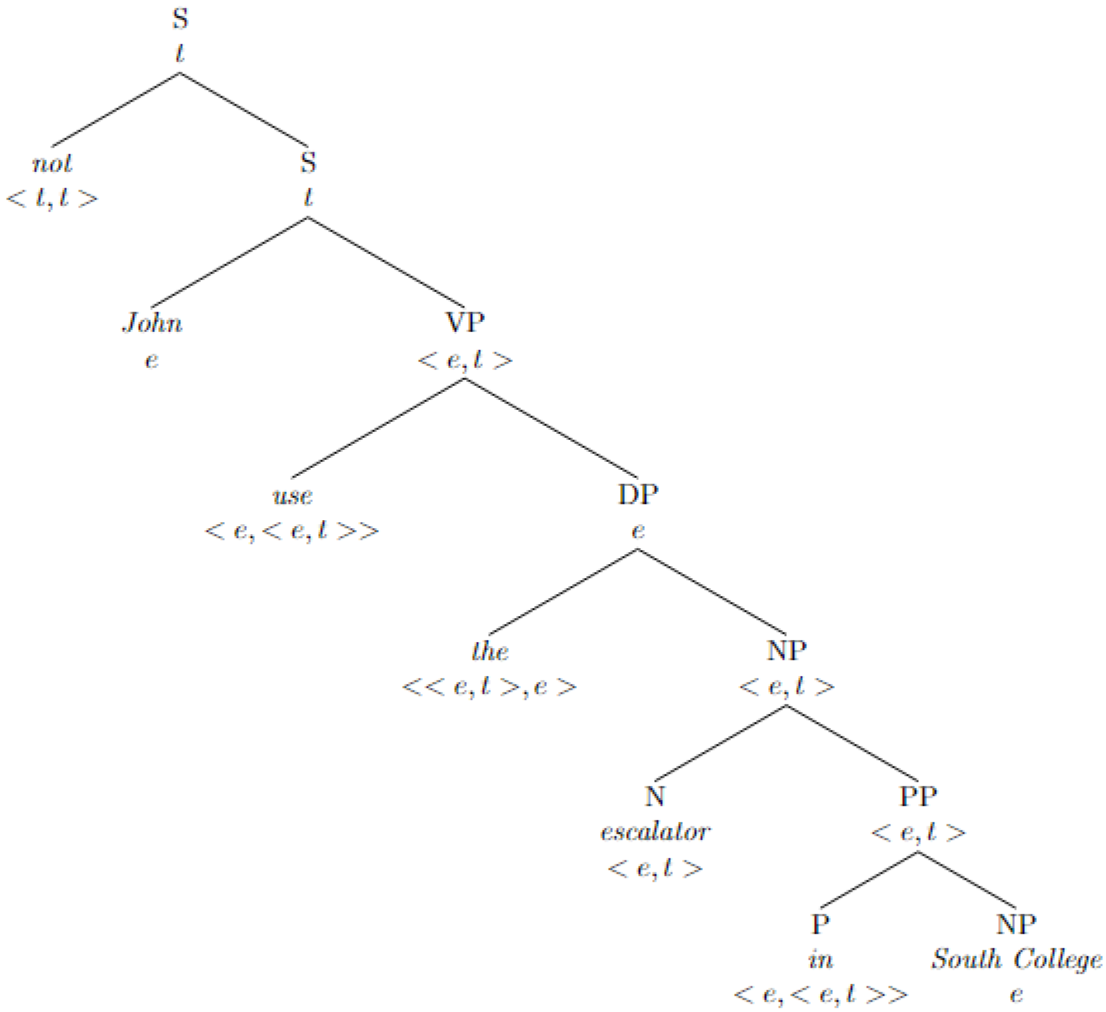
MUHAMMET BAL - LING504 ASSIGNMENT #5

Exercise 1: Calculating the TCs

(1) *John doesn't use the escalator in South College.*



The lexicon I assume for this calculation is the following:

⟦John⟧ = J, ⟦South College⟧ = SC
⟦in⟧ = λx.λy. y is in x
⟦escalator⟧ = λx. x is an escalator
⟦use⟧ = λx.λy. y uses x
⟦the⟧ = λf. ∃!y s.t. f(y)=1. ɩx st. f(x) =1
⟦NOT⟧ = λp.¬p[1]

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[1] I'm using this shorthand representation for the denotation of 'not' here, hope it's not a problem for the purposes of this assignment.

defined iff	if so, then
(1) a. ⟦South College⟧ is defined b. ⟦in⟧ is defined c. ⟦South College⟧ ∈ dom(⟦in⟧) c holds because ⟦SC⟧ ∈ De, while ⟦in⟧ is <e,et>.	⟦in South College⟧ = ⟦in⟧(⟦South College⟧) **by FA** = [λx.λy. y is in x](SC) **by Lex x2** = λy.y is in SC **by λ-elim**
(2) We don't need this part for PM.	⟦escalator in South College⟧ = [λx.⟦escalator⟧(x) = 1 ∧ ⟦in South College⟧(x) = 1] **by PM** = [λx.[λy. y is an escalator](x) = 1 ∧ [λy. y is in SC](x) = 1 **by Lex and from Step 1** = λx. x is an escalator in South College **by λ-elim x2**
(3) a. ⟦the⟧ is defined b. ⟦escalator in South College⟧ is defined c. ⟦escalator in South College⟧ ∈ dom(⟦the⟧) c holds iff [λx. x is an escalator in South College] ∈ [λf.∃!y s.t. f(y)=1] iff ∃!y s.t. [[λx. x is an escalator in SC](y)=1] iff ∃!y s.t. y is an escalator in SC	⟦the escalator in South College⟧ = ⟦the⟧(⟦escalator in South College⟧) **by FA** [ιx st. f(x)=1]([λx. x is an escalator in South College]) **from Steps 3 and 2.** ιx st. x is an escalator in South College **by λ-elim**
(4) a. ⟦the escalator in South College⟧ is def. b. ⟦use⟧ is def. c. ⟦the escalator in South College⟧ ∈ dom(⟦use⟧) c holds because [ιx st. x is an escalator in South College] ∈ De, where ⟦use⟧ is <e, et>	⟦use the escalator in South College⟧= ⟦use⟧(⟦the escalator in South College⟧) **by FA** [λx.λy. y uses x]([ιx st. x is an escalator in SC]) **from Lex & Step 3** λy. y uses ιx st. x is an escalator in SC. **by λ-elim**
(5) a. ⟦John⟧ is def. b. ⟦use the escalator in South College⟧ is def. c. ⟦John⟧ ∈ dom(⟦use the escalator in SC⟧) c holds because ⟦John⟧] ∈ De, where ⟦use the escalator in South College⟧ is <e, t>	⟦John uses the escalator in South College⟧ = ⟦use the escalator in South College⟧(⟦John⟧) **by FA** [λy. y uses ιx st. x is an escalator in South College](J) **from Step 4 and Lex** J uses ιx st. x is an escalator in South College **by λ-elim**
(6) a. ⟦not⟧ is defined. b. ⟦John uses the escalator in South College⟧ is defined c. ⟦John uses the escalator in South College⟧ ∈ dom(⟦not⟧)	⟦John doesn't use the escalator in South College⟧ = ⟦not⟧(⟦John uses the escalator in South College⟧) **by FA** [λp.¬p](J uses ιx st. x is an escalator in SC) **from Lex and Step 5** = 1 iff J doesn't use ιx st. x is an escalator in SC **by λ-elim**

c holds because ⟦John uses the escalator in SC⟧
∈ Dt where ⟦not⟧ is <e, t>

What does our current theory predict about this sentence?

In this part of the question, the notion of utterance context was not introduced, so my answer will not include it accordingly. Without appealing to an utterance context, first, this sentence should be undefined if there's not an escalator in South College. This is because one of its constituent ⟦the escalator in South College⟧ should be undefined given that it's not in the domain of ⟦the⟧. As a result, the whole sentence will be undefined (i.e., will get any truth value assigned) if one of its sister nodes cannot be defined. So, we get a presupposition failure (?). If, however, there's an escalator in South College but since we don't know its exact number, we don't obey the uniqueness condition and still result in undefinedness. So, the theory developed up until this part predicts this to be undefined. Ee can't get any truth values assigned for the sentence. But, I believe, there might be some other contexts where this sentence might seem to have a truth value as in the following:

Scenario: **There's not even a single escalator in South College, and it's known by many (but not all) on the campus. Then there goes this conversation between two classmates:**

Mary: *"It's a pity that John injured his leg and is bound to a wheelchair. I saw him waiting at the entrance of South College. He was probably waiting for the escalator…"*

Alex: *"Nope! John doesn't use the escalator in South College, since there isn't one. He has a class aide to help him with the wheelchair on the stairs. He was waiting for him."*

In such a contrastive scenario, the sentence 'John doesn't use the elevator in South College.' might simply be labeled as 'true' even though it's undefined in the system we have developed if there's not an escalator in South College. So, despite ⟦escalator in South College⟧ is not in the domain of ⟦the⟧, we seem to be able to assign a truth value to this sentence. One apparent reason why this might be assigned a 'true' value rather than 'undefined' could be just because the definite determiner perhaps doesn't have a uniqueness presupposition, in contrast to what we have been arguing so far. If there's no uniqueness presupposition, then this sentence can be assigned a truth value with ease (which, in fact, is predicted to have a truth value in Russell's account given his non-presuppositional account of the definite descriptions). That seems like a reliable argument to me but I don't really have any further idea about what it predicts for the system we developed.