1 Copular constructions

For each of the following analyses of *be*, provide a semantic parsetree for the sentence *Superman is Clark Kent* using any combination of Partee’s type-shifters, assuming that *Superman* and *Clark Kent* both translate as expressions of type $e$.

i. $(\lambda x \lambda y (x = y)) : \langle e, \langle e, t \rangle \rangle$

ii. $(\lambda f \lambda y (f \ y)) : \langle \langle e, t \rangle, \langle e, t \rangle \rangle$

iii. $(\lambda y \lambda f (f \ y)) : \langle e, \langle \langle e, t \rangle, t \rangle \rangle$

iv. the type-shifter $BE : \langle \langle \langle e, t \rangle, t \rangle, \langle e, t \rangle \rangle$

2 Determiners and type-shifters

The following Japanese sentence is ambiguous between definite and indefinite interpretations of its subject. (The subject is also ambiguous between singular and plural, but let’s set that aside.)

```
Hime wa kirei.
princess TOPIC pretty
‘The/A princess is pretty.’
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Partee suggests that we might relate such ambiguities to type-shifting and the absence of an overt determiner. We’ve seen that it can be challenging to keep track of the predictions such analyses make. Your tasks:

i. Show that Partee’s type-shifters can derive both of the above readings.

ii. Assess the extent to which it also follows, from your account and assumptions like those of fragment 1, that *a princess* in English cannot be interpreted as definite.

Hat-tip to Judy Kroo for the initial version of this question.

3 Discourse anaphora for indefinites

Partee discusses discourse anaphora as motivation for the existence of type $e$ for NPs, claiming that “only an e-type NP can license a singular discourse pronoun”. What the options for getting indefinites like *a student* into type $e$, and why might this pose a difficulty for Partee’s claim? (Hat-tip to Jason Freeman for this question.)
4 Adverbial types

On assignment 1, you defined a method for going from negation of type \( \langle t, t \rangle \) to negations in any conjoinable type \( \langle \sigma, \tau \rangle \). This question probes that operation a little more deeply:

i. Write down a general type-shifter \( T \) for moving from sentential adverbs (type \( \langle t, t \rangle \)) to VP adverbs (type \( \langle \langle e, t \rangle, \langle e, t \rangle \rangle \)). Your type-shifter \( T \) should be such that, for any expressions \( \alpha : \langle t, t \rangle \), \( f : \langle e, t \rangle \), and \( x : e \),

\[
(\alpha (f \ x)) = (((T \alpha) f) \ x)
\]

ii. Extra credit [up to 1 point]: Can the reverse be done? That is, can one define a general type-shifter \( T \) from \( \langle \langle e, t \rangle, \langle e, t \rangle \rangle \) down to \( \langle t, t \rangle \) such that, for any expressions \( \alpha : \langle \langle e, t \rangle, \langle e, t \rangle \rangle \), \( f : \langle e, t \rangle \), and \( x : e \),

\[
((\alpha \ f) \ x) = (T \ (\alpha \ f) x)
\]

Either define such a type-shifter or show that no such type-shifter exists.

5 Scope islands and Cooper Storage

Barker (2015:§1.6) reports that “tensed clauses are generally thought to be scope islands for universal quantifiers”. Provide a way of capturing this constraint in the context of Cooper Storage. You should assume that you have free access to features in the syntax (this seems clearly to be a syntax–semantics interface constraint). It’s fine to state this as a constraint on derivations, but it’s even better to redefine the Cooper Storage system so that it follows as a theorem.

6 Choice function indefinites

First, provide a full semantic representation for Sandy saw a puppy on which \( a \) is interpreted as a variable \( C \) over choice functions, where \( C \) is existentially bound at the root-level. Second, give an informal argument that, where \( \|\text{puppy}\|_M \) is the characteristic function of a non-empty set, this choice-function analysis is equivalent to the interpretation derived by treating \( a \) as a quantificational determiner (and doing QR, Cooper Storage, or the like).

7 Continuization intuitions

This question is based in an interactive worksheet:

http://web.stanford.edu/class/linguist230b/assignments/ling230b-assign02.html

The steps are basic. The goal is to give you a feel for what continuized grammars are like. Your answer can be just a sequence of expressions pasted out of the interactive tutorial.
8 Write-up of a scope-taking puzzle [4 points]

The handout ‘Exploring theories of scope-taking’ presents a series of important and challenging problems for theories of scope. Submit a write-up of one of them. The problem can be one that we did together in class, as long as the write-up is your own. Imagine that your audience is another student taking 230b.

9 A question from you [2 points]

Articulate your own question about any aspect of Barker 2015 and answer it. As before, aim for a question that encourages further reflection on the material, leading to new and deeper insights for someone who answers it.

References