Presuppositions: Diagnostics, Triggers, and Projection

Identifying Presuppositions: the S-family test

Alongside entailments and conversational implicatures, presuppositions constitute another type of inference that can be drawn from the utterance of a sentence. As we’ve already seen, the characteristic feature of presuppositions, which distinguishes them from ordinary entailments, is that they “persist” in ways that ordinary entailments don’t.

(1)  
   a. The theater will show the movie again on Thursday.  
   b. The theater will show the movie on Thursday.  
   c. The theater has shown the movie before.

Sentence (1a) entails both (1b) and (1c), as shown by our non-deniability/contradiction test for entailment:

   d. #The theater will show the movie again on Thursday. But, they won’t show the movie on Thursday.  
      (non-deniability test; contradictory)

   e. #The theater will show the movie again on Thursday. But, they haven’t shown the movie before.  
      (non-deniability test; contradictory)

But consider now the sentences in (2):

(2)  
   a. The theater will show the movie again on Thursday.  
   b. The theater won’t show the movie again on Thursday.  
   c. Will the theater show the movie again on Thursday?  
   d. If the theater shows the movie again on Thursday, then Richard will be there.  
   e. Perhaps the theater will show the movie again on Thursday.  
   f. The theater will show the movie on Thursday.  
   g. The theater has shown the movie before.

Unlike (2a), none of (2b)–(2e) allow us to infer that (2f) is true: the inference to (2f) does not persist throughout (2b)–(2e). On the other hand, from any of (2a)–(2e), we can infer that (2g) is true: in other words, the inference to (2g) persists in (2b)–(2e).

Thus, whereas (2f) and (2g) are both entailments of (2a), only (2g) is a presupposition of (2a). (Alternatively, (2a) presupposes (2g)).
We use the term “the $S$-family” to describe the sentences in (2a)-(2e). For any sentence $S$, the $S$-family consists of the following:

(i) $S$ (simple),  
(ii) not-$S$ (negated),  
(iii) $S?$ (yes-no question),  
(iv) if-$S$ (antecedent of conditional), and  
(v) perhaps-$S$ (possibility).

A distinguishing feature of presuppositions, then, is their persistence throughout the entire $S$-family. In fact, we will define presuppositions in terms of such persistence:

(3) A sentence $S$ **presupposes** another sentence $P$ whenever (i) an utterance of $S$ allows us to infer $P$, and (ii) an utterance of any other member of the $S$-family also allows us to infer $P$.

If $S$ presupposes $P$, then so does any other member of the $S$-family.

Presupposition and entailment are thus distinct, but not mutually exclusive notions. Sometimes, a sentence will both entail and presuppose another sentence (as with (2a) and (2g)). But not always—a sentence may entail another sentence without presupposing it (as with (2a) and (2f)). And a sentence may also presuppose another sentence without entailing it, as we’ll see. (In fact, you should have already convinced yourself of this while completing HW5.)

The $S$-family also gives us a test for distinguishing presuppositions from ordinary entailments. Given that (an utterance of) $A$ allows us to infer $B$, we can ask the following two questions

(i) does the truth of $A$ guarantee the truth of $B$?  
(entailment—use our previous tests re: contradiction/redundancy to investigate this question)

(ii) do the other members of the $A$-family also allow us to infer $B$?  
(presupposition—use the $S$-family test to investigate this question)
Presupposition Triggers

Another characteristic feature of presuppositions is that they are tied to the presence of certain words or syntactic configurations, so-called “presupposition triggers”. In (2), for instance, the presupposition in (2g) is tied to the presence of again—the word again is the trigger for the presupposition in (2g). Here is a brief list of some of the other presupposition triggers that we have encountered so far (for a much more comprehensive list, consult Levinson, pgs. 181-184):

Stop: sentences of the form $X \text{ stopped } V$-$ing \ (Y)$ presuppose $X \text{ used to } V \ (Y)$.

(4) Sally stopped selling drugs.
Presupposition of (4): Sally used to sell drugs.

The: noun phrases formed with the definite article the presuppose that there is some individual who satisfies the associated description.

(5) The woman who murdered Arturo was arrested.
Presupposition of (5): A woman murdered Arturo.

(6) The woman who was arrested murdered Arturo.
Presupposition of (6): A woman was arrested.

Possessives: noun phrases of the form $X's \ N(s)$ presuppose $X \ has \ N(s)$.

(7) Jack’s children are asleep.
Presupposition of (7): Jack has children.

It-clefts: sentences of the form It was $X \ who/that \ Y$-$ed$ presuppose Someone $Y$-$ed$.
(Here, the trigger is the entire syntactic construction.)

(8) It was Richard who stole the gerbil.
Presupposition of (8): Someone stole the gerbil.

Regret: sentences of the form $X \ regrets \ V$-$ing \ (Y)$ presuppose $X \ V$-$ed \ (Y)$.

(9) Barack regrets appointing a Republican.
Presupposition of (9): Barack appointed a Republican.

(In HW5 and HW6, you also investigated the presupposition triggers even and too; what are the presuppositions of sentences containing these words?)
Presupposition Projection

As we’ve seen, (10a) presupposes (10b), and (11a) presupposes (11b).

(10)  a. The theater will show the movie again on Thursday.
     b. The theater has shown the movie before.

(11)  a. Jack’s children will be happy.
     b. Jack has children.

Our logical connectives not, if...then..., and, and or combine with smaller sentences to form larger, more complex sentences:

(12)  The theater will not show the movie again on Thursday.

In (12), we find a complex sentence formed by combining not with (10a). We know that (10a) presupposes (10b). Since (12) contains (10a), does (12) also presuppose (10b)?

(13)  If the theater will show the movie again on Thursday, then Jack’s children will be happy.

(14)  The theater will show the movie again on Thursday, and Jack’s children will be happy.

(15)  Either the theater will show the movie again on Thursday, or Jack’s children will be happy.

In (13)–(15), we find complex sentences formed by combining if...then..., and, and or with (10a) and (11a). We know that (10a) and (11a) respectively presuppose (10b) and (11b). Since (13)–(15) contain (10a) and (11a), do they also presuppose (10b) and (11b)?

More generally, we can ask the following question:

(16)  How are the presuppositions of a larger, complex sentence determined by the presuppositions of the smaller sentence(s) that it contains?
     (Do the presuppositions of the smaller sentence(s) “project” to become presuppositions of the larger sentence?)

The question in (16) is known as the “projection” problem in the presupposition literature. Let us consider our logical connectives in turn.
Not

Does a complex sentence of the form not-A inherit the presuppositions of A?

We can use our S-family test to investigate this question. This time, our most basic S-sentence will itself be a complex sentence of the form not-A, and the other members of the S-family will be constructed out of not-A.

(17) a. The theater will not show the movie again on Thursday. \( S = \text{not-A} \)
    b. It’s not true that the theater will not show \( \text{not-S} = \text{not-}(\text{not-A}) \)
       the movie again on Thursday.
    c. Will the theater not show the movie again \( S? = (\text{not-A})? \)
       on Thursday?
    d. If the theater will not show the movie again \( \text{if-S} = \text{if-}(\text{not-A}) \)
       on Thursday, then we’ll have to wait for the DVD to be released.
    e. Perhaps the theater will not show \( \text{perhaps-S} = \text{perhaps-}(\text{not-A}) \)
       the movie again on Thursday.
    f. The theater has shown the movie before. \( \text{presup. of A...what about S?} \)

Sentences (17a)-(17e) all allow us to infer that (17f) is true. So, we can conclude that (17a) presupposes (17f).

(18) Generalization: complex sentences of the form not-A inherit the presuppositions of A.

We say that not is a “hole”, since not allows all of the presuppositions of A to project to not-A.

In our earlier definition of presupposition (see (3)), we simply assumed that all members of the S-family share the same presuppositions. (17a)-(17e) show that at least for not-S this assumption is justified.
If...then...

Does a complex sentence of the form \( \text{If } A, \text{ then } B \) inherit the presuppositions of \( A \) and the presuppositions of \( B \)?

Again, we can use our \( S \)-family test to investigate this question. This time, our basic \( S \)-sentence will itself be a complex sentence of the form \( \text{if } A, \text{ then } B \). The other members of the \( S \)-family will then be constructed from \( \text{If } A, \text{ then } B \).

(18)  
\begin{align*}
a. & \text{ If the theater will show the movie again on Thursday, } S [= \text{if } A, \text{ then } B] \\
& \text{ then Jack’s children will be happy.} \\
b. & \text{ It’s not true that if the theater will show not}\-S [= \text{not-(if } A, \text{ then } B)] \\
& \text{ the movie again on Thursday, then Jack’s children will be happy.} \\
c. & \text{ If the theater will show the movie again on Thursday, then Jack’s children will be happy.} \\
d. & \text{ [skip...too many if...then...’s to keep track of]} \\
e. & \text{ Perhaps if the theater will show perhaps-}\-S [= \text{perhaps-(if } A, \text{ then } B)] \\
& \text{ the movie again on Thursday, then Jack’s children will be happy.} \\
f. & \text{ The theater has shown the movie before.} \quad \text{presup. of } A \ldots \text{what about } S? \\
g. & \text{ Jack has children.} \quad \text{presup of } B \ldots \text{what about } S? \\
\end{align*}

Sentences (18a)–(18e) all allow us to infer that (18f) and (18g) are true. So, we can conclude that (18a) presupposes (18f) and (18g).

But things are not always so simple. Consider the following sentences:

(19)  
\begin{align*}
a. & \text{ If the theater has shown the movie before, } S [= \text{if } A, \text{ then } B] \\
& \text{ then they will show it again on Thursday.} \\
b. & \text{ It’s not true that if the theater has shown not}\-S [= \text{not-(if } A, \text{ then } B)] \\
& \text{ the movie before, then they will show it again on Thursday.} \\
c. & \text{ If the theater has shown the movie before, } S? [= \text{(if } A, \text{ then } B)?] \\
& \text{ then will they show it again on Thursday?} \\
d. & \text{ [skip...too many if...then...’s to keep track of]} \\
e. & \text{ Perhaps if the theater has shown perhaps-}\-S [= \text{perhaps-(if } A, \text{ then } B)] \\
& \text{ the movie before, then they will show it again on Thursday.} \\
f. & \text{ The theater has shown the movie before.} \quad \text{presup. of } B \ldots \text{what about } S? \\
\end{align*}

None of (19a)–(19e) allows us to infer (19f), which is presupposed by the consequent of (19a). So, (19a) does not presuppose (19f). That this is so is already clear in (19a): by uttering (19a), I’m merely taking it as a hypothetical that the theater showed the movie before. I’m certainly not taking it as a given.
Comparing (18) and (19), the crucial difference appears to be that in (19), the presupposition of the consequent is identical to the antecedent of the entire conditional.

And

We find exactly the same pattern complex sentences formed with and: whether \( A \) and \( B \) inherits the presuppositions of \( A \) and the presuppositions of \( B \) depends upon the relationship between \( A \) and the presuppositions of \( B \).

\[
(20) \begin{align*}
a. & \text{ The theater will show the movie again on Thursday, } S \equiv A \land B \\
b. & \text{ It's not true that the theater will show the movie again on Thursday, and Jack's children will be happy. } not-S \equiv \neg (A \land B) \\
c. & \text{ Is it true that the theater will show the movie again on Thursday, and Jack's children will be happy? } S? \equiv (A \land B)? \\
d. & \text{ If the theater will show the movie again on Thursday, and Jack's children will be happy, then Jack will also be happy. } if-S \equiv \text{if}(A \land B) \\
e. & \text{ Perhaps the theater will show the movie again on Thursday, and Jack's children will be happy. } perhaps-S \equiv \text{perhaps}(A \land B) \\
f. & \text{ The theater has shown the movie before. presup. of } A \ldots \text{what about } S? \\
g. & \text{ Jack has children. presup. of } B \ldots \text{what about } S?
\end{align*}
\]

In (20), there is no relationship between the first conjunct and the presuppositions of the second conjunct. In fact, (20a)–(20e) all allow us to infer that (20f) and (20g) are true. So, we can conclude that (20a) presupposes (20f) and (20g).

\[
(21) \begin{align*}
a. & \text{ Jack has children, and Jack's children are bald. } S \equiv A \land B \\
b. & \text{ It's not true that Jack has children, and Jack's children are bald. } not-S \equiv \neg (A \land B) \\
c. & \text{ Is it true that Jack has children, and Jack's children are bald? } S? \equiv (A \land B)? \\
d. & \text{ If Jack has children, and Jack's children are bald, then baldness must be hereditary. } if-S \equiv \text{if}(A \land B) \\
e. & \text{ Perhaps Jack has children, and Jack's children are bald. } perhaps-S \equiv \text{perhaps}(A \land B) \\
f. & \text{ Jack has children. presup of } B \ldots \text{what about } S?
\end{align*}
\]
We find a different pattern in (21). Here, (21a) allows us to infer (21f). (In fact, (21a) entails (21f).) But none of the other members of the S-family for (21a) allows us to infer (21f). This is clearest in (21c): by uttering (21c), I am asking (amongst other things) whether (21f) is true. So of course, one cannot infer from my utterance of (21c) that (21f) is true.

Likewise in (21e): by uttering (21e), I am merely suggesting (amongst other things) that (21f) might be true. So of course, one cannot infer that (21f) is in fact true. Again, the crucial difference between (20) and (21) is that in (21), the presupposition of the second conjunct is identical to the first conjunct.

(22) **Generalization:** complex sentences of the form if $A$, then $B$ and $A$ and $B$ inherit the presuppositions of $A$ and and the presuppositions of $B$ only under certain circumstances.

We say that *If...then...* and *and* are “filters”, since the presuppositions of $A$ and the presuppositions of $B$ project to *If $A$, then $B$, and $A$ and $B* only under certain circumstances.

Given what we’ve seen so far, we can formulate the following filtering conditions for sentences of the form *if $A$, then $B* and *$A$ and $B*:

(i) If $A$ presupposes $P$, then *if $A$, then $B* and *$A$ and $B* also presuppose $P$.

(ii) If $B$ presupposes $P$, then *if $A$, then $B* and *$A$ and $B* presuppose $P$ unless $A = P$.

It turns out that the above filtering conditions are not quite right—part of your task in HW6 will be to make the necessary revisions.
Or

The connective or is also a filter, although it’s filtering conditions are different from those for if...then... and and.

The presuppositions of A and B are usually inherited by (Either) A or B:

(23) Either Jack’s children are bald, or baldness is not hereditary.

(24) Either baldness is not hereditary or Jack’s children are bald.

(25) Jack has children.

Both (23) and (24) allow us to infer (25). If you construct the other members of the S-families for (23) and (24), you will find that they also allow us to infer (25). (I’ll leave this as an exercise for the interested reader.) So, both (23) and (24) presuppose (25).

But presupposition inheritance fails when the first disjunct negates the presupposition of the second:

(26) Either Jack doesn’t have children or Jack’s children are bald.

The disjunction in (26) does not allow us to infer (25). In fact, (26) explicitly opens up the option that (25) is false. If you construct the other members of the S-family for (26), you’ll find that none of them allow us to infer (25) either. So, (26) does not presuppose (25).

(27) Generalization: complex sentences of the form (Either) A or B inherit the presuppositions of A and and the presuppositions of B only under certain circumstances.

Or is another filter, since the presuppositions of A and the presuppositions of B project to (Either) A or B only under certain circumstances.

The filtering conditions for sentences of the form (Either) A or B differ from those given above for sentences of the form A and B and If A, then B:

(i) If A presupposes P, then (Either) A or B also presupposes P.

(ii) If B presupposes P, then (Either) A or B presupposes P unless ~A = P.

(Note the negation in (ii).)