'Third Readings' Without Transparent Evaluation:
Schwager (2011)

(1) **Third Readings and 'Transparent Evaluation'**
Prior to Schwager (2011), all approaches to 'third readings' have assumed that the truth-conditions of such a reading have the following property:

- There is a DP in the complement of a propositional attitude verb V such that:
  - Narrow Scope: The quantificational force of DP scopes below that of V
  - 'Transparent' Evaluation:
    The NP complement in DP is interpreted w.r.t. the *matrix* evaluation world.

Illustration:

a. Sentence: Dave thinks Mary kissed a fisherman.

b. Validating Scenario:

We are at a party being thrown by the local fire department. At the party, all the firemen are dressed in fancy tuxedos. We brought along our friend Dave, *but didn't tell him any of that*. **In fact, Dave's under the impression that the party is being thrown by the police department, and the people in tuxedos are all policemen.**
At one point later in the party, Dave hears from Sue that Mary had just kissed "one of those guys in tuxedos." Consequently, Dave is now snooping around the firemen, trying to determine which of them Mary was kissing. You ask me why Dave is acting so weird around the fireman. I answer: (47a).

c. Proposed Truth-Conditions:
$\forall w' \in$ Dox-Alt(Dave,w) . $\exists x$. **x is a fireman in w** & Mary kissed x in w'

(~ *In all of Dave's doxastic alternatives, Mary kisses an entity x* ***who is a fireman in the actual world***)

(2) **'Transparent Evaluation' Analyses**

Any analysis of 'third readings' where the truth-conditions of such readings are assumed to have the properties in (1).
(Fodor 1970, Geurts 1998, Percus 2000, Maier 2006, Sternefeld 2008, Keshet 2011, *etc.*)

The Main Claim of Schwager (2011):
These analyses are just wrong about the truth-conditions of so-called 'third readings'

1. Challenges for Transparent Evaluation Analyses

(3) The General Problem: Tethering to the Actual World

Under a transparent evaluation analysis, the doxastic alternatives of the attitude holder are required to contain entities from the actual world.

- While this is fine for examples like (1), in the general case, it's just too strong…

1.1 Challenge 1: Variation of Non-Intrinsic Properties Across Possible Worlds

(4) A Classic Case of 'Third Reading' (Adapted from Fodor 1970)

a. Sentence: Adrian wants to buy a jacket the same color as Malte's.

b. Scenario:
Adrian wants to buy a green Bench jacket that he saw in a catalog. Our friend Malte (who he doesn't know) has the exact same kind of jacket.

c. Truth-Conditions Under Transparent Evaluation:

$\forall w' \in$ Desire-Alt(Adrian,w). $\exists x$. **x is a jacket the same color as Malte's in w** & Adrian buys x in w'

In all the worlds w' where Adrian's desires in w are met, there is in w' a jacket x which is the same color as Malte's ***in the actual world****, and Adrian buys x in w'*

(5) The Problem

- Consider two worlds w1 and w2 such that at w1 Adrian buys a jacket j1, and at w2 Adrian buys a jacket j2.
- Suppose that at w1 jacket j1 is green, and at w2 jacket j2 is green.
- However, suppose that at the actual world w_0, jacket j1 is green while jacket j2 is red.
  - After all, we can suppose that specific jackets might have been dyed different colors…
- For the truth-conditions in (4c) to hold, it must be that w2 is *not* in the Desire-Alts of Adrian at w_0
- **But this seems wrong! Worlds w1 and w2 are qualitatively identical as far as Adrian's actual desires; in both he ends up buying a green Bench jacket.**

1.2 Challenge 2: Empty NP Extensions at the Actual World

(6) **The Burj Dubai Example**

a. Sentence: Mary wants to buy a building with 192 floors.

b. Scenario:
"Mary is looking at the Burj Dubai, which has 191 floors and is currently the highest building in the world. Also, no other building has more floors. Mary doesn't know this. She also doesn't know how many floors Burj Dubai has. She thinks 'Wow, I want to buy a building that's even one floor higher!"

c. Truth-Conditions Under Transparent Evaluation:

∀w' ∈ Desire-Alt(Mary,w). ∃x. **x is a building with 192 floors in w** &
Mary buys x in w'

*In all the worlds w' where Mary's desires in w are met, there is in w' a building x which has 192 floors **in the actual world**, and Mary buys x in w'*

(7) **The Problem**

- There is no x in the actual world that is a building with 192 floors.
- Consequently, the truth-conditions in (6) can only hold if Mary has an empty set of desire worlds (i.e., her desires are inconsistent).
- However, intuitively, Mary's desires in (6b) are *not* inconsistent.

(8) **Possible Alternative Analysis that Schwager Considers**
Maybe (6a) is true in (6b) under a 'classic *de re*' reading, where the *res* is the number 192

Proposed Truth-Conditions:
∃R . 192 = the n such that R(Mary,n,w) &
∀w' ∈ Desire-Alt(Mary,w) . ∃x. x is a building with
[the n such that R(Mary,n,**w'**)] floors in **w'** and Mary buys x in **w'**

- In scenario (6b), 'R' could be witnessed by the following relation:
'the tallest building that x saw in w has (n-1) floors'

Even if we could work out the details here, a 'de re' analysis like this wouldn't extend to other cases that Schwager considers…

(9) **The Curfew Example**

a. Sentence: Bill wants to interview someone who broke the curfew.

b. Scenario (Based Upon the Sketch by Schwager 2011):
In a particular war-torn city, there's a city-wide curfew at 6PM. It's stringently enforced, and so no citizen is out after 6PM. After 6PM, though, there was a huge explosion downtown. Of course, nobody was witness to it, since everyone was obeying the curfew.

Bill is a reporter in this city. For whatever reason, he's ignorant about the curfew. However, he wants to interview people who might have seen the explosion last night. Therefore, he's looking for someone who was out after 6PM.

c. Truth-Conditions Under Transparent Evaluation:

∀w' ∈ Desire-Alt(Bill,w). ∃x. **x broke the curfew in w** & Bill interviews x in w'

d. The Problem:
- Again, in the actual world (in scenario (9b)), there is no such person x.
- There's no clear way how the true reading of (9a) in scenario (9b) can be modeled as a (classic) *de re* attitude.

1.3 Challenge 3: Relations to Entities Existing at the Actual World

(10) **Initial Observation**

- In scenario (4b) – repeated below – Adrian isn't actually presented as desiring any jackets that exist in the actual world.
- But in the truth-conditions in (4c) – repeated below – Adrian's desire worlds are all required to contain jackets from the actual world…

a. Sentence: Adrian wants to buy a jacket the same color as Malte's.

b. Scenario:
Adrian wants to buy a green Bench jacket that he saw in a catalog. Our friend Malte (who he doesn't know) has the exact same kind of jacket.

c. Truth-Conditions Under Transparent Evaluation:

∀w' ∈ Desire-Alt(Adrian,w). ∃x. **x is a jacket the same color as Malte's in w** & Adrian buys x in w'

We can draw this problem out more acutely in examples like the following…

(11) **The Fazioli Grand Example**

a. Sentence: Adrian wants to buy a piano like your grandmother's.

b. Scenario:
Fazioli grand pianos can be bought used, but they are much nicer when directly ordered from the manufacturer. Adrian has no interest in a used Fazioli grand, but he hopes very much some day to place an order for a custom-built one.
Unbeknownst to Adrian, the addressee's grandmother owns a Fazioli grand piano.

c. Truth-Conditions Under Transparent Evaluation:

∀w' ∈ Desire-Alt(Adrian,w). ∃x. **x is a piano like your grandmother's in w** &
Adrian buys x in w'

(12) **The Problem**

- The truth-conditions in (11c) require each of Adrian's desire worlds to contain a Fazioli grand *from the actual world* (which Adrian buys in that desire world)

- But such truth-conditions would not hold in scenario (11b), where Adrian's desire is *not* to own an existing Fazioli grand, but instead to have one specially made for him.

(13) **A Possible Solution that Schwager Considers**

Perhaps we can rescue the transparent evaluation analysis in (11c) via explicit reference to time?

Transparent Evaluation with Future Times:

∀w' ∈ Desire-Alt(Adrian, w, t).
∃x. **∃t'. t' > t & x is a piano like your grandmother's in w at t' &**
Adrian buys x in w'

In all of the worlds where Adrian's desires are met, there is an x such that
x is a piano like your grandmother's ***in the actual world at some future time t',***
and Adrian buys x in w'

(14) **The Problem with That Solution**

We can alter the scenario in (11b) minimally, so that Fazioli grands are no longer being produced (unbeknownst to Adrian).

- In such a scenario, (11a) is still true, but the truth-conditions in (13) would not hold.

2. The Replacement Principle

(15) **Schwager's Conclusion**
Given the problems noted above, any 'transparent evaluation' analyses are simply deriving the wrong kinds of truth-conditions for cases of 'third readings'.

(16) **Alternative Possibility 1:**
Schwager (2011) first considers whether a better analysis couldn't be obtained using Cresswell & von Stechow's (1982) theory of 'Generalized *De Re*' (see Handout 3).

- Under such an analysis, a 'third reading' is simply a regular *de re* reading where the *res* is a property.

- However, due to *technicalities of the specific Cresswell & von Stechow system*, Schwager is unable to devise such an analysis that will cover *all* the examples of third readings above.

(17) **Schwager's Proposal: The Replacement Principle**

"For the sake of reporting an attitude, a property that is involved in the content of the attitude that is to be reported (the **reported property**) can be replaced by a different property (the **reporting property**) as long as the reported property is a subset of the reporting property at *all relevant worlds*."

- Relevant worlds = those worlds metaphysically closest to the actual world where the 'reported property' is non-empty.

Schwager provides a rough formalization of this 'replacement property' using the Cresswell & von Stechow (1982) system…

(18) **The 'Replacement Principle' in Action: The 'Jacket Buying' Example**

a. Sentence: Adrian wants to buy a jacket the same color as Malte's.

b. Analysis Using 'The Replacement Principle':
- In scenario (4b), the reported property is 'green jacket'
- Consider the worlds metaphysically closest to the actual world where that property is non-empty… *In this case, that will be the actual world.*
- In scenario (4b), at the actual world, the 'green jackets' are a subset of the 'jackets the same color as Malte's'.
- Therefore, (17) says we can trade one for the other in our description of Adrian's attitude:

'Adrian wants to buy a **green jacket**' → 'Adrian wants to buy a **jacket the same color as M's**'

(19) **The 'Replacement Principle' in Action: The 'Burj Dubai' Example**

a. Sentence: Mary wants to buy a building with 192 floors.

b. Analysis Using 'The Replacement Principle':

- In scenario (6b), the reported property is 'building one floor higher than the building Mary is looking at'
- Consider the worlds metaphysically closest to the actual world, but where that property is non-empty…
  - In these worlds, everything is the same as in the actual world, except that there *are* buildings one floor higher than the Burj Dubai
- Clearly, in these worlds, the 'buildings one floor higher than the building Mary is looking at' are a subset of the 'buildings with 192 floors'
- Therefore, (17) says we can trade one property for the other in our description of Mary's attitude:

'Mary wants to buy a **building one floor higher than the one she is looking at**' → 'Mary wants to buy a **building with 192 floors**'

This kind of analysis will also directly extend to the 'Curfew Example' in (9)…

(20) **The 'Replacement Principle' in Action: The 'Fazioli Grand' Example**

a. Sentence: Adrian wants to buy a piano like your grandmother's.

b. Analysis Using 'The Replacement Principle':

- In scenario (11b), the reported property is 'Fazioli grand piano'
- Consider the worlds metaphysically closest to the actual world, but where that property is non-empty… *Again, we come to the actual world*.
- Clearly, at the actual world, the 'Fazioli grand pianos' are a subset of the 'pianos like your grandmothers'.
- Therefore, (17) says we can trade one property for the other in our description of Adrian's attitude:

'Adrian wants to buy a **Fazioli grand**' → 'Adrian wants to buy a **piano like your grandma's**'

The reader is invited to confirm that the analysis in (17) will also make the correct prediction for examples like (1)…

(21) **An Obvious, Outstanding Problem We'll Get Back to (Sorta)**

What kind of thing is this 'Replacement Principle' in (17)?

- It's written in (17) as if it's some kind of meta-linguistic, pragmatic principle…
- In her (quasi-)formalization, Schwager (2011) treats it is a kind of stipulated sub-component to the semantics of *believes* and other attitude verbs.
- *Either way, the question remains of why it's there…*

3. The Replacement Principle and 'Transparent' Main Predicates

(22) **Generalization X (Percus 2000)**

The evaluation world for the main predicate of an embedded clause cannot be the matrix evaluation world.

(23) **Evidence for Generalization X (Percus 2000)**

a. Sentence: Dave thinks my brother is Canadian.

b. Scenario:
Dave (wrongly) thinks that John is my brother. John happens to be Canadian, but Dave doesn't know that.

c. Judgment: Sentence (23a) is *false* in scenario (23b).

d. Truth-Conditions Validated in Scenario (23b):

$\forall w' \in$ Dox-Alt(Dave,w) . my brother **in w'** is Canadian **in w**

In all of Dave's doxastic alternatives w', the individual who is my brother in w' (i.e., John) is Canadian in the actual world.

e. **Key Analytic Conclusion:**

- The reading in (23d) must not be a possible reading for sentence (23a).
- The absence of reading (23d) would follow from Generalization X (22).

(24) **Problematic Consequence for 'Transparent Evaluation' Analyses**

- Under a 'transparent evaluation' analysis (2), a so-called 'third reading' requires some predicate to be evaluated with respect to the actual world.
- Given Generalization X, the main predicate of a propositional attitude complement can never be evaluated with respect to the actual world.
- Therefore, a 'transparent evaluation' analysis would predict that 'third readings' should never be possible for the main predicate of an attitude complement…
- **But, notwithstanding facts like (23), it seems that something like a 'third reading' is indeed possible for the main predicates of attitude complements…**

(25) **A 'Third Reading' With an Embedded Main Predicate (Schwager 2011)**

a. Sentence: Dave thinks my (half-)brother is Canadian.

b. Validating Scenario:
I have a half-brother who I don't really know anything about. We're trying to figure out his citizenship. Dave is pretty sure that he was born in Canada. However, Dave himself doesn't know whether this means he is a Canadian citizen.
We on the other hand, know that anyone born in Canada is a Canadian citizen. We're not really interested in Dave's state of mind, but want to use/report his belief as a way of settling our main question…

(26) **A 'Third Reading' With an Embedded Main Predicate (Sudo 2014)**

a. Sentence: Mary thinks that Sue is Catholic.

b. Validating Scenario:
Being an ignorant atheist, Mary cannot distinguish the different branches of Christianity, though she knows that there are different denominations and that Catholicism is one of them. One day, she heard that our religious friend John, who is Catholic, is dating Sue. Because of his religious nature, Mary concludes that Sue must be the same denomination as John, though she doesn't herself know which one that is.

(27) **A 'Third Reading' With an Embedded Main Predicate (Cable 2011)**

a. Sentence: Mary thinks that we're tap dancing right now.

b. Validating Scenario:
We've entered into a dance competition, and the routine that we're practicing is a tap-dancing routine. We regularly practice our routine every day at 1PM. Our friend Mary knows that we're in this competition, but doesn't know the nature of our routine. She also knows that we practice every day at 1PM.
One day, we blow off practice, and go to the movies at 1PM instead. You think that Mary will be angry that we didn't invite her to come along, but I remind you with sentence (27a) that she already believes that we are presently indisposed.

(28) **The Ways in Which These Readings are Like 'Third Readings'**

- At the attitude holder's doxastic alternatives, the *main predicate* of the attitude complement needn't be true of the subject of the attitude complement…
- Rather, what's true of the embedded subject at the doxastic alternatives is *some other predicate* ('born in Canada', 'same religion as John', 'practicing our dance routine').
- However, this other predicate that holds in the doxastic alternatives is – in some sense – 'equivalent' at the actual world with main predicate of the complement

Given the observations in (28), it's clear that the 'Replacement Principle' in (17) will predict these cases…

(29) **Application of the Replacement Principle to 'Transparent' Main Predicates**

a. Example (25):
- Reported property = 'born in Canada'
- At the closest worlds where 'born in Canada' is non-empty (i.e., the actual world), it is a subset of 'is Canadian'.

b. Example (26):
- Reported property = 'is the same religion as John'
- At the closest worlds where 'is the same religion as John' is non-empty (i.e., the actual world), it is a subset of 'is Catholic'

c. Example (27):
- Reported property = 'practicing our dance routine'
- At the closest worlds where 'practicing our dance routine' is non-empty, it is a subset of 'is tapdancing'.

(30) **Important Fact**

- The 'third readings' at play in examples (25)-(27) are *not* cases where the evaluation world of the embedded predicate is the matrix evaluation world.
- That is, it wouldn't work to analyze the sentences in (25)-(27) as having the truth-conditions below.

a. ∀w' ∈ Dox-Alt(Dave,w) . my brother **in w'** is Canadian **in w**

b. ∀w' ∈ Dox-Alt(Mary,w) . Sue **in w'** is Catholic **in w**

c. ∀w' ∈ Dox-Alt(Mary,w) . we are tap dancing **in w**

- **Moreover, Schwager's (2011) system would not predict the possibility of such readings, in as much as she eschews the mechanisms that would allow for such 'transparent evaluation' in the first place!**

(31) **In Summary**

- By eschewing 'transparent evaluation', Schwager (2011) trivially predicts the absence of readings like (23d) and (30a,b,c), and thus Percus's (2000) 'Generalization X'
- However, Schwager's 'Replacement Principle' correctly predicts the existence of 'third readings' for embedded main predicates, **given a different understanding of what is involved in a so-called 'third reading'**

4. Sudo 2014: The Replacement Principle and (Classic) *De Re* Readings

*What if we had a version of the replacement principle that applied to **terms?***

(32) **The Replacement Principle (for Terms)**

For the sake of reporting an attitude, a **term** that is involved in the content of the attitude that is to be reported (the **reported term**) can be replaced by a different term (the **reporting term**) as long as the reported term is coextensive with the reporting term in those worlds metaphysically closest to the actual world where the reported term is non-empty.

- Sudo (2014) independently proposes a very similar principle to account for classic cases of *de re*.

(33) **Application to (Classic) *De Re* Readings**

a. Sentence: Ralph thinks that Orcutt is a spy.

b. Scenario: (Quine's 1956 'Double Vision' scenario)

c. Analysis Using 'The Replacement Principle':

- In scenario (33b), the reported term is 'the man in the brown hat'
- Consider the metaphysically closest worlds where that term is not empty.
  - This is, of course, the actual world.
- In the actual world 'the man in the brown hat' is co-extensive with 'Orcutt'
- Therefore, the Replacement Principle in (32) states that we can trade one term for the other in the reporting of Ralph's attitude.

This analysis is obviously subject to the 'Shortest Spy' problem (See Handout 2)…

However, in the linguistic literature, there is increasing skepticism about the severity / importance of that problem…
(Sosa 1970, Aloni 2005a,b, Anand 2006, Charlow & Sharvit 2014, …)

(34) **Outstanding Problem: What the Actual Heck is Going On Here?!?!**

What is this Replacement Principle, exactly?

- Is it some kind of meta-linguistic pragmatic principle?
  - If so, what does it follow from?
  - What is its place amongst other kinds of meta-linguistic reasoning?
- Is it somehow part of the semantics of attitude verbs?
  - If so, is it part of their lexical semantics, as formulated by Schwager (2011)?
    - If so, can that be made to follow in a principled way for *all* attitude verbs?
  - Or, could it instead somehow follow from the way that the *compositional* semantics of attitude sentences works?

(35) **One Last Observation: A Possible Connection with Percus & Sauerland (2003)**

Once we have the 'term-version' in (32) on the table, we can start to see that there's a kind of practical similarity between what the 'Replacement Principle' does and what the 'concept generators' of Percus & Sauerland (2003) do…

- The 'Replacement Principle' takes an expression of the subordinate clause and 'replaces' it with another expression that is co-extensive with it in the actual world…
- A concept generator takes as argument a denotation in the subordinate clause, and maps it to another denotation that is co-extensive with it in the actual world…

In a certain sense, it seems like both pieces of technology are embodying the same general idea…

Moreover, there may be a deeper connection with both and the Lewisian notion of a 'counterpart relation' (see Handout 2)