

# Presuppositions

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## 1. Initial Observations

So far we have discussed a few kinds of inference: logical/deductive, abductive, and inductive. We are also going to discuss conversational inferences this week. Inferences are important because they describe the kinds of reasoning that enable language users to transition from one information state (the premises) to another (the conclusion), which is one communicative purpose of language—if not its main communicative purpose.

There is another kind of inference, called a *presupposition*, that is not an entailment but also cannot be classified as abductive or inductive. Intuitively, a presupposition constitutes a necessary assumption required to understand the meaning of a sentence. Examples are provided in (1): the presupposition of each sentence is indicated below the sentence and marked by >>.

- (1) a. The King of France is bald  
>> There is a unique King of France
- b. John knows that Baird invented the television  
>> Baird invented the television
- c. John regrets that he kissed Mary  
>> John kissed Mary
- d. Mary has stopped beating her boyfriend  
>> Mary has been beating her boyfriend
- e. John returned to Cambridge  
>> John has been to Cambridge before
- f. John managed to give up smoking  
>> John tried to give up smoking
- g. After the Allies won the war, they divided Berlin  
>> The Allies won the war
- h. It was Baird who invented the television  
>> Someone invented the television
- i. If I were Superman, I would be bulletproof  
>> I am not Superman

Consider the sentence in (1a), which expresses the proposition that a particular entity—namely the one described as the King of France—is bald. The proposition is true just in case it corresponds to the outside world, i.e., if and only if it correctly describes a state of affairs in the outside world in which an entity, the one who corresponds uniquely to the title *the King of France*, is bald. Regardless of whether the sentence in (1a) is true or false, it assumes that there is a unique King of France in the outside world. This assumption goes hand-in-hand with the sentence; in fact, it goes hand-in-hand with the definite article *the* in English. In sum, if you evaluate whether the King of France is bald or not, you must first assume there is such an entity.

Presuppositions have distinct properties from those of entailments. We will need to explore these differences so we can sharpen our intuitions regarding presuppositions and our understanding of entailments. One thing that is clear is that, like entailments, presuppositions are tied to the conventional meaning of words and phrases. The remainder of the discussion will focus on how they differ.

On that note, perhaps the most revealing observation is that if we negate the sentences in (1), as in (2), we recover the same presuppositions. [I put **not** in bold only so you could see it more clearly in the text.]

- (2) a. The King of France is **not** bald  
    >> There is a unique King of France
- b. John does **not** know that Baird invented the television  
    >> Baird invented the television
- c. John does **not** regret that he kissed Mary  
    >> John kissed Mary
- d. Mary has **not** stopped beating her boyfriend  
    >> Mary has been beating her boyfriend
- e. John has **not** returned to Cambridge  
    >> John has been to Cambridge before
- f. John did **not** manage to give up smoking  
    >> John tried to give up smoking
- g. After the Allies won the war, they did **not** divide Berlin  
    >> The Allies won the war
- h. It was **not** Baird who invented the television  
    >> Someone invented the television
- i. If I were Superman, I would **not** be bulletproof  
    >> I am not Superman

So presuppositions are preserved under negation. It can easily be shown that entailments are not. This contrast between presuppositions and entailments is captured in (3) and (4).

- (3) a. The King of France is bald  
    >> There is a King of France
  - b. The King of France is **not** bald  
    >> There is a King of France
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- (4) a. John is human  
    ⊨ John is a mammal
  - b. John is **not** human  
    ≠ John is a mammal

Before going forward we need to separate the technical term *presupposition* that we are going to develop from the ordinary usage of the word, which is far broader. The following are **NOT** the uses of presupposition that we are interested in.

- (5)
  - a. Effects presuppose causes
  - b. John wrote Harry a letter, presupposing he could read
  - c. John said, “Harry is so competent”, presupposing that we knew Harry had fouled things up—in fact, we didn’t know and so failed to realize he was being ironic
  - d. Harry asked Bill to close the door, presupposing that Bill had left it open as usual; he hadn’t so he threw a chair at Harry
  - e. Adolph addressed the butler as “sir”, presupposing that he was the host Sir Ansel himself
  - f. The theory of evolution presupposes a vast time-scale
  - g. The article by Jackendoff presupposes Chomsky’s theory of nominalizations

## 2. Historical Interlude: Frege

Discussion regarding the nature of presupposition originates (for our purposes) with debates in philosophy about reference and how to translate referring expressions into logical form.

### (6) *Existential Presupposition*

If anything is asserted there is always an obvious presupposition that the simple or compound proper names used have a reference. If one therefore asserts (7), there is a presupposition that the name ‘Kepler’ designates something. (Frege 1952:69)

- (7) Kepler died in misery  
>> The name Kepler designates something

So, proper names in a sentence carry the presupposition that they designate something in the world—that it exists. Frege, to whom this line of reasoning is attributed, also observed that this presupposition cannot be a part of the logical meaning of (7). He used the following argument.

- (8) Let  $s = \textit{Kepler died in misery}$  and  $t = \textit{The name Kepler designates something}$   
Suppose that when you state the sentence in (7) you really express the proposition  $p = (s \wedge t)$ , which includes the descriptive meaning expressed by the sentence (i.e., the proposition  $s$ ) and the existential presupposition (i.e., the proposition  $t$ ). Under this formulation, the negative statement would express the proposition  $\neg p = \neg(s \wedge t)$ , which is logically equivalent to  $(\neg s \vee \neg t)$ . But this describes a world in which Kepler did not die in misery, or the name Kepler does not designate anything, or both. This does not correspond to our intuitions about the meaning of the sentence *Kepler did not die in misery*. This is illustrated in (9).

- (9) Kepler did not die in misery  
 $\neq$  Kepler did not die in misery or the name Kepler does not designate anything

Frege concluded that the presupposition is not part of the descriptive meaning of the sentence, i.e., its literal meaning. He further observed that presupposition, as we’ve just seen, are preserved under negation. This is summarized in (10).

- (10) *Constancy under Negation*: If  $p \gg q$ , then  $\neg p \gg q$
- (11) Kepler did not die in misery  
 $\gg$  The name Kepler designates something

### 3. Historical Interlude: Russell

Russell (1905) held that Frege's views were wrong and, in his theory of descriptions, proposed that sentences like (12), when they lack proper reference, could still be meaningful.<sup>1</sup>

- (12) The King of France is bald

Russell argued that we need to revise how we treat definite descriptions, i.e., *the X*. He claimed that definite descriptions do not have the simple interpretation we expect. The temptation is to interpret *The F is G* in the following way. First, figure out the unique entity that has the property *F*; in other words, figure out the reference of *The F*. Assuming there is one, determine whether or not it has the property *G*. This is usually represented as  $G(\text{The } F)$ , where the property *G* is treated as a function which assigns a truth-value of 1 or 0 to the entity *The F*. Alternatively, it is represented as  $\text{The } F \in G$ , where the property *G* is treated as a set. Under this representation, *The King of France is bald* is true if and only if  $(\text{the KING}) \in \text{BALD}$ .

Russell claimed that this was wrong. For him, the truth-conditions for the expression *The F is G* are not just a simple set-theoretic expression, but instead an expression like (13).

- (13) *The F is G* is true iff
- there is some entity  $x$ , such that:
- i.  $x$  has the property  $F$ :  $x \in F$
  - ii. There is no  $y$  distinct from  $x$  ( $x \neq y$ ) such that  $y \in F$
  - iii.  $x$  has the property  $G$ :  $x \in G$

Note that the middle condition (13 ii) is a uniqueness condition and says that  $x$  is the only entity with the property  $x$ , i.e., it is the unique  $x \in F$ . So for Russell the sentence in (12) expresses the proposition in (14).

- (14) There is a King of France and there's no one else who is a King of France, and he is bald; or simply, there is a unique King of France and he is bald.
- $$\exists x (\text{KING}(x) \wedge \neg \exists y (x \neq y \wedge \text{KING}(y)) \wedge \text{BALD}(x))$$

[This logical formula above is in Predicate Logic. You don't need to know how to read this yet but you'll know how in two weeks so I decided to write it down. It is quite intuitive except for the symbol  $\exists x$ , which can be paraphrased as *there exists an entity x such that.*]

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<sup>1</sup> Frege's rebuttal was that, for a sentence like (12), even when the definite description *The King of France* has no proper reference and consequently the sentence has no extension, the sentence still has an intension, i.e., a sense.

Russell noted an advantage to his approach when analyzing the negative counterpart to (11). His analysis predicts an ambiguity in where the negation is interpreted with respect to the conditions in (13). Either the negation could be interpreted as sentence-wide, as in (15a), or else it could just be interpreted as local to the verb, as in (15b). These give distinct meanings for the one sentence.

- (15) The King of France is not bald
- a. Meaning 1: **It is not the case that** both (a) there is a unique King of France and (b) he is bald
  - b. Meaning 2: There is a unique King of France and he is **not** bald

The interpretation in (15a), in which negation affects the entire sentence, denies the existence of a unique King of France who is bald. This then is the meaning that Frege argued against in (9). However, the sentence also has the interpretation in (15b), in which negation affects the verb only. This interpretation is true if there is a unique King of France and it merely denies that that entity is bald. So when such an entity exists, we get the interpretation in (15b) and when it does not we get the interpretation in (15a). So this ambiguity under negation saves Russell's analysis.

The ambiguity in (15) also provides Russell with a solid point against Frege. Russell noted that the sentence in (16) is perfectly acceptable. He argued that this sentence is compatible with the interpretation in (15a) only. Therefore, the interpretation in (15a) has to be a possible meaning of the sentence.

- (16) The King of France is not bald — because there is no such person

#### 4. Historical Interlude: Strawson

Strawson (1950) pointed out that Russell conflates sentences and uses of sentences. You can think of this as conflating sentences and utterances, where only utterances denote propositions. For Strawson, the sentence in (17) does not express a proposition and is therefore neither true nor false.

- (17) The King of France is bald

When the sentence in (17) is uttered in a context, the utterance that is formed from the sentence-context pair expresses proposition and that proposition is either true or false of the world in the given context. Suppose the sentence in (17) had been uttered in AD 1670, when France did indeed have a King. Such an utterance at the time would have expressed a proposition. That proposition would be true if and only if at the time (AD 1670) it corresponds to the outside world. Someone could have checked by creeping into the King's bedchamber and taking a peek. Likewise, if the sentence had been uttered in AD 1770, the proposition it expressed then may have been false—again, someone could have checked. But if the sentence is uttered now, in 2008, when France does not have a King, the situation is different than in AD 1670 or AD 1770. The proposition that the utterance expresses now cannot be true or false so we cannot talk about its truth-conditions. As such, it has no truth-conditional meaning.

There is another reason to assume that (17) is neither true nor false when there is no King of France. Suppose that it were false. There is a common intuition that if (17) were uttered today, when there is no King in France, the proposition it expresses would be more false than true. However, remember that if a proposition is false, then its negation is true. So if the sentence in (17) is indeed false when there is no King of France,

i.e., it does not correspond to the outside world, then the sentence in (18) is true; in other words, the sentence in (18) corresponds to the outside world when there is no King of France. But this goes completely against our intuitions.

(18) The King of France is not bald

Strawson is effectively arguing that the sentence in (17) is really equivalent to the sentence in (19), where the context-dependent elements, like *current*, *now*, [*present tense*], are out in the open.

(19) The current King of France is bald now

These context-dependent elements need to be situated in time and space to contribute to the truth-value of the sentence. In other words, to determine the value of *now* we have to know when the sentence is uttered and it differs from time to time.

Finally, Strawson gives the following semantic definition of presupposition. It is semantic because it relates the truth-conditions of one proposition to the truth-value of another; and anything to do with truth is semantic. Strawson's definition in (21) determines an implicational relation.<sup>2</sup>

(21) *Presupposition*

Let  $\varphi$  and  $\psi$  be two propositions:  $\varphi$  presupposes  $\psi$  if and only if  $\psi$  is a precondition of the truth or falsity of  $\varphi$ . I.e., if  $\varphi$  is true or false, then  $\psi$  is true.

The strength of this analysis, which conforms with Frege's own, is that it corresponds more closely to our intuitions that uttering (17) makes a foreground assertion, i.e., that a particular individual is bald, while the information that that individual exists must be assumed in the background to make sense of assertion.

There is a cost to this analysis. By abandoning the complex logical formula in Russell's formulation, another explanation must be given for (22) is required. Strawson never proposed an explanation. One possible view is that negation is lexically ambiguous between logical negation and presupposition-denying negation (*metalinguistic negation*).<sup>3</sup>

(22) The King of France is not bald — because there is no King of France.

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<sup>2</sup> Do not confuse presuppositions with entailments. Even though both are implicational relations, they are very different inferences. Entailment indicates logical consequence, i.e., if  $p$  is true, then  $q$  must be true. Presupposition indicates a background assumption that functions as a precondition, i.e., if  $p$  is true or false, then  $q$  must be true.

<sup>3</sup> The story doesn't stop there. Stalnaker suggested that Strawson's semantic definition of a presupposition was incorrect and that a pragmatic definition was needed. Stalnaker introduced the notion of a common ground—a body of knowledge mutually shared by the speaker and addressees. Then Stalnaker defined presuppositions not in terms of truth-conditions but in terms whether they were part of this common knowledge. An utterance is judged felicitous (appropriate) in a given context if and only if its presuppositions are in the common ground; otherwise the utterance is infelicitous in that context.

## 5. Core Phenomena

The acid test for presuppositions is constancy under negation. The following example illustrates how this test helps us tease apart presuppositions from entailments. Consider the sentence in (23).

(23) John managed to stop in time

- (24) a. John stopped in time  
b. John tried to stop in time

From (23), we can infer both propositions in (24). But are these entailments or presuppositions? Although you may have strong intuitions, we need to be systematic. Consider the negation of (23) in (25).

(25) John didn't manage to stop in time

From (25), we cannot infer (24a); in fact, the point of the utterance in (25) is to deny (24a). However, we can infer (24b). Since (24b) is unchanged after negation, we conclude that (24b) is a presupposition. Since (24a) must be true whenever (23) is true, it follows that it is an entailment. This is encapsulated in (26).

- (26) a. John managed to stop in time  
     $\models$  John stopped in time  
     $\gg$  John tried to stop in time  
b. John didn't manage to stop in time  
     $\not\models$  John stopped in time  
     $\gg$  John tried to stop in time

We need alternate ways to test for presuppositions. It appears that presuppositions are also preserved in questions. If we form a yes/no-question out of (23), we get (27) and it too has the presupposition that John tried to stop in time. Notice too that the entailment that John stopped in time disappears because questions are not descriptions of the outside world; so they are not truth-conditional.

(27) Did John manage to stop in time?  
     $\gg$  John tried to stop in time

- (28) a. John managed to stop in time  
     $\models$  John stopped in time  
     $\gg$  John tried to stop in time  
b. Did John manage to stop in time?  
     $\not\models$  John stopped in time  
     $\gg$  John tried to stop in time

A helpful contrast is presented in (29). What happens when we substitute the word *manage* for the word *try*. Neither question has any entailments but (29a) has the expected presupposition. The sentence in

(29a) questions whether John stopped in time, not whether he tried. The fact that he tried is a background assumption. In contrast, the sentence in (29b) asks directly whether John tried.

- (29) a. Did John manage to stop in time?  
    >> John tried to stop in time
- b. Did John try to stop in time?  
    />> John tried to stop in time

When the word *try* is substituted for the word *manage*, the presupposition goes away. This recovers the intuitions we had when we looked at the sentences in (1): presuppositions are tied to certain words and phrases. So the meaning of the word *manage* results in the presupposition in (29a). Change the word, even to something synonymous, and the presupposition vanishes.

Presuppositions also survive when they are embedded in the antecedent of a conditional, i.e., the if-clause. Consider the sentence in (30a) again. Placing this sentence in the antecedent of a conditional results in the sentence in (30b). We see that the presupposition that John tried to stop in time survives but the entailment that John stopped in time does not.

- (30) a. John managed to stop in time  
    ⊨ John stopped in time  
    >> John tried to stop in time
- b. If John managed to stop in time, then he survived  
    ≠ John stopped in time  
    >> John tried to stop in time

Uttering (30b) conveys a sufficient condition for John's survival, namely the condition that he stop in time. It does not logically follow that he did stop in time.

(31) *Presupposition Tests*

- Test 1   Presuppositions are preserved under negation. Entailments are negated.  
Test 2   Presuppositions are preserved in questions. Entailments are not.  
Test 3   Presuppositions are preserved in the antecedent of conditionals. Entailments are not.

## 5. Presupposition Triggers

The following structures have been isolated as sources of presuppositions. Of course presuppositions are not limited to these but these are common presupposition triggers.

(32) **Definite Descriptions** *the X, that X, ...*

John saw the man with the man with two heads  
>> There is a man with two heads

- (33) **Verbs**
- i. Factive                    *regret, be aware, realize, be odd, ...*  
                                       John is aware of how proud Mary is  
                                       >> Mary is proud
  
  - ii. Implicative                *manage, forget, happen, avoid, ...*  
                                       John forgot to lock the door  
                                       >> John should have locked the door or intended to do so
  
  - iii. Change of State         *stop, start, continue, finish, take, leave, enter, come, go, arrive, ...*  
                                       John went to the movies  
                                       >> John was not at movies
- (34) **Iteratives**                *again, anymore, return, another time, restore, repeat, for the nth time, ...*  
                                       John doesn't like Mary anymore  
                                       >> John liked Mary
- (35) **Temporal clauses**        *before X, since X, after X, whenever X, as X, during X, ...*  
                                       During the War of 1812, the British burned down the White House  
                                       >> There was a War of 1812
- (36) **Cleft sentences**            *it was X that Y (cleft), what X V was Y (pseudo-cleft),*  
                                       What John ate was beef stew  
                                       >> John ate something
- (37) **Contrastives**              *contrastive intonation, too, back, in return; comparative as-clause.*  
                                       John hit Mary back  
                                       >> Mary hit John
- (38) **Counterfactuals**          *conditional or modal expressions stating facts contrary to how the world is*  
                                       If John had entered the raffle, he would have won  
                                       >> John didn't enter the raffle

NOTE: On Assignment #2, Part 3, you cannot simply identify a presupposition trigger on this list and then conclude that (a) presupposes (b). The list is merely there to help guide you. You must argue that (b) is a presupposition by applying Strawson's definition and using one of the tests in (31).

## 6. Defeating Presuppositions

In certain contexts, presuppositions are liable to vanish—some linguists take this to be a defining property of presuppositions called *defeasibility*. We say that presuppositions are defeasible because in certain contexts that can be eliminated. For instance, when certain facts that are inconsistent with the presupposition are mutually known, then the presupposition does not arise thereby avoiding a contradiction. In other words, a presupposition only arises when it is consistent with the common knowledge of the participants; otherwise it vanishes. An example is provided in (39) which takes advantage of an asymmetry for the factive verb *know*.

- (39) a. Context: *John got a job out of graduate school*  
At least John won't have to regret doing a PhD  
>> John did a PhD
- b. Context: *It is common knowledge that John didn't get into the doctoral program*  
At least John won't have to regret doing a PhD  
/>> John did a PhD

In (39b), it is mutual knowledge that John didn't get into a doctoral program, which is where you do a PhD. The presupposition that John did a PhD is inconsistent with this knowledge and so does not arise.

- (40) a. Sue cried before she finished her PhD  
>> Sue finished her PhD
- b. Sue died before she finished her PhD  
/>> Sue finished her PhD
- c. Sue didn't die before she finished her PhD  
>> Sue finished her PhD

The utterance in (40a) states that the event [Sue cried] precedes the event [Sue finished her PhD] and, by virtue of the temporal clause, it presupposes Sue finished her PhD. The utterance in (40b) states the same temporal order but the presupposition does go through because it conflicts with the background knowledge that a person cannot finish something if dead. Skeptics might say that (40) highlights an interesting peculiarity regarding before-clauses rather than a sensitivity to background assumptions, but (41) shows otherwise.

- (41) John died before he reached the hospital's ER  
>> John reached the hospital's ER

Presuppositions may be defeated through contextual means or, more directly, using various sentential devices like overt denial. The latter are illustrated in (42) - (43). Note first the presupposition in (42).

- (42) John didn't manage to pass his exams  
>> John tried to pass his exams

- (43) a. John didn't manage to pass his exams, in fact he didn't even try  
b. John didn't manage to pass his exams, if indeed he even tried  
c. Either John never tried to pass his exams, or he tried but he never managed to pass them  
d. John didn't manage to pass his exams; he got through without even trying
- />> John tried to pass his exams

None of the utterances in (43) have the presupposition triggered by the word *manage*. Note that these examples seem to require negation followed by an overt denial of the presupposition. When presuppositions are embedded under certain kinds of verbs, namely **verbs of saying** (*say, mention, tell, ask, announce, ...*) and **verbs of propositional attitude** (*believe, think, imagine, dream, want, ...*), they also disappear.

- (44) a. John **said** that Mary managed to speak with a broad Irish accent  
    />> Mary tried to speak with a broad Irish accent
- b. John **imagined** that he is the emperor of China  
    />> There is an emperor of China

These verbs, called world-building verbs, have the property of evaluating the embedded proposition in worlds other than the actual world. It may be here that the presupposition does not vanish but is, instead, trapped below the level of the verb embedding it.