Ellipsis and quantifier scope ambiguity

1. The following sentence is ambiguous in a way that should by now be familiar, having both the truth conditions in (1a) and the ones in (1b):

   \(1\) A pilot inspected every plane.
   a. There is an \(x\) such that \(x\) is a pilot and for every \(y\) such that \(y\) is a plane, \(x\) inspected \(y\).
   b. For every \(y\) such that \(y\) is a plane, there is an \(x\) such that \(x\) is a pilot and \(x\) inspected \(y\).

Show how our assumptions about the syntax-semantics interface derive this ambiguity. Assume for the purposes of this assignment that subjects are generated inside the specifier of VP and raise to their surface position; i.e., that the representation that provides the input to the mechanisms that determine how (1) is pronounced looks something like (2).

\[
2 \quad \begin{array}{c}
TP \\
a pilots \\
\_ \\
T' \\
PAST \\
V' \\
t_1 \\
inspected every plane
\end{array}
\]

If there are different ways of deriving the two readings in (1a-b), be sure to discuss them and their implications for the broader theory we have been developing.

2. Now consider (3).

   \(3\) Commander Jones inspected every plane, and a pilot did too.

Presumably the second clause in (3) is derived from a sentence that is just like (1); i.e., one in which what is deleted is \textit{inspect every plane}. This means that the second clause of (3) should be ambiguous in the same way as (1), but it’s not: the second clause of (3) has only an interpretation in which the subject has scope over the object (SUBJ \textgreater\ OBJ) — i.e., only the one paraphrased above in (1a), not the one in (1b). Do our assumptions account for this fact? If so, say how; if not, how can this fact be accommodated by our system?
3. Now consider (4).

(4) An engineer inspected every plane, and a pilot did too.

Now the second clause is ambiguous between the reading in (1a) and the one in
(1b). Moreover, the interpretation of the second sentence is linked to that of the first
sentence, which is ambiguous in the same way as (1): the scope relations must be
parallel. That is, if we have SUBJ ⊨ OBJ scope in the antecedent clause, we have
SUBJ ⊨ OBJ scope in the ellipsis clause (= (1a)); and if we have OBJ ⊨ SUBJ scope
in the antecedent clause, we have OBJ ⊨ SUBJ scope in the ellipsis clause (= (1b)).

What is responsible for this difference between (3) and (4), and how does the ambiguity in
(4) affect the answer you gave in part 2 based on (3)? What is the significance
of the ‘parallel scope’ requirement? Do these facts require us to modify our assumptions about quantification? About ellipsis? About the relation between form and
meaning? If so (for any of these), how?

4. Finally, consider the pair of examples in (5). (5a) involves VP-ellipsis, and is
ambiguous in the same way as (4).

(5) a. An engineer should inspect every plane, and a pilot should too.
   b. An engineer should inspect every plane, and a pilot should do it too.

(5b) involves ‘VP-anaphora’ — the use of an overt pronominal expression do it which
is (evidently) anaphoric to a VP meaning — and is NOT ambiguous: it has only the
reading in which the scope relations in the two clauses are SUBJ ⊨ OBJ (there is one
engineer for every plane, and one pilot for every plane).\footnote{I’ve changed the form of the verb and added the modal verb should to make use of the VP-
anaphor more felicitous. Don’t worry about this — (ia-b) still constitute a minimal pair with respect
to the scope relations between the two quantifiers.} Does the analysis you have
developed so far extend to this contrast? In order to answer this question, you will
have to present an explicit analysis of VP-anaphora, and say how it differs from/is
similar to the analysis of VP-ellipsis we have developed in class. Be sure to make
your proposal as explicit as possible, providing supporting data as appropriate, and
showing precisely how it explains the contrast between (5a) and (5b) with respect to
quantifier scope ambiguity.

Note: There are a number of different directions that you could take in answering
these questions, and in fact a full solution to the problems presented here may be out
of reach. This is OK: if you find that you cannot actually solve all of these problems,
you should focus on stating as clearly as possible what the crucial issues at stake are,
illustrating your claims with derivations and trees as appropriate, making all new
assumptions explicit, and clearly presenting your reasoning.

Extra credit: Do the facts in this assignment have any significance for the choice
between a QR/LF analysis of quantificational NPs vs. a type-shifting/surface interpre-
tation analysis? If so, say which analysis the facts support and why; if not, show
that both analyses can equally well account for the data.