The optimal rate of miscommunication

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COMCOG 2017
University of Fribourg
9 February 2017
The starting point: Successful communication as intention recognition

**Miscommunication** occurs when a hearer fails to recognise a speaker’s communicative intention

- Miscommunication is typically contrasted with **successful communication**, which is typically thought of in terms of hearers (successfully) inferring speakers’ communicative intentions.
- When things go wrong, interlocutors can pose clarificatory requests and engage in repair sequences (Schegloff et al. 1977).
- This model assumes a goal of **perfect alignment**, where interlocutors share attitudes towards issues of relevance, including beliefs about communicative intentions.
Local processes of resolving misalignments can have positive effects on interactional outcomes (Brennan & Schober 2001; Healey 2008; Bjørndahl et al. 2015)

We add that a high rate of information flow may depend on accepting a non-zero error rate

A temporary misalignment can add value to the joint communicative project, sometimes without any overt repair
What does it mean to recognise a speaker’s intention?

- Speakers have a multitude of communicative intentions per communicative act
  - Intentions about form, (propositional) content, implicatures, speech acts, preserving face, ... (Cappelen & Lepore 2005)

- Speakers’ intentions can be more or less determinate, and more or less inferable (Sperber & Wilson 2015; Moeschler 2012)

- This implies that there are different ways in which a hearer can recognise/misread a speaker’s communicative intention
Towards a hierarchy of miscommunication

- We present a 5-part hierarchy of miscommunication, focusing on cases with no immediate repair.
- This hierarchy shows the range of miscommunication from less to more problematic, based on type and severity of the miscommunication.
Case I: Pseudo communication

- Misalignment with respect to some non-crucial aspect of an utterance, e.g. phonetic, syntactic, lexical disparities
- Can arise due to communicative disturbances, slips of the tongue, syntactic indeterminacy, inaccurate descriptions...
- Despite disparities in alignment, hearer nevertheless recovers the main intended message
Pseudo miscommunication: Missing words

Example

[A and B are discussing air pollution]

A: But, *then I still cars going* down the road with all this smoke pouring out the back end of them

B: Uh-huh

(Switchboard 2082)

- Misalignment is not functionally significant
- No clarification/repair necessary
Case II: Benign miscommunication

- Speaker doesn’t have a determinate meaning in mind
- Hearer recovers a message which is compatible with possible speaker intentions, but may be more determinate
- Hearer’s uptake contributes to process of grounding

Elective construals

“speakers deliberately offer their addressees a choice of construals, so when addressees make their choice, they help determine what the speaker is taken to mean.” (Clark 1997: 588)
Benign miscommunication: Open-ended disjunction

Example

D: Like it’s his own bed-sit and he rents out three bedrooms
A: It’s shared but... Oh right.
B: Is that sort of official or...?
A: No.
D: Well no
B: I don’t know how it works
A: But a lot of people do that sort of thing you know.

(Jaszczolt et al. 2016: 257)
Benign miscommunication: Open-ended disjunction

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(Jaszczolt et al. 2016: 257)
Benign miscommunication: Possible interpretations

Example

Is that sort of official or...

1. ...perhaps I shouldn’t have asked?
2. ...perhaps ‘being official’ is not relevant in this situation?
3. ...do we have to register it somewhere?
4. ...is this in the contract?

(Jaszczolt et al. 2016: 258)

- Miscommunication is rhetorically harmless
- Beneficial if it helps interlocutors develop their joint attitudes within the conversation
- Clarification/repair would be costly and unnecessary
Case III: Conceded miscommunication

- Speaker has a determinate intention
- Hearer misconstrues the intention
- Speaker accepts the misconstrual

**Accepted misconstruals**

“speakers present an utterance with one intention in mind, but when an addressee misconstrues it, they change their minds and accept the new construal.” (Clark 1997: 589)
Conceded miscommunication: ‘Accepted misconstruals’

Example

Between Clark and a Waitress

W: And what would you like to drink?
C: Hot tea, please. Uh, English breakfast.
W: That was Earl Grey?
C: Right.

“I initially intended to be taken as meaning one thing, but I changed my mind. Speakers may accept a misconstrual because they deem it too trivial, disrupting, or embarrassing to correct. Still, once it is grounded, it is taken to be what they mean.” (Clark 1997: 589)

- Rhetorically significant miscommunication is resolved by acceptance
- Repair is too costly due to production effort, or social reasons
Case IV: Severe miscommunication (reconcilable)

- Speaker has a determinate meaning intention
- Hearer misconstrues the intention, but without immediate speaker awareness
- If miscommunication is unnoticed, this will have negative consequences
- However, in this case the miscommunication is not over deeply held beliefs, so there is potential for reconciliation (cf. case V to come!)
Reconcilable miscommunication: Misaligned background

Example

B aims to telephone a retail store to buy a new television, but mistakenly calls speaker A at a repair centre

A: Seventeen inch?
B: Okay.

((pause))

A: Well is it portable?

(Varonis & Gass 1985)

- Rhetorically critical miscommunication may be later reconciled through repair sequence
- Cost of repair is presumably low enough that once the miscommunication is noticed, repair would be expected
Case V: Severe miscommunication (catastrophic)

- Speaker may or may not have a determinate meaning in mind
- Interlocutors disagree on the speaker’s communicative intention, and the misalignment involves deeply held contrary convictions (possibly involving disagreement about form)
- Speaker and hearer cannot reconcile their disagreement
Catastrophic miscommunication: Phonetic ambiguity

Example

M: Got the keys (ambiguous intonation)
R: Okay
...
M: Why are we standing here?
R: We’re waiting for you to open the door. You got the keys
M: No I don’t
R: Yes, you do. When we left, you said, “got the keys”
M: No I didn’t. I asked, “got the ke-eys?”
R: No, no, no, you said, “got the keys”
C: Do either of you have the keys?  

(Friends S01E09)

Unresolvable miscommunication with detrimental effects
The 5 cases: A summary

I  Pseudo miscommunication
II  Benign miscommunication
III  Conceded miscommunication
IV  Severe miscommunication (reconcilable)
V  Severe miscommunication (catastrophic)

★ Miscommunication of types I-III can be beneficial, as it supports information flow and even advances the joint agenda

★ When a speaker and hearer have radically different views of what was intended, miscommunication is potentially problematic as no mutually accepted meanings are grounded
Effective communication involves a situation-specific optimization of:

1. Utterance form
2. Accuracy of transmission
3. Rate of information transfer

What is considered optimal depends on many factors, including institutional norms, face-saving concerns, and cost of errors.
The inevitability of miscommunication (critical situations)

- In sensitive situations, e.g. air traffic control, an operating theater, or a nuclear power station, miscommunication can be very costly.
- In such cases, a lower information flow rate must be accepted.
- We can increase accuracy by
  - (i) limiting the range of alternative expressions
  - (ii) increasing redundancy
  - (iii) grounding — explicit agreement about assumptions and goals
In less sensitive situations, e.g. a bar, a playground, or an academic conference, stakes are lower.

Miscommunication may be part of an exploratory process in which interlocutors refine their beliefs through joint action.

Note that the *pipeline* metaphor for communication is not helpful here.

In such cases, interlocutors optimize for a higher information flow rate, with less grounding and less redundancy.
The (variable) optimal rate of miscommunication

- All conversation involves a non-zero probability of miscommunication, but ideally it should fall in cases I–III, which compromise accuracy of information transfer for the sake of efficiency of information transfer.
- The benefit of engaging in repair sequences in such cases outweighs any potential negative effects due to miscommunication.
- A non-zero probability of even severe miscommunication (cases IV–V) may be a risk worth taking for high communicative efficiency.
To calculate the ideal rate of miscommunication in some situation calling for information exchange, we would need to know:

- Value of increased alignment (per unit of information conveyed)
- Immediate cost of misalignment (per unit misaligned for each case)
- Probability of alignment for a given level of grounding and redundancy
- Computational cost and time taken for grounding and redundancy
- Expected cost of repair sequence, where available

Crucially, this rate is always non-zero, although it may be very low in a sensitive and thus fault-intolerant environment.
Conclusions

- Successful communication is not just a matter of recognizing speaker intention
- The rate of miscommunication may be strategically manipulated in order to benefit information exchange
- Even the possibility of occasional catastrophic miscommunication may sometimes be strategically motivated
References


Thank you!

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