Communication as commitment sharing

Bart Geurts

University of Nijmegen Higher School of Economics, Moscow

What is communication?

Two aspects of promises:

Albert to Berta: "I'll do the dishes."

- 1. Albert expresses his intention to do the dishes.
- 2. Albert commits himself to do the dishes.

What is communication?

Two aspects of promises:

Albert to Berta: "I'll do the dishes."

- 1. Albert expresses his intention to do the dishes.
- 2. Albert commits himself to do the dishes.
- ☐ Mentalist view: 1 comes first.

What is communication?

- Two aspects of promises:
 - Albert to Berta: "I'll do the dishes."
 - 1. Albert expresses his intention to do the dishes.
 - 2. Albert commits himself to do the dishes.
- Mentalist view: 1 comes first.
- Socialist view: 2 comes first.

Problems with mentalist pragmatics

The whole of modern pragmatics is predicated on this assumption, and its findings are arguments in favour of it... Those who deny it are in effect implying that pragmatics as currently pursued is a discipline without an object, somewhat like the study of humours in ancient medicine.

(Sperber & Origgi 2000)

Problems with mentalist pragmatics

The whole of modern pragmatics is predicated on this assumption, and its findings are arguments in favour of it... Those who deny it are in effect implying that pragmatics as currently pursued is a discipline without an object, somewhat like the study of humours in ancient medicine.

(Sperber & Origgi 2000)

☐ In general, mentalism does little or no explanatory work.

Problems with mentalist pragmatics

The whole of modern pragmatics is predicated on this assumption, and its findings are arguments in favour of it... Those who deny it are in effect implying that pragmatics as currently pursued is a discipline without an object, somewhat like the study of humours in ancient medicine.

(Sperber & Origgi 2000)

- ☐ In general, mentalism does little or no explanatory work.
- Mentalist pragmatics stands in the way of theories of ontogeny and phylogeny.

1. Speech acts

- 1. Speech acts
- 2. Common ground

- 1. Speech acts
- 2. Common ground
- 3. Conventions

- 1. Speech acts
- 2. Common ground
- 3. Conventions
- 4. Inference

- 1. Speech acts
- 2. Common ground
- 3. Conventions
- 4. Inference
- 5. Marrying socialism and mentalism

☐ We communicate in order to share commitments.

- □ We communicate in order to share commitments.
- □ We share commitments in order to coordinate our actions.

- □ We communicate in order to share commitments.
- □ We share commitments in order to coordinate our actions.
- Commitments are primarily social relationships.

- □ We communicate in order to share commitments.
- □ We share commitments in order to coordinate our actions.
- Commitments are primarily social relationships.
- Commitments are normative.

• $C_{a,b}\varphi$: a is committed to b to act on φ

• $\mathbf{C}_{a,b}\varphi$: a is committed to b to act on φ I.e.: a's actions must be consistent with the truth of φ .

- $\mathbf{C}_{a,b}\varphi$: a is committed to b to act on φ I.e.: a's actions must be consistent with the truth of φ .
- □ Commitments are *relations* between individuals.

- $\mathbf{C}_{a,b}\varphi$: a is committed to b to act on φ I.e.: a's actions must be consistent with the truth of φ .
- Commitments are *relations* between individuals.
- □ "Acting on" also covers speech acts.

- $C_{a,b}\varphi$: a is committed to b to act on φ I.e.: a's actions must be consistent with the truth of φ .
- Commitments are *relations* between individuals.
- □ "Acting on" also covers speech acts.
- \Box $\mathbf{C}_{a,b}\varphi$ does not require that a believes, entertains, or has evidence for the truth of φ .

- $C_{a,b}\varphi$: a is committed to b to act on φ I.e.: a's actions must be consistent with the truth of φ .
- ☐ Commitments are *relations* between individuals.
- □ "Acting on" also covers speech acts.
- \Box $\mathbf{C}_{a,b}\varphi$ does not require that a believes, entertains, or has evidence for the truth of φ .
- \Box $\mathbf{C}_{a,b}\varphi$ does not imply that a knows or believes that $\mathbf{C}_{a,b}\varphi$.

1. Clyde did the dishes. $\sim \mathbf{C}_{a,b}Dc$

Speech acts

Albert to Berta:

- $\sim \mathbf{C}_{a,b}Dc$ $\sim \mathbf{C}_{a,b}Da$ 1. Clyde did the dishes.
- 2. I'll do the dishes.

- 1. Clyde did the dishes. $\sim \mathbf{C}_{a,b}Dc$
- 2. I'll do the dishes. $\sim \mathbf{C}_{a,b}Da$
- **3**. You do the dishes. $\sim \mathbf{C}_{a,b}Db$

- 1. Clyde did the dishes. $\sim \mathbf{C}_{a,b}Dc$
- 2. I'll do the dishes. $\sim \mathbf{C}_{a,b}Da$
- **3**. You do the dishes. $\sim \mathbf{C}_{a,b}Db$

illocutionary force	telic?	truth-maker
assertion	no	_
promise	yes	speaker
request	yes	addressee

- 1. Clyde did the dishes. $\sim \mathbf{C}_{a,b}Dc$
- 2. I'll do the dishes. $\sim \mathbf{C}_{a,b}Da$
- **3**. You do the dishes. $\sim \mathbf{C}_{a,b}Db$

illocutionary force	telic?	truth-maker
assertion	no	_
promise	yes	speaker
request	yes	addressee

NB telic ≠ intentional

If $C_{a,b}\varphi$ and $C_{b,a}\varphi$, then a and b SHARE the commitment to act on φ .

If $C_{a,b}\varphi$ and $C_{b,a}\varphi$, then a and b share the commitment to act on φ .

<i>a</i> to <i>b</i> :	a's commitment	<i>b</i> 's commitment
1 "It's raining"	$\mathbf{C}_{a,b}R$	$\mathbf{C}_{b,a}R$

If $C_{a,b}\varphi$ and $C_{b,a}\varphi$, then a and b SHARE the commitment to act on φ .

<i>a</i> to <i>b</i> :	a's commitment	<i>b</i> 's commitment
1 "It's raining"	$\mathbf{C}_{a,b}R$	$\mathbf{C}_{b,a}R$
2 "I'll walk the dog"	$\mathbf{C}_{a,b}Wa$	$\mathbf{C}_{b,a}Wa$

If $C_{a,b}\varphi$ and $C_{b,a}\varphi$, then a and b SHARE the commitment to act on φ .

<i>a</i> to <i>b</i> :	a's commitment	<i>b</i> 's commitment
1 "It's raining"	$\mathbf{C}_{a,b}R$	$\mathbf{C}_{b,a}R$
2 "I'll walk the dog"	$\mathbf{C}_{a,b}Wa$	$\mathbf{C}_{b,a}Wa$
3 "Mind the step!"	$\mathbf{C}_{a,b}Mb$	$\mathbf{C}_{b,a}Mb$

If $C_{a,b}\varphi$ and $C_{b,a}\varphi$, then a and b SHARE the commitment to act on φ .

<i>a</i> to <i>b</i> :	a's commitment	<i>b</i> 's commitment
1 "It's raining"	$\mathbf{C}_{a,b}R$	$\mathbf{C}_{b,a}R$
2 "I'll walk the dog"	$\mathbf{C}_{a,b}Wa$	$\mathbf{C}_{b,a}Wa$
3 "Mind the step!"	$\mathbf{C}_{a,b}Mb$	$\mathbf{C}_{b,a}Mb$



Sharing is the default

Ceteris paribus, if speech act S causes $C_{a,b}\varphi$, then:

- 1. S's purpose is that *b* share *a*'s commitment and
- 2. b will share a's commitment.

- Sharing may be:
 - o signalled ("Yes", "Right", "Uhuh", ...),
 - merely implied (e.g., by answering the question or carrying out the request),
 - o or just taken for granted.

- Sharing may be:
 - o signalled ("Yes", "Right", "Uhuh", ...),
 - merely implied (e.g., by answering the question or carrying out the request),
 - o or just taken for granted.
- □ If *b* refuses to share, *a*'s commitment is not necessarily cancelled (e.g., speakers may agree to disagree).

The logic of commitment

 $C_{a,b}$ and $C_{b,a}$ may be viewed as operators in a normal modal logic in which at least the following hold:

1.
$$\mathbf{C}_{x,y}\varphi \to \neg \mathbf{C}_{x,y}\neg \varphi$$

1.
$$C_{x,y}\varphi \rightarrow \neg C_{x,y}\neg \varphi$$

2. $C_{x,y}\varphi \rightarrow C_{x,y}C_{x,y}\varphi$

The logic of commitment

 $C_{a,b}$ and $C_{b,a}$ may be viewed as operators in a normal modal logic in which at least the following hold:

1.
$$\mathbf{C}_{x,y}\varphi \to \neg \mathbf{C}_{x,y}\neg \varphi$$

2.
$$\mathbf{C}_{x,y}\varphi \to \mathbf{C}_{x,y}\mathbf{C}_{x,y}\varphi$$

3.
$$\mathbf{C}_{x,y}\varphi \to \mathbf{C}_{y,x}\mathbf{C}_{x,y}\varphi$$
 (Acceptance)

Common ground

- ϕ is COMMON GROUND between a and b iff a and b are mutually committed to act on ϕ .
- \Box a and b are MUTUALLY COMMITTED to act on φ iff:

$$\mathbf{C}_{a,b}\varphi$$
 and $\mathbf{C}_{b,a}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$,

i,b7 ----- -b,u -

- ϕ is COMMON GROUND between a and b iff a and b are mutually committed to act on ϕ .
- \square *a* and *b* are MUTUALLY COMMITTED to act on φ iff:

$$\mathbf{C}_{a,b}\varphi$$
 and $\mathbf{C}_{b,a}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$,

As defined here, common ground doesn't require knowledge, belief, or evidence.

- ϕ is COMMON GROUND between a and b iff a and b are mutually committed to act on ϕ .
- \Box a and b are MUTUALLY COMMITTED to act on φ iff:

$$\mathbf{C}_{a,b}\varphi$$
 and $\mathbf{C}_{b,a}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$, $\mathbf{C}_{a,b}\mathbf{C}_{b,a}\mathbf{C}_{a,b}\varphi$ and $\mathbf{C}_{b,a}\mathbf{C}_{a,b}\mathbf{C}_{b,a}\varphi$, \vdots

- □ As defined here, common ground doesn't require knowledge, belief, or evidence.
- □ Common ground is a normative construct.

Common ground

Courtesy of the Acceptance axiom:

1. If $C_{a,b}\varphi$, then it is common ground between a and b that $C_{a,b}\varphi$.

Common ground

Courtesy of the Acceptance axiom:

- 1. If $C_{a,b}\varphi$, then it is common ground between a and b that $C_{a,b}\varphi$.
- 2. Shared commitments are common ground.

Courtesy of the Acceptance axiom:

- 1. If $C_{a,b}\varphi$, then it is common ground between a and b that $C_{a,b}\varphi$.
- 2. Shared commitments are common ground.

This notion of common ground can do the same explanatory work as the standard ones

Courtesy of the Acceptance axiom:

- 1. If $C_{a,b}\varphi$, then it is common ground between a and b that $C_{a,b}\varphi$.
- 2. Shared commitments are common ground.

This notion of common ground can do the same explanatory work as the standard ones, but:

□ It is a purely social construct.

Courtesy of the Acceptance axiom:

- 1. If $C_{a,b}\varphi$, then it is common ground between a and b that $C_{a,b}\varphi$.
- 2. Shared commitments are common ground.

This notion of common ground can do the same explanatory work as the standard ones, but:

- ☐ It is a purely social construct.
- ☐ It is more general:
 - It is not intrinsically epistemic or psychological.
 - Every felicitous speech act expands the common ground
 (a) by being accepted and (b) by being shared (by default).

□ If $C_{a,a}\varphi$, then *a*'s commitment is PRIVATE.

- □ If $C_{a,a}\varphi$, then *a*'s commitment is PRIVATE.
- □ The purpose of a private commitment is self-coordination.

- □ If $C_{a,a}\varphi$, then *a*'s commitment is PRIVATE.
- □ The purpose of a private commitment is self-coordination.
- □ Self talk is a way of making commitments to oneself.

- □ If $\mathbf{C}_{a,a}\varphi$, then *a*'s commitment is PRIVATE.
- □ The purpose of a private commitment is self-coordination.
- Self talk is a way of making commitments to oneself.
- Telic private commitments are intentions: If Berta is privately committed to act on [Berta will do the dishes], then she *intends* to do the dishes.

- □ If $C_{a,a}\varphi$, then *a*'s commitment is PRIVATE.
- □ The purpose of a private commitment is self-coordination.
- Self talk is a way of making commitments to oneself.
- Telic private commitments are intentions: If Berta is privately committed to act on [Berta will do the dishes], then she *intends* to do the dishes.
- □ Atelic private commitments are beliefs:

 If Berta is privately committed to act on [Clyde did the dishes], then she *believes* that Clyde did the dishes.

- □ If $\mathbf{C}_{a,a}\varphi$, then *a*'s commitment is PRIVATE.
- □ The purpose of a private commitment is self-coordination.
- □ Self talk is a way of making commitments to oneself.
- ☐ Telic private commitments are intentions:

 If Berta is privately committed to act on [Berta will do the dishes], then she *intends* to do the dishes.
- □ Atelic private commitments are beliefs:

 If Berta is privately committed to act on [Clyde did the dishes], then she *believes* that Clyde did the dishes.
- NB These are normative concepts.

□ INTEGRITY MAXIM : If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,c}\neg \varphi$. (Don't undertake conflicting commitments.)

□ INTEGRITY MAXIM : If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,c}\neg \varphi$. (Don't undertake conflicting commitments.)

Two special cases:

□ CONSISTENCY: If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,b}\neg \varphi$.

□ INTEGRITY MAXIM : If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,c}\neg \varphi$. (Don't undertake conflicting commitments.)

Two special cases:

- □ CONSISTENCY: If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,b}\neg \varphi$.
- □ SINCERITY: If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,a}\neg \varphi$.

□ INTEGRITY MAXIM : If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,c}\neg \varphi$. (Don't undertake conflicting commitments.)

Two special cases:

- □ CONSISTENCY: If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,b}\neg \varphi$.
- □ SINCERITY: If $\mathbf{C}_{a,b}\varphi$ then $\neg \mathbf{C}_{a,a}\neg \varphi$.

A stronger version of SINCERITY:

□ SINCERITY*: If $\mathbf{C}_{a,b}\varphi$ then $\mathbf{C}_{a,a}\varphi$.

SINCERITY* yields implicatures like these:

- 1. *a* tells *b*: "Napoleon was Greek."

SINCERITY* yields implicatures like these:

- 1. a tells b: "Napoleon was Greek." $\sim a$ believes Napoleon was Greek.
- 2. a promises b: "I'll mow the lawn." $\rightarrow a$ intends to mow the lawn.

SINCERITY* yields implicatures like these:

- 1. a tells b: "Napoleon was Greek." $\rightarrow a$ believes Napoleon was Greek.
- 2. a promises b: "I'll mow the lawn." $\sim a$ intends to mow the lawn.
- 3. a tells b: "Mind the step!" $\rightarrow a$ intends b to mind the step.

SINCERITY* yields implicatures like these:

- a tells b: "Napoleon was Greek."
 → a believes Napoleon was Greek.
- 2. a promises b: "I'll mow the lawn." $\sim a$ intends to mow the lawn.
- 3. a tells b: "Mind the step!" $\rightarrow a$ intends b to mind the step.

Cf. Grice's "quality implicatures" and Searle's "sincerity conditions".

Self talk: the puzzle

□ When addressed to others, asking, telling, and promising are social acts.

Self talk: the puzzle

- When addressed to others, asking, telling, and promising are social acts.
- □ When addressed to oneself, they seem to be modes of thinking:

I ask myself whether it will be raining.

I tell myself to do the dishes.

I promise myself a cup of tea.

Self talk: the puzzle

- □ When addressed to others, asking, telling, and promising are social acts.
- □ When addressed to oneself, they seem to be modes of thinking:

I ask myself whether it will be raining.

I tell myself to do the dishes.

I promise myself a cup of tea.

How can that be?

Athena (3 years):

Looks at model, places purple piece at correct location.

That goes there, does it?

Sees other purple piece already placed incorrectly.

Ah...

Looks at model.

That shouldn't go there, should it? Who put that there? Not me.

Removes incorrectly placed purple piece.

Help... where's the orange bit?

Points to model. Finds orange piece.

There.

Places orange piece at correct location.

Goes... in the corner.

Chimpanzees do it



Chimpanzees do it



Washoe was often seen "moving stealthily to a forbidden part of the yard signing QUIET to herself." (Gardner & Gardner 1974)

□ Self talk can be fully overt ("private speech"), covert ("inner speech"), or anything in between.

- □ Self talk can be fully overt ("private speech"), covert ("inner speech"), or anything in between.
- □ Rates of overt self talk peak around years 5-6.

- □ Self talk can be fully overt ("private speech"), covert ("inner speech"), or anything in between.
- □ Rates of overt self talk peak around years 5-6.
- □ All of us talk to ourselves some of the time, though we may not always be aware of doing so.

- □ Self talk can be fully overt ("private speech"), covert ("inner speech"), or anything in between.
- Rates of overt self talk peak around years 5-6.
- □ All of us talk to ourselves some of the time, though we may not always be aware of doing so.
- Self talk supports reasoning, problem solving, planning and plan execution, attention, motivation, ...

Mentalist pragmatics fails to explain self talk

If Bruce tells Agnes: (φ) "I will mow the lawn today",

- 1. Bruce expresses that he intends Agnes to believe φ .
- 2. Bruce's utterance achieves its purpose only if Agnes grasps his intention and is thereby moved to believe φ .

Mentalist pragmatics fails to explain self talk

If Bruce tells Agnes: (φ) "I will mow the lawn today",

- 1. Bruce expresses that he intends Agnes to believe φ .
- 2. Bruce's utterance achieves its purpose only if Agnes grasps his intention and is thereby moved to believe φ .

ERGO:

If Bruce tells himself: (φ) "I will mow the lawn today",

- 1. Bruce expresses that he intends himself to believe φ .
- 2. Bruce's utterance achieves its purpose only if he grasps his intention and is thereby moved to believe φ .

Mentalist pragmatics fails to explain self talk

If Bruce tells Agnes: (φ) "I will mow the lawn today",

- 1. Bruce expresses that he intends Agnes to believe φ .
- 2. Bruce's utterance achieves its purpose only if Agnes grasps his intention and is thereby moved to believe φ .

ERGO:

If Bruce tells himself: (φ) "I will mow the lawn today",

- 1. Bruce expresses that he intends himself to believe φ .
- 2. Bruce's utterance achieves its purpose only if he grasps his intention and is thereby moved to believe φ .

THIS DOESN'T FEEL RIGHT

☐ Bruce to Bruce: "Do the dishes!"

Bruce becomes privately committed to act on [Bruce will do the dishes], i.e. he now intends to do the dishes.

- □ Bruce to Bruce: "Do the dishes!"

 Bruce becomes privately committed to act on [Bruce will do the dishes], i.e. he now intends to do the dishes.
- □ Agnes to Agnes: "I forgot my keys!"

 Agnes becomes privately committed to act on [Agnes forgot her keys], i.e she now believes that she forgot her keys.

- □ Bruce to Bruce: "Do the dishes!"

 Bruce becomes privately committed to act on [Bruce will do the dishes]. i.e. he now intends to do the dishes.
- □ Agnes to Agnes: "I forgot my keys!"

 Agnes becomes privately committed to act on [Agnes forgot her keys], i.e she now believes that she forgot her keys.
- ⇒ Self talk is a way of making commitments to oneself, and thus form beliefs and intentions.

References

In press: Communication as commitment sharing. *Theoretical linguistics*.

2018: Making sense of self talk.

Review of philosophy and psychology.

2018: Convention and common ground. *Mind and language*.