Quoted imperatives

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Abstract

I show how, contrary to recent claims, so-called embedded imperatives are better analyzed in terms of mixed quotation. To this end I extend the presuppositional analysis of mixed quotation to include quotations of constructions.

1 Embedded imperatives

To report an imperative command in indirect speech we cannot simply re-use the imperative form in the complement clause, as shown in (1-a) (cf. e.g. Sadock and Zwicky, 1985; Palmer, 1986). Instead, we need to paraphrase the original command, for instance by means of a deontic modal, (1-b), or a suitable control construction, (1-c).

(1)   Mary: "Call my mother!"
      a.   *Mary {said/demanded/told me} that call her mother
      b.   Mary {said/demanded} that I should call her mother
      c.   Mary {said/told me} to call her mother

However, some authors have argued that imperatives *can* occur embedded in indirect report complements. Consider the Japanese report in (2).

(2)   ashita   made ni sono shigoto-o yare   to   jooshi-ni iwaremashita
      tomorrow until   that work-Acc do-Imp Comp boss-by   was told-Polite
      'I was told by the boss to finish that work by tomorrow'   [Maier 2009]

The first thing to note is that, unlike English, Japanese has dedicated imperative forms, so *yare* ('do.Imp') really is an imperative embedded in a report complement. However, since Japanese does not always distinguish direct and indirect speech syntactically (say, by word-order or special complementizer) we still have to exclude the possibility that this is direct speech semantically. In this particular case, the context is one where what the boss literally said was *Finish this work in two days!*. In other words, the adjustment of the temporal and demonstrative indexicals to the reporting

situation serves to establish indirect speech. What we're dealing with here is therefore a so-called indirect imperative.[1]

A similar story can be told for the German report in (3). *Ruf... an* is an unambiguously imperative form, and the possessive pronoun refers to the actual speaker which rules out direct discourse:

(3)   Hans hat dir doch gestern   schon   gesagt, ruf   meinen Vater an
      Hans has you   yesterday already said   call.Imp my   father
      'Hans told you yesterday already to call my father'   [Schwager 2006]

Finally, Crnic and Trinh (2008) argue that even English has indirect imperatives. If, as they argue, *call* in (4) is indeed an imperative and *his* refers back to *John*, then (4) is yet another exampel of an indirect imperative:

(4)   John said call his mom

Note however that the argumentation for English requires an extra step, as *call* could also be an infinitive. To exclude this possibility Crnic and Trinh (2008) point out that infinitive complements differ from indirect imperative in allowing *wh*-movement (an interesting data point that I'll briefly return to at the end of section 4):

(5)   a.   Who did John say to call at 3PM
      b.   *Who did John say call at 3PM

Additional explanations are needed for the restrictions on the matrix verb (only *say*), and for the lack of overt complementizers (in both German and English), but these will not concern us here.

A more fundamental challenge for the indirect imperatives view is that it leads to the introduction of monstrous operators. Imperatives are usually considered to be semantically as well as morphologically second person, i.e. the actual addressee is ordered to do something. In addition, the source of the command is the actual speaker, so a simple imperative actually contains two indexical parameters somewhere in the syntax and/or semantics: *do the work!* ≈ *I command you to do the work*. In (30) we see that these indexical parameters are *shifted* when the imperative is embedded in a third person report: it's my boss who (reportedly) told me to do the work, rather than me commanding you. Indexical shifting in indirect discourse means that there's a context shifting operator (a 'monster' in Kaplan's (1989) terminology) at work. For some languages there is independent evidence for monsters in indirect speech. In Amharic (Schlenker, 2003; Anand, 2006) or Zazaki (Anand and Nevins, 2004), for instance, person indexicals consistently allow shifted interpretations in speech reports. But in Japanese, German and English, person indexicals are generally well-behaved, i.e. *My boss said that I commanded you to do this work* cannot mean that my boss told me to

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[1]Schwager (2006) and Oshima (2006) present additional evidence for the thesis that some embedded Japanese imperatives are embedded in indirect rather than direct speech complements.

do it. In fact, proponents of the indirect imperative view often presuppose the non-monstrous behavior of these languages in their argumentation to exclude direct speech in the first place.[2] The introduction of monsters at this point thus creates a very real problem of circularity.

In this paper I propose an alternative analysis of the 'indirect imperative' data, in terms of covert mixed quotation. My account sticks with the original intuition expressed at the beginning of the paper that there are no indirect imperatives. Instead of introducing *ad hoc* monsters, I rely on a number of independently motivated mechanisms, such as a presuppositional account of mixed quotation and interjection. I thereby return to a rather traditional view of the Japanese data as 'blended quasi-direct discourse' (Kuno, 1988), i.e. as a mix of direct and indirect speech.

The focus of this paper lies in discussing the extensions to the current theory of mixed quotation that are needed to be able to represent the types of examples in (30)–(4) as some kind of quotations. What I will offer is more a proof of concept than a fully worked out analysis of the cross-linguistic variety of restrictions on indirect embedding of imperatives.

2   Mixed quotation

Mixed quotation consists of an indirect speech report in which a part is quoted verbatim, as in Davidson's 1979 *Quine said that quotation "has a certain anomalous feature"*. Crucially, the quoted part in such examples is used and mentioned at the same time Davidson (1979). In this section I provide the formal apparatus needed to substantiate this idea. To properly account for quotations of discontinuous constituents in section 3 below, the presentation here will have to be more precise than earlier versions of the presuppositional analysis (e.g. Geurts and Maier, 2005; Maier, 2009). In particular, the current formalization will borrow more heavily from Potts (2007).

Section 2.1 lays the foundation by introducing the syntax and semantics of direct and indirect speech in a grammar inspired by the work of Potts. Section 2.2 adds presuppositions and DRT to arrive at a proper analysis of mixed quotation.

2.1   Indirect discourse, pure quotation, and direct discourse

Our grammar formalism will treat linguistic expressions as triples containing a surface representation, a logical representation, and a type. The written sentence *I'm a fool*, for instance, is represented as the following triple:

(6) $\langle$I'm a fool, $\mathtt{fool(i)}, t\rangle$

In other words, the grammar has the following structure:

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[2]In particular, Crnic and Trinh, who cannot rely on the other main diagnostic for indirect speech, viz. wh-movement.

(7) $G \subseteq A^* \times \mathcal{L} \times Type$
   a. $A^* =$ set of finite strings over alphabet A ($^\cap$ denotes string concatenation)
   b. $\mathcal{L} =$ formal language
   c. $Type =$ set of types

For concreteness, let's take A to be the roman alphabet, $\mathcal{L}$ the language of intensional, typed lambda calculus, and $Type$ the set of functional types generated by the basic types e (entities) and t (propositions).

From two basic or complex elements in G we can make a new one, if the types allow it, in the usual manner:

(8)
$$\langle \sigma_1{}^\cap\sigma_2, (\varphi_1(\varphi_2)), \tau_1 \rangle$$
$$\langle \sigma_1, \varphi_1, \tau_2\tau_1 \rangle \quad \langle \sigma_2, \varphi_2, \tau_2 \rangle$$

Note that we allow a lot of overgeneration by letting composition be entirely type-driven. For a more restrictive system, we could start by following Potts in adding a categorial grammar component into the terms of G.

To illustrate this perhaps somewhat unusual presentation of a rather familiar system, we'll consider the derivation of a normal English indirect speech report. Let's construct a tree in G whose top-node contains the sentence *Otto says that I am a fool* as it's first component. If we do it right, the third component will be a type t, and the second will represent the intuitive truth conditions of the report in a familiar logical language. Strictly speaking we first have to agree on a set of terminal nodes, i.e. lexical items. To keep matters simple let's say *Otto* and *I* are type e, *say* is tet, *that* is logically vacuous, and *am a fool* consists of two vacuous operators prefixed to an et predicate. This gives lexical triples like $\langle \text{Otto}, \texttt{o}, e \rangle$ and $\langle \text{says}, \texttt{say}, tet \rangle$, which we can combine into the following tree:

(9) $\langle \text{Otto says that I am a fool}, (\texttt{say}(\texttt{fool}(\texttt{i})))(\texttt{o}), t \rangle$

$\langle \text{Otto}, \texttt{o}, e \rangle$

$\langle \text{says}, \texttt{say}, tet \rangle$

$\langle \text{that}, , tt \rangle$

$\langle \text{I}, \texttt{i}, e \rangle$

$\langle \text{am a fool}, \texttt{fool}, et \rangle$

The grammatical trees we can derive in G come with a representation of truth conditions. Assuming that our formal language $\mathcal{L}$ already has a sound truth definition, it suffices to say that the interpretation of a triple in G is given by interpreting it's second component:

(10) $[\![\langle\sigma,\varphi,\tau\rangle]\!]^c = [\![\varphi]\!]^c \in D_\tau$

To deal with the semantic context dependence of indexicals we relatize semantic interpretation to a context parameter c. Thus, we can use Kaplan's (1989) logic of demonstratives to interpret I and indirect speech *say*:

(11) a. $[\![i]\!]^c :=$ the speaker of c
      b. $[\![(\mathtt{say}(\varphi))(\alpha)]\!]^c :=$ the proposition that $[\![\alpha]\!]^c$ utters some sentence that in her utterance context c' expresses proposition $[\![\varphi]\!]^c$

So, to finish our example: $[\![\langle\text{Otto says that I am a fool}, (\mathtt{say}(\mathtt{fool}(\mathtt{i})))(\mathtt{o}), t\rangle]\!]^c [\![(\mathtt{say}(\mathtt{fool}(\mathtt{i})))(\mathtt{o})]\!]^c$ = the proposition that Otto utters something that expresses that I'm a fool

With indirect discourse taken care of, we turn to quotation. Our goal is a semantics of mixed quotation, but we start with more basic forms: direct discourse and pure quotation. Pure quotation is the use of quotation marks to refer to the linguistic material enclosed within those quotation marks:

(12) 'fool' rhymes with 'tool'

I'm following the so-called disquotational theory of pure quotation, by which an expression enclosed in quotation marks refers to that enclosed expression: *fool*, a predicate of type et, refers to the set of fools, but *'fool'*, the same expression flanked by quotation marks, refers to a word, viz. the word *fool*. To formalize the disquotational semantics of pure quotation, we first need to extend our semantic domains to include linguistic material, i.e. we need to add a new type u for expressions that refer not to objects or properties in the world, but to linguistic entities. Expressions flanked by quotation marks will be represented in G as type u terms, referring to the linguistic expressions inside the quotation marks. To capture the fact that these linguistic expressions referred to can themselves be interpretable linguistic expressions, I take the domain of interpretation associated with type u to be G, our grammatical triples.

How does this translate to our grammar? We make terms of type u by adding quotation marks ('...' at the surface, $\ulcorner\ldots\urcorner$ in $\mathcal{L}$) around a term in G. That is, we add the following composition rule (Potts, 2007):

(13) $$\langle\text{'}^\cap\sigma^\cap\text{'}, \ulcorner\langle\sigma,\varphi,\tau\rangle\urcorner, u\rangle$$
$$|$$
$$\langle\sigma,\varphi,\tau\rangle$$

To clarify what's going on in the second component we have to look at the semantics. We have a new type u with $D_u = G$. The interpretation of a type u term is the interpretation of its second component, which is give by (14):

(14) $\llbracket \ulcorner \langle \sigma, \varphi, \tau \rangle \urcorner \rrbracket^c = \langle \sigma, \varphi, \tau \rangle$
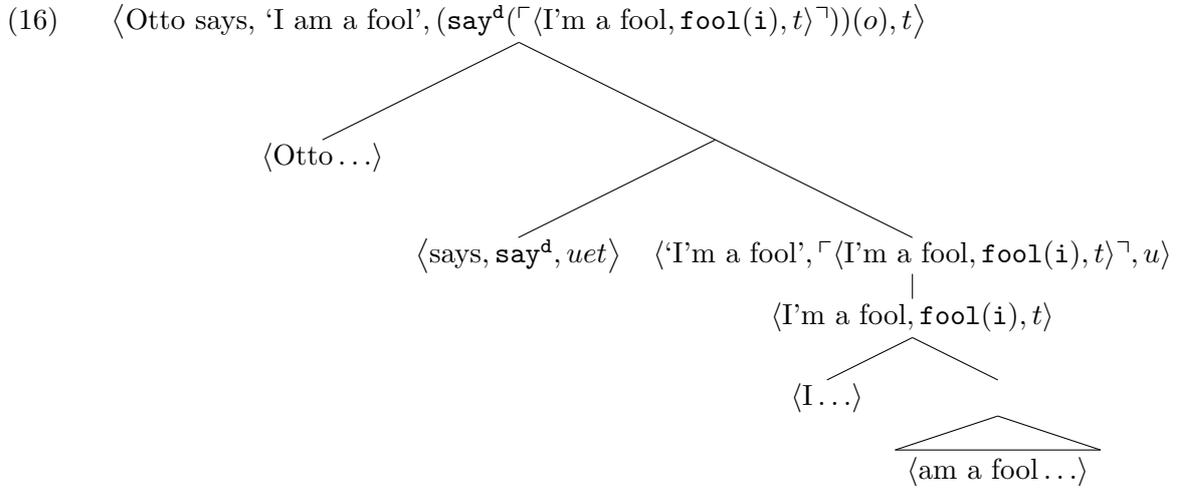
This captures the self-reference that is the hallmark of the disquotational theory. It is also what prompted us to construe the second component of a type u term in G as containing the whole triple representing the quoted expression.

We can naturally extend this analysis of pure quotation to direct discourse. A direct discourse report like (15) asserts a relation between Otto and a particular sentence, i.e. a grammatical triple of type t.

(15)   Otto says, 'I am a fool'

The simple proposal is that the direct quotation marks in (15) are simply pure quotation marks, turning the reported phrase into a term of type u. All we need then is a separate lexical item for direct discourse saying: $\langle \text{says}, \texttt{say}^{\texttt{d}}, uet \rangle$

Let me illustrate the theory of pure quotation and direct discourse by generating the tree for (15), the direct discourse counterpart of (9):

(16) $\langle \text{Otto says, 'I am a fool'}, (\texttt{say}^{\texttt{d}}(\ulcorner \langle \text{I'm a fool}, \texttt{fool(i)}, t \rangle \urcorner))(o), t \rangle$

Semantically: $\llbracket (16) \rrbracket^c = \llbracket (\texttt{say}^{\texttt{d}}(\ulcorner \langle \text{I'm a fool}, \texttt{fool(i)}, t \rangle \urcorner))(o) \rrbracket^c = 1$ iff Otto stands in the say-relation to $\langle \text{I'm a fool}, \texttt{fool(i)}, t \rangle$

2.2   The presuppositional analysis of mixed quotation

Consider the following case of mixed quotation (based on a newspaper example from Recanati (2001:680), involving an indexical to show off one of the main selling points of the presuppositional analysis).

(17)   John said that this is "news to me"

An important difference between mixed and pure quotation is that a mixed quoted term (*"news to me"*) is not a self-referential term of type u, but rather a syntactically integrated constituent of the report complement, in this case a VP of type et. In other words a mixed quoted VP is itself a VP, referring to a property. But what property? Certainly not the same property that the VP without the quotation marks expresses, because, for one, the intended referent of the mixed quoted first person *me* in (17) is John, not me. As Geurts and Maier (2005) put it, the mixed quotation marks induce a meaning shift, from the actual meaning of the words to the meaning that the reported speaker associates with those words. In short: (17) $\approx$ John said that this has the property he refers to as 'news to me'

To account for the context-dependence of what someone means with his words we analyze the shifted meaning part as a presupposition (unlike Potts, who analyzes it as a kind of conventional implicature in a separate dimension).

(18)   a.   presupposition: John used the expression 'news to me' to express some property P
         b.   assertion: John said that this has property P

The formalization of these ideas takes place in Discourse Representation Theory (Kamp, 1981) with the theory of Presupposition as Anaphora (van der Sandt, 1992), henceforth DRT+PA. There are two stages of interpretation. In the construction stage, the grammar couples senteces with Preliminary DRS's (PrelDRS). In terms of our G: $\mathcal{L}$ = the compositional PrelDRS language (with types, lambdas, and (unresolved/*in situ*) presuppositions marked as dashed boxes). Then there is a resolution stage, where the context DRS, a representation of the common ground, is merged with the PrelDRS and all presuppositions are resolved.

Representing the presuppositional content described in (18) requires one final ingredient: a ternary relation express, relating an individual and a piece of linguistic material ($\in G$) to the semantic objects ($\in D$) that that individual associates with that linguistic object:

(19)   express(x, $\ulcorner \langle$news to me, news.to(i), $et \rangle \urcorner$, X)
         $\approx$ x uses $\langle$news to me, ...$\rangle$ to refer to X

In DRT+PA we can now represent *the X such that he uses 'news to me' to refer to X* as any other definite description, viz. as a presupposition. In fact, the mixed quote presupposition contains an anphoric element itself, the *he* representing the source of the quotation in the above paraphrase. The following composition rule which completes the analysis of mixed quotation:[3]

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[3]Here, double quotes denote mixed quotation, single quotes denote pure quotation, dashed boxes denote unresolved presupposition complexes in which each discourse referent represents a presupposition.

(20)
$$\left\langle \text{``}^{\cap}\sigma^{\cap}\text{''}, \left[\begin{array}{c} \text{X} \\ \hline \text{X } y \\ \hline \text{express}(y, \ulcorner\langle\sigma,\varphi,\tau\rangle\urcorner, \text{X}) \end{array}\right], \tau \right\rangle$$
$$\mid$$
$$\langle\sigma,\varphi,\tau\rangle$$

For example, in the construction stage we construct the following tree:[4]
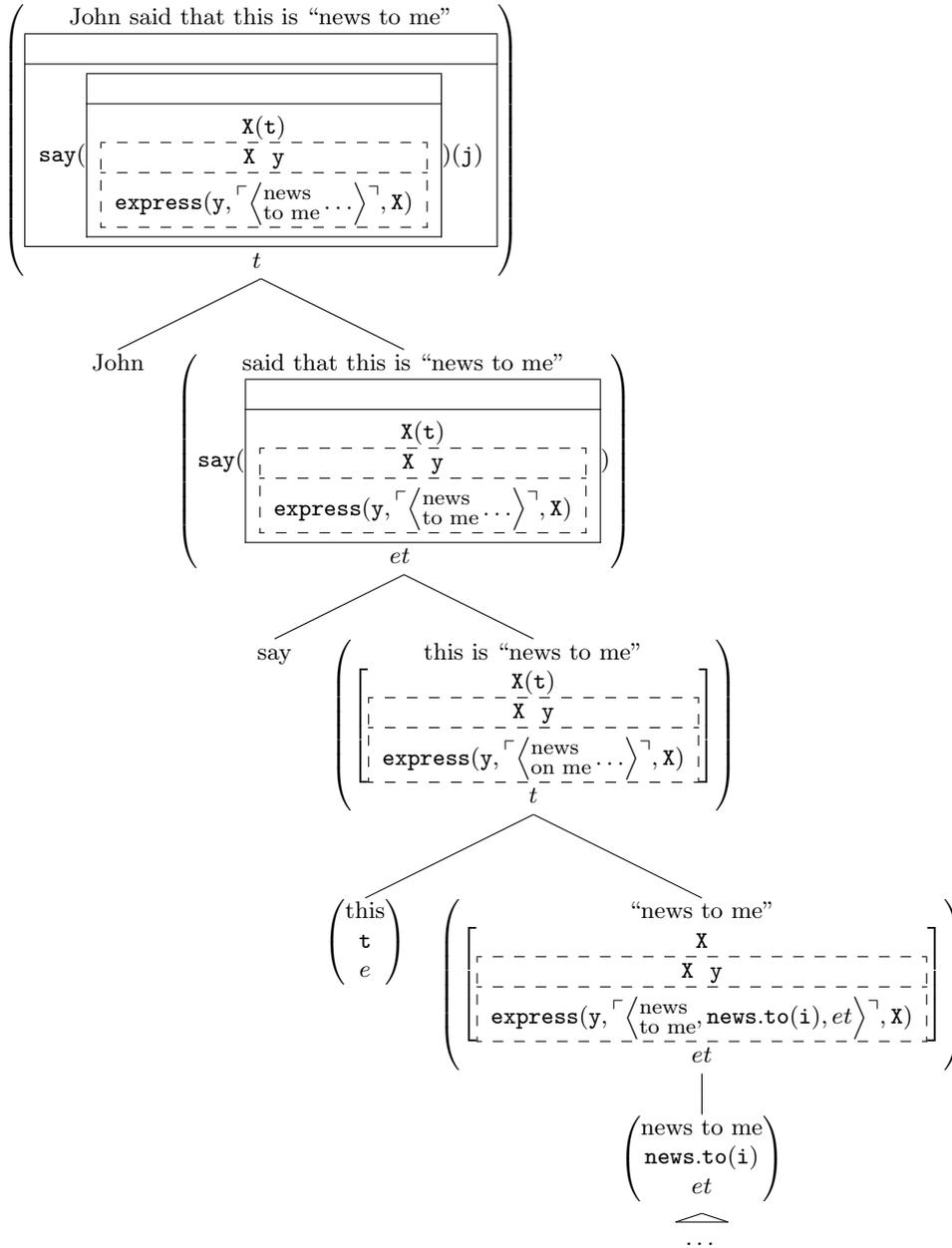
The top-node contains the PrelDRS for our sentence. It contains a double presupposition triggered by the mixed quotation rule. In the resolution stage we take this PrelDRS, merge it with the representation of our common ground, which we assume will minimally contain some representation of a salient John (j) and some salient bit of 'news' (t). We then proceed to match the presuppositions with suitable antecedents where possible. The source presupposition y will look for someone who can be said to be expressing something and therefore find a match in the matrix subject John. But unless the context specifies explicitly that John tends to use the term *news to me* to denote this or that specific property, we will have to accommodate the main presupposition X of the mixed quotation, as shown below.
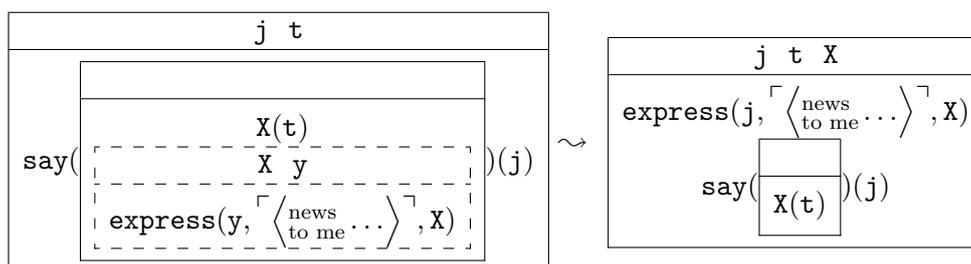
After this process of contextual merging, binding y, and accommodating X, our final output reads: there is a John, some info, and a property; John uses the term *news to me* to refer to the property; John says that the info has that property. In English: John says that this has a property he refers to as *news to me*.[5]

2.3   Some problematic predictions

Although the presuppositional analysis is quite flexible and can deal with a range of quotational shift phenomena, it is not quite powerful enough to deal with all the cases where we'd like to apply it, including the indirect imperatives of section 1.

First of all, to analyze indirect imperatives as mixed quotation we have to assume that the quotational meaning shift can be applied covertly. This is relatively unproblematic as there are clear cases of unmarked pure quotation (e.g. *My name is Emar*) and direct discourse (e.g. in colloquial English or Japanese).

A more serious limitation of our base system is the prediction that only grammatical constituents can be mixed quoted. Although we can extend G with un-lexical ($\langle$misunderstimate$, \emptyset, eet\rangle$) and even typeless ($\langle$sdd6Gte$, \emptyset, \emptyset\rangle$) strings, the application of the mixed quotation composition rule requires that we know at least the type of the quoted expression. However, in real-life we find mixed quotations that standard syntactic theories will not assign any category/type to:

(21)   David said that he had donated "largish sums, to several benign institutions" [Abbott 2005]

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[5]If context allows, we can strengthen this pragmatically by assuming that John speaks English like the rest of us, i.e. he uses the same grammar G, and hence uses *news to me* to refer to the fact that something is new to him, John.

Finally, we predict that mixed quoted indexicals always shift. Although this is usually correct, it too is not universally true:

(22)   And I even pissed off the youngest one so much that he told me to "stick a lamp up my ass"   [Maier 2006]

In the next section I reconstruct Shan's (2007) analysis of quotation interjection, which solves the remaining two problems above, and will finally allow us to model indirect imperatives as well.

3   Interjection

In newspaper and scientific articles, square brackets are frequently used to indicate editorial adjustments (shortening, indexical adjustment, clarification) inside a quote:

(23)   The politician admitted that she "lied [her] way into [her job]"   [Shan 2007]

To account for this phenomenon of quotation interjection I will incorporate Shan's (2007) notion of constructions. The idea is as follows: lied … way into … is not a grammatical term in G as we know it, rather it is a binary *construction*. A construction is not itself an expression but a function from expressions to expressions. Feed the binary construction above with an expression of type $(et)e$ and one of type e and you get an expression of type et. So, even though *lied … way into …* is not an expression it does contribute predictably to the truth conditions of the sentences that contain it. In fact, at the semantic level it behaves rather like a wellformed expression of type $((et)e)eet$. Since constructions are typed and interpretable, they are mixed quotable. The square brackets are merely a typographic device to separate unquoted arguments from a mixed quoted construction: *… she "lied [her] way into [her job]"* abbreviates *… she "lied … way into …"(her)(her job)*. As Shan already noted, the assumption of covert interjection brackets will provide an elegant analysis of non-constituent quotation, (24-a). I propose to further generalize this procedure to capture the occasional unshifted indexical, (24-b), and imperative argument, (24-c):

(24)   a.   … said that he had "[donated] largish sums, to several benign institutions"
         b.   … told me to "stick a lamp up [my] ass"
         c.   … hat dir gesagt, "ruf [meinen] Vater an!"

Formally, we need a special kind of 'two-dimensional variables', triples in G consisting of a metalinguistic variable over A^* paired with a regular, typed variable over D:

(25)   for every $\tau \in Type$: $\langle x, \mathtt{X}, \tau \rangle$ is a variable in G

Then we add 'two-dimensional' lambda abstraction:

$$\langle \lambda x \sigma, \lambda \mathtt{X} \varphi, \tau_1 \tau_2 \rangle$$

$$\lambda \langle x, \mathtt{X}, \tau_1 \rangle \qquad \langle \sigma, \varphi, \tau_2 \rangle$$

According to our very first binary composition rule in section 2.1, combining expressions involves concatenation of the alphabetic surface representations and function application of the semantic components. Now that we have meta-variables and abstraction over alphabetic representations we can redefine composition in the surface dimension as function application as well. This means that simple lexical items like *fool* should be considered as (primitive) constructions, like $\langle \lambda x. x^\cap \text{fool}, \mathtt{fool}, et \rangle$. The new more general binary branching composition rule is:
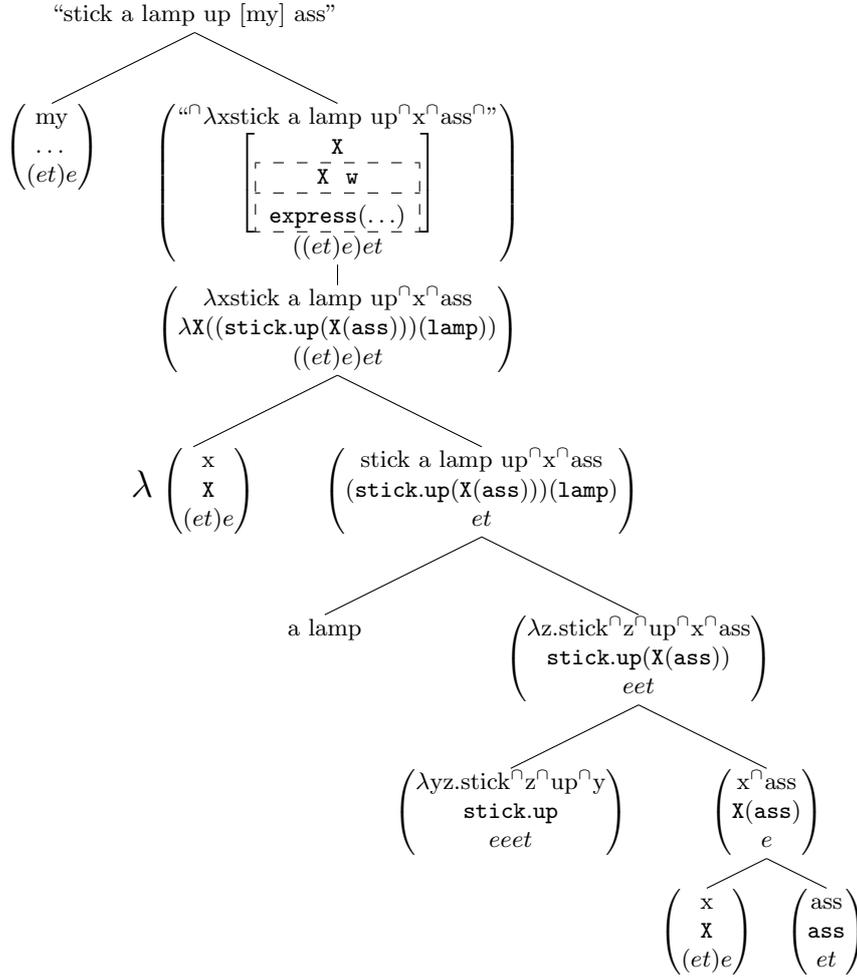
$$\langle \gamma(\sigma), \varphi_1(\varphi_2), \tau_1 \rangle$$

$$\langle \gamma, \varphi_1, \tau_2 \tau_1 \rangle \qquad \langle \sigma, \varphi_2, \tau_2 \rangle$$

Let's see how we the enhanced grammar derives a proper representation for (24-b). I'll briefly describe the derivation bottom up. We can assume that the lexicon contains a construction *stick ... up ...*. In the bottom of the tree we combine that lexical construction with an underspecified *x's ass* and *a lamp* to get the property *stick a lamp up x's ass*. Binding the free variable with a lambda, we get a complex construction: *stick a lamp up... ass*. Applying mixed quotation gives *the semantic object that w refers to as 'stick a lamp up ... ass'*. This semantic object, represented by the presuppositional $\mathtt{X}$ below, is indeed of the right type to take a possessive like *my*.[6]

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[6]The fact that this quotation external argument is represented in brackets inside the quotation is but a typographic accident that can be captured by a special composition rule:

$$\langle \text{``}^\cap \gamma([^\cap \sigma^\cap])^{\cap \text{''}}, \varphi_1(\varphi_2), \tau_1 \rangle$$

$$\langle \text{``}^\cap \gamma^{\cap \text{''}}, \varphi_1, \tau_2 \tau_1 \rangle \qquad \langle \sigma, \varphi_2, \tau_2 \rangle$$

"stick a lamp up [my] ass"

$$\begin{pmatrix} \text{my} \\ \dots \\ (et)e \end{pmatrix}$$

$$\begin{pmatrix} \text{``}^{\cap}\lambda\text{xstick a lamp up}^{\cap}\text{x}^{\cap}\text{ass}^{\cap}\text{''} \\ \begin{bmatrix} \mathtt{X} \\ \overline{\mathtt{X} \quad \mathtt{w}} \\ \mathtt{express}(\dots) \end{bmatrix} \\ ((et)e)et \end{pmatrix}$$

$$\begin{pmatrix} \lambda\text{xstick a lamp up}^{\cap}\text{x}^{\cap}\text{ass} \\ \lambda\mathtt{X}((\mathtt{stick.up}(\mathtt{X}(\mathtt{ass})))(\mathtt{lamp})) \\ ((et)e)et \end{pmatrix}$$

$$\lambda \begin{pmatrix} \text{x} \\ \mathtt{X} \\ (et)e \end{pmatrix}$$

$$\begin{pmatrix} \text{stick a lamp up}^{\cap}\text{x}^{\cap}\text{ass} \\ (\mathtt{stick.up}(\mathtt{X}(\mathtt{ass})))(\mathtt{lamp}) \\ et \end{pmatrix}$$

a lamp

$$\begin{pmatrix} \lambda\text{z.stick}^{\cap}\text{z}^{\cap}\text{up}^{\cap}\text{x}^{\cap}\text{ass} \\ \mathtt{stick.up}(\mathtt{X}(\mathtt{ass})) \\ eet \end{pmatrix}$$

$$\begin{pmatrix} \lambda\text{yz.stick}^{\cap}\text{z}^{\cap}\text{up}^{\cap}\text{y} \\ \mathtt{stick.up} \\ eeet \end{pmatrix}$$

$$\begin{pmatrix} \text{x}^{\cap}\text{ass} \\ \mathtt{X}(\mathtt{ass}) \\ e \end{pmatrix}$$

$$\begin{pmatrix} \text{x} \\ \mathtt{X} \\ (et)e \end{pmatrix} \quad \begin{pmatrix} \text{ass} \\ \mathtt{ass} \\ et \end{pmatrix}$$

4 Imperatives

With all the quotational machinery in place we return to imperatives. The idea is simple: instead of making imperatives shiftable by *say*, we let imperatives keep their regular semantics but allow them to be mixed quoted in an indirect discourse. As a first approximation, the Japanese example might be analyzed as something like: *I was told by the boss that "finish!" that work by tomorrow.*

The first problem is a familiar one: to mixed quote something it must be semantically interpretable, or at least have a definite semantic type. So what, if anything, is the type of *finish!*? To answer this question we have to adopt some kind of semantic analysis of imperative mood. Let's take Schwager's (2006) modal approach. Take a simple command like *go!*. The starting point of this analysis is that *go!* means *you must go*. Formally, the ingredients are a deontic modal operator IMP; a silent subject, by default equivalent to *you*; and a some presuppositions meant to restrict the proper contexts of use of the IMP operator to those where the speaker is qualified to perform a proper speech act of ordering (e.g. IMPφ presupposes *I am an authority wrt the content of*

φ and *I do not already know that φ is true*). Ignoring for now the performativity presuppositions, imperatives are handled as follows in G:

(26) a. syntax: $\langle \text{go!}, \text{IMP}(\text{go}(\text{j})), t\rangle$

$\langle !, \text{IMP}, tt\rangle$

$\langle \emptyset, \text{j}, e\rangle \quad \langle \text{go}, \text{go}, et\rangle$

  b. semantics:
    (i) $[\![\text{j}]\!]^c :=$ addressee$_c$
    (ii) $[\![\text{IMP}\varphi]\!]^c :=$ the proposition that in all worlds compatible with speaker$_c$'s demands $[\![\varphi]\!]^c$ is true

Imperatives now express propositions, type t, and hence can be mixed quoted without problem. Note that to represent the crucial examples of section 1 (with unshifted indexical arguments) we will have to rely heavily on our interjection brackets:

(27) a. "[ashita]   made ni [sono] shigoto-o yare"   to   jooshi-ni
          tomorrow until   that   work-Acc do-Imp Comp boss-by
          iwaremashita
          was told-Polite
          'I was told by the boss to "finish [that] work by [tomorrow]"'   [cf. (2)]
  b. Hans hat dir doch gestern schon gesagt, "ruf [meinen] Vater an!"   [cf. (3)]
  c. John said "call [his] mom!"   [cf. (4)]

The derivations of the structures in (27) are all rather similar to that of the *stick a lamp up [my] ass* example, but let's zoom in on (27-b). From the lexical construction *ruf... an* of type *eet*, a 2D variable of type $(et)e$, and the *et* predicate *Vater* we generate the property *ruf x Vater an*. Following (26), we add a silent addressee indexical as the subject, and then an imperative operator to get the command *Ruf x Vater an!*. Abstracting the previousy introduced variable we get the construction we have been denoting as *ruf... Vater an*. Mix quoting yields *the semantic object that y refers to as 'Ruf... Vater an!'*. Finally, this presupposition trigger combines with *meinen* to complete the complement clause.

To evaluate my mixed quotation approach to indirect imperatives, let's compare it with the alternative Oshima-Schwager-Crnic&Trinh-treatment in terms of fully indirect discourse (cf. section 1). Although my analysis is still rather sketchy (cf. section 5 below), there are already two areas where it shows a marked advantage.

First and foremost is the automatic shifting of indexical parameters under quotation. In section 1 I pointed out that a truly indirect analysis of the Japanese example requires the introduction of a monster to shift the two indexical parameters inherent in the logical form of an imperative command. To recap, *shigoto-o yare!* as a main clause imperative means that the actual speaker commands the actual addressee to do the work, but embedded in a report like (2) it means that the reported speaker (boss)

commanded the reported addressee (me) to do it. The current analysis already predicts this behavior. As illustrated in 2.2, the general mixed quotational meaning shift from *X* to *what the reported speaker referred to as 'X'* shifts the reference of indexicals to the reporting context. In non-pathological[7] contexts the effect is rather similar to that of a monster, but it falls out of the much more general mechanism for capturing quotation.

A second, more tentative advantage of a quotational analysis is the blocking of *wh*-movement with indirect imperatives, as illustrated in (5) repeated below:

(28)   *Who did John say call at 3PM

A crucial step in the argumentation that a report complement is semantically indirect rather than direct, is showing that it allows *wh*-movement: indirect speech allows it, direct speech blocks it (e.g. Schlenker, 2003; Anand and Nevins, 2004):

(29)   a.   What did Otto say I am
        b. *What did Otto say, "I am"?

Strictly speaking our semantics blocks movement out of a mixed quoted phrase as well, which would explain the infelicity of (28). This cannot be the whole story though, because there are Japanese examples of indirect imperatives with *wh-in-situ* question formation, which should likewise be blocked in direct and mixed quotation:

(30)   Taro$_i$-wa yatu$_i$-no uti-ni nanzi-ni   ko-i   to   itta no ka?
        Taro-Top to.his.house   at.what.time come-Imp Comp said ?
        'What time$_1$ did Taro$_2$ say to come to his$_2$ house t$_1$?'   [(Oshima, 2006, 13)]

Technically, the current system generates well-formed representations for both, and hence ultimately fails to explain the infelicity of (28):

(31)   a.   Who$_i$ did John say "call [t$_i$] at 3PM!"
        b.   Taro$_i$-wa "[yatu$_i$]-no uti-ni [nanzi]-ni   ko-i"   to   itta no ka?
             Taro-Top "to.[his].house   at.[what.time] come-Imp" Comp said ?

However, all is not lost. In the absence of further data, I hypothesize that the infelicity of (31-a) is of a pragmatic nature, perhaps due to a constraint that penalizes interjection of mere traces, or a more general constraint that restricts the application of covert interjection to a certain class of expressions, including (*in situ*) wh-phrases, pronouns and standard indexicals. Note that to avoid massive overgeneration, some pretty severe restrictions on covert mixed quotation and interjection are required in any case, but this will have to be left for future research.

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[7]In the presuppositional view, the reference of mixed quoted expression is ultimately a matter of pragmatics. Hence, pathological cases are contexts where a reported speaker is known to misuse *I* to refer to the color blue, and *go home!* as a name for his dog. Mixed quoting these terms will shift them to the reported speaker's intended referents rather than just shifting *I* to the speaker of the reported context.

5   Conclusions

My central claim is that embedded imperatives are mixed quoted. To substantiate this claim I've brought together three independently motivated semantic theories, viz. presuppositional mixed quotation from Geurts and Maier (2005), propositional imperatives from Schwager (2006), and interjection as quoted constructions from Shan (2007). According to my proposal, an embedded imperative like *Hans hat dir doch gestern schon gesagt, ruf meinen Vater an* has the logical form *Hans hat dir doch gestern schon gesagt, "ruf [meinen] Vater an!"*. A specific benefit of the analysis is that it takes care of the observed shifting of indexical imperative parameters without resorting to monsters.

A number of loose ends remain. Most importantly: how to restrict the overgeneration from the covert application of the two powerful and opposing mechanisms of quotation and interjection? In future work I intend to explore the possibility of a set of pragmatic constraints, with principles like *avoid shifting perspective* (to encode a preference for simple indirect speech, and prevent *["[go!]"]*) and *use mixed quote if relevant features would get lost in indirect paraphrase*. It remains to be seen if the system will then be able to offer some insights into the more subtle language specific restrictions on apparent imperative embedding and shifting.

References

Abbott, Barbara (2005) "Some notes on quotation", in P. de Brabanter (ed.), *Hybrid Quotations* (*Belgian Journal of Linguistics* 17), John Benjamins, pp. 13–26.

Anand, Pranav (2006) *De de se*, Ph.D. thesis, MIT.

Anand, Pranav and Andrew Nevins (2004) "Shifty Operators in Changing Contexts", in R. Young (ed.), *Proceedings of SALT XIV*, CLC, Cornell, NY.

Crnic, Luka and Tue Trinh (2008) "Remarks on Embedded Imperatives", Sinn und Bedeutung 13, Stuttgart.

Davidson, Donald (1979) "Quotation", *Theory and Decision* **11**, 27–40, reprinted in Davidson (1984).

Davidson, Donald (1984) *Inquiries into truth and interpretation*, Clarendon Press, Oxford.

Geurts, Bart and Emar Maier (2005) "Quotation in Context", in P. de Brabanter (ed.), *Hybrid Quotations* (*Belgian Journal of Linguistics* 17), John Benjamins, pp. 109–28.

Kamp, Hans (1981) "A Theory of Truth and Semantic Representation", in J. A. Groenendijk, T. Janssen and M. Stokhof (eds.), *Formal Methods in the Study of Language*, Foris, Dordrecht.

Kaplan, David (1989) "Demonstratives", in J. Almog, J. Perry and H. Wettstein (eds.), *Themes from Kaplan*, Oxford University Press, New York, pp. 481–614.

Kuno, Susume (1988) "Blended quasi-direct discourse in Japanese", in W. Poser (ed.), *Papers from the Second International Workshop on Japanese Syntax*, CSLI, Stanford, pp. 75–102.

Maier, Emar (2006) *Belief in Context: Towards a unified semantics of* de re *and* de se *attitude reports*, Ph.D. thesis, Radboud University Nijmegen.

Maier, Emar (2009) "Japanese reported speech: against a direct–indirect distinction", in Hattori et al. (ed.), *New Frontiers in Artificial Intelligence* (*Lecture Notes in Computer Science* 5447), Springer, Berlin/Heidelberg, pp. 133–145.

Oshima, David (2006) *Perspectives in Reported Discourse*, Ph.D. thesis, Stanford.

Palmer, Frank (1986) *Mood and Modality*, Cambridge University Press, Cambridge.

Potts, Christopher (2007) "The Dimensions of Quotation", in C. Barker and P. Jacobson (eds.), *Direct Compositionality*, Oxford University Press, pp. 405–431.

Recanati, Francois (2001) "Open quotation", *Mind* **110**, 637–687.

Sadock, Jerrold and Arnold Zwicky (1985) "Speech act distinctions in syntax", in T. Shopen (ed.), *Language Typology and Syntactic Description*, vol. I, Cambridge University Press, Cambridge, pp. 155–196.

van der Sandt, Rob (1992) "Presupposition Projection as Anaphora Resolution", *Journal of Semantics* **9**, 333–77.

Schlenker, Philippe (2003) "A plea for monsters", *Linguistics and Philosophy* **26**, 29–120.

Schwager, Magdalena (2006) *Interpreting Imperatives*, Ph.D. thesis, University of Frankfurt/Main.

Shan, Chung-chieh (2007) "Causal reference and inverse scope as mixed quotation", in M. Aloni, P. Dekker and F. Roelofsen (eds.), *Proceedings of the Sixteenth Amsterdam Colloquium*, ILLC, Amsterdam.