

Mixed Quotation: Between Use and Mention*

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Abstract. Quotation exhibits characteristics of both use and mention. I argue against the recently popular pragmatic reductions of quotation to mere language use (Recanati, 2001), and in favor of a truly hybrid account synthesizing and extending Potts (2007) and Geurts and Maier (2005), using a mention logic and a dynamic semantics with presupposition to establish a context-driven meaning shift. The main selling point of this presuppositional analysis is its account of error neutralization and shifted indexicality under quotation. The current paper explores a “quote-breaking” extension to solve the problems posed by non-constituent quotation, anaphora and ellipsis across quotation marks, and quantifier raising out of quoted matter.

1 Varieties of quotation

Between mentioning someone’s words and indirect speech reporting lies a variety of more or less opaque ways of reporting a speech act. Let me illustrate this by categorizing some quotative reports of a real-life Bushism¹ found in various blogs and newspapers. Direct discourse provides the most faithful representation of the original speech act, even at the expense of correct grammar and morphology:

(1) [Bush:] “I’ve, I’ve got a eckullectic reading list.”²

If we don’t feel the need to convey Bush’s exact wording, but pay attention only to what is expressed, we opt for indirect discourse:

(2) Bush said that he has an eclectic reading list.³

A very common way to report something like this is *mixed quotation*, an indirect report in which only a particular phrase is quoted verbatim:

* I thank Ede Zimmermann and the rest of the audience at the Frankfurt colloquium at which I’ve presented some of this material, for very valuable comments and suggestions.

¹ www.youtube.com/watch?v=Jd01IduBBoU

² www.thehookny.com/issue/47.pdf

³ I had to make this one up because all web reports had some kind of quotation marking.

- (3) The president said he has an “eclectic” reading list.⁴

Direct discourse is commonly treated as a kind of *mention*: the reporter employs quotation marking to *mention* a sentence, i.e. to refer to Bush’s utterance rather than *use* the sentence to express a proposition herself. Other examples of quotation as pure mention involve quoted fragments naming linguistic entities:

- (4) I’m sure he must know the word “eclectic” but this sure sounds different.⁵

In the next section I’ll make this more precise before arguing against the reduction of direct discourse (as in (1)) to pure mention (as in (4)).

Indirect discourse is usually analyzed on a par with attitude reports (*believes that, hopes that, etc.*) as an intensional semantic operator, $SAY_x\varphi$ ($\approx x$ says that φ), e.g. as defined by Kaplan (1989), who analyzes (2) thus:

- (5) a. $SAY_x\exists y[(\text{eclectic}(\text{reading_list}))(y) \wedge \text{have}(x, y)]$
 b. $\llbracket (5a) \rrbracket_w^c = 1$ iff there is a character $X \in (\{0, 1\}^W)^C$ (of a sentence) uttered by x in context $c' = \langle w, x \rangle$ with $X(c') = \llbracket \exists y[(\text{eclectic}(\text{reading_list}))(y) \wedge \text{have}(x, y)] \rrbracket^c$

For now, the only important thing in this definition is that the semantic contribution of the complement clause is the proposition it expresses, i.e. its regular semantic content. We briefly return to the semantics of indirect discourse and introduce a so-called monstrous variant (Schlenker, 2003), when we get to Potts’ analysis of quoted indexicals in 3.1.

After a closer look at direct discourse and mention in section 2, we return to mixed quotation in section 3, where I argue that it combines elements of both use and mention, and propose a unified, hybrid use-mention account of mixed and direct discourse.

2 Direct discourse and the logic of mentioning

Tests for transparency vs. opacity suggest a fundamental distinction between direct and indirect reports: (i) quoted errors do not affect the overall acceptability of the report, as seen in (1); (ii) quoted indexicals likewise retain their original form (while in indirect speech they must be adapted to the report context, cf. (2)’s embedded subject *he* vs. (1)’s *I*); and (iii) quotation blocks quantifying in and *wh*-extraction:

- (6) a. What kind of reading list did Bush say he has? [from (2)]
 b. *What kind of reading list did Bush say: “I’ve, I’ve got”? [from (1)]

It is suggested that these observations are explained by an analysis of direct speech as mention (and indirect speech as use, cf. (5a)), but what exactly is the logic of mentioning?

⁴ www.thecarpetbaggerreport.com/archives/8339.html

⁵ www.dubyaspeak.com/himself.phtml

I follow the standard Quine/Tarski analysis where quotation marks turn any linguistic entity into a name for that entity. This requires the addition of those linguistic items to the domain of semantic interpretation. Following Potts (2007) I introduce a new type u (in addition to the usual e and t) and a corresponding domain D_u for these linguistic entities, and say that quotation marks turn a linguistic entity of any type into one of type u that refers to that linguistic object:

- (7) a. $D_u = \{\text{eclectic, ekullectic, I've got an ekullectic reading list, \dots}\}$
 b. If $\sigma \in D_u$ then $\ulcorner \sigma \urcorner$ is an expression of type u and $\llbracket \ulcorner \sigma \urcorner \rrbracket = \sigma$

In this logic, direct discourse may be represented with the relation **say**:

- (8) **say** is an expression of type $\langle u, \langle e, t \rangle \rangle$ and if σ is a sentence $\in D_u$ then $\llbracket \text{say}(x, \ulcorner \sigma \urcorner) \rrbracket = 1$ iff $\llbracket x \rrbracket$ utters σ

Indeed, this intuitive analysis of direct quotations as terms (of type u), *naming* the enclosed utterances, would account neatly for the opacity effects observed in (i)-(iii).

A closer look at the actual data however casts some doubt on the clean separation of quotation as mention and reporting as use. Ad (i): direct speech occasionally adapts various features such as the language (cf. Yomiuri Shimbun quoting Bush), but also some linguistic errors (cf. the official transcript of the reading list interview)⁶ of the original utterance to the report context. Ad (ii): there has been a lot of recent interest in the discovery that some languages allow indexicals to shift, i.e. to keep them in their original form, as if mentioned (Schlenker, 2003):

- (9) John_{*i*} said that I_{*i*} am a hero [Amharic, (Schlenker, 2003)]

The standard account of this involves a modification to the syntax and semantics of indirect speech (allowing “monsters”), but perhaps an easier account can be had if we assume the feature retention really is due to some interfering mentioning effect?⁷ Test (iii) seems to hold up pretty well, but there are other tests for the ‘semantic inertia’ of mentioning. For instance, (iv) it should block anaphoric and elliptical dependencies, which as Partee (1973) already noted, is clearly false for direct discourse:⁸

- (10) “My girlfriend bought me this tie,” said John, but I don’t think she did

Finally, (v) from a direct quotation we often infer the corresponding indirect version where the words are used, e.g. (1) \models (2), or, more generally: x says $\ulcorner \sigma \urcorner \models$

⁶ www.msnbc.msn.com/id/14576012

⁷ I leave this to another occasion (possibly *Sinn und Bedeutung XII*).

⁸ Watters and Gundel (2007) have explored the effect of quotation marks on anaphora resolution in a magazine corpus. They found none, thus (unwittingly) corroborating Partee’s findings.

x says that σ' , where σ' is a variant of σ with all indexicals and errors adapted to the report context.

None of these latter facts are explained in the simple *mention* analysis. I conclude that contrary to traditional wisdom (Davidson, 1979; Kaplan, 1989) even direct discourse involves both use and mention. Before giving an adequate formal analysis we turn to mixed quotation where this is even clearer.

3 Mixed quotation: use and mention

Davidson was the first to recognize the dual nature of mixed quotations:

- (11) Quine said that quotation “has a certain anomalous feature”
Are the quoted words used or mentioned? Obviously mentioned since the words are Quine’s own, and I want to mark the fact. But equally obvious is the fact that the words are used; if they were not, what follows the word ‘quotation’ would be a singular term, and this cannot be if I have produced a grammatical sentence. [(Davidson, 1979)]

In the system outlined in section 2, we distinguish mentioned expressions (type u) from ordinary singular terms (type e), but the argument still holds. So, we need to combine both aspects: “*ecelectic*” in (3) refers to Bush’s words, but still plays the role of a predicate modifier in the report.

To be absolutely sure, let’s go through the other transparency tests. In mixed quotation (i) errors are allowed (cf. (3), (12a)), (ii) indexicals retained (cf. (12a)), and (iii) extraction blocked (cf. (12b)):

- (12) a. Bush said the enemy “misunderestimates me”
b. *What kind of feature did Quine say quotation “has” [from (11)]

Tests (i)-(iii) thus indicate mention, but we have evidence for use also: (iv) anaphora and ellipsis are possible, (v) use-inference very strong ((3) \models (2)), and (vi), the Davidsonian argument, the quoted constituent must have the semantic type that fits in the report. Since (vi) is often taken to definitively preclude a simple mention analysis along the lines of (7), some have gone the other way and tried to reduce the semantics of mixed quotation to pure reportative language use (Stainton, 1999; Geurts, 2001; Recanati, 2001; Saka, 2005). These may be grouped together as ‘pragmatic’ analyses of quotation for they take it that the sole contribution of quotation marks is to signal that there is something special about this part of the sentence, and leave it to pragmatics to decide what that something is. As far as semantics proper is concerned, the quotation marks may simply be omitted. However, the data we found in checking (i)-(iii) now become highly problematic, for how can we interpret (12a)’s quoted *me* as referring to anything other than the reporter if we were to neglect quotation marks semanti-

cally? And how to interpret quoted non-words like *ecelectic* or *misunderestimated* at all when the sentence without quotation marking⁹ is simply ungrammatical?

3.1 Potts

Potts (2007) proposes an account with both a mention and a use component separated on two dimensions of meaning. The first consists of the proposition that so-and-so uttered the phrase in quotation marks, the second is computed as the ordinary semantic value of the quoted expression:

$$(13) \quad \left\langle \begin{array}{c} \text{say}(\mathbf{x}, \ulcorner \text{ecelectic} \urcorner) \\ \text{eclectic} \end{array} \right\rangle$$

In the full, compositional system the mention component always projects up, while the material in the second dimension remains *in situ*, or rather, is employed in further compositional computations. Finally, at clause level the two dimensions are collapsed and interpreted as conjoined:

$$(14) \quad \text{say}(\mathbf{x}, \ulcorner \text{ecelectic} \urcorner) \wedge \text{SAY}_x \exists y [(\text{eclectic}(\text{book_list}))(y) \wedge \text{have}(\mathbf{x}, y)]$$

In words: Bush uttered the phrase “ecelectic” and he said that he has an eclectic book list.

Though arguably the first and most precise formal semantic account of quotation, there are a number of objections to Potts’ analysis. First is a small methodological worry. Potts’ goal is to give a (directly) compositional treatment of the semantics of quotation. The result of processing a mixed quoted example however is a logical form (henceforth: lf) where the mention component ($\text{say}(\mathbf{x}, \ulcorner \text{ecelectic} \urcorner)$) has moved from the embedded position where it was generated by the quotation marks, all the way up to the main clause level. It seems that the two-dimensional machinery was devised solely for the purpose of incorporating this kind of movement, which makes this strategy slightly ad hoc.

My second, more substantial objection concerns the quotation data associated with tests (i), errors, and (ii), indexicals: How exactly do we determine the use component of such a quoted item? In the formalism sketched above, the use dimension should contain a logical representation of the part mentioned in the first component. To facilitate further discussion, let’s introduce a special (meta-language) notation for this:

$$(15) \quad \text{If } \alpha \in D_u, \text{ then } |\alpha| \text{ denotes the logical form corresponding to } \alpha.$$

Note, by way of a methodological interlude, that Potts and many others simply use the semantic evaluation brackets to denote the logical form of an expression. This is likely due to the Montagovian idea that logical forms can be dispensed with in favor of a system where syntactically enriched fragments

⁹ Note that quotation marking need not involve quotation marks or fingerdance quotes, other forms of quotation marking include capitals and italics, or, in spoken language, a rather distinctive intonational contour.

of natural language are interpreted in a model directly. I on the other hand assume a slightly different, DRT inspired setup in which we distinguish the following three levels: (i) unanalyzed surface forms, (ii) formulas (representing truth conditions) in some logical language such as first-order predicate logic or DRT, and (iii) model-theoretic interpretations.

For future reference we can now state the rule behind (13) more precisely:

(16) If $\alpha \in D_u$ then the 2D contributions of “ α ” and α itself are as follows:

$$“\alpha” \rightsquigarrow \left\langle \begin{array}{c} \mathbf{say}(x, \ulcorner \alpha \urcorner) \\ |\alpha| \end{array} \right\rangle ; \alpha \rightsquigarrow \langle |\alpha| \rangle$$

We finish our reconstruction of Potts’ system by adding the usual rules of semantic composition, operating (non-vacuously) only on the second dimension, plus an extra rule to collapse the two levels into a proper, conjoined logical form as soon as the second dimension reaches type t .

Back to the evaluation of this system. Since we’re adding the lf contribution of the quoted part in the second dimension, we run into trouble with indexicals if we then evaluate the end result lf relative to the actual context (c):

- (17) a. Bush said he would “recommit my heart to Jesus Christ”¹⁰
 b. $\left\langle \begin{array}{c} \mathbf{say}(x, \ulcorner \text{recommit my heart to Jesus Christ} \urcorner) \\ \lambda x[\mathbf{recommit}(x, \gamma y[\mathbf{heart}(y) \wedge \mathbf{poss}(i, y)], \mathbf{jesus})] \end{array} \right\rangle$
 $\rightsquigarrow \mathbf{bush}(\lambda x[\mathbf{say}(x, \ulcorner \text{recommit my heart to Jesus Christ} \urcorner) \wedge \mathbf{SAY}_x[\mathbf{recommit}(x, \gamma y[\mathbf{heart}(y) \wedge \mathbf{poss}(i, y)], \mathbf{jesus})]])$
 c. $\llbracket (17b) \rrbracket^c$ = the proposition that Bush uttered “recommit my heart to Jesus Christ” and said that he recommitted Emar’s (!) heart to Jesus.

We clearly need to evaluate the quoted material’s lf contribution relative to the original reported utterance context instead of the actual c , but how? Now this situation is actually very reminiscent of what we see with Schlenker’s (2003) examples of shifted indexicals in Amharic indirect reports, cf. (9): we have an embedded normal use occurrence of I (lf: i) that is interpreted as referring to a reported speaker. Schlenker’s analysis involves a reinterpretation of the indirect speech report operator as a quantifier over contexts. Now, simply plug in Schlenker’s monstrous lfs (where SAY denotes a quantifier over context variables (c') and every predicate gets an added parameter for such evaluation contexts) into our second dimension. Then, add a stipulation that all quoted material gets evaluated relative to the shifted context c' , and we get quoted indexicals right:

- (18) a. $\mathbf{bush}(\lambda x[\mathbf{say}(x, \ulcorner \text{recommit my heart to Jesus Christ} \urcorner, c^*) \wedge \mathbf{SAY}_x c'[\mathbf{recommit}(x, \gamma y[\mathbf{heart}(y, c') \wedge \mathbf{poss}(i(c'), y, c')], \mathbf{jesus}, c')]])$
 b. $\llbracket (18a) \rrbracket^{c^* \mapsto c}$ = the proposition that Bush uttered “recommitted my heart to Jesus Christ” and, in all contexts c' compatible with what

¹⁰ A slight simplification of: *Bush writes of his decision to “recommit my heart to Jesus Christ.”* (www.utilitarian.net/singer/by/200303--.htm)

Bush said, Bush recommitted *c*'s agent's heart (\approx Bush' heart) to Jesus

Note that this solution requires context quantification in the object language (=monsters), a controversial, yet independently motivated mechanism. The current formulation differs from Potts' own, though I think it captures the essence (although Potts doesn't talk about monsters, it's evident that something at least as strong is needed.)

The problem with quoted errors is more serious:

(19) Bush said Saddam "misunderestimated" him

To evaluate the complement we have to compute the 2D contribution of a non-word, which in turn requires that we provide a logical form for it:

(20) $\left\langle \begin{array}{l} \text{say}(x, \ulcorner \text{misunderestimated} \urcorner) \\ | \text{misunderestimated} | \end{array} \right\rangle$

But what is $| \text{misunderestimated} |$? Apart from the past tense morpheme it does not have internal structure, so we must rely on the lexicon to provide us with an lf. But the whole point of the example was to emphasize Bush use of an incorrect word, so can we really expect to find it in a lexicon? Potts would have to say yes, so in his lexicon we find non-words and mispronounced words like *eck-a-lectic* as separate entries, each paired with a meaning, i.e.: $\langle \text{eck-a-lectic}, \text{eclectic} \rangle$, $\langle \text{eclectic}, \text{eclectic} \rangle$, $\langle \text{misunderestimated}, \text{underestimated} \rangle$, etc. Apart from the size of such a lexicon, there is a more fundamental objection. Take Bush' *misunderestimate*. In this context we assume he meant the enemy *underestimated* him, but on another occasion he or someone else could use the same word to mean *misunderstood*, or something still different. Should we complicate our already rich lexicon even further by putting in everything anybody can mean at some occasion or other (with utterance context parameters added to each item)? In section 3.2 I introduce a different account which regulates who meant what with a certain phrase pragmatically, rather than lexically.

Another problem for Potts' account comes from the fact that the two dimensions are completely separate. Even if we could make sense of a pragmatic, intention dependent (idio)lexicon, the end-result for (19) would be that Bush uttered "misunderestimated" and said that Saddam underestimated him, but there is nothing that says that Bush used that utterance of "misunderestimated" to mean *underestimated*. This appears to be the source of the 'binding problems' addressed by Geurts and Maier (2005), to which I refer the interested reader.

3.2 Geurts & Maier

Geurts and Maier (2005) propose a "1D" approach which bears a noteworthy resemblance to Potts' but takes some of the load off the lexicon, shifting it to pragmatics, while integrating the two levels of meaning, thus addressing the objections raised in the previous section. Their DRT formalization can be seen

as a minimal variant of Potts with the use component left underspecified and the mention component put into a presupposition. Semantic underspecification of the use contribution requires adding a third argument to the **say** relation:

$$(21) \quad \llbracket \text{say}(x, \ulcorner \alpha \urcorner, P) \rrbracket = 1 \text{ iff } \llbracket x \rrbracket \text{ utters } \alpha \text{ to express } \llbracket P \rrbracket$$

An obvious restriction on x using α to express $\llbracket P \rrbracket$ is that the syntactic category of α matches the semantic type of P . In cases of ‘relatively normal use of words’, something stronger may be expected hold: $\llbracket \alpha \rrbracket = \llbracket P \rrbracket$ (or, in (semi-)object language: $|\alpha| = P$). That would mean that the quoted speaker associated the same meaning with the quoted phrase as we do. The crucial difference with Potts is that we do not *require* this strengthened assumption to hold, it is merely a defeasible, pragmatic inference, licensed in certain contexts. Semantically, we don’t need to be able to interpret α at all. Instead of computing *the* lf and semantic value of the quoted expression, the semantics now relies on *what x means with her use of the expression*.¹¹

$$(22) \quad \text{Bush said that he has a book list with } \partial[\text{the property he expressed with the phrase “e eclectic”}] \quad [\partial = \text{presupposition marker}]$$

This idea is formalized quite naturally in DRT+PA: the dynamic framework of Discourse Representation Theory extended with Van der Sandt’s (1992) theory of ‘Presupposition as Anaphora’. In this framework, DRS-formulas represent contexts, and interpretation is modeled as incrementation of *input contexts*, by successively adding new sentence representations (= *preliminary DRSs*, playing the role of dynamic logical forms) and *resolving* their presuppositions. Resolving a presupposition triggered in a preliminary DRS can be done in either of two ways: *binding* (find an appropriate antecedent for the presupposed variable in the extended context DRS, and equate presupposition and antecedent), or, if that fails, *accommodation* (*create* a suitable antecedent by simply adding the presupposed content and variable at a suitable position in the (context) DRS). Note that presuppositions are generated in situ in the construction of the preliminary DRS, but tend to float up to the main, unembedded context in the process of resolution.

So, what does a DRT+PA formalization of (22) look like? That is, what is the preliminary DRS of the mixed quotation example (3) on G&M’s theory? The quotation marks introduce a presupposition to the effect that someone used the given quoted words to express something, while the rest of the sentence provides the asserted contribution. Crucially, in DRT+PA the asserted part contains a

¹¹ There is an interesting parallel with the speech act based philosophy of language (Grice, 1957), where the unit of meaning is not intension or extension (or context change), but the speaker’s intention. The current analysis captures the intention-dependence of quoted expressions, and may be extended to other speech act phenomena such as ironic language use. Note also that we use the intention based meaning concept in our object language, while retaining a classical (or rather, dynamic) semantics of that formal language.

free variable P of the appropriate type (here: predicate modifier: $(et)et$) filling in as a placeholder for the quoted, presupposed part:¹²

$$(23) \quad \left[\begin{array}{c|c} \text{bush}(\mathbf{x}), & \\ \hline \mathbf{x} & \text{SAY}_x \left[\begin{array}{c|c} \text{have}(\mathbf{x}, \mathbf{y}), & (\text{P}(\text{book_list}))(\mathbf{y}) \\ \hline \mathbf{y} & \partial[\text{P}|\text{say}(\mathbf{x}, \ulcorner \text{ecelectic} \urcorner, \text{P})] \end{array} \right] \end{array} \right]$$

Now, the presupposition, marked with a ∂ , needs to be resolved. Let's just assume a minimal context which doesn't add anything not already in (23). In such a meagre context, there is no salient property of the same type as P , let alone one that matches the presupposed content associated with P , so binding fails and we fall back on (global) accommodation:¹³

$$(24) \quad \left[\begin{array}{c|c} \text{bush}(\mathbf{x}), & \text{say}(\mathbf{x}, \ulcorner \text{ecelectic} \urcorner, \text{P}), \\ \hline \mathbf{x}, \text{P} & \text{SAY}_x \left[\begin{array}{c|c} \text{have}(\mathbf{x}, \mathbf{y}), & (\text{P}(\text{book_list}))(\mathbf{y}) \\ \hline \mathbf{y} & \end{array} \right] \end{array} \right]$$

In words: $\llbracket (24) \rrbracket = 1$ iff Bush utters the phrase “ecelectic” to express a predicate modifier P and he says that he has a P reading list.

In a more realistically represented context we may be able to *infer* what property it was that Bush intended (or, what comes to the same thing, *bind* the presupposition rather than *accommodate* it). In cases of well-formed English expressions we already said there may be an automatic default implication that P denotes the property we, or the dictionary, associate with the quoted expression. For quotations involving longer, grammatically well-formed fragments α , we might continue our derivation by computing $|\alpha|$ and adding the condition $P = |\alpha|$. However, this should be seen only as a defeasible strengthening of the basic, semantic interpretation represented in (24).

The important difference with Potts is therefore that it depends on the context (on resolution and pragmatic, defeasible reasoning) what Bush really expressed with the quoted phrase. If, in some discourse context, it were given that when Bush says “ecelectic”, he really means “dyslexic”, we would bind P to that contextually available reading difficulty. In this way we account for the problem of quoted errors, the main objection against Potts, in a principled way, involving some pragmatic reasoning instead of an intention- and context-dependent superlexicon.

The next thing to note is that we have gotten an account of indexical shifting, (ii), for free, i.e. without the need for monsters or related context preservation methods. A quoted *me* is represented as “the individual x refers to as ‘me’”,

¹² Note how the presupposed part corresponds more or less with Potts' first dimension, while the asserted part corresponds with the use dimension, with the crucial difference that the variable P connects the two levels, which is exactly what makes G&M avoid the binding problems signalled by Geurts and Maier (2005).

¹³ Global accommodation is generally assumed to be preferred over local and intermediate.

which, when x is resolved to the quote source in the main clause, will simply refer to that reported speaker, i.e. Bush in (12a) and (17).¹⁴

Let's check the other use and mention characteristics identified in sections 2-3. The prohibition of extraction, (iii), is derived from the fact that, semantically, the quotation is analyzed as a single higher-order variable. The final two use characteristics, the use-inference (v), and Davidson's type argument (vi), are also trivially satisfied. But (iv) is problematic: How can ellipsis and anaphora reach into quotations and pick up a part seemingly hidden deep inside a mentioned phrase (or in the corresponding presupposed variable associated with it). I will solve this by "quote-breaking" in section 4.

Let me summarize the comparison of the two semantic accounts of quotation. We've replaced Potts' monsters, 2D lfs, stipulated projection, and intentional superlexicon, with an independently motivated and formalized dynamic theory of presuppositions that are generated in situ and resolved pragmatically. This resulted in a superior account of quoted indexicals and errors. The analysis of (i)-(iii) also proves the superiority of a hybrid account like G&M to the pragmatic accounts of e.g. Recanati (2001). Anaphoric and elliptical links remain problematic for G&M. In the next section we add two more problems before proposing a uniform solution.

4 Quote-breaking

The main objection that has been raised against these kinds of semantic analyses is the false prediction that only constituents can be quoted (Cumming, 2005; Abbott, 2005; de Brabanter, 2005). This prediction comes from the type-theoretic restriction on inherent in definition (21), viz. that the semantic type of what's expressed by a quotation is detremained by the syntactic category of the quoted expression itself, which presupposes that the quoted expression *has* a category which in turn means that it must be a constituent. I originally considered this an advantage, and used it to explain the infelicity of (25):

(25) *Life "is what" happens while you're making other plans [(judgment from Maier and Geurts, 2004)]:

However it was soon pointed out that there are plenty of counterexamples to this 'constituent hypothesis':

- (26) a. She said the dog ate "strange things, when left to its own devices"
[(Abbott, 2005)]
b. David said that he had donated "largish sums, to several benign institutions"
[(Abbott, 2005; de Brabanter, 2005)]
c. Yet Craig remains confident that the pitching 'will come round sooner or later. We just have to hope everybody stays healthy.'
[taken from the *Cambridge Grammar* by (Cumming, 2005, 87)]

¹⁴ This has potentially profound implications for the analysis of shifted indexicality in languages like Amharic, cf. fn. 7.

These quotations all involve two distinct constituents of the larger discourse. In each case no syntactic theory¹⁵ would allow the two constituents to combine into a larger, interpretable constituent, so the data in (26) (which I assume to be fully felicitous) are indeed counterexamples to G&M.

In addition to this, we have already encountered another obstacle for G&M in the fact (empirically proven by Watters and Gundel, 2007) that anaphora and ellipsis can pick up material opaquely hidden inside quotation marks (cf. discussion of (10) in section 3.2). A third objection comes from Cumming (2005), who points out that G&M cannot account for quantifier raising out of quotations, as in the reverse scope reading of (27) (i.e. with a different student for each professor):

- (27) The dean asked that a student ‘accompany every professor’
[(Cumming, 2005, 81)]

Again, the data seems real, and indeed G&M would block such a reading. G&M needs revision.

4.1 Breaking non-constituents

Let’s start with the non-constituents, focusing on example (26a). Where exactly does the presuppositional account break down? If we proceed constructing a preliminary DRS as sketched in 3.2 above, we see that, in order to fill the object NP position of ‘ate’, we must construct a presupposition (z) of type e (ignoring distracting intricacies introduced by the semantics of bare plurals, read $(et)t$ (generalized quantifier) for e if you will) on the basis of the quotation. Thus, we get:

$$\left[x \left| \begin{array}{l} she(x) \\ SAY_x \left[y \left| \begin{array}{l} dog(y), ate(y, z) \\ \partial [z | say(x, \ulcorner strange things, when left to its own devices \urcorner, z)] \end{array} \right] \right] \end{array} \right. \right]$$

But the mention condition in the presupposed contribution of the quotation does not fulfill the wellformedness requirement of (21): the syntactic category of the mentioned phrase does not match the required type e of the object position of ‘ate’. In fact, the mentioned phrase does not even have a single identifiable syntactic category—it is not a constituent. Thus, we are unable to construct a proper preliminary DRS.

Let’s take a closer look at the internal structure of this problematic quotation. Basic syntax shows the quotation to be made up out of two incompatible constituents, a plural NP and a *when*-clause (CP), neatly separated by a comma:

- (28) the dog [VP[ate [NP “strange things”]], [CP when left to its own devices”]

¹⁵ Paul Dekker (p.c.) just pointed out to me that there are more flexible theories, like the Lambek calculus, that may be able to interpret such non-constituent, thus in effect solving this whole problem. These theories obviously have their problems, but this might be an interesting application. T.b.c.

The two main constituents making up the quotation correspond to types e and $(et)et$, respectively, clearly showing, again, their incompatibility.

A first impulse may be to revise our theory of constituent structure (i.e. syntax) to accommodate these examples. Of course it is *theoretically possible* to devise a grammar that does that. For example, if we allow product types, we could analyze the quotation as a product of its two constituents, i.e. as having type $e \cdot (et)et$, and then give ‘ate’ the type $(e \cdot (et)et)et$. Instead of our type e object \mathbf{z} we’d use a presupposed variable \mathbf{P} of type $e \cdot (et)et$. But what is the motivation for type-shifting the transitive verb ‘ate’ from eet into $(e \cdot (et)et)et$, other than fixing a flaw in our theory? This ad hoc shifting really is a non-starter.

My proposal is to break up non-constituent quotes into appropriate constituents, in this case into the NP and the CP, and to consider them as separate quotations:

$$(29) \quad \text{the dog } [\text{VP}[\text{ate } [\text{NP} \text{“strange things”}]]], [\text{CP} \text{“when left to its own devices”}]$$

$$\left[\begin{array}{c|c} \mathbf{x} & \begin{array}{l} \text{she}(\mathbf{x}) \\ \text{SAY}_x \left[\mathbf{y} \left| \begin{array}{l} \text{dog}(\mathbf{y}), (\mathbf{P}(\text{ate}_{eet}(\mathbf{z}))) (\mathbf{y}) \\ \partial[\mathbf{z}_e | \text{say}(\mathbf{x}, \ulcorner \text{strange things} \urcorner, \mathbf{z})] \\ \partial[\mathbf{P}_{(et)et} | \text{say}(\mathbf{x}, \ulcorner \text{when left to its own devices} \urcorner, \mathbf{P})] \end{array} \right. \right] \end{array} \right] \end{array} \right]$$

In words: the asserted contribution of the complement clause contains now two free variables, \mathbf{P} (of type $(et)et$) and \mathbf{z} (e), corresponding to the two presuppositions formed from the two quoted parts. Both these presuppositions are fully in accordance with the type-theoretic restriction imposed on **say** in (21). Accommodation gives:

$$\sim \left[\begin{array}{c|c} \mathbf{x}, \mathbf{z}, \mathbf{P} & \begin{array}{l} \text{she}(\mathbf{x}) \\ \text{say}(\mathbf{x}, \ulcorner \text{strange things} \urcorner, \mathbf{z}) \\ \text{say}(\mathbf{x}, \ulcorner \text{when left to its own devices} \urcorner, \mathbf{P}) \\ \text{SAY}_x [\mathbf{y} | \text{dog}(\mathbf{y}), (\mathbf{P}(\text{ate}(\mathbf{z}))) (\mathbf{y})] \end{array} \end{array} \right]$$

Very roughly, this output may be paraphrased as: She said that when, as she put it, “left to its own devices” the dog ate, what she called, “strange things”. Moreover, since both quotations are perfectly fine English phrases, we may assume that \mathbf{x} used them to express their normal meanings, i.e. we can defeasibly fix \mathbf{z} and \mathbf{P} by adding $\mathbf{z} = |\text{strange things}|$ and $\mathbf{P} = |\text{when left to its own devices}|$. I will not further specify which lfs those are as that would involve too many irrelevant assumptions on the interpretation of *when*-clauses and bare plurals.

But then, can we still derive the infelicity of the non-constituent quote in (25)? The examples in (26) suggest a restriction on quote-breaking based on the observation that all those felicitous cases involve a clearly marked, natural breaking point in the form of a comma or period. However, the data in the next subsections demonstrate the need for a generalized quote-breaking procedure¹⁶ that is not so constrained. Perhaps, then, the infelicity of (25) is merely a prag-

¹⁶ Perhaps even so general as breaking a quote all the way down to its atomic constituents, as suggested by Ede Zimmermann (p.c.).

matic affair: why would anyone ever want to quote precisely those two words, *is what*, of Lennon’s original utterance?

4.2 Anaphora and ellipsis

Without quote-breaking, we’d assign the following DRS (with highly oversimplified account of VP ellipsis as higher-order anaphora) to our earlier ellipsis/anaphora example:

- (30) “My girlfriend bought me this tie,” said John, but I don’t think she did [=(10)]

$$\left[\begin{array}{l} \text{john}(x), \text{SAY}_x \text{p} \\ \partial[\text{p} | \text{say}(x, \ulcorner \text{my girlfriend bought me this tie} \urcorner, \text{p})] \\ \neg \text{THINK}_i \left[\begin{array}{l} \text{P}(y) \\ \partial[\text{y} | \text{she}(y)], \partial[\text{P} | \text{did}(\text{P})] \end{array} \right] \end{array} \right]$$

The problem with this representation is that there is no way to bind the presuppositions y (from the *she* in the second clause) and P (from *did*), even after successful accommodation of the quotation induced presupposition p .

Quote-breaking would solve this as follows:

- (31) “My girlfriend” “bought me this tie,” said John, but I don’t think she did

$$\begin{array}{l} \left[\begin{array}{l} \text{john}(x) \\ \text{SAY}_x \left[\begin{array}{l} \text{Q}(z) \\ \partial[\text{z} | \text{say}(x, \ulcorner \text{my girlfriend} \urcorner, \text{z})] \\ \partial[\text{Q} | \text{say}(x, \ulcorner \text{bought me this tie} \urcorner, \text{Q})] \end{array} \right] \\ \neg \text{THINK}_i \left[\begin{array}{l} \text{P}(y) \\ \partial[\text{y} | \text{she}(y)], \partial[\text{P} | \text{did}(\text{P})] \end{array} \right] \end{array} \right] \\ \sim \left[\begin{array}{l} \text{x, z, Q} \\ \text{john}(x), \text{say}(x, \ulcorner \text{my girlfriend} \urcorner, \text{z}) \\ \text{say}(x, \ulcorner \text{bought me this tie} \urcorner, \text{Q}) \\ \text{SAY}_x[\text{Q}(z)] \\ \neg \text{THINK}_i[\text{P}(y) \partial[\text{y} | \text{she}(y)], \partial[\text{P} | \text{did}(\text{P})]] \end{array} \right] \sim \begin{array}{l} \text{P} \mapsto \text{Q} \\ \text{y} \mapsto \text{z} \end{array} \\ \sim \left[\begin{array}{l} \text{x, z, Q} \\ \text{john}(x), \text{say}(x, \ulcorner \text{my girlfriend} \urcorner, \text{z}) \\ \text{say}(x, \ulcorner \text{bought me this tie} \urcorner, \text{Q}) \\ \text{SAY}_x[\text{Q}(z)] \\ \neg \text{THINK}_i[\text{Q}(z)] \end{array} \right] \end{array}$$

That is, in the final interpretation of the *but*-clause: *she* = *the person John referred to as ‘my girlfriend’*, and *did* = *what John referred to as ‘bought me this tie’*.

4.3 Quantifier raising

Finally, we turn to Cumming’s scope objection. If we analyze the quotation in (27) as a single constituent, triggering a presupposed property, we can derive only the reading where the student has wide scope:

$$(32) \quad \text{The dean asked that a student “accompany every professor”} \quad [\approx(27)]$$

$$\left[\begin{array}{c} \text{dean}(x) \\ x \mid \text{ASK}_x \left[\begin{array}{c} y \mid \text{student}(y), P(y) \\ \partial [P \mid \text{say}(x, \ulcorner \text{accompany every professor} \urcorner, P)] \end{array} \right] \end{array} \right]$$

After we’ve accommodated P we’re done: the dean asked that there be a student with the property the dean referred to as “accompany every professor”. Even if we were to add $P = \lambda y [\text{accompany every professor } y]$, with appropriate If for the quoted phrase, we’d never get the student inside the scope of *every*.

Breaking the quotation into a transitive verb “*accompany*” and object “*every professor*”, reduces the problem posed by (27) to the general problem of deriving inverse scope readings. We could, for instance, invoke Hendriks’ (1993) compositional, semantic treatment of inverse scope in terms of argument raising. To do this, we have to analyze the contributions of both the subject and the object as generalized quantifiers (which in turn requires that we break the quote to get to the object NP).¹⁷

$$(33) \quad [\dots] \text{ asked that } [{}_{\text{NP}} a \text{ student}] [{}_{\text{VP}} [{}_{\text{V}} \text{“accompany”}] [{}_{\text{NP}} \text{“every professor”}]]$$

$$\rightsquigarrow \left[\begin{array}{c} x \mid \text{ASK}_x \left[\begin{array}{c} R \left(\lambda P [y \mid \text{student}(y), P(y)]_{(et)t}, X_{(et)t} \right) \\ \partial [{}_{\text{R}_{\text{et}}} \mid \text{say}(x, \ulcorner \text{accompany} \urcorner, R)] \\ \partial [{}_{\text{X}_{(et)t}} \mid \text{say}(x, \ulcorner \text{every professor} \urcorner, X)] \end{array} \right] \end{array} \right]$$

We resolve the quotation presuppositions R and X globally, while in the embedded DRS we have to raise both the subject and object arguments of R in order to fit in the two given arguments. As Hendriks shows, the orders in which we can raise these two arguments gives us exactly the two scope possibilities that the sentence has. In particular, if we raise the second, subject, argument first, we get reverse scope. Note that more syntactically driven analyses of scope ambiguities in terms of movement may work just as well, but also requires that the quotation be broken up (for mentioning in the technical sense of $\ulcorner \dots \urcorner$, would block all movement).

In conclusion, I’ve shown how quotation cannot be analyzed as pure, metalinguistic mention (contra e.g. Kaplan, 1989), nor as pragmatic language use (contra e.g. Recanati, 2001). A hybrid use-mention account is needed. The first formally explicit hybrid semantic attempt, Potts’ (2007) 2D semantics, was shown to have difficulty dealing with quoted indexicals and errors. Geurts and Maier’s (2005) presuppositional system solves these issues satisfactorily, shifting some of the load off the lexicon, into pragmatics. Remaining problems for a G&M-style account included quoted non-constituents, anaphoric and elliptical dependencies across quotation marks, and quantifier raising out of quoted matter. These are addressed by adding a quote-breaking procedure, that breaks a quotation into appropriate smaller constituents and reassembles the corresponding quote-shifted (*use*) interpretations compositionally.

¹⁷ In DRT, the generalized quantifier *a student* looks like this: $\lambda P [y \mid \text{student}(y), P(y)]$

Bibliography

- Abbott, B. (2005). Some notes on quotation. In P. de Brabanter (Ed.), *Hybrid Quotations, Belgian Journal of Linguistics 17*, pp. 13–26.
- de Brabanter, P. (2005). Problems with semantic accounts of hybrid quotations. Abstract for talk at *Sinn und Bedeutung 10*, Berlin.
- Cumming, S. (2005). Two accounts of indexicals in mixed quotation. In P. de Brabanter (Ed.), *Hybrid Quotations, Belgian Journal of Linguistics 17*, pp. 77–88.
- Davidson, D. (1979). Quotation. *Theory and Decision 11*, 27–40. Reprinted in D. Davidson (1984) *Inquiries into Truth and Interpretation*. Clarendon Press.
- Geurts, B. (2001). The pragmatics of quotation. Abstract.
- Geurts, B. and E. Maier (2005). Quotation in context. In P. de Brabanter (Ed.), *Hybrid Quotations, Belgian Journal of Linguistics 17*, pp. 109–28.
- Grice, P. (1957). Meaning. *The Philosophical Review 66*, 377–88.
- Hendriks, H. (1993). *Studied flexibility: categories and types in syntax and semantics*. Ph. D. thesis, University of Amsterdam.
- Kaplan, D. (1989). Demonstratives. In J. Almog, J. Perry, and H. Wettstein (Eds.), *Themes from Kaplan*, pp. 481–614. New York: Oxford University Press.
- Maier, E. and B. Geurts (2004). The semantics of subclausal quotation. TaBu day 2004, Groningen. Handout.
- Partee, B. (1973). The syntax and semantics of quotation. In S. Anderson and P. Kiparsky (Eds.), *A Festschrift for Morris Halle*, pp. 410–18. New York: Holt, Rinehart and Winston.
- Potts, C. (2007). The dimensions of quotation. In C. Barker and P. Jacobson (Eds.), *Direct Compositionality*, pp. 405–431. Oxford University Press.
- Recanati, F. (2001). Open quotation. *Mind 110*(439), 637–687.
- Saka, P. (2005). Quotational constructions. In P. de Brabanter (Ed.), *Hybrid Quotations, Belgian Journal of Linguistics 17*, pp. 187–212.
- van der Sandt, R. (1992). Presupposition projection as anaphora resolution. *Journal of Semantics 9*, 333–77.
- Schlenker, P. (2003). A plea for monsters. *Linguistics and Philosophy 26*, 29–120.
- Stainton, R. (1999). Remarks on the syntax and semantics of mixed quotation. In K. Murasugi and R. Stainton (Eds.), *Philosophy and Linguistics*, pp. 259–278. Boulder: Westview Press.
- Watters, S. and J. Gundel (2007). An empirical investigation of the relation between coreference and quotations: Can a pronoun located in quotations find its referent? In *Proceedings of DAARC 2007*, Portugal.