Application of cognitive pragmatics: Relevance theory and multi-modality

Ryoko Sasamoto (Dublin City University)
• Overview of pragmatics
• Intentions in multi-modal contents
• Implication for relevance theory
• Application of relevance theory
1. Pragmatics – theory of human communication and cognition
1.1 Communication – Code or Inference?

The Shannon-Weaver Mathematical Model, 1949

Concepts:
- Entropy
- Redundancy
- Noise
- Channel Capacity
1. Pragmatics – theory of human communication and cognition

1.2 Problems with the code model

(1) The football team gathered round their coach.

(2) a. Peter: Is George a good sailor?
    b. Mary: ALL the English are good sailors.

(3) Their friendship blossomed.

(4) You are not my mother.

(5) Alfie is too young.

(6) a. John can’t play the guitar but he can sing.
    b. John can’t play the guitar so he can sing.
    c. John can’t play the guitar. After all, he can sing.

(Examples from S & W. 1987)
1. Pragmatics – theory of human communication and cognition

1.3 Inferential model

Communication = evidence based inference

a. Peter: How’s your cold?
b. Mary: (points at her red nose)
Co-operative principle:

Make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.

(Grice 1989:26)
Quality: Try to make your contribution one that is true.

(a) Do not say what you believe to be false.
(b) Do not say that for which you lack adequate evidence.

Quantity:

(a) Make your contribution as informative as is required (for the current purposes of the exchange).
(b) Do not make your contribution more informative than is required.

(Grice 1989: 26-27)
Relation: Be relevant

Manner: Be perspicuous.
   (a) Avoid obscurity of expression.
   (b) Avoid ambiguity.
   (c) Be brief.
   (d) Be orderly.

(Grice 1989: 26-27)
(7) Peter: Can I borrow your car today?
Mary: I have to take Alfie to the GP.

What is said: Mary has to take Alfie to the GP.
What is implicated: Peter cannot borrow Mary’s car.
1. Pragmatics – theory of human communication and cognition

1.7 Some problems with Grice

• Definitions are not provided

• Rationales for maxims and principle

• No statement is made on inference necessary for the recovery of what is said
How human beings communicate with one another?

They use two quite different modes of communication: coded communication and ostensive-inferential communication

(Sperber & Wilson 1995:63)
Ostensive-inferential communication: the communicator produces a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest or more manifest to the audience a set of assumptions 

2. Pragmatics – theory of human communication and cognition

2.3 Principles of relevance

Cognitive Principle of Relevance

Human cognition tends to be geared to the maximisation of relevance.

(Sperber & Wilson 1995, 260)

Communicative Principle of Relevance

Every act of ostensive communication communicates a presumption of its own optimal relevance

(Sperber and Wilson, 1995:260)
The Presumption of Optimal Relevance

a. The ostensive stimulus is relevant enough for it to be worth the addressee’s effort to process it.

b. The ostensive stimulus is the most relevant one compatible with the communicator’s abilities and preferences.

(Sperber & Wilson 1995, 270)
2. Pragmatics – theory of human communication and cognition
2.4 What is relevance?

Information is relevant to you if it interacts in a certain way with your existing assumptions about the world

(S & W. 1987: 41-42)
Relevance is defined in terms of **processing effort** and **contextual effects**

(a) Other things being equal, the greater the contextual effects, the greater the relevance.

(b) Other things being equal, the smaller the processing effort, the greater the relevance.
Case A – contextual implication
You wake up with the following thought:
(8) a. If it’s raining, we’ll stay at home and watch Toy Story.
You look out of the window and discover:
(8)b. It’s raining.

Case B – contextual strengthening
You wake up, hearing a pattering on the roof, and form the hypothesis that:
(9) a. It’s raining.
You open your eyes, look out of the window, and discover that:
(9)b. It IS raining.
Case C – contextual contradiction and elimination

You wake up, as in case B, hearing a pattering on the roof, and form the hypothesis that:

(10) a. It’s raining.

This time, when you open your eyes and look out of the window, you discover that the sound was made by leaves falling on the roof and that actually:

(10)b. It’s not raining.
Intentions and Ostensive communication

a. **The informative intention:**
The intention to inform an audience of something.

b. **The communicative intention:**
The intention to inform the audience of one’s informative intention.

2. Pragmatics – theory of human communication and cognition
2.8 Relevance-theoretic comprehension procedure

a. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.

b. Stop when your expectations of relevance are satisfied.

(Sperber & Wilson. 2002:260)
Sub-tasks in the overall comprehension process

a. Constructing an appropriate hypothesis about explicit content (in relevance-theoretic terms, EXPLICATURES) via decoding, disambiguation, reference resolution, and other pragmatic enrichment processes.

b. Constructing an appropriate hypothesis about the intended contextual assumptions.

c. Constructing an appropriate hypothesis about the intended contextual implications

(Sperber & Wilson. 2002:262)
Explicit and implicit distinction

Explicature:
an ostensibly communicated assumption which is inferentially developed from one of the incomplete conceptual representations (logical forms) encoded by the utterance.

Implicature:
an ostensibly communicated assumption which is not an explicature; that is, a communicated assumption which derived solely via process of pragmatic inference.

(Carston. 2002:377)
2. Pragmatics – theory of human communication and cognition

2.8 Relevance-theoretic comprehension procedure

a. Peter: Did John pay back the money he owed you?

b. Mary: No. He forgot to go to the bank.

(Sperber & Wilson. 2002:263)
2.8 Relevance-theoretic comprehension procedure

(a) Mary has said to Peter, “He$_x$ forgot to go to the BANK$_1$/BANK$_2$."
[He$_x$ = uninterpreted pronoun]
[BANK$_1$ = financial institution]
[BANK$_2$ = river bank]

(b) Mary’s utterance will be optimally relevant to Peter.

(c) Mary's utterance will achieve relevance by explaining why John has not repaid the money he owed her.

(d) Forgetting to go to the BANK$_1$ may make one unable to repay the money one owes.

Embedding of the decoded (incomplete) logical form of Mary’s utterance into a description of Mary’s ostensive behaviour.

Expectation raised by recognition of Mary's ostensive behaviour and acceptance of the presumption of relevance it conveys.

Expectation raised by (b), together with the fact that such an explanation would be most relevant to Peter at this point.

First assumption to occur to Peter which, together with other appropriate premises, might satisfy expectation (c). Accepted as an implicit premise of Mary's utterance.

Sperber & Wilson (2002:264)
(e) John forgot to go to the BANK₁.

First enrichment of the logical form of Mary's utterance to occur to Peter which might combine with (d) to lead to the satisfaction of (c). Accepted as an explicature of Mary’s utterance.

(f) John was unable to repay Mary the money he owes because he forgot to go to the BANK₁.

Inferred from (d) and (e), satisfying (c) and accepted as an implicit conclusion of Mary’s utterance.

(g) John may repay Mary the money he owes when he next goes to the BANK₁.

From (f) plus background knowledge. One of several possible weak implicatures of Mary’s utterance which, together with (f), satisfy expectation (b).

Sperber & Wilson (2002:264)
1. How about cases where there are more than one ‘intentions’?

2. How about the gap between the ‘contents’ of the stimulus and the ‘extra’ intentions?

3. How are these intentions realised?

4. How does the hearer access these intentions?
Advertisement is • • •

1. Announcement = to give certain information
2. Persuasive message = to persuade targeted people
   - to recognize (Attention)
   - to like (Interest)
   - to want (Desire)
   - to memorize (Memory)
   - to buy (Action)

AIDMA

3. Multi-intention in multi-modal contents

3.2 TV Commercials

1. A certain duration (30 seconds, or longer)
2. Repetition
3. Multi Modality (perception)
   ① images (photographs, films, pictures, animations)
   ② sounds (music and narratives)
   ③ letters (words, phrases, sentences)
When advertisers’ intention is not represented in the content

Toyota “Human Touch”

http://www.youtube.com/watch?v=KCJLVC3Zy6M
• What is the purpose of this commercial?
• How is it done?
• How do viewers interpret this commercial?
3. Multi-intention in multi-modal contents

3.3. Weak vs strong communication

An Utterance

The Hearer’s Cognitive Environment

Perception
Encyclopaedic knowledge
Inference

Revised contextual assumptions
Contextual implications

Arai & Sasamoto (2012)
A proposition may be more or less strongly implicated by an utterance. It is STRONGLY IMPLICATED (or is a STRONG IMPLICATURE) if its recovery is essential in order to arrive at an interpretation that satisfies the expectations of relevance raised by the utterance itself. It is WEAKLY IMPLICATED if its recovery helps with the construction of an interpretation that is relevant in the expected way, but is not itself essential because the utterance suggests a range of similar possible implicatures, any one of which would do.

(Wilson & Sperber (2002: 269))
3. Multi-intention in multi-modal contents

3.4 Weak implicature and TV Commercials

Brand-image building

Input

Cognitive Environment

Arai & Sasamoto (2012)
Cases where there is a gap between explicit content and the persuasive intentions

Marks & Spencer’s Christmas campaign 2006
3. Multi-intention in multi-modal content
3.5. Advertising and multiple intentions

[How advertisement as a persuasive message is interpreted]

Level 2
Recognise
Persuasive Intention

- to recognize (Attention)
- to like (Interest)
- to want (Desire)
- to memorise (Memory)
- to buy (Action)

Level 1
Standard Ostensive Inference Process

- strong communication
- weak communication

ADVETISEMENT
As a Persuasive Message

Adapted from Arai & Sasamoto (2012)
3. Multi-intention in multi-modal content
3.6. Open Caption telop and multiple intentions

- Visually-oriented presentations in Japan
- Use of Open Caption Telop (OCT) in entertainment programmes to create humorous effect
- OCT to manipulate viewers’ interpretation process
- “Framing Humour” (O’Hagan 2010)
3. Multi-intention in multi-modal content
3.6. Open Caption telop and multiple intentions

TV producers’ attempt at viewer manipulation

(Sekai Marumie DX Tokubetsuban, Nihon TV, Broadcast on 27th May 2012)
3. Multi-intention in multi-modal content

3.6. Open Caption telop and multiple intentions

Highlighting the honest (unscripted?) utterance by the performer in her local accent

(Sekai Marumie DX Tokubetsuban, Nihon TV, Broadcast on 27th May 2012)
3. Multi-intention in multi-modal content

3.6. Open Caption telop and multiple intentions

• In case of TV programmes

- **Level 1**
  - Standard Ostensive Inference Process

- **Level 2**
  - Producer’s intention to manipulate
    - To make the viewers react e.g.
      - Laugh
      - Cry
      - ………

Use of OCT as a highlighter to manipulate viewers’ interpretation process

Adapted from Arai & Sasamoto (2012)
3. OCT and the viewer manipulation
3.7 Mechanism of the viewer manipulation

- OCT = the case which takes advantage of ‘secondary communication situation’ (c.f. translation)
- The mediator uses OCT as a highlighting device to draw viewers’ attention to chosen elements
- Purpose = to manipulate the viewers
- Mediator’s manipulation is done by hijacking the process of secondary communication situation
4. Implications for relevance theory

4.1. Different ‘higher’ intention and manipulation

- ‘covert’ manipulation
  Advertising – may have no ‘direct’ intervention in the base content

- ‘overt’ manipulation
  OCT ---- intervention is done by using representations of base contents
  ---- explains the cognitive load for the viewers
4 Implications for relevance theory

4.2. Higher intention

Ostensitve communicative stimulus = contents

Level 1
Standard Ostensive Inference Process

→ strong communication

Level 2
Recognition of higher-order intention

to recognize (Attention)
to like (Interest)
to want (Desire)
to memorise (Memory)
to buy (Action)
to react (run, laugh, cry…)

← can be covert or overt

Adapted from Arai & Sasamoto (2012)
How a communicative contents are interpreted by the hearers

Intervener's hearer manipulation: CONSIDOUS level
Informative intention & Communicative intention

Presumption of Optimal relevance

Input

Hearers' utterance interpretation: SUB CONSIDOUS level

Intentsions
Persuasion, Suggestion, Recommendation, Order, etc.

Targeted Hearers

Not Targeted Hearers

Relevance judgment

Attention
Start Listening
Start Listening

Interpreting by relevance

Yes

No Attention
Stop Listening

Start Listening

No

Stop Listening

Sasamoto et al. 2012
5. Application of relevance theory
5.1 Towards effective emergency communication

For effective communication in emergency
For effective communication in emergency
5. Application of relevance theory
5.1 Towards effective emergency communication

For effective communication in emergency

NHKの新しい津波到達予想画面のイメージ

Asahi Shimbun 21st February 2013
Emergency Warnings at 11.3.2011

- Repetition of same message / monotonous tone
- the higher intention wasn’t communicated

- Kamaishi, Iwate
- Exception: Oarai machi
References

• Sasamoto, R. (2012) Humour and Irritation: Attempts at Viewer Manipulation on TV., Manchester and Salford New Researchers Forum in Linguistics, 02-NOV-12 - 03-NOV-12, Manchester, UK
• Sasamoto, R., Kyoko, A., and Doherty, S, Multi-media, multi-modal, multi-intentions, The Multimodality and Cyberpsychology Conference, 24-NOV-12 - 24-NOV-12, Dublin