Relevance for effectiveness
Cognitive underpinnings of argument processing

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Effectiveness of fallacies

• Argument validity vs. argument effectiveness
  – norms of argument soundness do not translate into norms of argument effectiveness
    • contextuality of persuasiveness
• Questions
  – is there something we can say about the type of information processing that leads someone to be convinced/persuaded by a fallacy?
    • perspective of the hearer
  – what can a pragmatic theory of comprehension say in this respect?
What an effective fallacy does

- If a fallacy is effective (i.e. convincing), it means that the addressee did not identify it as such
- Thus, there is information that the addressee failed to take into account as s/he processed the information
  - typically, information about the speaker’s intention, the inconsistency of the argument, a discrepancy between its content and the addressee’s beliefs and values, etc.
→ fallacies constrain the addressee’s processing of information

On fallacies (1)

- “Fallacies are not incorrect argument schemes or correct argument schemes applied incorrectly, but failed diagnostic strategies” (Jackson 1996: 111, my bold)
- “Fallacies are persuasive because audiences use them as shortcuts to avoid careful thinking about issues” (Jackson 1996: 104, my bold)
- “The dynamics of manipulation are very close to the dynamics of human error” (Rigotti 2005: 69)

→ why do we end up misled?
Input from (social) psychology

- Social psychology uncovered mechanisms of influence (some can in turn be interpreted argumentatively):
  - Milgram (1974): obedience to authority → ad verecundiam
  - Cialdini (2009): principles of influence, e.g. ‘social proof’ → ad populum
  - In this case, influence does not rest on argument validity
- Persuasion research has identified persuasion routes for attitude change:
  - We have different ways of processing information at our disposal
- Our minds are not exclusively logical systems which process information following formal criteria

Input from Cognitive Psychology

- Studies on cognitive biases and heuristics since the 1960’s:
  - Wason (1960, 1966) shows that people perform poorly at logical tasks of reasoning, introduces the notion of confirmation bias
  - Tversky & Kahneman (1974) study judgemental errors in making decisions and postulate the existence of heuristics
- Pohl (2004): 21 cognitive biases responsible for cognitive illusions in judgement, memory and reasoning
- All these studies converge towards a conception of the human mind as a fallible information processor
  - These cognitively grounded explanations may contribute to explaining why and how fallacies may be misleading
On fallacies (2)

- The mind’s fallibility makes the existence and success of argumentative fallacies possible
  - the notion of cognitive bias is compatible with the idea that sometimes we fail to take some information into account

Discursive fallacies have a cognitive counterpart: they are linguistic realisations of constraints on information processing which exploit cognitive biases

How about an interface?

- Argumentation Theory (AT) conceives fallacies as argumentative moves linguistically realised in discourse
- Cognitive psychology studies fallible reasoning

Interfacing AT and cognitive approaches may allow us to assess the psychological counterpart of linguistic models of fallacious argumentation and reasoning

What kind of framework could host this interface?
Relevance Theory (RT)

- Relevance Theory (cf. Sperber & Wilson 1995) is a mechanistic account of communication:
  - theory of verbal comprehension postulating an ‘input-processing-output’ model
    • input: communicative stimuli; output: interpretation
  - works on the way we handle representations: can accommodate both social and cognitive parameters
  - accommodates risk: misunderstandings and errors are accounted for

Relevant assumptions

- The calculation of meaning (i.e. interpretation) is regulated by an effort/effect dynamics:
  - little processing effort makes an assumption more relevant
    • \(\rightarrow\) increases its chances of partaking the derivation of meaning
  - important expected cognitive effects make an assumption more relevant
    • \(\rightarrow\) more likely to be kept in the meaning derivation procedure
  - assumptions ensuring the best balance between effort and effect have higher chances of entering the meaning derivation procedure
- Once this ratio is deemed acceptable for the task at hand (i.e. once relevance is attained), processing stops
- This dynamics concerns all representations
  - contextual ones as well as those expressed by the message
Why RT is relevant to argumentation studies

1. RT provides a model of how we acquire, revise and get rid of representations (incl. beliefs) → outcomes typically expected from argumentation
   - are there cognitive reasons related to information processing that can start explaining why we end up convinced by some arguments?

2. Allows assessing the relationship between communicative stimuli and cognitive operations:
   - in particular the relationship between arguments and mechanisms of conviction/persuasion (and also manipulation)

Fallacies operate constraints on relevance

- Fallacies exploit cognitive biases → the mind is led to consider that the utterance is relevant enough so that further processing is unnecessary
- This can be achieved via a simultaneous double constraint:
  1. prompting for a preferred interpretation
  2. preventing the addressee from accessing additional info (intentionality, inconsistency, inadequacy, etc.)
Context construction

- Context = set of assumptions that one uses for the interpretation → gradually constructed, not given
- When someone processes a fallacy:
  - a limited context C which is the one where the fallacy goes unnoticed → success
  - an expanded context C’ which contains assumptions which are detrimental to the fallacy’s success
- RT assumes that context expansion has a psychological counterpart: order of inclusion corresponds to order of accessibility
  - the more accessible an assumption is, the more it is likely to make it into the context of interpretation

Contextual Selection Constraint (CSC) (Maillat & Oswald 2009, forth.)

- In order for a fallacy to be successful, context C must be deemed relevant enough so that there is no motivation to access C’
- The assumptions that will integrate C must be rendered highly relevant
  - i.e. they should require little effort to be processed and at the same time yield significant cognitive effects
- This is achieved by tweaking their contextual salience (familiarity, frequency, prototypicality, popularity, conventionality, reliability…)
  - in particular: strength and accessibility are properties that make assumptions stand out in a context
‘Argumentatively’ constraining the context

- Example of strengthening strategy: making C ‘inescapable’
  - increasing strength, i.e. epistemic status and reliability of target assumptions
    - e.g. *ad verecundiam*

- Examples of weakening strategies (preventing expansion to C’):
  - decreasing accessibility of problematic assumptions (those which are detrimental to the success of the fallacy)
    - e.g. ‘red herring’ fallacies, distractions
  - decreasing strength of problematic assumptions
    - e.g. *ad hominem* → can undermine the reliability of a source and, by extension, of a message

Fallacies vs. valid arguments

- The outlined model focuses on operational aspects of argument processing, as it relies on a ‘mechanistic’ representation of how we deal with communicated information:
  - as such, it can in principle account for how both fallacies and sound arguments are processed

- The difference between them can be assessed in terms of the type of context expansion they call for:
  - fallacies block access to C’
  - sound (and strong) arguments can accommodate a C’, since they should in principle withstand criticism and counter-arguments in a thorough discussion

- This in turn can be accounted for by looking at how both types of argument achieve contextual relevance
Two sides to a same coin

- Pragma-dialectics works with the assumption that each sound argument has a fallacious counterpart.
- An operational take on argumentation is compatible with this idea of ‘two sides to a same coin’: the mechanisms governing information processing may be the same for sound arguments and fallacies:
  - but fallacies constrain information processing by achieving relevance ‘too early’

Philosophical convergence with mainstream AT

- I have ventured that sound and strong arguments are those which afford (and the best ones even sometimes encourage) context expansion so as to take into account counterarguments, additional evidence, etc.
- This can be interpreted as the symptom of a critical perspective on reasonableness, which “encourages the systematic submission of the one’s party standpoints to the other party’s critical doubts” (van Eemeren & Grootendorst 2004: 16)
Conclusion

• What makes an argument convincing is highly contextual
  – principle of the CSC: foster the salience of target assumptions, diminish the salience of assumptions which are detrimental to the success of the fallacy
  – most salient assumptions are what you will go for first \(\rightarrow\) this is a condition for argument effectiveness (‘get there first’)
• The CSC supplies one way of assessing the effectiveness of arguments, whether valid or fallacious, by examining how they achieve contextual relevance

References

• Jackson, S. 1987. “Fallacies and heuristics”. In J. van Benthem, F.H. van Eemeren, R. Grootendorst & F. Veitman (Eds.). Logic and argumentation, Amsterdam: Royal Netherlands Academy of Arts and Sciences.