **rules of use** rather than something like a concept expressed." (Kaplan 1999:6, our emphasis). However, Kaplan's aims are more modest and conservative than those of proponents of radical "meaning as use" theories, as he wants to use this perspective on *use conditions* as a supplement to truth-conditional semantics, not as a replacement. That is, this perspective leads to a multidimensional semantics, which can be called *hybrid semantics* (Gutzmann 2012), as it employs both truth *and* use conditions to capture the meaning of natural language expressions. Take, for instance, a sentence containing the expressive adjective *damn*.

(8)   The damn dog howled.

An utterance of such a sentence gives rise to (roughly) the following truth and use conditions.

(9)   a. "The damn dog howled" is **true** if the dog howled.
        b. "The damn dog howled" is **felicitously used** if the speaker feels negatively about the dog.[2]

Crucially, these two conditions give rise to two independent evaluations. For instance, we can judge (8) to be true, but nevertheless infelicitous if the dog howled but the speaker has no negative attitude towards it. In principle, it is also possible for an utterance to be false but nevertheless to be felicitous. In practice, however, this is not as common due to the contribution of sentence mood that, in the hybrid-semantics framework, also contributes use-conditional content (Gutzmann 2012), which in the case of assertions commits the speaker to truth of the utterance content (Searle 1969). However, if the speaker sincerely believes what she asserts, one can judge her utterance to be felicitous even though it is false.

3.1 Use-Conditional Propositions

Let us have a closer look at the structure of these two conditions given above. While (9a) corresponds to the traditional "condition T", (9b) gives rise to a parallel condition that may be analogously called "condition U".

(T)	1) "Snow is white"	(U)	1) "Oops!"
	2) is **true**,		2) is **felicitously used**,
	3) iff snow is white.		3) iff the speaker observed a minor mishap.

In both conditions, a natural language expression (line 1) is connected with a condition (line 3) that captures its meaning. What differs is the kind of connection, what Kaplan (1999) calls the "mode of expression" (line 3). While in (T), it is truth that connects the expression with the

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[2] At least, under stereotypical conditions of utterance; it is possible to interpret the adjective as expressing a positive attitude as well under the right circumstances. See McCready (2012) for discussion.

condition, it is felicitous use in case of (ᴜ). However, despite this difference, when applying the condition to see whether and expression is true or felicitously used, one has to check whether the condition is the case or not, thereby introducing a component of correspondence to facts in the world even into the use-conditional schema in (ᴜ). Crucially, as Kaplan argues, this means that all the standard tools of formal semantics are available even for use-conditional meaning components. The only difference is that use-conditional expressions are directly tied to the utterance context. We therefore use sets of contexts rather than sets of worlds to model what we call *use-conditional propositions.*[3]

(10) $\|\text{The damn dog howled}\|^t = \{w\colon \text{the dog howled in } w\}$

(11) $\|\text{The damn dog howled}\|^u = \{c\colon c_S \text{ feels negatively about the dog in } c_w\}$

We call expressions like (8) that have content in both dimensions, as shown in (10) and (11), *hybrid* expressions. Hybrid expressions can consist of non-hybrid expression that compose to complex hybrid expressions, as is the case in (8), but can also be found on the lexical level. Cases in point are negatively conotated nouns like *cur* or honorific predicates in Japanese (McCready 2010b). Compositionally, we therefore need a system that composes these two meaning dimensions in the correct way and ensure that we end up with two independent values at the end of the semantics composition. A first, highly influential attempt to such a system is available in Potts 2005. Subsequent work has however, shown that that system, called $\mathcal{L}_{\text{CI}}$, is too restrictive and cannot deal with all the observed data (Amaral et al. 2007, Gutzmann 2011, 2012, McCready 2010b). For the purposes of this paper, however, the original $\mathcal{L}_{\text{CI}}$ seems sufficient and hence we will just employ it; although it is neither the most recent technology nor fully empirically adequate, motivating and presenting the required extensions would go far beyond the scope of this paper.

3.2 Composition Rules

For Kaplan (1999), the distinction between truth-conditional and use-conditional content is a matter of semantic convention. Therefore, it is natural to assume that what kind of content an expression contributes is lexically specified. Semantically, this then boils down to encoding the distinction between truth- and use-conditional content as a difference in semantic types.[4]

(12)   *Truth-conditional (tc) types*
    a. e, t, s are basic tc-types.
    b.   If σ, τ are tc-types,
        then $\langle \sigma, \tau \rangle$ is a tc-typ.

(13)   *Use-conditional (uc) types*
    a. u is a basic uc-type.
    b.   If σ is a tc-type and τ is a uc-type,
   then $\langle \sigma, \tau \rangle$ is a uc-type.

Having implemented the distinction between truth- and use-conditional content in the types enables one to set up composition rules that reference them. Hence, it becomes possible for the two kinds of types to compose according to different rules. In addition to truth-conditional application (14), which is basically ordinary functional application restricted to truth-conditional

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[3]We use superscripts on the interpretation function when we talk about just a single meaning dimension.

[4]Use-conditional types are called *CI types* in Potts 2005 and *expressive types* in Potts 2007. Even though there are subtle conceptual differences between these terms, this debate does not bear much on the topic of this paper.

expressions, there is a new rule for use-conditional application (15). Its main function, besides applying a use-conditional function to a truth-conditional argument, are to isolate use-conditional content from the further derivation (as indicated by the bullet "•") and to pass the truth-conditional up the semantic tree unmodified.
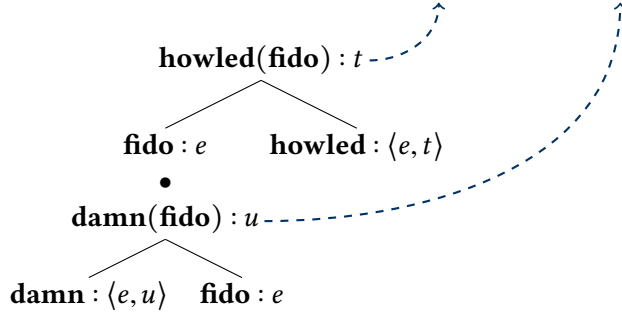
(14) *Truth-conditional application*

$$\alpha(\beta) : \tau^t$$
$$\alpha : \langle \sigma^t, \tau^t \rangle \quad \beta : \sigma^t$$
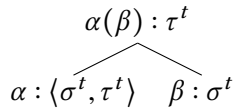
(15) *Use-conditional application*

$$\beta : \sigma^t$$
$$\bullet$$
$$\alpha(\beta) : \tau^u$$
$$\alpha : \langle \sigma^t, \tau^u \rangle \quad \beta : \sigma^t$$
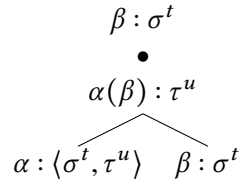
The isolated use-conditional content is later collected from the parse tree by a mechanism called *parse tree interpretation* which searches the entire semantic tree for isolated use-conditional propositions and places them in the second meaning dimension.[5] The root node of the tree fills the first meaning dimension. For a variant of (8), the semantic composition and interpretation can then be given as follows.

(16) $\|$That damn Fido howled$\| = \langle \mathbf{howled}(\mathbf{fido}), \{\mathbf{damn}(\mathbf{fido})\} \rangle$

$$\mathbf{howled}(\mathbf{fido}) : t$$
$$\mathbf{fido} : e \quad \mathbf{howled} : \langle e, t \rangle$$
$$\bullet$$
$$\mathbf{damn}(\mathbf{fido}) : u$$
$$\mathbf{damn} : \langle e, u \rangle \quad \mathbf{fido} : e$$

Equipped with this basic apparatus, we can now focus again on definite descriptions and apply the formal tools of $\mathcal{L}_{\mathrm{CI}}$ to develop an hybrid, multidimensional analysis of RDs.

4 A Use-Conditional Approach to RDs

The basic idea for a hybrid, use-conditional approach to RDs is to locate the content of the description in the use-conditional dimension. By doing so, the truth-conditional content remains unaffected of whether the description's content holds for the referent or not. That is, as already sketched in (4) on page 58 above, an RD contributes two things to the overall meaning of an utterance. To the truth-conditional dimension, it contributes just the individual to which the speaker refers, which then serves as the argument for the remaining truth-conditional content. In the use-conditional dimension, it expresses that the content that makes up the RD, that is, the content of the NP in simple cases, holds of that referent.

(17)   (referring to Jones)   [$_{\mathrm{RD}}$ The murderer] is insane.

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[5]This part of Potts's system is rather controversial, as it seems to be connected with some issues of compositionality (Barker et al. 2010). However, as these issues are fixable, we will again stick to the original version in the main text and refer the reader to Portner 2007 or Gutzmann 2012, to appear for compositional reformulations.

TC: Jones is insane.
UC: Jones is a murderer.

In order to formalize this basic idea by means of $\mathcal{L}_{\text{CI}}$, we assume that RDs have an additional argument slot for the referent. This argument is provided by a covert individual variable or index (similar to those used in Elbourne 2005):

(18)   [$_{\text{DP}}$ [$_{\text{D}'}$ the$_{ref}$ [$_{\text{NP}}$ murderer]] 3]

Semantically, we then assume that the determiner in RDs functions as a type-shifter $\star$ which shifts the content of the NP from a truth-conditional to a use-conditional predicate.

(19) $\|the_{ref}\| = \star = \lambda f_{\langle e,t\rangle}\lambda x.f(x) : \langle\langle e,t\rangle,\langle e,u\rangle\rangle$

This type shifter is basically just the use-conditionalized version of Potts's (2005) COMMA operator that is used in his analysis of appositives.

When the NP, after being shifted by the determiner, is applied to the referent contributed by the individual variable, it yields a use-conditional proposition which ends up in the second meaning dimension. The rule of use-conditional application in (15) ensures that the variable is returned unmodified. This is shown in the derivation in (20). From this tree, we get the 2-dimensional interpretation in (21).

(20) $\mathbf{insane}(x_3) : t$ (21) $\|(20)\|^g = \langle\mathbf{insane}(x_3), \{\star\mathbf{murderer}(x_3)\}\rangle$

```
                insane(x₃) : t
               /            \
          x : e          insane : ⟨e,t⟩
            •                 |
      ⋆murderer(x₃) : u    is insane
         /        \
  ⋆murderer : ⟨e,u⟩   x₃ : e
     /      \          |
    ⋆   murderer : ⟨e,t⟩   3
    |        |
  the_ref  murderer
```

Here, crucially, the free variable is a directly referential expression. Its value must be contextually resolved by the hearer; this process is technically formalized as a dependency on the variable assignment function. This is pretty much like how overt pronouns work (e.g. Beaver 2004, Büring 2005). Thus, our analysis takes referential descriptions to be semantically analogous to pronouns introduced together with use conditions on their referents.

4.1 RDs, Pronouns, and Appositives

The use of individual variables to account for the indexical-flavoured, referential character of RDs is not the only connection that our approach establishes to pronouns. Under an influential stream of approaches to the interpretation of pronouns (Heim 2008, Sauerland 2004, Büring 2005), pronouns are not only analyzed as variables, but their ϕ-features also impose use conditions on its referent. Even if those conditions are often phrased in presuppositional terms, it is clear that they do not behave like classic presuppositions, as they lead to parallel multidimensionality (Sudo 2012). This can be taken to motivate a use-conditional approach to ϕ-features

(McCready 2010a). Spelling this out in form of a semantic tree highlights the parallelism between pronouns and RDs that our analysis draws.

(22) $pronouns = x + \phi$

she_5 x_5

$\bullet$

$\mathbf{female}(x_5) : u$

$\mathbf{female} : \langle e, u \rangle$ x_5

ϕ_f 5
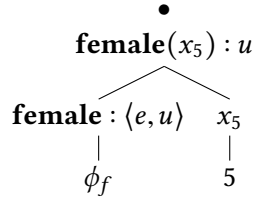
(23) $RDs = x + \star NP$

$the_{ref}\ murderer\ 5$ x_5

$\bullet$

$\star\mathbf{murderer}(x_5) : u$

$\star\mathbf{murderer} : \langle e, u \rangle$ x_5
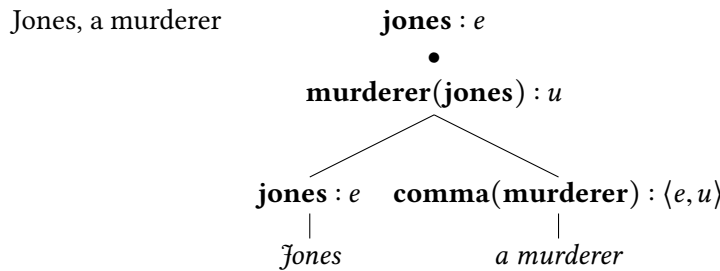
$the_{ref}\ murderer$ 5
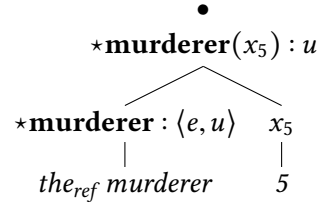
According to this analysis, then, free pronouns can be seen as minimal versions of RDs that bring their own lexical content instead of incorporating an NP. Alternatively, one can consider RDs as rich pronouns that can carry rich lexical content that goes beyond what the grammar can provide with ϕ-features alone.[6]

In addition to pronouns, appositive constructions also feature a semantic "split" between a referent and an additional, independent predication on it. Hence, it is no surprise that our $\star$-operator works like Potts's (2005) COMMA operator, which he assumes to be active in appositives.

(24) $\|\textsc{comma}\| = \mathbf{comma} = \lambda f_{\langle e, t \rangle} \lambda x . f(x) : \langle \langle e, t \rangle, \langle e, u \rangle \rangle$

(25) $appositives = individual + \textsc{comma}(NP)$

Jones, a murderer $\mathbf{jones} : e$

$\bullet$

$\mathbf{murderer}(\mathbf{jones}) : u$

$\mathbf{jones} : e$ $\mathbf{comma}(\mathbf{murderer}) : \langle e, u \rangle$

$Jones$ $a\ murderer$

Besides the type-shift being induced by COMMA, we can think of appositives as being like RDs with overt referents in form of proper names, or, alternatively, we can conceive RDs as being similar to appositives but with covert anchors.

This picture also opens up the possibility of an alternative analysis of "definite appositives" as in (26). In contrast to standard indefinite appositives in (27), such appositives can also precede their anchor.

(26)   a.   Jones, the murderer   (27)   a.   Jones, a murderer
      b.   the murderer Jones   b.   *a murderer Jones

We can now analyze definite appositives as RDs as an alternative to the standard analysis in terms of the Pottsian approach to appositives. In contrast to standard RDs, which apply to a covert individual index, definite appositives apply to the anchor noun. Under this analysis, definite appositives are essentially RDs with explicit referents.
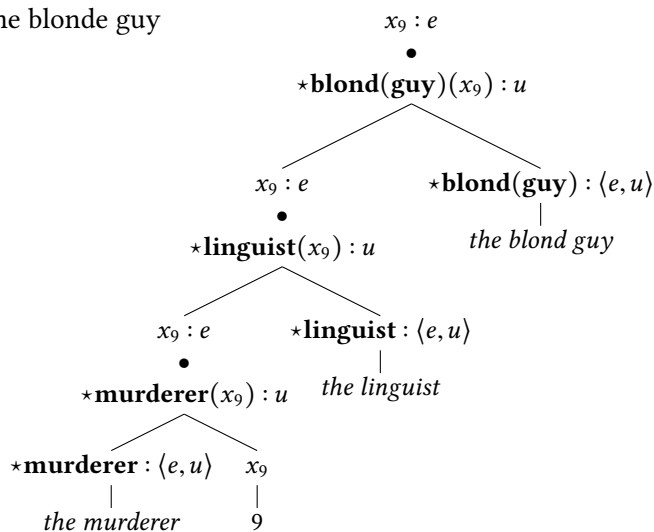
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[6]This analysis of (some) DPs being essentially pronouns plus extra content is mirrored in Patel-Grosz's (2014) analysis of epithets.

(28)   [$_{DP}$ [$_{D'}$ the [$_{NP}$ murderer]] Jones]

At least for the prenominal case, this seems appealing, as the appositive structure then is uniformly postnominal.

Another interesting outcome of this analysis is that it predicts that RDs can be stacked very much like appositives. This is so, formally speaking, because the referential index of an RD is passed up the semantic parse tree unmodified, so that it can serve as the argument for additional RDs. This prediction is indeed borne out by the data.

(29)   the murderer, the linguist, the blonde guy

$$
\begin{array}{c}
x_9 : e \\
\bullet \\
\star\mathbf{blond}(\mathbf{guy})(x_9) : u
\end{array}
$$

$$
\begin{array}{cc}
x_9 : e & \star\mathbf{blond}(\mathbf{guy}) : \langle e, u \rangle \\
\bullet & | \\
\star\mathbf{linguist}(x_9) : u & \textit{the blond guy}
\end{array}
$$

$$
\begin{array}{cc}
x_9 : e & \star\mathbf{linguist} : \langle e, u \rangle \\
\bullet & | \\
\star\mathbf{murderer}(x_9) : u & \textit{the linguist}
\end{array}
$$

$$
\begin{array}{cc}
\star\mathbf{murderer} : \langle e, u \rangle & x_9 \\
| & | \\
\textit{the murderer} & 9
\end{array}
$$

(30) $\|(29)\| = \langle x_9, \{\star\mathbf{murderer}(x_9), \star\mathbf{linguist}(x_9), \star\mathbf{blonde}(x_9)\}\rangle$

Our analysis hence provides a unified analysis of RDs, pronouns and appositives, treating each as variants of a kind of referential construction that combines a referential expression with a use-conditional predication.

It is worth pointing out a relation between our analysis of referential descriptions and how DPs are handled in dynamic semantics or DRT (Groenendijk and Stokhof 1991, Kamp and Reyle 1993). In such theories, DPs introduce discourse referents – objects which can be picked up as anaphoric antecedents by subsequent pronouns – which are themselves interpreted model-theoretically as variables. Any predications associated with the DP, such as the content of descriptions, or appositives, or even indefinite descriptions, are treated as introducing independent conditions on the discourse referent, as are conditions introduced via later predications once anaphora is resolved. The formal similarity with our theory should be clear. The difference is that, for us, referential descriptions are treated as introducing variables which are then associated with use-conditional content, rather than "ordinary" content. Still, the similarity makes it appear that the theory will easily be translatable to a dynamic setting.

4.2 Some Notes on Proper Names

So far, we have treated proper names (PNs) as directly denoting individuals, as for instance in (25) above. However, the connection we just drew to DRT suggests an alternative treatment of proper names that brings them more in line with the proposed analysis of RDs and pronouns. In DRT, PNs introduce (new) discourse referents (in the form of variables) together with the

condition that a predicate associated with the name holds of that variable. Transferring this to our terminology leads to an analysis in which PNs introduce individual indices together with a use-conditional predication.[7] On this view, *Jones* would get the semantic representation $x : e \bullet$ **jones**$(x) : u$, which looks like a referential description. We can take this analysis a step further by unifying the syntactic structure of PNs to the one proposed for RDs, which can be done by making two additional assumptions: first, that "bare" PNs are just truth-conditional predicates, and, second, that referentially used PNs are disguised RDs that are covertly introduced by the referential definite article or, semantically speaking, by the $\star$-operator.

(31) $[_{DP} [_{D'} \varnothing_{ref} [_{NP} \text{Jones}]] 3]$ (32) $\|(31)\| = \langle x_3, \{ \star\mathbf{jones}(x_3) \} \rangle$

Neither of these assumptions seems particularly implausible. First, it is well known that PNs can be used just like other nominal predicates.
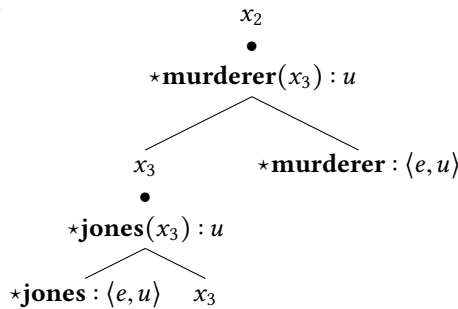
(33)   a.   In my class, {every Jones/every girl} is very smart.
        b.   Peter is not {an Einstein/a girl}.

Second, when used referentially, PNs can occur with overt definite articles in many languages without any change in meaning, for instance, in many varieties of German.

(34)   Der Erik trinkt Martini.
        the Erik drinks martini
        'Eric is drinking Martini.'

If this path is pursued to its conclusion, it leads to a further unification of the referential devices discussed so far. First, appositives come even closer to RDs, as they are not analyzed as being anchored to an individual anymore. Instead, nominal appositives are, on the new view, taken to consist of a stacking of two use-conditions on a single individual variable.

(35)   Jones, a murderer

$$
\begin{array}{c}
x_2 \\
\bullet \\
\star\mathbf{murderer}(x_3) : u \\
\diagup \qquad \diagdown \\
x_3 \qquad\qquad \star\mathbf{murderer} : \langle e, u \rangle \\
\bullet \\
\star\mathbf{jones}(x_3) : u \\
\diagup \quad \diagdown \\
\star\mathbf{jones} : \langle e, u \rangle \quad x_3
\end{array}
$$

(36) $\|(35)\| = \langle x_3, \{ \star\mathbf{jones}(x_3), \star\mathbf{murderer}(x_3) \} \rangle$

Secondly, since even PNs are decomposed into a referential variable and a use-conditional predication upon it, an interesting consequence of this approach to PNs is that the only genuinely referential expressions turn out to be individual indices or variables. Again, this is very similar to how reference is handled in theories like DRT (Kamp and Reyle 1993) where *discourse referents*, in the form of variables, do all the referential work and even PNs are understood as imposing *conditions* on them. However, as already mentioned above, discussing all the consequences of

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[7] See Rami 2013 for a philosophical motivation of such an approach.

this interesting parallelism to dynamic approaches, much less all the syntactic, semantic and philosophical implications of an approach along the line of (32) is beyond the scope of this paper, so that, for now, we have to leave for further research the question of whether a hybrid analysis of PNs is genuinely viable.

4.3 The Definite Article and Ambiguity

The analysis so far assumes that there is a lexical ambiguity in the definite article and that the referential variant does all the work of shifting the truth-conditional content provided by the NP to a use-conditional predication. However, none of these assumptions is essential to our approach as long as we end up with the key distinction between referential and use-conditional components.We would therefore like to at least briefly mention two alternative approaches that seems to be promising routes for further investigation.

As has been argued on both theoretical and typological grounds, personal pronouns and definite articles can be unified, based on conflation of the grammatical features of person and definiteness (see, e.g., Lyons 1999 or, more recently, Am-David 2013). Some evidence for such a move is provided by the fact that cross-linguistically, pronouns and articles have similar expression, as well as by the existence of what Lyons (1999:142–145) calls *personal determiners*. These are personal pronouns that are used like articles, as in the following examples.

(37)   a.   We murderer like Martini.
        b.   Ich Mörder   mag Martini. (German)
              I   murderer like Martini
              '*I murderer like Martini.'
        c.   Ngarka njuntu ka-npa   purlami. (Walpiri, Lyons 1999:142)
              man   you.SG AUX 2SG shout
              '*You man are shouting.'

There are some language specific restrictions on this article-like use of personal pronouns. While English is rather restricted, allowing first and second personal determiners only in the plural or in reduced exclamatives like *You murderer!* (though there seems to be speaker variation with respect to at least some of these types), German or Walpiri are unconstrained in this respect. Language may also differ with respect to whether they impose restriction on specific lexical forms of the pronouns or articles. For instance, while *the* in English must subcategorize for a NP and hence cannot be used as an actual pronoun, the definite article in German doubles as a bare demonstrative personal pronoun.

(38)   a.   *The is the murderer.
        b.   Der ist der Mörder.   (German)
              the is the murderer
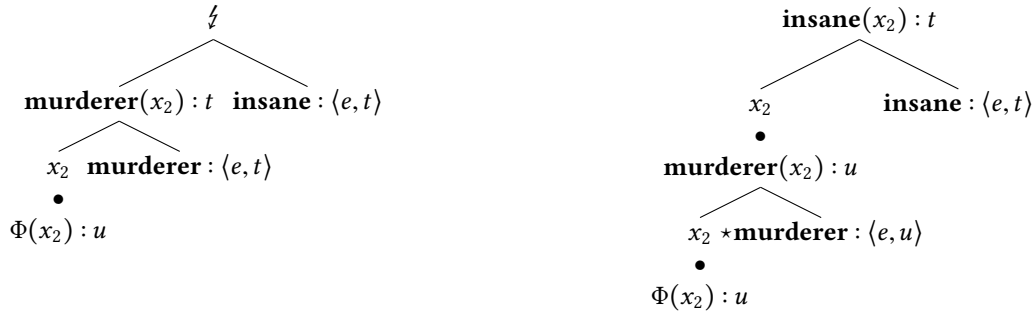   '*The is the murderer'

These considerations lead us to an alternative approach of RDs in which the referential article is treated as a "genuine" personal pronoun and is given the same analysis. That is, it consists of a referential part in the form of a variable together with the use-conditions imposed by its ϕ-features.[8]

---

[8]Since the ϕ-feature are carried by the deteminer may vary between languages and since we do not wish to

(39) $\|the_2\| = \langle x_2, \{\Phi(x_2)\}\rangle$

With this premise, it becomes unnecessary to assume an additional individual index inside the DP, as the variable is provided by the pronoun/article. The shift of the NP denotation from a truth- to a use-conditional predicate, as done by the $\star$-operator, is then triggered by the fact that without it, the semantic derivation would collapse on the sentence level.

(40)   The murderer is insane.

$$\begin{array}{cc}
\natural & \mathbf{insane}(x_2):t\\
\diagup\diagdown & \diagup\diagdown
\end{array}$$

$\mathbf{murderer}(x_2):t \quad \mathbf{insane}:\langle e,t\rangle \qquad\qquad x_2 \qquad \mathbf{insane}:\langle e,t\rangle$

$\qquad x_2 \quad \mathbf{murderer}:\langle e,t\rangle \qquad\qquad\qquad\qquad \bullet$

$\qquad\qquad \bullet \qquad\qquad\qquad\qquad\qquad\qquad \mathbf{murderer}(x_2):u$

$\qquad \Phi(x_2):u \qquad\qquad\qquad\qquad\qquad\qquad x_2 \quad \star\mathbf{murderer}:\langle e,u\rangle$

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \bullet$

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \Phi(x_2):u$

An analysis along these lines provides us with a better rationale for inserting the $\star$-operator than simply assigning it to the determiner; at the same time, the analysis of the determiner itself is justified by independent considerations.

Furthermore, if we assume that there are both pronominal determiners and "ordinary" ones, we have a place to implement the distinction between referential and attributive descriptions. The former involve the pronominal *the*, which receives the same analysis as a personal pronoun, while the latter involve a proper determiner, which does not introduce a variable (nor any use-conditional content), so the derivation can proceed without the need to introduce a type-shift. Depending on what kind of approach to the attributive article one prefers, one would then get the Russellian or Strawsonian reading. Thus, RDs consists of a pronoun plus a type-shifted NP, while ADs consist of a proper determiner plus a plain NP. Though we have had to leave out many details here for space reasons, we find this direction a promising one for future research.
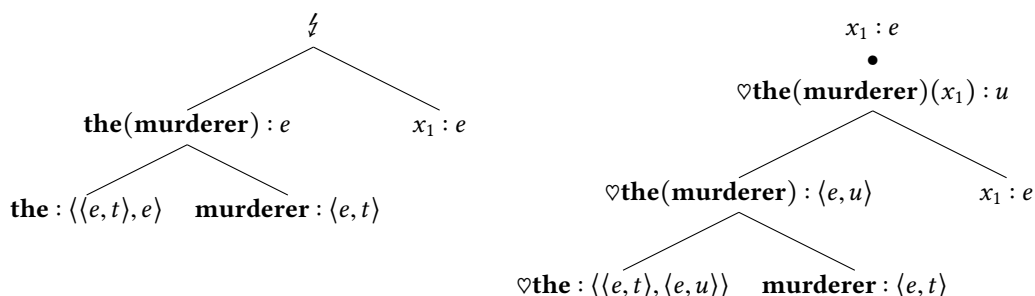
An alternative approach to spelling out the distinction that is not based on the analysis of the definite article as a pronoun in the case of RDs makes use of the structural difference we assumed above: RDs are referential because they contain a covert individual variable that does the referential work, while ADs do not. However, instead of also assuming a lexical ambiguity for the article, we can start with an ordinary determiner denotation and utilize a more sophisticated type-shifter, which then can transfer the determiner denotation into what the simpler $\star$-operator in (19) gave us. Let us spell this out for a Strawsonian analysis of the definite article, but a similar shift should be available for the Russellian approach.

(41)   a. $\|the\| = \mathbf{the} = \lambda f.\iota x(f(x)):\langle\langle e,t\rangle,e\rangle$
         b. $\heartsuit = \lambda D\lambda f\lambda x.\star f(D(\mathbf{IDENT}(x)))$
         c. $\heartsuit\mathbf{the} = \lambda f\lambda x.\star f(x):\langle e,u\rangle$

In the case of RDs, the insertion of this shifter is triggered by a type clash that is induced by the additional individual variable.

make any claims about what the features of English *the* are, we just use Φ to denote the contribution of its features.

(42)   [The murderer 1]

$$
\begin{array}{c}
\natural \\
\diagdown \\
\mathbf{the}(\mathbf{murderer}) : e \qquad x_1 : e \\
\mathbf{the} : \langle\langle e,t\rangle, e\rangle \quad \mathbf{murderer} : \langle e,t\rangle
\end{array}
\qquad
\begin{array}{c}
x_1 : e \\
\bullet \\
\heartsuit\mathbf{the}(\mathbf{murderer})(x_1) : u \\
\heartsuit\mathbf{the}(\mathbf{murderer}) : \langle e,u\rangle \qquad x_1 : e \\
\heartsuit\mathbf{the} : \langle\langle e,t\rangle, \langle e,u\rangle\rangle \quad \mathbf{murderer} : \langle e,t\rangle
\end{array}
$$

If the variable is not present, as we have assumed is the case in ADs, this move is unnecessary, as there is no type clash. The derivation can thus proceed as usual, so that we end up with the attributive reading.

(43)   [The murderer] $\mathbf{the}(\mathbf{murderer}) : e$

$$
\mathbf{the} : \langle\langle e,t\rangle, e\rangle \quad \mathbf{murderer} : \langle e,t\rangle
$$
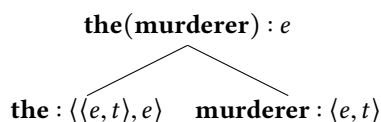
Thus, there is a way to implement the RD-AD-distinction in terms of use-conditional content on either of the analyses we have proposed. The two possibilities differ with respect to where the type-shift occurs, though in both cases it is triggered by a type clash. Further research is needed to determine which of the two analyses of RDs we have presented turns out to be more plausible, but in either case our broader point about the use-conditional analysis of the referential-attributive distinction can be maintained.

5 Misdescriptions and Cooperation

So far, we have developed a hybrid analysis of RDs and sketched how this analysis relates to pronouns, appositives and proper names. We also discussed an alternative analysis of the definite article as a pronoun and sketched two ways to spell out the ambiguity between referential and attributive descriptions.

But the question remains of why there should be this ambiguity in descriptions at all. What is the utility of having referential descriptions in natural language? On the assumption that there is a communicative rationale for the devices that language makes available, referential descriptions must be useful. In fact, we think there are good pragmatic reasons to allow for the possibility of referential descriptions, and that examination of these reasons gives some insight both into the nature of descriptions and the nature of expressive content itself. In this final section we want to look a bit more at the underpinnings of the analysis we have proposed, though the specific details of the analysis do not depend on anything to be said here.

Consider the kind of situation in which referential descriptions are usually deployed. These are situations in which use of a bare pronoun (or free variable in our analysis) would be inappropriate. It is often the case that the context fails to determine a referent for some pronominal. The additional content may be necessary in order to find one. Providing this content benefits both speaker and hearer, for the speaker presumably would like to have her intended content recovered (an assumption codified in terms of utilities in standard game-theoretic analyses of cooperative communication, as in Benz et al. 2006); but here the description is something that is directly useful for the hearer in his attempt to recover the hearer's intended meaning.

(44)   *For the hearer:* establishing reference

   The content of an RD may be needed for the hearer to resolve the free variable.

Still, despite the necessity to provide the RD content in order for the hearer to get the right referent for the variable, it still might be that the content of the description is not appropriate, in that it does not genuinely apply to the intended referent. There may also be pragmatic consequences to using false descriptions in an attributive way which do not arise in the case of RDs, depending on how one construes the use of inappropriate use-conditional content. If so, it would certainly be to the speaker's benefit to make use of them to avoid possible penalties.

(45)   *For the speaker:* hedging, saving face

   The speaker is able by use of the RD to avoid negative consequences of using an incorrect description (to be justified).

The communicative advantage of using the description in the referential case then has the dual character usual in pragmatics, where utility accrues both to the speaker and to the hearer. If this basic picture is correct, cases of "misdescription" thus can again provide evidence for an use-conditional analysis. The rest of the paper is devoted to spelling out this picture.

   Let us first briefly look at an example. Consider the sentence in (46).

(46)   **The man with a martini** (is the murderer.)

If the martini glass actually contains water, the descriptive content is false, that is, its use conditions are not fulfilled and its use therefore not warranted from a factual point of view. But without the additional content the RD provides, the resolution of the variable may be impossible for the hearer. There may just not be enough clues for the interpreter to decide what is referred to. Still, the description is *false* from a truth-conditional perspective: any consequences of falsehood will apply. But, given a use-conditional semantics, the speaker has said nothing false with (46). Her utterance is (merely) not used feliciously, and perhaps not even that.

   A sentence is false if its meaning does not match the state of the world. That is rather straightforward, and is incorporated into semantic theory in various familiar ways. When is a sentence inappropriate? This question is somewhat more hazy, and is perhaps not systematically addressed in the literature. At least two senses of the word seem viable candidates: appropriate in the sense of conveying true information, and appropriate in the sense of furthering joint communicative goals. The results given by these two senses are not identical.

   To see this, consider the several distinct cases that can be separated out with respect to (1). First suppose that speaker and hearer both know that the martini glass contains water. It seems that, here, (1) is obviously inappropriate: although the use of (1) will allow computation of the correct reference, there are descriptions available (e.g. *the man drinking water from a martini glass*) which both allow reference and are descriptively correct from a truth-conditional perspective. The use of the misdescription thus must be intentional and is likely to generate a further implicature through a process something like Gricean flouting (Grice 1975), for example that the speaker wants to emphasize the drinker's odd container choices.

   There are also two kinds of information-asymmetric misdescription: for (1), first are those in which the speaker does not know that the glass contains water but the hearer does, second are those in which the hearer is confused about the content of the glass but the speaker knows it contains water. Finally, there are cases in which both conversational participants mistakenly

believe that the martini glass contains martini. In all these cases, the descriptive content is inappropriate in the first sense, but possibly appropriate in the second, as the goal of the interaction – to point out the murderer – is furthered. The inaccurate content of the description itself seems to count as *misleading* rather than speaking falsely (Saul 2012), because the primary goal of the content of the description is to guide the hearer in reference resolution rather than to describe. This is one reason we called referential descriptions reference vehicles above. We will call these latter three cases *unintentional misdescription* to distinguish them from the first type.

It is interesting to observe that in the first two cases of misdescription it is further required that the individual who knows the actual facts is aware that the other does not know them, for otherwise the communication may fail. In fact, the situation is likely a bit more complex. It is not sensible for the speaker to use a false description if she does not believe that the hearer has a false belief about the referent (given a desire for correct resolution),and the hearer will not arrive at the right reference if he believes that the speaker has a different belief about the referent than she actually has. Ultimately, the characterization of the beliefs that underlie cases of misdescription are quite complex. We will not attempt a full characterization here as our goal is to provide an argument for an expressive treatment of RDs; the upshot is that, in three of four possible cases, there is a sense in which a misdescription can be appropriate though false, for despite its factual inaccuracy, it still assists in achieving the broader goals of the interaction.

It seems reasonable to conclude that the result of "wrong expression" is a kind of pragmatic infelicity weaker than genuine falsehood. Asserting falsehoods is by definition an uncooperative discourse move and a violation of Gricean Quality. Such violations have definite consequences for future interaction. In some cases, or given repeated infractions, one may lose the trust of one's interlocutor, so that one's later utterances are ignored, disbelieved, or even believed to be false (cf. McCready 2014). Once this trust is lost, the overall utility of communicative interactions decreases drastically, in a way similar to what has been shown for the general case of interactions where utilities are mutually dependent in the literature on cooperativity in repeated games (e.g. Alexander 2007). But uttering use-conditional content in situations where it is not literally "true" (when construed descriptively) can still count as cooperative, because, at least for the cases under consideration, cooperativity can be evaluated in a way that privileges other aspects of communication than directly conveying information about the world.

Thus, using inappropriate use-conditional content is likely a lesser violation than using false truth-conditional content, in that it can be cooperative where falsehood cannot. The analysis of the content of referential descriptions as use-conditional thus captures the observation of Neale 1990 quoted above — "[in misdescription cases] we want to say that *S* did something right but also that *S* did something *wrong*" — via the parallel multidimensionality associated with use-conditional content, and the broader appropriateness conditions for its use. It is worth noting that considerations of this kind also do not arise with presupposition. Presuppositions, while not asserted, target truth-conditional content via the information present in the common ground. The felicity conditions on their use are concerned with the presence or absence of such information (or, in cases of accommodation, on whether their content can be added to the common ground without the requirement of revision, cf. Gärdenfors 1988). They appear to lack the flexibility of use-conditional content. If this reasoning is correct, this is a further reason to prefer pragmatic accounts in terms of use conditions to accounts which take referential descriptions to involve presupposition.

6 Conclusion and Outlook

This paper has presented a use-conditional perspective on referential uses of descriptions. After briefly summarizing the facts relating to attributive and referential uses of descriptions and some previous theories of them, we turned to our own theory. On our view, referential descriptions denote a variable interpreted much like a pronoun, and the "description" portion of the definite description is use-conditional. We spelled out this view in a multidimensional semantics for use-conditional content. This lead us to with a unified analysis of various referential devices, which can be viewed as introducing a referent and some predication of that referent. We then turned to a consideration of how cases of misdescription with referential descriptions can be cooperative, which we then took to suggest that a canonical characteristic of use-conditional content might be a potential for cooperative misuse.

We see several clear avenues for future work. First and most obviously, the assimilation of proper names to RDs, pronouns, and appositives which we sketched above needs further investigation, especially regarding its syntactic and philosophical consequences. For the second direction, we proposed that use-conditional content often, or perhaps always, admits uses which are cooperative yet "false" in a use-conditional sense of this term. We gave the example of honorifics, which can be used felicitously even when there is no attitudinal basis for honorification. If this is indeed a general property of use-conditional items, there would be deep implications for the theory of use-conditional and expressive content. More generally, it seems a worthwhile project to investigate the relations between truth, felicity, and expressivity in cooperation. Further, the analysis in this paper has, we hope, shown that it is useful in both empirical and theoretical senses to extend the domain of use-conditional analysis beyond the obvious cases. This last domain of inquiry might be the most potentially fruitful of all; we hope to pursue it in future work.

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