

Semantics Midterm

Question 1

1a

B's utterance: I have a cat. implies that he has a cat that is *not* a Siamese cat.

good
15/15

This is because, by the maxim of *quantity*, upon A's asking whether B has a Siamese cat, if B were to have one, he would simply say *yes*, indicating that he does indeed possess an animal that is both a cat, and more specifically a Siamese cat. In the negative case, he would say *no* indicating that he does not have an animal that is simultaneously a cat and a Siamese cat.

in fact the no answer is less informative though because it only denies Siamese, not cat

Thus, by responding with the less straightforward answer, I has a cat, B implicates by the maxim of *quantity* that he has a cat, which is **not** Siamese, because if it were Siamese, he would have given the simpler *yes* answer.

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should also run a cancellation test to show that this is in fact an implicature and not an entailment ~~9/3~~

Question 2

2a

$$[[\text{the}]] \langle \langle e, t \rangle, e \rangle = \lambda f \langle e, t \rangle . \lambda x e . (f \langle e, t \rangle (x e) \circ (x e \in c \{e\}))$$

$$[[\text{the}]] \langle \langle e, t \rangle, e \rangle = \lambda f \langle e, t \rangle . \lambda x e . (f \langle e, t \rangle (x e) \circ (x e \in c \{e\}))$$

$$[[\text{Alfonso borrowed the book}]]_c = \text{Borrow}(a e, \lambda x e . (\text{Book}(x e) \circ (x e \in c \{e\})))$$

$$[[\text{Alfonso borrowed the book}]]_c = \text{Borrow}(a e, \lambda x e . (\text{Book}(x e) \circ (x e \in c \{e\})))$$

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That is, Alfonso borrowed the book says that an entity named Alfonso Borrowed an object which is the unique entity in this context which fulfills the *Book* predicate.

This has the presuppositions that there must exist exactly 1 in context *x* that fulfills *ff*.

2b

[[Mother]] is of type $\langle e, \langle e, t \rangle \rangle$ and [[book]] is of type $\langle e, t \rangle$. This is because [[book]] is very simple, and something's identity as a book is not relational in any way. On the other hand, something

good

8/8

can only fulfill $[[\text{Mother}]]$ if it is Female and possesses a child. Essentially, $[[\text{Mother}]]$ expects an argument, its child, in possessive construct while $[[\text{book}]]$ does not. This is because someone can only be a mother if it has a corresponding child that goes with it, though something can be a book regardless of such a dependency relationship. Also, unlike similar definite descriptions like *the mother*, *Joanna's Mother* doesn't require context outside of the identity of Joanna to determine who *Joanna's Mother* is. On the other hand, *Joanna's Book* does since Joanna could potentially own many books and without context, it isn't clear which one is being referred to.

good

based on what you had in Lambda Notebook:

2c your denotation for POSS is a good startign point, but should be more general:

we can say 'Joanna's book' and mean the book she wrote, but doesn't necessarily own

$[[\text{Joanna's Mother}]]_e = [[[[\text{APOSS mother}]\text{Joanna}]]_e = \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, j_e)) = y_e) [[\text{Joanna's Mother}]]_e = [[[[\text{APOSS mother}]\text{Joanna}]]_e = \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, j_e)) = y_e)$, has content: the unique entity that is the mother of Joanne.

In this

case, $[[[s]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle = \lambda f \langle e, \langle e, t \rangle \rangle. \lambda x_e. \lambda y_e. f \langle e, \langle e, t \rangle \rangle (x_e)(y_e) [[[s]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle = \lambda f \langle e, \langle e, t \rangle \rangle. \lambda x_e. \lambda y_e. f \langle e, \langle e, t \rangle \rangle (x_e)(y_e)$ and $[[\text{mother}]] \langle e, \langle e, t \rangle \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e) [[\text{mother}]] \langle e, \langle e, t \rangle \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e)$ (Also $[[\text{book}]] \langle e, t \rangle = \lambda x_e. \text{Book}(x_e) [[\text{book}]] \langle e, t \rangle = \lambda x_e. \text{Book}(x_e)$). I propose that $[[[s]]] [[[s]]]$ is ambiguous

between $[[[s]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle [[[s]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle$ and $[[[s]]] \langle \langle e, t \rangle, \langle e, e \rangle \rangle [[[s]]] \langle \langle e, t \rangle, \langle e, e \rangle \rangle$ depending on whether it takes on an $\langle e, \langle e, t \rangle \rangle \langle e, \langle e, t \rangle \rangle$ like $[[\text{mother}]] [[\text{mother}]]$ or a $\langle e, t \rangle \langle e, t \rangle$ like $[[\text{book}]] [[\text{book}]]$.

good

$[[\text{Joanna's Mother}]]_e [[\text{Joanna's Mother}]]_e$ is generated via:

Full composition trace. 1 path:

Step

1: $[[[\text{APOSS}]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle = \lambda f \langle e, \langle e, t \rangle \rangle. \lambda x_e. \lambda y_e. f \langle e, \langle e, t \rangle \rangle (x_e)(y_e) [[[\text{APOSS}]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle = \lambda f \langle e, \langle e, t \rangle \rangle. \lambda x_e. \lambda y_e. f \langle e, \langle e, t \rangle \rangle (x_e)(y_e)$

Step

2: $[[[\text{mother}]]] \langle e, \langle e, t \rangle \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e) [[[\text{mother}]]] \langle e, \langle e, t \rangle \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e)$

Step

3: $[[[\text{APOSS}]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle [[[\text{APOSS}]]] \langle \langle e, \langle e, t \rangle \rangle, \langle e, e \rangle \rangle * [[[\text{mother}]]] \langle e, \langle e, t \rangle \rangle [[[\text{mother}]]] \langle e, \langle e, t \rangle \rangle$ leads to: $[[[\text{APOSS}]]] \langle e, e \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e) [[[\text{APOSS}]]] \langle e, e \rangle = \lambda x_e. \lambda y_e. (\lambda z_e. (\text{Female}(z_e) \circ \text{Child}(z_e, x_e)) = y_e)$ **[by FA]**

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Step 4: $[[[\text{Joanna}]]]_e = j_e [[[\text{Joanna}]]]_e = j_e$

Step 5: $[[[APOSS\ mother]]]_{(e,e)}[[[APOSS\ mother]]]_{(e,e)} * [[Joanna]]_e[[Joanna]]_e$ leads to: $[[[[APOSS\ mother\ Joanna]]]_e = \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e)[[[[APOSS\ mother\ Joanna]]]_e = \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e)$ **[by FA]**

2e

Full composition trace. 1 path:

Step

1: $[[[a]]]_{(e,t), (e,t), t} = \lambda f_{(e,t)}. \lambda g_{(e,t)}. \exists x_e.(f_{(e,t)}(x_e) \circ g_{(e,t)}(x_e))[[[a]]]_{(e,t), (e,t), t} = \lambda f_{(e,t)}. \lambda g_{(e,t)}. \exists x_e.(f_{(e,t)}(x_e) \circ g_{(e,t)}(x_e))$

Step 2: $[[[doctor]]]_{(e,t)} = d_{(e,t)}[[[doctor]]]_{(e,t)} = d_{(e,t)}$

Step

3: $[[[a]]]_{(e,t), (e,t), t}[[[a]]]_{(e,t), (e,t), t} * [[[doctor]]]_{(e,t)}[[[doctor]]]_{(e,t)}$ leads to: $[[[a\ doctor]]]_{(e,t), t} = \lambda g_{(e,t)}. \exists x_e.(d_{(e,t)}(x_e) \circ g_{(e,t)}(x_e))[[[a\ doctor]]]_{(e,t), t} = \lambda g_{(e,t)}. \exists x_e.(d_{(e,t)}(x_e) \circ g_{(e,t)}(x_e))$ **[by FA]**

Step 4: $[[[met]]]_{(e, (e,t))} = \lambda x_e. \lambda y_e. Met(y_e, x_e)[[[met]]]_{(e, (e,t))} = \lambda x_e. \lambda y_e. Met(y_e, x_e)$

Step

5: $[[[APOSS]]]_{(e, (e,t)), (e,e)} = \lambda f_{(e, (e,t))}. \lambda x_e. \lambda y_e. f_{(e, (e,t))}(x_e)(y_e)[[[APOSS]]]_{(e, (e,t)), (e,e)} = \lambda f_{(e, (e,t))}. \lambda x_e. \lambda y_e. f_{(e, (e,t))}(x_e)(y_e)$

Step

6: $[[[mother]]]_{(e, (e,t))} = \lambda x_e. \lambda y_e. (tze.(Female(z_e) \circ Child(z_e, x_e)) = y_e)[[[mother]]]_{(e, (e,t))} = \lambda x_e. \lambda y_e. (tze.(Female(z_e) \circ Child(z_e, x_e)) = y_e)$

Step

7: $[[[APOSS]]]_{(e, (e,t)), (e,e)}[[[APOSS]]]_{(e, (e,t)), (e,e)} * [[[mother]]]_{(e, (e,t))}[[[mother]]]_{(e, (e,t))}$ leads to: $[[[APOSS\ mother]]]_{(e,e)} = \lambda x_e. \lambda y_e. (tze.(Female(z_e) \circ Child(z_e, x_e)) = y_e)[[[APOSS\ mother]]]_{(e,e)} = \lambda x_e. \lambda y_e. (tze.(Female(z_e) \circ Child(z_e, x_e)) = y_e)$ **[by FA]**

Step 8: $[[[Joanna]]]_e = j_e[[[Joanna]]]_e = j_e$

Step 9: $[[[APOSS\ mother]]]_{(e,e)}[[[APOSS\ mother]]]_{(e,e)} * [[[Joanna]]]_e[[[Joanna]]]_e$ leads to: $[[[[APOSS\ mother\ Joanna]]]_e = \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e)[[[[[APOSS\ mother\ Joanna]]]_e = \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e)$ **[by FA]**

Step 10: $[[[met]]]_{(e, (e,t))}[[[met]]]_{(e, (e,t))} * [[[[APOSS\ mother\ Joanna]]]_e[[[[APOSS\ mother\ Joanna]]]_e$ leads to: $[[[met\ [[APOSS\ mother\ Joanna]]]_{(e,t)} = \lambda y_e. Met(y_e, \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e))[[[met\ [[APOSS\ mother\ Joanna]]]_{(e,t)} = \lambda y_e. Met(y_e, \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e))$ **[by FA]**

Step 11: $[[[a\ doctor]]]_{(e,t), t}[[[a\ doctor]]]_{(e,t), t} * [[[[met\ [[APOSS\ mother\ Joanna]]]_{(e,t)}[[[[met\ [[APOSS\ mother\ Joanna]]]_{(e,t)}$ leads to: $[[[[[a\ doctor] [met\ [[APOSS\ mother\ Joanna]]]_{(e,t)}]]_t = \exists x_e.(d_{(e,t)}(x_e) \circ Met(x_e, \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e)))[[[[[[a\ doctor] [met\ [[APOSS\ mother\ Joanna]]]_{(e,t)}]]_t = \exists x_e.(d_{(e,t)}(x_e) \circ Met(x_e, \lambda y_e.(tze.(Female(z_e) \circ Child(z_e, j_e)) = y_e))$

[met [[APOSS mother] Joanna]]]]t=∃xe.(d(e,t)(xe)◦Met(xe,t)(ze.(Female(ze)◦Child(ze,je))=ye))) [by FA]

Question 3

3a

Epithets such as *fucking* or *darn* add a certain amount of emotion to the DP, but doesn't in any way affect the truth values. That is, one cannot say that if Alfonso broke the damn computer, that there must exist a computer that *good* fulfills damn objectively. Rather, damn is simply an intensifier which shows the disdain at the sentence level that the speaker feels about the situation. Also, it is important to note that the fact that damn occurs in the DP doesn't mean that the disdain in the sentence is about the computer, but rather more sentence level as if someone broke your computer, you are not annoyed at the computer, but logically at the person who did it, or the action itself.

The word *fucking* can actually be moved into different positions to express *good* that. For example: *Fucking Alfonso broke the computer* VS *Alfonso fucking broke the computer* VS *Alfonso broke the fucking computer* express disdain in 3 separate portions of the sentence. In the first, the speaker is pushing disdain onto Alfonso. In the second, the disdain is on the action of breaking. In the third, the disdain is on the computer itself. It should also be noted that in all of these *11/11* sentences, there is also another interpretation of the disdain being sentence level and not localized to any particular entity or event in it in which the speaker is simply unhappy, or alternatively excited. Regardless, the addition of epithets like *fucking* function as an intensifier which may have positive or negative connotation.

3b

In many cases, these epithets seem to transcend the description of individual actors in the sentence and instead intensifies the sentence itself. For example, in the sentence *I know that Alfonso broke the fucking computer*, *fucking* is not necessarily "owned" by the inner context as much as it is an expression of sentence-level disdain of what has *supposedly* occurred. Thus, I believe that descriptions such as these transcend semantics. It isn't right to say that

5/11 If we are, though, to assume that epithets can belong to particular sub-portions of the sentence, then I would argue that they always escape through "holes". For example, if one were to say *I know that you broke the fucking computer*,

this is a good first step:

*if they project they might be presuppositions
are they cancellable?*

if they are like implicatures it doesn't seem right to call them conversational since they don't obviously follow from any of Grice's sub maxims

the intensity added by `fucking in` you broke the fucking computer is also apparent in `I know that you broke the fucking computer`.

3c

As per our current level of formalism, epithets can *very informally* be thought about as being of type $\langle e,t \rangle$ $\langle e,t \rangle$ as long as the function can condition on certain variables of the context including the overall sentiment that the speaker is currently feeling and his/her feeling on various other entities and concepts.

In such a formalism of epithets, all of these opinionated *fact* predicates can be evaluated there as truth conditions where they only really look at the context to determine *truth*. For example, in `the damn computer`, we would at the top level, have to let `[[the damn computer]]e[[the damn computer]]e` pick out the unique entity in context that the speaker feels disdain for and is a computer. Within this, `[[damn]]\langle e,t \rangle[[damn]]\langle e,t \rangle` would determine the truth of `computer` fulfilling its `damn` predicate based on the context, and as per that, `[[the damn computer]]e[[the damn computer]]e` would pick out the unique in context computer that is thought of with disdain by the speaker. This is formalized as a parametrization at the function level. *attempt the skeleton of a lambda function given the formal tools we do have*

3d

these suprasemantic modifiers change the overall mood/tone of the sentences. This could be captured in a way similar to event semantics where the situation has properties, such as its being perceived as `stupid`.

not clear what you mean, how that different from your inersective analysis above?

this was really about figuring out how to encode via lambda calculus the intensity and valence that the range of epithets express