More on Grounding

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Computational Semantics and Pragmatics

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Grounding

Clarification

Uptake

Disentangling Uptake

Uptake Clarification

Summary & Exercise

Common Ground and Grounding

Common Ground

The common ground of (a group of at least 2) interlocutors is what they **jointly take for granted**. (Stalnaker 1978)

The process through which common ground is established is called **grounding**. (Clark 1996)

Common Ground and Grounding

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Grounding (Clark 1996)

	Level	**Joint Action**
1	contact	A executes a behavior and B attends it
2	perception	A produces a signal and B perceives it
3	understanding	A conveys a meaning and B understands it
4	uptake	A proposes a project and B accepts/considers it

Shared Bases

The Shared Basis Model (Clark 1996)

A proposition p is common ground for members of community C iff there is a *shared basis* b for p, that is:

1. every member of C beliefs (individually) that b,
2. b indicates to every member of C that every member of C (individually) beliefs b,
3. b indicates to every member of C that p.

Shared Bases

(visual)
1. I see the table.
2. You see the table.
3. I see that 2.
4. You see that 1.

CG: *There is a table here*.

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(logic)

A: p.

B: $\texttt{accept}(p)$.

Basis: $p \wedge \texttt{accept}(p)$.

CG: p.

Failure to Ground

- A and B might pay insufficient attention to each other;
- A might mumble or B might not hear A properly;
- A might speak in a complicated manner or B might not know all words in A's utterance;
- A might propose an infeasible project or B might fail to see the relevance of A's proposal.

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$\rightsquigarrow$ Evidence for failure on some such level are clarification requests, utterances where the speaker requests that the other party repeats or elaborates on some action.

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Grounding and Clarification

Evidence for Failure

	Level	Joint Action	Ex. Clarification
1	contact	A and B pay attention to another.	*Are you talking to me?*
2	percept.	A produces a signal; B perceives it.	*What did you say?*
3	underst.	A conveys a meaning; B recognizes it.	*What did you mean?*
4	uptake	A intends a project; B considers it.	*What do you want?*

We have seen that grounding can fail at each level and that clarification requests can evince that.

So if we are investigating grounding it seems appropriate to look for clarifications.

Classifying Clarification Requests: Levels

Classification by Level

	Level	Type of Problem	Example
1	contact	channel	*huh?*
2	percept.	acoustic	*pardon?*
3	underst.	lexical	*What's a double torx?*
		parsing	*Did you have a telescope, or the man?*
		reference resolution:	
		– NP-reference	*Which square?*
		– Deictic-reference	*Where is 'there?'*
		– Action-reference	*What's to kowtow?*
4	uptake	recognizing and	*You want me to give you this?*
		evaluating intention	*Why?*

Rodríguez & Schlangen. *Form, Intonation and Function of Clarification Requests in German Task-Oriented Spoken Dialogues*. Proceedings of SemDial04 (Catalog).

Classifying Clarification Requests: Form

Classification by Form

I want to go to Paris.

Class	Description	Example
non	Non-Reprise	*What did you say?*
wot	Conventional	*Pardon?*
frg	Reprise Fragment	*Paris?*
slu	Reprise Sluice	*Where?*
lit	Literal Reprise	*You want to go to Paris?*
sub	Wh-Substituted Reprise	*You want to go where?*
gap	Gap	*You want to go to . . . ?*
fil	Gap Filler	**I want to go to .. – Paris?*
oth	Other	other.

Purver, Ginzburg & Healy. *On the Means for Clarifiation in Dialogue*. Proceedings of SIGdial01.

A Full Annotation Scheme

Form

distance	{1, 2, 3, 4, 5, more}
mood	{none, decl, polar-q, wh-q, alt-q, imp, other}
completeness	{none, particle, partial, complete}
rel-antec	{none, addition, repet, reformul, indep}
boundary-tone	{none, rising, falling, no-appl}

Function

source	{none, acous, lex, parsing, np-ref, deictic-ref, act-ref, int+eval, src-3, src-2+3, src-2+4, src-3+4, src-all}
extent	{none, yes, no}
severity	{none, cont-conf, cont-rep, no-react}
answer	{none, ans-repet, ans-y/n, ans-elab, ans-reformul, ans-w-defin, no-react}
happiness	{none, happy-yes, happy-no, happy-ambig}

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Austin

Austin on Uptake

"I cannot be said to have warned an audience unless it hears what I say and takes what I say in a certain sense. An effect must be achieved on the audience if the illocutionary act is to be carried out [. . .] So the performance of an illocutionary act involves the securing of *uptake*." (Austin 1962, p. 116f, underlining mine)

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However, sometimes Uptake is refused:

Refusing Uptake

"my attempt to make a bet by saying 'I bet you sixpence' is abortive unless you say 'I take you on' or words to that effect; my attempt to marry by saying 'I will' is abortive if the woman says 'I will not"' (Austin 1962, p. 37)

Austin. *How To Do Things With Words*. Harvard University Press, 1962.

Austin: Ratification and Cancellation

(constructed)

✓	I warned you	and you were more careful.
✓	I warned you	and you didn't care.
✓	I asked you	and you answered.
✓	I asked you	and you didn't answer.
✓	I bet you	and you accepted.
?	I bet you	and you refused.
✓	I married you	and you married me.
✗	I married you	and you refused.
?	I declared war to you	and you refused.

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It seems that there are two dimensions to uptake:

- Recognition: The audience taking the illocutionary act as such.
  → "weak" uptake.
- Transfer: The audience adopting/ratifying the illocution.
  → "strong" uptake.

Clark

Clark on Uptake

"3: B is recognizing A's request
4: B is considering A's proposal" (Clark 1996, p. 152, ul mine)

"When Jane produces 'Who is it?' she means (at level 3) that Kate is to say who she is and, thereby, proposes (at level 4) that Kate tell her who she is" (ibid., p. 199, ul mine)

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But, again, Uptake can be refused:

Refusing Uptake

"when respondents are unwilling or unable to comply with the project as proposed, they can decline to take it up" (ibid., p. 204, ul mine)

"such joint projects [questions] become complete only through uptake, so completion requires [...] [an] answer." (ibid., p. 198, ul mine)

Clark. *Using Language*. Cambridge University Press, 1996.

Clark: Joint Construals

Principle of Joint Construal (Clark 1996)

For each signal, the speaker and addressees try to create a joint construal of what the speaker *is to be taken to mean* by it. (Clark 1996, p. 212, emphasis mine)

NOT: What the speaker means!

Construing

"By this principle, [...] she is trying to create a construction that the two of them are willing to accept as what he meant by it." (Clark 1996, p. 212, emphasis mine)

Clark: Construing in Uptake

Construals

A: Sit down.
B: Yes, sir.
⇝ Order.
B: Thanks!
⇝ Offer.
B: Good idea!
⇝ Advice.

A: Sit down.
B: I'm not doing what you tell me!
⇝ Order.
B: No, thanks!
⇝ Offer.
B: I think I'd rather stand.
⇝ Advice.

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Apparently, construals

. . . require (semantic) understanding.

. . . are prior to acceptance / refusal.

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Illocutionary Force and Effect

For an illocutionary act, we separate the recognition of its force from the achieving of its effect.

Weak and Strong Uptake

- A speech act is **weakly taken up** if the hearer has recognized the illocutionary force.
- A speech act is **strongly taken up** if the illocutionary effect on the hearer has been achieved.

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- A speech act is **strongly taken up** if the illocutionary effect on the hearer has been achieved.

- Even if a bet has not been established, to even make the refusal the hearer needed to recognize the betting force.
- And then it is grounded between the interlocutors that the attempt to bet has taken place.

Disentangling Uptake: Grounding

Refined Uptake Level

	Level	**Joint Action**
1	contact	A and B pay attention to another.
2	perception	A produces a signal; B perceives it.
3	understanding	A conveys a meaning; B recognizes it.
4.1	weak uptake	A intends a project; B understands it.
4.2	strong uptake	A proposes a project; B accepts it.

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- Level 3 is semantics only.
- Intention Recognition / Construal is a separate step.
  - → Misconstruals are a new source of failure.
  - → Rhetorical questions are (sem.) questions, but have assertive force.
- Full Grounding is achieved upon acceptance of the project.
  - → Ratifying a bet.
  - → Adopting a belief.
  - → Answering a Question.

New Sources of Errors

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Conditions for Joint Purposes (Clark 1996)

A and B can adopt a **joint purpose** p if:

Identification A and B know about p;

Ability A and B are able to do the participatory actions in p;

Willingness A and B must be willing to engage in p;

Mutual Belief The previous three are common ground for A and B.

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Evidence

To make this theory more plausible, we are looking for evidence. We have introduced new sources for errors, so we are searching for clarification requests.

* We need to separate level 3 from level 4.1.
- Show that level 4.1 can fail.
- Investigate where level 4.2 fails
* Separate level 4.2 CRs from content questions.

Evidence

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Evidence might look like this:

(con.) A: Can you get the butter?
a. B: Salted or unsalted? $\rightsquigarrow$ failure on level 3.
b. B: Should I bring it to you? $\rightsquigarrow$ failure on level 4.1.
c. B: Why would I? $\rightsquigarrow$ failure on level 4.2.
d. B: Sure. *[fetches butter]* $\rightsquigarrow$ full grounding.

Examples

(1) A: And we're going to discuss [...] who's gonna do what and just clarify
B: **Are you asking me whether I wanna be in there?**
A: I was just mentioning it to you in case you wanted to
B: Don't wanna.
$\rightsquigarrow$ *failure of weak uptake*

(2) A: I know Vic has cream in his [food] and
B: **How do you know?**
A: Well it said so on the menu, that's why.
$\rightsquigarrow$ *failure of strong uptake (proposer: ability / knowledge)*

(3) A: Daddy can we swop places now?
B: **Why?**
A: Cos I wanna sit next to you and Lee.
$\rightsquigarrow$ *failure of strong uptake (proposer: willingness / reason)*

Examples from the British National Corpus.

More Examples

Previous work has identified contradicting beliefs as a source of CRs: Presented with an assertion, a contradicting belief makes an addressee unwilling to adopt the asserted proposition.

(4) A: Manto is before Monaco.
B: **But isn't Manto near the Italian border?**
$\rightsquigarrow$ *failure of strong uptake (addressee: willingness)*

Example from the BNC.

More Examples

Other previous work has called uptake task-level and has related some CRs to planning. The inability to come up with a plan is related to the ability condition.

(5) A: Turn it on.
B: **By pushing the red button?**
$\rightsquigarrow$ *failure of strong uptake (addressee: ability)*

Example from Rodriguez & Schlangen (2004); cited from Benotti (2009).

Peculiar Cases

The prototypical forms (why, how, but isn't. . .) are certainly not the only surface forms of uptake CRs.

(6) A: We should of done some more roasties for you shouldn't we?
B: **Are you hungry?**
Why are you saying this?

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(6) A: We should of done some more roasties for you shouldn't we?
B: **Are you hungry?**
Why are you saying this?

(7) A: No.
B: **No? Why not?**
You are supposed to have reasons for refusal.

Example (7) is evidence for the Willingness condition; if someone refuses (*i.e.* does not ground on strong uptake level), the other interlocutor expects that there is a reason.

Examples from the BNC.

Willingness Revisited

In fact, we have examples like this:

(8) A: Oh, oh you can pop in and get your fishing magazines while you're down here
B: **Why?**
A: **Well why not?**

Willingness Revisited

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(8) A: Oh, oh you can pop in and get your fishing magazines while you're down here
B: **Why?**
A: **Well why not?**

This leads us to re-investigate the Willingness-Condition to an asymmetric Reason condition:

Willingness in Cooperative Dialogue

Proposer Reason The proposer has **sufficient reason** to propose the project.

Addressee Reason The addressee does **not have reason not to** take part in the project.

Schlöder. *Uptake, Clarification and Argumentation*. MSc Thesis, Amsterdam, 2014.

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Conclusion

Today, we have seen:

- How clarification requests can be categorized and explained.
  - → by Form.
  - → by Function.
  - → by considering the Grounding ladder.
- That Austin's and Clark's treatments of Uptake can be disentangled by considering Uptake in its weak and strong Form.
- That there are uptake-level clarifications.
- How these CRs can be explained by pre-conditions for joint purposes.

Conclusion

What we haven't seen:

* How CRs can be separated from content questions.
* How weak uptake CRs can be separated from level 3 CRs.
* Whether there are more strong uptake CRs than described by reason and ability.

Exercise

Next week, you will each be given roughly 60 questions from a dialogue corpus (including context) that might be CRs. We will ask you:

- To decide which ones are CRs and which ones are not.
- Which are level1-3, weak or strong uptake.
- And to calculate inter-annotator agreement

  → Raquel's next class

This will:

- Show you how corpus annotation works.

  → Data preparation and evaluation; annotation manuals.
- Show you how much effort an annotator has to put in.

  → In case you want to do something like this for your final paper.
- . . . and (hopefully) help Raquel and me with our research.

That's it :)