Lecture 7: Context sets and contexts of utterance

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1 Two notions of context

- Context set: the shared beliefs of the interlocutors
- Context of utterance: who is speaking, to whom, where, when, etc.

1.1 Context set

From Karttunen (1973):

Semantic concept of presupposition: A sentence A semantically presupposes a sentence B if and only if: Whenever A is true or false, B is true.

In other words, B is a condition for the bivalence of A.

Pragmatic concept of presupposition: A speaker S presupposes a sentence B if and only if: S assumes B to be true, and assumes that his audience does as well.

Then a sentence A can be said to pragmatically presuppose a sentence B if and only if whenever a speaker utters A, he or she assumes B to be true and assumes his audience does as well.

In other words, the context must be such that B is assumed.

The pragmatic concept of presupposition is due to Stalnaker (1978), in his extremely difficult but widely-cited paper, Assertion. Here are some quotes from Assertion.

[pp. 78–79] Three notions will play a central role in the theory I will sketch: the notion of a proposition, the notion of a propositional concept, and the notion of speaker presupposition. Each of these three notions will be defined or explained in terms of the notion of a possible world, or a possible state of the world, so one might think it important to begin with the question, what is a possible world? This is a good question, but I will not try to answer it here....

The analysis of proposition in terms of possible worlds was first proposed in the context of intuitive semantics for modal logic. The analysis is this: A proposition is a function from possible worlds into truth-values (true or false). More roughly and intuitively, a proposition is a rule for determining a truth-value as a function of the facts–of picking out a set of possible states of affairs–and all those for which the proposition takes the value true.

The intuitive motivation for this analysis is something like the following. A proposition–the content of an assertion or belief–is a representation of the world as being a certain way. But for any given representation of the world as being a certain way, there will be a set of all the possible states of the world which accord with the representation–which are that way. So any proposition determines a set of possible worlds. And, for any given set of possible worlds, to locate the actual world in that set is to represent the world as being a certain way. So every set of possible worlds determines a proposition.

...[p. 84] I have said how propositions are to be understood, and what propositional concepts are. The third notion I need is the concept of speaker presupposition. This, I want to suggest, is the central concept needed to characterize speech contexts. Roughly speaking, the presuppositions of a speaker are the propositions whose truth he takes for granted as part of the background of the conversation. A proposition is presupposed if the speaker is disposed to act as if he assumes or believes tha the proposition is true, and as if he assumes or believes that his audience assumes or believes that it is true as well. Presuppositions are what is taken by the speaker to be the common ground of the participants in the conversation, what is treated as their common knowledge or mutual knowledge. The propositions presupposed in the intended sense need not really be common or mutual knowledge; the speaker need not even believe them. He may presuppose any proposition that he finds it convenient to assume for the purpose of the conversation, provided he is prepared to assume that his audience will assume it along with him.

It is propositions that are presupposed – functions from possible worlds into truth-values. But the more fundamental way of representing the speaker’s presuppositions is not as a set of propositions, but rather as a set of possible worlds, the possible worlds compatible with what is presupposed. This set, which I will call the context set, is the set of possible worlds recognized by the speaker to be the “live options” relevant to the conversation. A proposition is presupposed if and only if it is true in all of these possible worlds. The motivation for representing the speaker’s presuppositions in terms of a set of possible worlds in this way is that this representation is appropriate to a description of the conversational process in terms of its essential purposes. To engage in conversation is, essentially, to distinguish among alternative possible ways that things may be.
The purpose of expressing propositions is to make such distinctions. The presuppositions define the limits of the set of alternative possibilities among which speakers intend their propositions to distinguish.

Each participant in a conversation has his own context set, but it is part of the concept of presupposition that a speaker assumes that the members of his audience presuppose everything that he presupposes. We may define a nondefective **context** as one in which the presuppositions of the various participants are all the same.

... [p. 86] A conversation is a process taking place in an ever-changing context. Think of a state of a context at any given moment as defined by the presuppositions of the participants as represented by their context sets. In the normal, nondefective case, the context sets will all be the same, so for this case we can talk of the context set of the conversation [emphasis added –EEC]...

...Once the context is adjusted to accommodate the information that the particular utterance was produced, how does the **content** of an assertion alter the context? My suggestion is a very simple one: To make an assertion is to reduce the context set in a particular way, provided that there are no objections from the other participants in the conversation. The particular way in which the context set is reduced is that all of the possible situations incompatible with what is said are eliminated. To put it in a slightly different way, the essential effect of an assertion is to change the presuppositions of the participants in the conversation by adding the content of what is asserted to what is presupposed. This effect is avoided only if the assertion is rejected.

Example 1: Peter asserts: “Baldness is hereditary.”

Context set:
\[ C = \{w_1, w_2, w_3, w_4, w_5, w_6\} \]

The proposition that baldness is hereditary:
\[ H = \{w_1, w_3, w_5, w_7, w_9\} \]

The context set shrinks. All of the worlds in which baldness is not hereditary are eliminated.

Resulting context:
\[ C' = \{w_1, w_3, w_5\} \]

Example 2: Peter asserts: “All of Jack’s children are bald.”

This presupposes that Jack has children.

Think of presuppositions as propositions that must be satisfied in the context set.

The proposition that Jack has children:
\[ K = \{w_4, w_5, w_6, w_7, w_8\} \]

The proposition that all of Jack’s children are bald:
\[ B = \{w_5, w_6, w_7\} \]

What happens if you try to assert “All of Jack’s children are bald” in context \[ C \]?

Context set \[ C \] allows for the possibility that Jack does not have children. For example, in \[ w_3 \], Jack has no children (since \[ w_3 \] \notin K). And \[ w_3 \] is in \[ C \].

So Jack has children is not presupposed in \[ C \].

So we cannot assert “All of Jack’s children are bald” in \[ C \] (unless we accommodate the presupposition first, creating a new context).

Here is a context in which Jack has children is presupposed:
\[ C'' = \{w_6, w_7, w_8, w_9\} \]

Using this context, we can update with “All of Jack’s children are bald”, yielding:
\[ C''' = \{w_6, w_7\} \]

It’s easier to understand the projection problem using the pragmatic concept of presupposition.

(1) If baldness is hereditary, then all of Jack’s children are bald. 
\[ \rightarrow \text{Jack has children.} \]

(2) If Jack has children, then all of Jack’s children are bald. 
\[ \not\rightarrow \text{Jack has children.} \]

In a conditional sentence, we **temporarily augment** the context with the proposition. In other words, we **add** the proposition described by the antecedent the ‘global context’ (the context that the sentence is uttered in). It is in that context that the presuppositions of the consequent must be satisfied.

Makes sense, right? In a conditional, you’re supposing that the antecedent is true.

The global context, augmented with the antecedent, is the **local context** for the consequent (Karttunen, 1974).
For (1), the local context is the global context $C$, augmented by $H$, which is the union: $C \cap H$.

For (2), the local context is $C \cap K$.

In (2), the local context always satisfies the presupposition, $K$.

But in (1), whether or not it satisfies the presupposition depends on whether the global context satisfies the presupposition. So the presupposition becomes a constraint on the global context.

So, with:

- Propositions as sets of possible worlds (or functions from possible worlds into the set of truth values)
- The notion of context set: The worlds consistent with the interlocutors’ shared beliefs
- The pragmatic concept of presupposition, as a constraint on the context set
- The notion of local context

we can make sense of the contrast between (1) and (2) (along with a lot of related data).

1.2 Context of utterance

Suppose Jack says, “I have children”. What proposition does this denote? $K$.

Suppose Bill says, “I have children”. What proposition does this denote? Not $K$. There are worlds where Bill has children and Jack does not, and vice versa.

The proposition corresponding to the sentence “I have children” depends on who is speaking in the current context of utterance (Kaplan, 1977).

context of utterance (or context of use): Who is speaking, who is being addressed, where the interlocutors are, what objects are nearby, what time of day it is, etc.

The meaning of a deictic expression like “I” depends on the context of utterance.

Big question: How can we combine a sentence with a context of utterance to form a proposition? Stay tuned for next week when we discuss Kaplan (1977).

2 Deixis

Deictic/indexical expressions: Expressions whose referent depends on the context of utterance, i.e., who is speaking to whom, where, when, etc.

(3) I love John [depends on who is speaking]

(4) John loves you [depends on who is being spoken to]

(5) John saw a bird yesterday [depends on when the utterance is being spoken]

(6) Come over here! [depends on where the utterance is being spoken]

What happens if you don’t know who/where/when? (Fillmore 1971):

(7) a sign on an office door that says “back in two hours”

(8) preschool children communicating across a sight barrier (Herb Clark):

A: Put this block on top of that one
B: You mean this one?
A: Yes.

(9) You: Yooohoo, Jimmy, where are you?
Jimmy: I’m right here...

(10) Finding a note in a bottle afloat in the ocean which reads: “Meet me here at noon tomorrow with a stick about this big”

2.1 Person deixis

With person deixis, one must know the identity of the interlocutors (conversational participants) in order to understand the message.

- I, we – who is the speaker (sender of the message)
- you, du, Sie, ihr – who is addressee (message’s intended recipient)
- In so-called ‘Conjunct/Disjunct’ systems, verbs inflect for special ‘conjunct’ morphology when the subject is first person in statements or second person in questions.

2.2 Place deixis

For place deixis, decoding the message requires knowing the location of these individuals at the time of utterance

- here: close to the speaker’s location at utterance time
- there: far from the speaker’s location at utterance time
- Samal: there are separate place deictic expressions for “near me”, “near you”, “near other participants in our conversation”, “away from all of the above”.
• *upstairs*: on a level of a building above the speaker’s location at utterance time  
• *nearby*: close to the speaker’s location at utterance time  
• In general *this* + PLACE-TERM presupposes that the speaker is in the same area as the object of type PLACE-TERM at coding time; *this room, this city, this planet.*

• Orientation can matter. E.g. *the side of the tree facing me, the dog behind the tree, the dog is to the left of the tree.*

The deictic term *there* can have three different uses:

**gestural**: requires a gesture; e.g. *I want you to put it there* [pointing]

**symbolic**: doesn’t require a gesture but still “points” in an abstract way; e.g. *Is Johnny there?*

**anaphoric**: coreferential with something else; e.g. *I drove the car to the parking lot and left it there ← arguably not a deictic use*

Kaplan (1977) defines a *demonstrative* as an indexical (deictic term) that requires an accompanying demonstration (gesture). So in the gestural use, *there* is a demonstrative.

### 2.3 Time deixis

For **time deixis**, understanding the utterance requires knowing the time of communication (encoding and decoding).

• *now*: coding time (or decoding time? E.g. answering machine message: *I’m not here right now*)

• *today*: the calendar day including the coding time

• *now* is vague; *just now* more precise, but means just *before* the coding time

• Russian *sejchas* means immediately before or immediately after; hence Russian tour-guides saying *#We’ll visit the mausoleum just now.*

• *in a while*: *I’ll do it in a while/#I did it in a while (vs. after a while: I did it after a while/#I did it after a while).*

### 2.4 Discourse deixis

For **discourse deixis**: the matrix (sequence?) of linguistic material preceding and following

• *as mentioned above*

• *see below*

• *the former*

• *the latter*

Note: not the same as anaphora.

### 2.5 Social deixis

**Social deixis** expresses information social relationships between interlocutors

• *du vs. Sie, tu vs. vous*

• Honorifics, like *sir, your honor*

• Nicknames

• In Japanese, there’s a certain first person pronoun that only the emperor can use

This case is different; the message isn’t uninterpretable without knowing it.

It’s more like a presupposition. For example, that the addressee is worthy of respect. It projects:

(11) *Sie haben den aktuellen Flash-Player.*  
→ The addressee is worthy of respect.

(12) *Sie haben leider nicht den aktuellen Flash-Player.*  
→ The addressee is worthy of respect.

(13) *Wenn Sie den aktuellen Flash-Player haben...*  
→ The addressee is worthy of respect.

But this is unlike a normal presupposition, because it doesn’t seem to get filtered out in conditionals:

(14) *Wenn der Addressat Respekt verdient, haben Sie den aktuellen Flash-Player.*  
→ The addressee is worthy of respect. (?)

### 3 Application: *May we come in?*

What might we be able to figure out about some real-world situation if the only thing we knew about it was that somebody used the following sentence?

(15) *May we come in?*

This sentence involves:
• Person deixis (we, come)
• Place deixis (come)
• Time deixis (come, tense)

“Our task is to make explicit everything that we know about the sentence as a linguistic ob-
ject, and everything that we can know, as speakers of English, about the situation, or class of
possible situations, in which it might have been uttered.” (Fillmore, 1971, pp. 8–9)

Like what Kaplan says in The Meaning of Ouch and Oops:

It seems fruitless to ask what the first person pronoun means; as Frege said, it seems to mean different things on different occasions of use. But the question, “What are the conditions under which the first person pronoun would be correctly used?” quickly yields a good answer, namely: to refer to the person who uses it. And this simple, good answer constitutes an adequate basis for a fruitful semantics of indexicals (or so I believe).

For certain expressions of natural language, a correct semantic theory would state rules of use, rather than giving a translation, or providing something like a concept or a meaning expressed.

Two major possible ways of using our sentence:
• as a request on the part of its speaker that its addressee perform a permission-granting act
• as a request for information, an enquiry as to whether the speaker and a companion already have permission to do something.

On interpretation #1:
• There is an enclosure E, and at least three beings A, B, and C
• A is a speaker of English and the utterer of the sentence
• B is believed by A to be a speaker of English and is the addressee
• C is a companion of A
• They might not all be human; C could be A’s pet beaver.
• A believes that A and C are outside the enclosure E
• A believes B to be inside E
• A has an interest in gaining admission to E, in C’s company

• A believes that B has the authority – or represents somebody who has the authority – to decide whether or not A and C may enter E.
• The uttering of this sentence is an act which socially requires B to do something – in particular, to say something – it being understood that what B says as a response to the question will count as authorizing or forbidding the move into E on the part of A and his [or her] companion C.

Yet we have only 4 little words: May, we, come, and in (and the fact that this is a question).

“As linguists we need to ask what it is about the structure of the sentence May we come in? that makes it possible for any speaker of English to come up with essentially the same sort of description as the one I just suggested. A successful linguistic description of English ought to make it possible to ‘compute’ the details of such a description from a grammatical and lexical description of the sentence.” (p. 11)

May. The verb may has three uses:
1. epistemic (used to describe epistemic possibility): as in “He may not understand you”
2. pragmatic (used for permission-granting or permission-seeking): as in “You may come in now”
3. magical (used in the expression of wishes, blessings, and curses): as in “May all your troubles be little ones” or “May you spend eternity roller-skating on cobblestones”

In May we come in, the use of may is:
• not the magical use, because this is not the right type of speech act (not a wish, blessing, or curse)
• not the epistemic use, because it just so happens that the epistemic use does not occur in questions. May John leave the room cannot mean Is it possible that John will leave the room?

So we have the pragmatic use and the social situation involves permission-granting.

May + the fact that this is a question. Permission-granting situations involve two parties: granter and grante. In a question like May we come in?, the speaker is the granter (the one to whom permission is granted). In a statement like You may come in, the speaker is the granter (the one granting permission).

Hence A believes that B has the authority – or represents somebody who has the authority – to decide whether or not the event may take place.

Aside: Another example of role-switching between speaker and addressee:
Come. “[T]he description of the presuppositional structure of motion sentences containing this verb requires reference to all three of the major grammaticalized types of deixis—person, place, and time.” (p. 17)

Temporal deixis concepts:
- **coding time**: the time of the speech act
- **reference time**: the point or period of time that is being referred to or described

e.g. in “John was here last Tuesday”: reference time is prior to coding time (because of past tense) and “the Tuesday of the calendar week which proceeds the calendar week which includes the moment of speech [coding time]”, and “here” is the location of the speaker at coding time.

A sentence of the form:

\[ X \text{ came to } Y \text{ at } T \]

is appropriate just in case any of the following conditions obtains:

1. The speaker is at \( Y \) at coding time.
2. The addressee is at \( Y \) at coding time.
3. The speaker is at \( Y \) at reference time.
4. The addressee is at \( Y \) at reference time.

Consider “John came to the office yesterday morning” under all four conditions; they all work.

In *May we come in?* there is no distinction between coding and reference time, as the described event would begin at coding time. So the destination of the described action must be either the current location of the speaker or the current location of the hearer.

We (+come).

*We* refers to a group including the speaker, and possibly the addressee.

- **inclusive we**: includes the addressee
- **exclusive we**: excludes the addressee

In *May we come in?* it has to be exclusive. Hence there have to be at least three beings in the situation: the speaker, the addressee, and someone/something else (perhaps a pet beaver).

How do we know this? Because of *come*.

1. The action described by *come* must end either at the location of the speaker or the location of the hearer.
2. This action must begin at the current location of the speaker, because the subject of *come* includes the speaker, and the described action would take place immediately.
3. In a motion event, the origin must be distinct from the destination.

Hence the addressee must be in a different location from the speaker at the beginning of the motion event, so the addressee cannot be among the individuals that will come in.

**In.**

This communicates that the destination of the motion is some type of enclosure. Because the addressee is at the destination, the addressee is in the enclosure.

**Summary.** All of these constraints on the situation have to be satisfied in order for *May we come in?* to be used appropriately. In this sense, the deictic elements in this sentence constrain the context of utterance.

**References**


