Ⓐ

(1) The man (wh₁) he₂ saw t₁

$$[\![who_1\ he_2\ saw\ t_1\ ]\!]^{[2\to John]} = \lambda x . [\![who_1\ he_2\ saw\ t_1\ ]\!]^{[2\to j][x|1]}\ \text{by PA}$$

$$= \lambda x\ [\![saw\ t_1]\!]^{[2\to j][x|1]}\ ([\![he_2]\!]^{[2\to j][x|1]})\ \text{by FA}$$

$$= \lambda x\ [\![saw]\!]\ ([\![t_1]\!]^{[2\to j][x|1]})\ ([\![he_2]\!]^{[2\to j][x|1]})\ \text{by FA and a.i. of "saw".}$$

$$= \lambda x.\ [\![saw]\!]\ ((_{[2\to j]}^{[x|1]}(1))\ ((_{[2\to j]})^{[x|1]}(2))\ \text{by PTR} \times 2$$

$$= \lambda x.\ [\![saw]\!]\ (x)\ ((_{[2\to j]}(2))\ \text{by function simplification} \times 2.$$

$$= \lambda x.\ [\lambda y.\lambda z.\ z\ saw\ y\ ]\ (x)\ ((_{[2\to j]}(2))\ \text{by Lexicon}$$

$$= \lambda x.[\ \lambda z.\ z\ saw\ x\ ](j)\ \text{by } \lambda\text{-reduction, Function simplification}$$

$$= \lambda x.\ J\ saw\ x\ \ \text{by } \lambda\text{-reduction}$$

(2) The man (wh₂) he₂ saw t₂

$$[\![who_2\ he_2\ saw\ t_2\ ]\!]^{[2\to John]} = \lambda x.\ [\![he_2\ saw\ t_2\ ]\!]^{[2\to j][x|2]}\ \text{by PA}$$

$$= \lambda x\ [\![saw\ t_1]\!]^{[x|2]}\ ([\![he_2]\!]^{[2\to j][x|2]})\ \text{by FA}$$

$$= \lambda x\ [\![saw]\!]\ ([\![t_2]\!]^{[2\to j][x|2]})\ ([\![he_2]\!]^{[2\to j][x|2]})\ \text{by FA and a.i. of "saw".}$$

$$= \lambda x.\ [\![saw]\!]\ ((_{[2\to j]}^{x|2}(2))\ ((_{[2\to j]}(2))\ \text{by PTR} \times 2$$

$$= \lambda x.\ [\![saw]\!]\ (x)\ (x)\ \text{by function simplification} \times 2$$

$$= \lambda x.\ [\lambda y.\lambda z.\ z\ saw\ y\ ](x)\ (x)\ \text{by Lexicon}$$

$$= \lambda x.[\ \lambda z.\ z\ saw\ ](j)\ \text{by } \lambda\text{-reduction}$$

$$= \lambda x.\ X\ saw\ X\ \ \text{by } \lambda\text{-reduction}$$

B

Do the two relative clauses end up denoting the same predicate or different predicates? Depending on your answer provide, one or two definite descriptions that is/are equivalent to the extension/extensions of the descriptions in (1) and (2) that you predict based on the denotations of the RCs you derived in A.

They denote different predicates. (1) denotes something like "the man John saw" while (2) denotes

"The man that saw himself" (reflexive).

C

Now consider the sentence The man (wh) he saw t was tired. Discuss whether the denotation of the RC in (2) predicts TCs that may correspond to an actual interpretation of this sentence. If not, what would block this indexing/interpretation? (Think of syntax)

The denotation of the RC in (2) does not predict TCs that may correspond to an actual interpretation of this sentence.

Syntax blocks this interpretation. Strong crossover occurs when a wh-element moves across a pronominal (he here)

which c-commands it. In this configuration, if the pronominal is co-indexed with the moved wh-element, the structure

becomes ungrammatical, because of a Condition C violation (that suggests that wh-trace must be A-free).

D

Now turn back to the indexing in (1). Does this indexing exclude the TCs you derive with (2) for the sentence The man he saw is tired? (Think of accidental coreference)

No, not necessarily. If X is accidentally John himself, we can have TCs derived with (2).

E

Can you think of contexts where one could accept the reading predicted by (1)?

In the movie Interstellar, there is a man who is engaging in interstellar travel (similar to time travel) and let's call him John.

So if John sees himself in space (the man John saw), we can accept the reading predicted by (1).