Journal of Pragmatics 205 (2023) 92–110

Contents lists available at ScienceDirect

Journal of Pragmatics

journal homepage: www.elsevier.com/locate/pragma

Pragmatic inference, levels of meaning and speaker accountability

Alison Hall [a, 1], Diana Mazzarella [b, *, 1]

[a] De Montfort University, The Gateway, Leicester, LE1 9BH, United Kingdom
[b] Cognitive Science Centre, University of Neuchâtel, Pierre-à-Mazel 7, 2000 Neuchâtel, Switzerland

ARTICLE INFO

Article history:
Received 6 January 2022
Received in revised form 30 November 2022
Accepted 13 December 2022

Keywords:
What is said
Explicature
Implicature
Commitment
Experimental pragmatics

ABSTRACT

Are speakers held more accountable for what they explicitly communicate than for what they implicate? Speakers typically communicate more than they linguistically encode, thus leaving to addressees the task of inferring what they intend to communicate. As a result, the linguistically decoded meaning is pragmatically enriched to arrive at what the speaker says (or directly communicates) - the 'explicated content' of the utterance - which can serve as a premise for the derivation of further implicit meanings - 'implicatures'. This paper experimentally explores the relationship between speaker accountability and levels of meaning. Our findings demonstrate that speakers are held more accountable, and thus suffer greater reputational costs, when they explicitly communicate a piece of false information than when they do it implicitly, independently of whether or not there is pragmatic enrichment involved at the level of the 'explicated content' (Study 1). Furthermore, our findings show that, in deceptive contexts, the *kind* of pragmatic enrichment at issue does affect speaker accountability: when the deceptive content is inferred via completion, speakers are held more accountable for what they explicitly communicate than when it is inferred via expansion (Study 2). These results provide the first empirical evidence in favour of the relevance of the distinction between completion and expansion to liability judgements in cases of dishonest communication.

1. Introduction

There is a distinction between what a speaker explicitly communicates or 'says' by uttering a sentence, and what she implicates. For instance, when asked about her statistical skills by an interviewer, the candidate may strongly suggest that she is sufficiently skilful by uttering (1).

(1) I attended a one-year intensive training course on data analysis.

According to Grice (1989), the truth or falsity of an utterance depends on what is said rather than on what is implicated. (1) is true as long as the speaker participated in the training, even if what is implicated is false (e.g., she failed all the assessments and did not get the diploma). Similarly, it is claimed that a speaker who says something they believe to be false with the intention to deceive lies, whereas a speaker who implicates something believed-false to deceive merely misleads, but as long as what is said is true, they do not lie (Green, 2001; Saul, 2012).

* Corresponding author.
E-mail addresses: alison.hall@dmu.ac.uk (A. Hall), diana.mazzarella@unine.ch (D. Mazzarella).
[1] Alison Hall and Diana Mazzarella share co-first authorship.

https://doi.org/10.1016/j.pragma.2022.12.007

Relatedly, it is widely agreed that the speaker has more responsibility for what is said than for what is implicated. Indeed, some authors have argued that this is because what is said is closely tied to linguistic meaning, whereas implicatures[2] are entirely inferred, and are therefore also the hearer's responsibility to some extent (Reboul, 2017). Speakers are therefore considered to be committed to the truth of what they say to a greater extent than the truth of what they implicate (Fricker, 2012). Others have suggested that while saying or asserting something is not always more committal than implicating it, the audience is typically in a better position to track speaker commitment in the former than in the latter case, and will thus be more likely to hold a speaker accountable for what is said than for what is implicated (on the 'trackability' of assertoric and communicative commitments, see Peet, 2021).

This paper investigates the question of speaker commitment through the lens of the explicit/implicit distinction. First, we illustrate the way in which the distinction between explicit and implicit meanings has been made more fine-grained by post-Gricean contextualist approaches and illustrate how different *degrees* and *types* of pragmatic enrichments can contribute to the explicit content of the utterance (Section 2.1). Second, we discuss the extent to which this distinction is taken to have a bearing on the debate on speaker commitment and linguistic liability (Section 2.2). Then, we present two experimental studies in which we investigated participants' trust choices between informants that are proven wrong, as a function of the way in which the false content has been communicated (Section 3 and Section 4). Finally, we conclude with a discussion of the implications for theories of the explicit-implicit distinction.

2. Levels of meaning and speaker commitment

2.1. The explicit/implicit distinction

Grice (1989) distinguished between what a speaker says and what they implicate. He equated 'what is said' with the linguistically encoded meaning of the utterance after reference assignment and disambiguation. In (1) above, the pronoun "I" is assigned a referent, and "course" is disambiguated, to give what is said. Work since then by contextualists[3] such as Bach, Bezuidenhout, Carston, Neale, Recanati, Sperber and Wilson, among many others, has provided an array of examples where the utterance's explicit content appears not to be restricted to disambiguated linguistic meaning plus referents, but incorporates further pragmatically inferred elements.[4] Here are some examples:

(2) This glue isn't strong enough.
(3) I'm going to the cinema. [in response to a question about whether the speaker wants to go out for dinner that evening]
(4) If you leave your window open and a burglar gets in, you have no right to compensation.

In (2), recovering the explicit content requires knowing what the glue isn't strong enough for, so, appropriately contextualised, it could be *This glue isn't strong enough to hold the picture on the wall*.[5] In (3), the idea is that what the speaker explicitly expresses is not that she is going to the cinema at some point in the future, but that she is going to the cinema that evening (and she thereby implicates a refusal of the invitation). In (4), from Sperber and Wilson (2007), the explicit content can be paraphrased as *If you leave your window open and a burglar gets in through the window as a result of you leaving it open, you have no right to compensation*. These pragmatic inferences involved in recovering the explicit content of (2)–(4) are known as pragmatic enrichments.[6] The enrichment in (2) is necessary in order to recover a complete propositional form - a truth-evaluable content; such enrichments are called 'completions'. (3)–(4) would, after decoding and reference assignment, yield a fully propositional form, but require enrichment into a truth-conditional content that meets pragmatic expectations (e.g., of relevance); this kind of enrichment is called 'expansion'.[7] While in the case of completions, the contextual supplementation is called for by constituents of the sentence uttered, this is not the case for expansions. In the case of expansions, the contextually supplied elements are not linguistically mandated (Saul, 2012, pp. 32–33). However, in contrast with implicatures, expansions are taken to be part of the proposition intuitively expressed, or 'said', by the sentence uttered and on the basis of which its truth/falsity is evaluated (Saul, 2012, pp. 32–33).

[2] We leave aside Grice's category of conventional implicatures, where an expression encodes an implicature, e.g. 'A but B' says 'A & B' and conventionally implicates that B contrasts with or is unexpected in light of A. The discussion here is only of conversational implicatures.

[3] We are using 'contextualist' as a collective term for authors who maintain that pragmatic enrichment contributes to 'what is said'. Some of these (Carston, Sperber, Wilson) see themselves as 'pragmaticists' rather than contextualists, though for purposes of discussing the explicit-implicit distinction, are often grouped together with contextualist philosophers of language (e.g. Bezuidenhout, Neale, Recanati). On similarities and differences between pragmaticists and contextualists, see Carston (2009).

[4] See Bezuidenhout (2002), Carston (2002), Neale (2007), Recanati (2004), Wilson and Sperber (2002). Bach (1994) treats 'what is said' as something even more minimal than the Gricean conception – a so-called 'propositional radical' consisting of disambiguated linguistic meaning but with only the referents of 'narrow indexicals' assigned. His 'impliciture' is the relevant notion here: it is roughly equivalent to the 'what is said' containing more pragmatic contributions than Grice envisaged.

[5] Each of these examples of course also involves reference assignment (to expressions such as "I", "you", "your window" etc). We abstract away from this in the discussion in this paragraph, which is intended to illustrate the aspects of explicit content that go beyond Grice's what is said.

[6] While some of the pragmatics literature uses 'enrichment' essentially as a synonym for 'pragmatic inference' (which therefore includes implicatures), we are using it in line with most work on the explicit/implicit distinction in which 'enrichment' refers to just those pragmatic inferences that contribute to explicated content, and therefore excludes implicatures.

[7] The labels 'completion' and 'expansion' are due to Bach (1994).

Carston (1988) and Recanati (2004) discuss in detail the reasons for thinking that enrichments contribute to what is said. First, they point to truth-value judgements: the truth of the utterance depends on the enriched content, rather than the minimal, Gricean content. In some cases, such as (2), there may be no truth-evaluable content without enrichment. In other cases, such as (3), the enrichments contribute to the pragmatically relevant truth evaluable content (e.g., I'm going to the cinema *tonight*).[8] Second, it is the enriched, rather than minimal, content that is the premise for deriving conversational implicatures. This is to be expected on the picture of communication defended by, for example, Sperber and Wilson (1986/1995), where the linguistic meaning – the invariant meaning encoded by the linguistic expressions used - is seen as providing only part of the evidence, albeit rich and detailed, for the hearer to recover what the speaker means. Contextualists also argue that Grice's what is said, and the similarly minimal or even more minimal propositions defended by semantic minimalists (Borg, 2004; Cappelen and Lepore, 2005), play no role in the utterance interpretation process (Recanati, 2004), and truth-value judgments do not support the idea that they are derived at any point.

Different names abound in the literature for this pragmatically enriched level of utterance content: 'explicature' (Sperber and Wilson, 1986/1995), 'impliciture' (Bach, 1994), 'enriched what is said' (Recanati, 2004), 'pragmatic what is said' (Salmon, 1991; Soames, 2002). We will adopt the term 'explicated content' here, following Sternau et al. (2017). It should be noted that all the above terms, as well as Grice's 'what is said', are intended to capture pretty much the same thing: the part of speaker's meaning that is directly or explicitly communicated, derived by fleshing out/filling in the blueprint provided by the linguistically encoded meaning, in contrast with implicatures, which are indirectly communicated and entirely inferred. It follows that the content that contextualists would call explicature need not always be different from (more pragmatically enriched than) what Grice would call what is said. The result of decoding, reference assignment and disambiguation may sometimes count as the explicature (an example would be an utterance of 'I am here now', where assignment of reference to the referential expressions looks to be all the pragmatic processing that is required to arrive at what the speaker intends to assert). 'Explicated content' has the advantage of not being associated with any particular theory, in contrast to most of the other terms.

The various terms discussed above, including what is said, are different labels for the explicated content of the utterance. In the studies reported below, we investigate whether the degree of explicitness of the explicated content - that is, whether or not it involves pragmatic enrichment and therefore goes beyond Grice's what is said - affects attributions of speaker commitment. When there is no enrichment, so explicature and what is said coincide, we label this "what is said". When there is enrichment, so explicature goes beyond the Gricean conception of what is said, we label this "enriched". For example, (5) is what is said; (6), where the content that is made explicit in (5) has to be inferred, is enriched:

(5) Marie is ready for the interview.
(6) Marie is ready.

2.2. Speaker's commitment and linguistic liability

As mentioned in Section 1, many theorists suggest that speakers are taken to be accountable for what they explicitly communicate to a greater degree than for what they implicate, and this is explained by the assumption that, because the hearer has to infer implicatures, the responsibility for implicatures shifts at least partly to hearers. But contextualists argue that explicated content can be much less 'explicit'[9] than Grice envisaged, involving extensive pragmatic enrichment (completions, expansions). This contextualist position raises the question of how the explicit-implicit distinction lines up with attributions of speaker commitment and responsibility. Recent work on this has tended to focus on the lying-misleading distinction, taking as a starting point the idea that the explicated content of an utterance is the basis for judging whether a speaker has lied or merely misled (Michaelson, 2016; Saul, 2012).

Which conception of explicated content serves this purpose - the Gricean what is said, explicature, or something else - is the subject of debate. At one end of the spectrum, Emma Borg, who takes a Gricean approach to explicated content, acknowledges that there is something 'intuitively stated' or 'intuitively asserted' that goes beyond the Gricean what is said, but that a speaker is not accountable or liable for the former in the same way as she is for the latter. Borg distinguishes between 'strict' and 'conversational' linguistic liability: for the former, what is relevant is the 'strict literal (minimal) content of the sentences they produce', whereas the latter could 'underpin the distinction between explicature and implicature' (2019: 520–21). Although Borg has previously defended a minimalist conception of explicated content that is entirely free of pragmatic input (2004), what she means for current purposes (Borg, 2019: 533, note 2) by 'strict literal (minimal) content' would include reference assignment and disambiguation, but would exclude any other processes, including the process of 'completion' that is apparently required for a truth-evaluable proposition in the case of expressions such as 'ready'.[10]

[8] Following Saul (2012), it is worth mentioning that, when it comes to 'lie judgements', one may judge that a pragmatically enriched proposition whose falsity depends on enrichments via expansion is misleading but not a lie (see the discussion of example (7) below. Weissman and Terkourafi (2019) provide some supporting empirical evidence based on lay people's lie judgements, but see Wiegmann and Meibauer (2019) for a broader picture of the experimental literature on the folk concept of lying (and its mixed results).

[9] 'Explicit' here means 'linguistically encoded' as opposed to pragmatically inferred. A communicated proposition can be more or less explicit depending on the proportion of its content that is linguistically encoded vs inferred (e.g., through enrichment) (see Sperber and Wilson, 1986/1995).

[10] "[T]he proposition literally expressed by a sentence like 'Pat is ready' is *Pat is ready for something*" (ibid).

Saul (2012) also suggests that different notions of explicated content could be relevant in different contexts, with more minimal contents (excluding some enrichments) being what the speaker is held liable for, for example, in judging whether a speaker has lied. Her proposal is meant to capture the intuitive lie-judgements elicited by examples like (7) and (8) below. Both involve enrichment: (7) is generally agreed to be a case of expansion, and (8) a case of completion. In (7), Saul's claim (which Borg, 2019 agrees with) is that lay people's judgments about whether the speaker has lied are not based on the content inferred via enrichment:

(7) Amanda and Beau got married and had children.

In most contexts, the speaker of (7) intends to communicate, and the hearer derives, the proposition pragmatically enriched by means of expansion that *Amanda and Beau got married and then had children together*. Saul (2012, p. 37–38) invites us to consider the following scenario: imagine that the speaker of (7) is addressing Amanda's rich fundamentalist uncle. The speaker knows that if the uncle became aware of the fact that Amanda and Beau had children out of wedlock, he would not allow her to inherit his large fortune. For this reason, the speaker utters (7), expecting the uncle to interpret her utterance as communicating that the children came after the marriage, while saying something that she considers to be strictly speaking true. According to Saul, by uttering (7), the speaker could succeed in misleading the fundamentalist uncle, without lying to him.

Consider a further example from Saul (2012, pp. 58–59). Imagine that Dave is lying in a hospital bed and that two nurses are discussing his treatment. While one is holding up the bottle of heart medicine with a questioning attitude, the other utters (8).

(8) Dave's had enough.

The utterance will be interpreted as conveying that *Dave has had enough heart medicine*. Suppose though that this is not the case, that the speaker is aware of this, but that she has some murderous intention and is planning to let Dave die by preventing him from getting his treatment. According to Saul, by uttering (8), the nurse is intuitively lying.

Based on Saul (2012), pragmatic enrichments inferred via completion, but not those generated via expansion, are relevant to determining the content on the basis of which speakers can be accused of lying. While we agree with Saul's intuitions about these two particular examples, experimental work eliciting judgments about whether or to what extent a given utterance is a lie casts doubt on whether her proposal would hold more widely for examples of completion versus examples of expansion. Saul's account of the relevant notion of explicated content for lie-judgments is based on the idea that pragmatically inferred content required for a complete truth-evaluable proposition will be relevant to lie judgments whereas further pragmatically inferred content will not. But the various studies that have been carried out do not support this. Weissman and Terkourafi (2019) elicit judgments about the extent to which a variety of conveyed believed-false contents are considered lies, ranging from what is said through generalized and particularized conversational implicatures, and the resulting picture is very unclear. Wiegmann and colleagues (Reins and Wiegmann, 2021, Wiegmann et al., 2022) find that the folk concept of lying can apply to particularized conversational implicatures and even contents that are conveyed non-verbally.[11]

These previous studies indicate that, when participants are asked directly to judge whether something is a lie, it is unclear what content their judgments are tracking. It is unclear whether they support any particular way of drawing the explicit/implicit distinction or for delimiting a particular conception of what is said as the basis for lie judgments. To investigate the relevance of the explicit/implicit distinction to speaker accountability or liability, several authors have instead appealed to the different commitments or responsibilities assumed when one conveys a content explicitly or implicitly (with the aim of using intuitions about these commitments and responsibilities to distinguish lying from misleading). Viebahn (2021; see also Timmerman and Viebahn, 2020) points to different kinds of justificatory responsibility that a speaker takes on: they may take on the responsibility to defend that they *know* a content that they put forward, or they may "take on a responsibility to defend that they stand in a weaker epistemic state" to the content. We will illustrate with a famous case from the literature on lying, due originally to Saul (2012):

(9) A dying woman asks a doctor whether her son is well. The doctor saw the son yesterday, when he was fine, but knows that he was killed shortly afterwards. The doctor wants to spare the dying woman the news of her son's death. She utters:
Version A: He's fine.
Version B: I saw him yesterday and he was fine.

(taken from Viebahn, 2021)

As Viebahn says, if the doctor answers with version A, she takes on the responsibility to justify how she knows the son is fine, and "cannot consistently dismiss a challenge such as […] *Do you really know he is fine?*" If, on the other hand, she answers with version B, she has not assumed a responsibility to justify how she knows he is fine, and can consistently dismiss such a challenge with a response along the lines of (10):

(10) I didn't say he was fine, I only said I saw him yesterday and he was fine then.

Marsili (2020) also develops the idea that speakers incur different discursive responsibilities depending on how they communicate a content. For example, they may have the responsibility to, if they are appropriately challenged, either provide evidence in support of a claim or retract it, similar to Viebahn's description of the dying woman case above (for seminal work on discursive/justificatory responsibilities, see Brandom 1983, 1994). Along with this goes accountability: the speaker's

[11] This folk concept of 'lying' was not merely being treated as a synonym for 'deceiving' by their participants, as they had the option of judging the speaker to have misled.

liability to be criticised if what they convey turns out to be false. Version A of the doctor's answer in the above example is intuitively more deserving of criticism than version B.[12]

If speakers are liable for and committed to explicated content (what is said or explicature) in a way distinct from mere implicature, it would be expected that they incur a different kind of cost if a message they convey via explicated content turns out to be wrong than if a message they implicate turns out to be wrong. As we discuss next, some experimental work has begun to investigate how judgments about speaker commitment and accountability are affected by the level of meaning (e.g., explicated content or implicature) via which a content is communicated.

2.3. Experimental approaches to speaker accountability

The relevance of the explicit/implicit distinction to speaker accountability has been experimentally investigated by borrowing methods from the literature on the role of confidence as a commitment signal. Several studies demonstrate that confidence can backfire when it is misplaced (Tenney et al., 2007, 2008, 2011; Vullioud et al., 2017). For instance, participants who are victims of misinformation prefer to trust an unconfident informant than an overconfident one in future interactions, even if the two have been found equally wrong. This suggests that, in the case of accidental or intentional misinformation, the reputation of the speaker as a trustworthy source of information is more likely to be compromised if the speaker strongly commits to the truth of the information communicated. The reputational costs of misplaced commitment guarantee that commitment can function as a reliable cue of the quality of the information communicated: to avoid putting their reputation at risk, speakers will tend to commit to information they believe to be true.

Inspired by these findings, Mazzarella et al. (2018) tested whether distinct levels of meaning gave rise to attribution of different degrees of speaker commitment, measuring the reputational costs incurred by speakers who conveyed something false in one of three ways: (i) saying, (ii) presupposing, (iii) implicating. The results showed that, all else being equal, participants were significantly more likely to selectively trust the speaker who implicated the false content *p* than the speaker who said or presupposed the same content. It is worth noting, though, that the 'saying' examples were all cases in which there was no pragmatic enrichment, so the explicated content corresponded to the Gricean what is said. This leaves open the question of the relative degree of speaker commitment associated with meaning components of the explicated content that are the result of pragmatic enrichments.

Further evidence in favour of the role of the explicit/implicit distinction in modulating the extent to which speakers are held accountable for their messages comes from the work of Bonalumi and colleagues. Bonalumi et al. (2020) showed that speakers were found more blameworthy when they violated a promise conveyed explicitly than when they violated an implicit promise. Specifically, participants were more likely to agree with the statement "The speaker owes the hearer an apology" when the speaker broke a commitment resulting from an explicit promise than an implicit one, although this did not have any effect on participants' partner choice (see their Study 3B). Interestingly, when the statements used to convey an 'implicit promise' were not clear-cut cases of implicature, but arguably involved pragmatic enrichments (e.g., saturation of a temporal variable or enrichment with a temporal specification, see their Study 1), the results revealed that the extent to which speakers were taken to be committed to the promise was not determined by whether the promise was made more or less explicitly.[13]

Our studies adopt the design of Mazzarella et al. (2018) and compare implicature to explicated content, while manipulating the presence/absence of pragmatic enrichments at the level of the explicated content (Study 1) or the nature of the pragmatic enrichment involved, i.e., completion/expansion (Study 2).

3. Study 1

3.1. Method

3.1.1. Participants

We recruited 278 participants ($M_{age} = 35.34$, $SD = 12.03$) with English as their first language on Prolific Academic. 190 women and 88 men participated in the study. All participants gave their informed consent before taking part in the study.

3.1.2. Materials

We presented participants with a short fictional story involving a professional exchange of emails. In the story, an individual (identified with the participant and thus described as "You") sends an email to two collaborators and receives their independent replies. Through their replies, the two collaborators convey the same target content, but at different levels of

[12] Viebahn ultimately rejects the idea that the saying-implicating (or explicit-implicit) distinction tracks the distinction he draws between two kinds of justificatory responsibility. However, he treats as implicatures some kinds of content that contextualists would say are enriched what is said, for example metaphors and hyperboles (Viebahn 2021, section 3), and judgments about other cases are debatable (as Viebahn himself acknowledges about his example of an 'ironic lie' (ibid, footnote 25)). We do not have space in this paper to discuss the relevant examples in detail, but we suggest that some differences between the two commitment-based accounts of Viebahn and Marsili may be attributable to the different conceptions of what is said or explicated content used by the two authors.

[13] A recent study (Yuan and Lyu 2022) claims to find that, in the case of promises, speakers are treated as equally committed to what they say and what they implicate. However, as with Bonalumi et al. (2020), some of the 'implicit promises' in Yuan and Lyu's study would be better analysed as enrichments. For example, in their story 4, an implicit promise is claimed to be conveyed by an utterance of "Rest assured". We believe this is actually an example of completion, in that recovering a truth-evaluable content requires the answer to the question "assured of what?"

explicitness. Finally, the story continuation falsifies the target content conveyed by both informants. Participants were asked the following test question adapted from Vullioud et al. (2017): "Since you are new in town, you are looking for a good kindergarten for your kids. Who do you ask for advice?" (*Trust Question*).

By manipulating the degree of explicitness of the replies of the two collaborators, we obtained three Meaning conditions, characterized by the following contrasts:

- *What is said vs. Enriched*
- *What is said vs. Implicature*
- *Enriched vs. Implicature*

In the *What is said vs. Implicature* condition and the *Enriched vs. Implicature* condition, at the end of the story, we included a second question targeted at assessing whether participants were willing to attribute the expected implicature as part of the speaker's meaning (*Implicature Question*).

For each condition, six different stories were constructed. The same stories were adapted to be used across conditions by modifying the degree of explicitness of the replies of the two collaborators. Table 1 displays a sample story with questions in the *Enriched vs. Implicature* condition. The complete list of stimuli is available in Appendix A.

Table 1
Sample story in the *Enriched vs. Implicature* condition. Each row of the table corresponds to a different screen. Mark gives the Enriched reply, Joe the Implicature reply.

You are the manager of a small advertising agency. Your team is expected to deliver a project to an important customer. Before sending it off, you would like to conduct a focus group discussion. You write an email to your two assistants and ask them whether this is compatible with the deadline[a].
The replies come back as follows:
Mark: You have time.
Joe: A focus group is a good idea.
In light of this, you write the following message to your pool of participants for focus groups: *[Participants can type some text]*
In the end, you manage to organize a focus group discussion for the following week. Later on, you find out that the deadline for submitting the project is tomorrow morning.
Remember what Mark and Joe told you:
Mark: You have time.
Joe: A focus group is a good idea.
Since you are new in town, you are looking for a good kindergarten for your kids. Who do you ask for advice?
❑ Mark
❑ Joe
Remember what happened. Your team is expected to deliver a project to an important customer and before sending it off, you would like to conduct a focus group discussion. You asked your assistants whether the organization of a focus group was compatible with the deadline, and Joe replied:
Joe: A focus group is a good idea.
Does Joe mean that you have enough time to organize a focus group?
❑ Yes
❑ No
❑ I don't know

[a] The stories were phrased so that the enriched testimonies cannot be considered cases of linguistic ellipsis rather than enrichment, as they would be (on some accounts) if they were direct answers to overt questions, as in "Do we have time to organize a focus group?" – "You have time". In linguistic ellipsis, syntactic material is copied from a linguistic antecedent such as a question. For example, here, "to organize a focus group" would be copied to complete the answer "you have time". Such ellipsis resolution is generally considered to be automatic, not relying on pragmatic inference, in contrast to the pragmatic process of completion we are concerned with in this paper (see Stainton 2006 on ellipsis versus pragmatic inference).

In the *What is said vs. Enriched* condition and the *What is said vs. Implicature* condition, the same sample story featured the contrast between, respectively, Mark or Joe and another speaker, Adam:

Adam: You have enough time to organize a focus group. [*What is said*]

The order of presentation of the two replies was counterbalanced. The Meaning manipulation was administered in a between-subject and between-item design. That is, each participant only saw one scenario in one Meaning condition.

The experiment was implemented in Qualtrics. The pre-registration form is available at the following link: https://osf.io/3v5gb/?view_only=dcebbe80f50a4f008eb3df1480b2f1a1.

3.1.3. Procedure

Participants read the instructions and completed the study without practice trials. They advanced the text at their own pace without time constraints. After reading the two informants' replies, participants were asked to write an email. As this request was meant to ensure participants' engagement with the story but was not relevant to our study, we did not analyse the texts produced by the participants. Finally, participants responded to the *Trust Question* and - if relevant - to the *Implicature Question*.

3.2. Predictions

We predicted that participants will be significantly more likely to trust the Implicature informant over both the What is said and the Enriched informants, but that no preference would emerge between the What is said and the Enriched informants. That is, participants' answers to the Trust Question should be sensitive to the level of meaning at which the target content is communicated (implicature vs. explicated content), while the degree of explicitness of the explicated content (what is said vs. enriched) should play no role in participants' trust choices. This prediction is based on the assumption that if implicit (but not explicit) communication reduces accountability for misinformation, participants will be more likely to trust the Implicature informant over both the What is said and the Enriched informants. Participants should hold the What is said and the Enriched informants accountable to a comparable extent and thus fail to display any clear preference when the two are directly contrasted.

3.3. Results

Following Mazzarella et al. (2018), we removed from the analysis participants who responded "No" or "I don't know" to the *Implicature Question* in the What is said vs. Implicature condition and the *Enriched vs. Implicature* condition. This criterion for exclusion was pre-registered and was meant to ensure that only those participants who were willing to attribute the target implicature to the speaker *without any doubt* would be included in our analysis. Our final sample included 126 participants.[14] The number of participants in each condition was comparable: 40 participants in the *What is said vs. Enriched* condition, 38 participants in the *What is said vs. Implicature* condition and 48 participants in the *Enriched vs. Implicature* condition. Fig. 1 illustrates participants' responses to the Trust question.

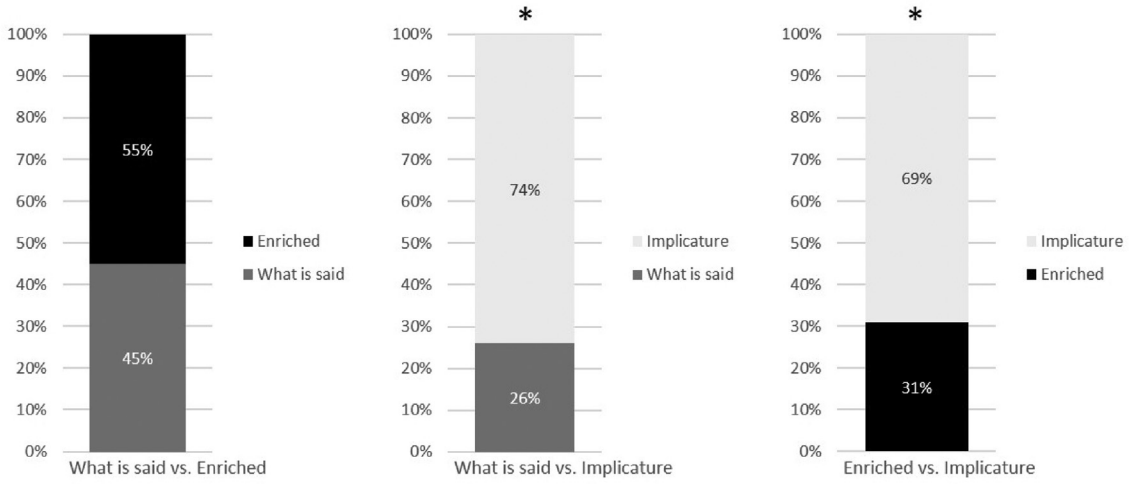

Fig. 1. Percentages of participants who chose each informant in response to the Trust question across the three experimental conditions of Study 1.

What is said vs. Enriched: Participants were as likely to trust the What is said informant as the Enriched one: 45% of the participants trusted the What is said informant and 55% of the participants trusted the Enriched one (22/40, binomial $p = .64$).

What is said vs. Implicature: Participants were significantly more likely to trust the Implicature informant (74%) than the What is said informant (26%) (10/38, binomial $p < .01$).

Enriched vs. Implicature: Participants were significantly more likely to trust the Implicature informant (69%) than the Enriched informant (31%) (15/48, binomial $p < .01$).[15,16]

[14] As expected, the application of this strict exclusion criterion considerably reduced our sample size. This is not surprising given the implicit nature of the target content and hearers' awareness of the (potentially fallible) nature of the inferences to recover the speaker's intended meaning. For our purposes, it was important to include only those participants who did not give speakers the benefit of the doubt. This allowed us to exclude the possibility that the answers to the Trust Question were influenced by interpretative concerns (e.g., the possibility that one could trust the Implicature informant more because they are unsure of whether the speaker really meant to convey a false implicature). For this reason, we constructed our Qualtrics experiment so that participants would be randomly allocated to one of the three conditions, but the *What is said vs. Implicature* condition and the *Enriched vs. Implicature* condition would be three times more likely to be assigned than the *What is said vs. Enriched* condition. As a result, of the 280 participants who were recruited, we expected approximately 40 participants to be randomly attributed to the *What is said vs. Enriched* condition, 120 to the *What is said vs. Implicature* condition and 120 to the *Enriched vs. Implicature* condition.

[15] We did not run any analysis on individual items (single stories we treated as belonging to the same conditions). Descriptive statistics revealed that in both the *What is said vs. Implicature* condition and the *Enriched vs. Implicature* condition, the Implicature informant was always preferred independently of the story. In contrast with this, in the *What is said vs. Implicature* condition, data are more mixed.

[16] Here and below, reported *p*-values are not adjusted for multiple comparisons (adjusting them would not change the inferences).

3.4. Discussion

The results of Study 1 show that participants treated informants as significantly less committed to implicatures than to explicated contents (with and without pragmatic enrichment). This finding replicates the result of Mazzarella et al. (2018) that indicated that, after receiving a piece of false information, participants were more likely to trust an informant that had implicated the false message than an informant who had explicitly stated (and fully articulated) it. Crucially, though, the present study extends this finding to cases in which the level of explicated content involves the derivation of relevant pragmatic enrichments, and thus does not coincide with the Gricean notion of what is said. Furthermore, when the What is said and the Enriched informants are directly compared, we find no evidence of a preference for one informant over the other. This may suggest that participants treated informants as committed to the same degree to explicated contents with and without pragmatic enrichment. Interestingly, these results are in line with the contextualist approach, which sees the explicated content as incorporating the decoded, disambiguated linguistic meaning, assignment of referents, plus pragmatic enrichments necessary to arrive at a proposition the speaker could plausibly be taken to be communicating. The contextualist approach predicts that participants will prefer the informant who implicates false information to the informant who explicates it, but does not predict differences between different degrees of enrichment of the explicated content.

It is worth noting that the materials for Study 1 were constructed in such a way that misinformation could be conceived as either intentional or accidental, leaving it up to participants to infer whether speakers communicated false information because of incompetence or because of malevolence (Sperber et al., 2010). In the former case, but not in the latter, they could be seen as guessing, and perhaps be judged as blameworthy for presenting their guess as an unqualified/unhedged assertion, but not for intentionally deceiving. This leaves open the question of whether a more explicit attribution of deceptive intentions to the informants would affect the extent to which they are held accountable for the falsity of the communicated message.

Furthermore, Study 1 did not experimentally manipulate the nature of the pragmatic enrichments involved in the enriched utterance. Based on Bach's (1994) distinction between expansion and completion, five of the items would be classed as cases of expansion, while the sixth, involving the comparative adjective 'cheap', would be completion. As discussed in Section 2.1, expansions are 'optional' in that a truth-evaluable proposition is expressed without them. For example, two clauses conjoined by 'and', as in one of our items presented in (11), will express a truth-evaluable proposition (12); the causal enrichment in (13) thus occurs to meet pragmatic criteria beyond mere truth-conditionality, such as relevance:

(11) Max stored the files on his personal laptop and they got stolen.
(12) Max stored the files on his personal laptop & they got stolen.
(13) Max stored the files on his personal laptop & as a result they got stolen.

Completions, in contrast, are standardly[17] considered necessary for a truth-evaluable proposition to be expressed: the claim that something is 'cheap' can only be assessed relative to a comparison class; someone cannot be 'ready' *tout court* but must be ready for something: the linguistic meaning of these expressions can therefore be roughly represented as 'cheap for x' and 'ready for y', with the hearer required to supply specific values for the variables, resulting in the contents such as 'cheap for a colour printer', 'ready for the interview'.

As the distinction between these two types of pragmatic enrichment is taken to play an important role in deceptive contexts when judging whether speakers have lied or merely misled (Saul, 2012), we aimed at investigating whether this distinction has an impact on the accountability of the deceptive speaker. We ran a second study that could directly test this hypothesis. Study 2 involves scenarios concerning intentional misinformation, in which the informants' motives for deceiving were presented to the participants in the short texts. We manipulated the nature of the pragmatic enrichments involved at the level of the explicated content (completion versus expansion).

4. Study 2

4.1. Method

4.1.1. Participants

We recruited 320 participants ($M_{age} = 34.62$, $SD = 12$) with English as their first language on Prolific Academic. Participants who took part in Study 1 were not allowed to take part in Study 2 via Prolific in-built screening options. 184 women and 133 men participated in the study (1 participant selected "Other" as their self-identified gender and 2 participants did not provide any answer). All participants gave their informed consent before taking part in the study.

[17] As mentioned in footnote 9, semantic minimalists such as Borg (2004, 2019) are exceptions to this.

4.1.2. Materials

As in Study 1, we presented participants with a short fictional story involving a professional exchange of emails. The story included the testimonies of two informants, who communicated the same content at different levels of explicitness: explicated content-what is said, explicated content-enriched and implicature. Pragmatic enrichments were based on completion or expansion.

As in Study 1, the story continuation falsified the target content conveyed by both informants. Either the first part of the story or the continuation also showed that they had a motive for deception. Participants were asked the same *Trust Question*: "Since you are new in town, you are looking for a good kindergarten for your kids. Who do you ask for advice?"

Overall, the study comprised the four Meaning conditions, characterised by the following relevant contrasts:

- *What is said vs. Completion*
- *Completion vs. Implicature*
- *What is said vs. Expansion*
- *Expansion vs. Implicature*[18]

In the *Completion vs. Implicature* condition and the *Expansion vs. Implicature* condition, participants received an *Implicature Question* (always presented after the *Trust Question*).

We constructed six different stories. Three of them were used in the *What is said vs. Completion*/*Completion vs. Implicature* conditions (as they allowed for relevant enrichments via completion) and three of them were used in the *What is said vs. Expansion*/*Expansion vs. Implicature* conditions (where expansions were targeted). The complete list of stimuli is available in Appendix B. Table 2 illustrates an example involving completion. Participants only read two of the three answers.

Table 2
Example of scenarios with the full range of possible answers.

You are the manager of a company and are interviewing employees who have applied for a promotion. Your two assistants are helping you schedule the interviews. You email your two assistants to say that you want to start the interviews tomorrow with Marie, but you don't know whether she has had time to prepare for the interview.	
The replies come back as follows:	
Adam: Marie is ready for the interview.	What is said
Mark: Marie is ready.	Completion
Joe: You should interview Marie first.	Implicature

In each story, either the first part of the story or the continuation showed that the informants had a motive for deception: for example, in the interview scenario, the continuation included the information "You also find out that your assistants want someone else to get the promotion".

The order of presentation of the two replies was counterbalanced. The Meaning manipulation was administered in a between-subject and between-item design. That is, each participant only saw one story in one Meaning condition.

4.1.3. Procedure

The procedure was the same as Study 1.

4.2. Predictions

We hypothesised that if the completion/expansion distinction investigated by Saul (2012) with respect to lie-judgements is relevant to accountability considerations, speakers should be held more accountable for contents conveyed via completion than for those conveyed via expansion. With respect to our experimental conditions, we should expect participants to be more likely to trust the Enriched informant over the What is said informant in the *What is said vs. Expansion* condition than in the *What is said vs. Completion* condition, and to be more likely to trust the Implicature informant over the Enriched informant in the *Completion vs. Implicature* condition than in the *Expansion vs. Implicature* condition.

Alternatively, if the completion/expansion distinction is not relevant to accountability (as contextualists may want to argue), we should expect participants to make comparable trust choices in the *What is said vs. Completion*/*What is said vs. Expansion* conditions (with no expected preference for one informant over the other), as well as in the *Completion vs. Implicature*/*Expansion vs. Implicature* conditions (with an expected preference for the Implicature informant over the Enriched one). These sets of alternative predictions were pre-registered on OSF at the following link: https://osf.io/efgkt/?view_only=649dfff71bd44fd29f0bba01b7a79133.

[18] We did not investigate the contrast between What is said vs. Implicature as this was already done in Study 1, the results of which were in line with those of Mazzarella et al. (2018), and there is no reason to expect different results in Study 2. Furthermore, we did not directly compare completion and expansion, as it is very tricky to construct minimally different linguistic utterances that could be used to express the same content when enriched via completion or expansion. There are only occasional exceptions, e.g., "You have enough time" vs "You have time".

4.3. Results

We applied the same pre-registered exclusion criterion as in Study 1, thus removing from the analysis participants who responded "No" or "I don't know" to the *Implicature Question* in the *Completion vs. Implicature* condition and in the *Expansion vs. Implicature* condition. Our final sample included 169 participants. The number of participants in each condition was comparable: 39 participants in the *What is said vs. Completion* condition, 39 participants in the *Completion vs. Implicature* condition, 39 participants in the *What is said vs. Expansion* condition and 52 participants in the *Expansion vs. Implicature* condition.

First of all, in order to compare the results of Study 1 and Study 2, we combined the results of the *What is said vs. Completion* condition and the *What is said vs. Expansion* condition (thus comparing What is said vs. Enriched, independently of the completion/expansion distinction), and those of the *Completion vs. Implicature* condition and the *Expansion vs. Implicature* condition (thus comparing Enriched vs. Implicature, independently of the completion/expansion distinction). The results are presented in Fig. 2.

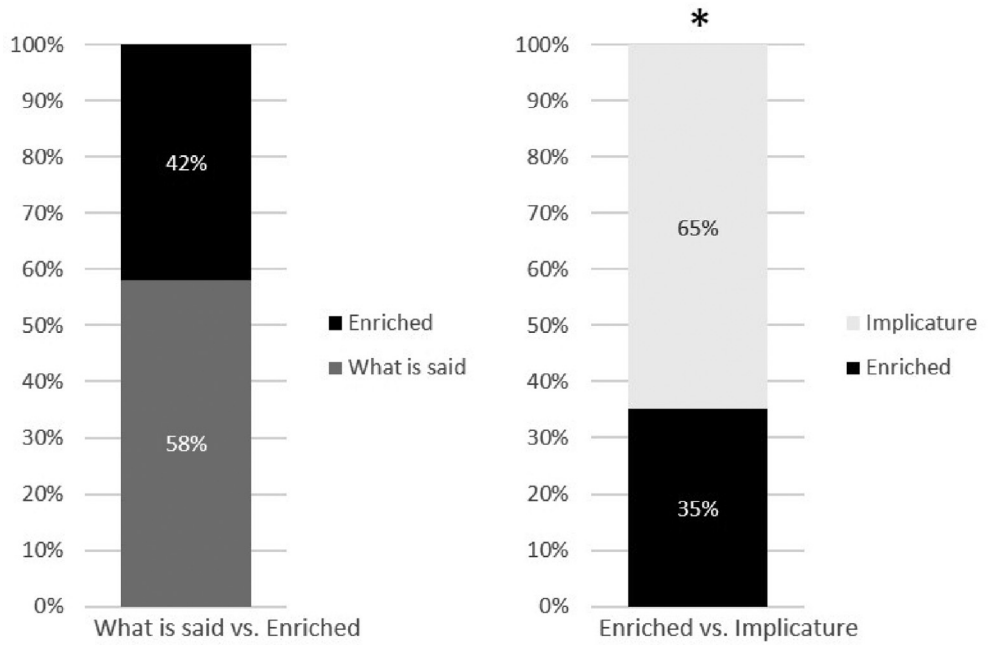

Fig. 2. Cumulative percentages of participants who chose each informant in response to the Trust question across *What is said vs. Completion* + *What is said vs. Expansion* (on the left) and *Completion vs. Implicature* + *Expansion vs. Implicature* (on the right) in Study 2.

What is said vs. Enriched: As in Study 1, participants were as likely to trust the What is said informant as the Enriched one: 58% of the participants trusted the What is said and 42% of the participants trusted the Enriched one (45/78, binomial $p = .21$).

Enriched vs. Implicature: As in Study 1, participants were significantly more likely to trust the Implicature informant (65%) than the Enriched informant (35%) (59/91, binomial $p < .01$).

Second, in order to test the role of the distinction between completion and expansion, we compared the results of the *What is said vs. Completion*/*What is said vs. Expansion* conditions, on the one hand, and those of the *Completion vs. Implicature*/*Expansion vs. Implicature* conditions, on the other hand. The relevant comparisons are illustrated in Table 3. The results are illustrated in Figs. 3 and 4.

Table 3
Relevant comparisons across conditions are illustrated with different shades of grey.

	What is said vs. Enriched	Enriched vs. Implicature
Completion	What is said vs. Completion	Completion vs. Implicature
Expansion	What is said vs. Expansion	Expansion vs. Implicature

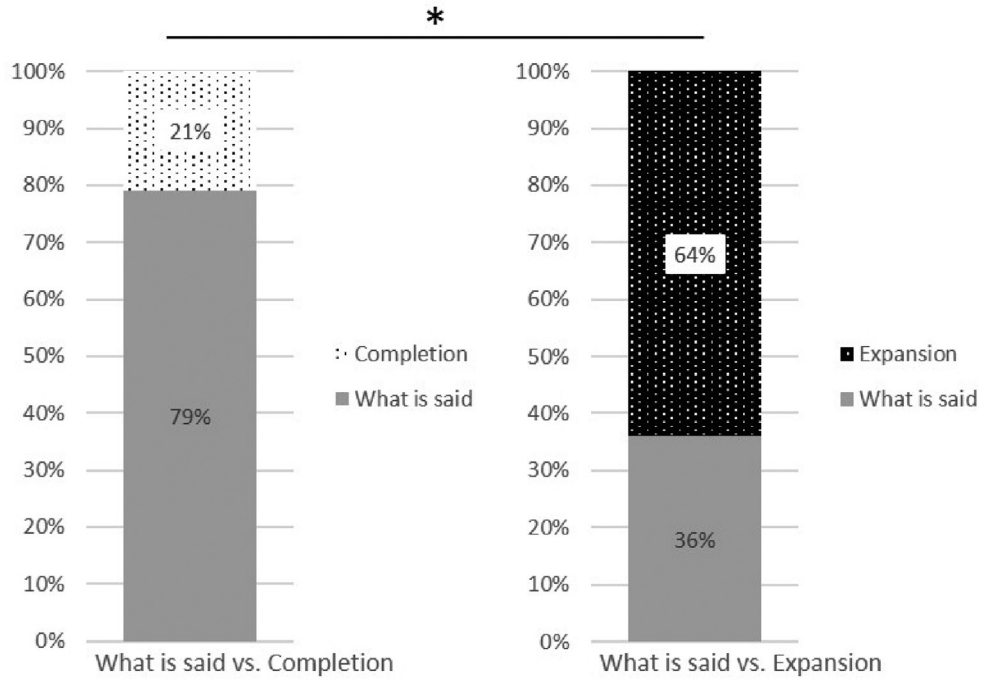

Fig. 3. Percentages of participants who chose each informant in response to the Trust question in the *What is said vs. Completion* condition (on the left) and the *What is said vs. Expansion* condition (on the right) of Study 2.

Completion vs. Expansion (when compared to What is said*)*: A Mann–Whitney U test showed that there was a significant difference ($W = 429$, $p < .001$) in the proportion of participants trusting the Enriched informant between the *What is said vs. Completion* condition and the *What is said vs. Expansion* condition. The proportion of participants trusting the Enriched informant was 21% in the *What is said vs. Completion* condition and 64% in the *What is said vs. Expansion* condition. While participants were less likely to trust the Completion informant than the What is said informant (8/39, binomial $p < .001$), they did not show any significant preference for one informant over the other in the *What is said vs. Expansion* condition (25/39, binomial $p = .11$).

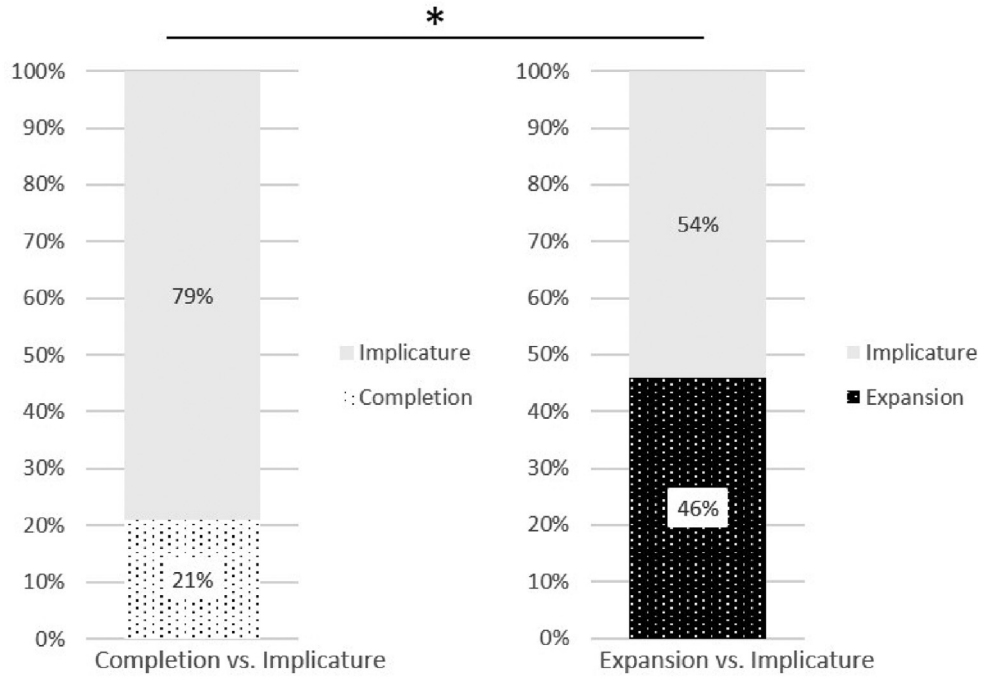

Fig. 4. Percentages of participants who chose each informant in response to the Trust question in the *Completion vs. Implicature* condition (on the left) and the *Expansion vs. Implicature* condition (on the right) of Study 2.

Completion vs. Expansion (when compared to Implicature): A Mann–Whitney U test showed that there was a significant difference ($W = 754$, $p < .01$) in the proportion of participants trusting the Enriched informant between the *Completion vs. Implicature* condition and the *Expansion vs. Implicature* condition. The proportion of participants trusting the Enriched informant was 21% in the *Completion vs. Implicature* condition and 46% in the *Expansion vs. Implicature* condition. While participants were more likely to trust the Implicature informant over the Completion informant (31/39, binomial $p < .001$), no clear preference emerged in the *Expansion vs. Implicature* condition (28/52, binomial $p = .68$).[19]

4.4. Discussion

The results of Study 2 support the relevance of the distinction between completion and expansion for the attribution of speaker accountability. In line with the prediction inspired by Saul (2012) we find differences in the expected direction between the *What is said vs. Completion* condition and the *What is said vs. Expansion* condition, on the one hand, and between the *Completion vs. Implicature* condition and the *Expansion vs. Implicature* condition, on the other hand. When pitted against the What is said informant, the Enriched informant is more likely to be trusted when the falsity of his message is due to a pragmatic enrichment via expansion (*What is said vs. Expansion* condition) than via completion (*What is said vs. Completion* condition). Furthermore, when pitted against the Implicature informant, the Enriched informant is less likely to be trusted when the falsity of his message is due to a pragmatic enrichment via completion (*Completion vs. Implicature* condition) than via expansion (*Expansion vs. Implicature* condition). Taken together, these findings confirm the hypothesis that speaker accountability depends on the type of pragmatic enrichments involved in the interpretation of the speaker's intended meaning (in contrast to the prediction inspired by contextualism).

It is worth scrutinizing what drives these findings and examining the difference in proportions of participants trusting the Enriched informant across different conditions. More specifically, the difference in the proportion of participants trusting the Enriched informant between the *Completion vs. Implicature* condition and the *Expansion vs. Implicature* condition is due (as expected) to a stronger preference for the Implicature informant over the Enriched one in the case of completion than in the case of expansion. As reported above, the Implicature informant was trusted by 79% of the participants when pitted against the Completion informant, but only by 54% of the participants when pitted against the Expansion informant (in this latter case, overall, participants seem to be just as likely to trust the Expansion informant as the Implicature one). These data could be interpreted by suggesting that, at least when deception is involved, participants distinguish between what is implicated and 'what is said', where what is said is taken to include the contribution of pragmatic enrichments derived via completion but not via expansion (as suggested by Saul, 2012). This would in turn explain why the Enriched informant is less likely to be trusted than the Implicature informant in the case of completion but not in the case of expansion.

The difference in the proportion of participants trusting the Enriched informant between the *What is said vs. Completion* condition and the *What is said vs. Expansion* condition is due to the fact that while the What is said informant was trusted more than the Enriched informant in the case of completion, no significant preference emerged in the case of expansion. Indeed, while the What is said informant was trusted by a large majority of participants (79%) when pitted against the Completion informant, this percentage went down to 36% when pitted against the Expansion informant. This finding is unexpected. While we had predicted a difference in the proportion of participants trusting the Enriched informant between these conditions in the same direction, we expected this to be driven by a strong preference for the Expansion informant over the What is said informant, and not by a strong preference for the What is said informant over the Completion informant. A priori, we had no reason to believe that participants would trust less a speaker who communicated a false piece of information via completion than a speaker who had explicitly stated and fully articulated the false message. In the next section, we propose some tentative explanations of this unexpected result - speculations that could be explored and tested in future studies.

4.5. Future directions

Speakers who intentionally misinform their interlocutors may be subject to reputational loss. As a result, they may be less likely to be trusted in the future by the interlocutors they have misled in the past, or by third parties who are aware of their history of deception. In this paper, we have interpreted data about participants' trust choices (after misinformation is revealed) as an indirect measure of the extent to which they would hold speakers accountable for their false messages. In line with Mazzarella et al. (2018), we have interpreted these data as suggesting that participants are more likely to hold speakers accountable for what they explicitly communicate than for what they convey by means of implicatures (Study 1) and that they are more likely to hold speakers accountable for what they explicitly communicate by means of completion than of expansion (Study 2). The finding that participants are more likely to trust a speaker who explicitly states and fully articulates a false

[19] As for Study 1, we did not run any analysis on individual items (single stories we treated as belonging to the same conditions). Descriptive statistics reveal that, *across all stories*, in the *What is said vs. Completion* condition, participants trusted the What is said informant more than the Completion informant, and in the *Completion vs. Implicature* condition participants trusted the Implicature informant more than the Completion informant. In the *What is said vs. Expansion*/*Expansion vs. Implicature* conditions, where no overall preference emerges, data are more mixed (although the only story in which a clear preference seems to be displayed is Story 1 in the *What is said vs. Expansion* condition, where 10/12 participants chose the Expansion informant over the What is said informant).

message than a speaker who conveys it but leaves to the hearer the task of 'completing' the linguistically encoded meaning, though, opens up the question of whether there is more to trust choices than accountability considerations.

In what follows, we explore the idea that trust choices may reflect not only judgements about the extent to which speakers have committed to - and thus bear accountability for - pieces of false information, but also considerations about how they might have strategically tried to avoid accountability (to the detriment of their interlocutors). To do so, we turn to the literature on "plausible deniability" (Pinker, 2007; Pinker et al., 2008), which has investigated the question of whether, and how, speakers can attempt to avoid the responsibilities that come with the transmission of false, or risky, contents. Deniability refers to the possibility for the speaker to deny having had the intention to communicate some risky content that the addressee pragmatically inferred. When openly challenged, the speaker can distance themself from the hearer's interpretation and insist that their linguistic utterance was meant to be interpreted in a different way, one which does not involve the recovery of the content at issue (see also Camp, 2018). Speakers can thus strategically phrase their utterances to preserve deniability and avoid accountability.

Crucially, though, while deniability is always possible, it is not always plausible, and it has been suggested that *implausible* deniability can damage speakers' reputations. If the speaker is perceived as appealing to deniability as a desperate attempt to save their reputation and avoid endorsing any responsibility for what they communicated, the addressee may be even less indulgent (see Saul, 2012, p. 90; Rees, 2014).

Going back to our findings, we may thus wonder whether the Completion informant may have been judged as less trustworthy than the What is said informant because participants attributed to the former a strategic intention to play with the boundaries of deniability in a fine-grained way. In our design, the side-by-side presentation of the answers of the two informants may have prompted participants to recognize that the need for completion keeps available to the speaker a subtle way out to possible (although not plausible) deniability, and thus to consider the Completion speaker as even more deceitful and blameworthy than the What is said one. This suggestion is compatible with the observation that the plausible deniability of pragmatic enrichments at the level of the explicated content is often more difficult to achieve than the deniability of implicated contents (for discussion, see Wilson and Sperber, 2002; Mazzarella, 2021).

Finally, a study by Sternau et al. (2017) indicates that, even at the level of the explicit content, different types of pragmatic enrichments lead to different deniability judgements. Their results show that, while all pragmatic enrichments are considered difficult to deny, deniability ratings are significantly lower for mandatory pragmatic inferences (completion and reference assignment) than for optional ones (e.g., *and*-enriched conjunctions and what Sternau et al. call "default enrichments", corresponding to our category of 'expansions'). These data, as well as our tentative interpretation of the results of Study 2, point to the relevance of the completion/expansion distinction to deniability; more theoretical and experimental work is needed to test this hypothesis.

5. Conclusions

In two experimental studies, we investigated the extent to which speakers are held accountable for what they communicate at distinct levels of meaning (in line with Mazzarella et al., 2018; Bonalumi et al., 2020). The novelty of our contribution is its fine-grained investigation of the level of meaning corresponding to what is explicitly communicated ('explicated'). Research in theoretical pragmatics and philosophy of language has highlighted the existence of different types of pragmatic enrichments contributing to the explicated content of an utterance, as a result of which explicated content can depart more or less from the linguistically encoded meaning (Carston 2002; Hall, 2008; Recanati 2004, Sperber and Wilson, 1986/1995).

In Study 1, we tested whether the degree of explicitness of the explicated content (that is, whether it requires enrichment or not) modulates speaker accountability. In line with our predictions, which were based on the contextualist approach discussed in Section 2.1, we found that the speakers suffered more reputational cost when they explicitly communicated a piece of false information than when they implicated it, independently of the degree of explicitness of the explicated content. In Study 2, we tested whether the distinction between two types of pragmatic enrichments, completion and expansion, has a bearing on speaker accountability in deceptive contexts. Our findings indicate that participants rely on this distinction when making trust choices between deceptive informants. Crucially, and in line with Saul (2012), while deceptive pragmatic enrichments which are based on expansion appear to be treated on a par with implicatures, this is not the case for deceptive pragmatic enrichments based on completion. Our results provide the first empirical evidence that the distinction between completion and expansion is relevant for the assessment of speaker's liability in deceptive contexts. This result corroborates Saul's account of the lying/misleading dichotomy, which stresses the importance of establishing how much pragmatic contribution is required to reach the minimal truth-evaluable content the speaker is strictly liable for.

This finding represents an interesting challenge for contextualist accounts and should inform their development. There initially appears to be a stark contrast between these findings and what contextualists would say, given their denial of any intermediate levels of content between standing linguistic meaning and the explicated content. However, as has been argued by Carston (2002), any pragmatically inferred elements of meaning, including explicated inferences, are cancellable, in the sense that in a different context the inferred content in question would have a different value or may not arise at all. The hearer is, therefore, partly responsible for recovering these elements, which shifts some responsibility from the speaker: 'The less explicit the meaning, the more responsibility the hearer must take for the interpretation he constructs' (Sperber and Wilson, 2007, p. 482). Indeed, Sperber and Wilson suggest that retracting a pragmatic enrichment might be a disingenuous discourse move, but one which "leave [s] room for reasonable doubt" (2002, p. 625). It follows from Sperber and Wilson's

comments here that speakers may have less liability for explicated content the more it diverges from Grice's what is said, which suggests that our findings can be reconciled with contextualism. Expansion is arguably a greater divergence from Grice's what is said than completion is, and this is reflected in our results, which suggest that the liability of the hearer is greater in the case of expansion than in the case of completion, where the speaker has chosen a form of words that requires the hearer to pragmatically enrich the linguistic meaning to recover a truth-evaluable content.

Finally, our results are also relevant to the debate in philosophy of language (discussed in Section 2.1) about how to draw the explicit-implicit distinction. Contextualists (Carston,2002; Recanati, 2004; Wilson and Sperber, 2002) have argued that it is a distinction between explicature and implicature. Explicature includes pragmatic enrichments, whether completion or expansion. They have also argued that Grice's what is said is an idle wheel as far as the theory of utterance comprehension is concerned.[20] Saul (2012) suggests that the distinction between completion and expansion is relevant to judgments of whether someone has lied, and that the relevant notion of what is said (thus of explicated content) incorporates completion but not expansion, whereas Borg (2019) proposes what seems to be Grice's what is said - a content that excludes both completion and expansion - as the basis for such judgments. Borg's aim is to establish that there is a role for this minimalist conception of what is said, even if contextualists are correct that it is not recovered at any point in the process of working out the speaker's meaning.

As discussed in Section 2.1, attempts to directly elicit lie-judgments that would decide between any of these views have been inconclusive. Our studies and the other experimental work we discussed represent an indirect way of tapping into hearers' attributions of liability to speakers for the content they communicate. All three of these approaches (contextualism, Saul, Borg) accept that speaker liability could underpin a notion of explicated content. Our results support Saul's claim that there is a useful level of content that incorporates completion but not expansion, and we have described earlier in this section how this idea could be reconciled with contextualism, using Sperber and Wilson's discussion of how the degree of explicitness of an explicature will be linked to the possibility of plausible deniability. Contra Borg, our results suggest that the minimal level of content for which speakers are held liable includes completion. She does distinguish 'strict linguistic liability' from 'conversational linguistic liability', so might argue that our studies targeted the latter and that the Gricean what is said underpins the former. In our scenarios, the deception had clearly negative consequences, raising the stakes of attributions of liability, which would be expected to push participants towards basing their judgments on a more minimal content that would underpin the stricter notion of liability. However, we cannot rule out that in contexts where the stakes are even higher, for example in deciding criminal responsibility or judging whether someone has committed perjury, what may be relevant is a more minimal notion of explicit content than we have so far found evidence for.

Data availability

Data will be made available on request.

Acknowledgements

De Montfort University's VC2020 scheme provided funding for this research.

Appendix A

List of scenarios. For each scenario, we present the three possible answers. Each condition displayed only two out of three answers. As the *Trust Question* is the same for every scenario, we only report the *Implicature Question*. For each scenario, *Mark* corresponds to the Enriched speaker, *Adam* to the What is said speaker and *Joe* to the Implicature speaker.

Scenario 1

You are the manager of a small advertising agency. Today, an important customer, Ms. Smith, is visiting your offices to discuss a new promotional campaign. As you are unexpectedly busy during lunchtime, you write an email to your two assistants to ask whether one of them can have lunch with Ms. Smith.

The replies come back as follows:

Mark: I've eaten today.

Adam: I've eaten lunch today.

Joe: I've just come back from the canteen.

In light of this, you write the following message to Ms. Smith: *[type text]*

In the end, Ms. Smith spent her lunchtime alone before meeting you in the afternoon. Later on, you discovered that neither of your two assistants had already had lunch that day.

[20] As noted in Section 2.1, explicature and what is said can coincide, if no pragmatic processes other than disambiguation and reference assignment are required in order to derive explicit content. The point contextualists are making is that there is no role for a level of what is said as distinct from explicature.

Implicature Question: Remember what happened. Ms Smith, an important customer, was visiting your offices but you were very busy at lunchtime. You asked your assistants whether one of them could have lunch with her, and Joe replied:

Joe: I've just come back from the canteen.

Did you think Joe meant that he has eaten lunch today?

Scenario 2

You are the invited speaker at a political rally. In the morning, you write an email to your assistants to ask them who is bringing the visuals that your team has prepared for you to display during your talk.

The replies come back as follows:

Mark: Peter took your USB key and he saved the visuals.

Adam: Peter took your USB key and he saved the visuals on it.

Joe: Peter took your USB key.

In light of this, you write the following message to the organizer of the political rally: *[type text]*

At the rally, you realize that nobody in your team has the visuals and you are forced to give your presentation without them. Later on, you find out that Peter has indeed taken your USB to the rally but, unaware of your expectations, he had only saved the visuals on the office hard disk as a backup.

Implicature Question: Remember what happened. You had to give an invited talk at a political rally during which you would display the visuals prepared by your team. You asked your assistants who would bring the visuals to the rally, and Joe replied:

Joe: Peter took your USB key.

Did you think Joe meant that Peter has saved the visuals on the USB key?

Scenario 3

You are the manager of a small advertising agency. Your team is expected to deliver a project to an important customer. Before sending it off, you would like to conduct a focus group discussion. You write an email to your two assistants and ask them whether this is compatible with the deadline.

The replies come back as follows:

Mark: You have time.

Adam: You have enough time to organize a focus group.

Joe: A focus group is a good idea.

In light of this, you write the following message to your pool of participants for focus groups: *[type text]*

In the end, you manage to organize a focus group discussion for the following week. Later on, you find out that the deadline for submitting the project is tomorrow morning.

Implicature Question: Remember what happened. Your team is expected to deliver a project to an important customer and before sending it off, you would like to conduct a focus group discussion. You asked your assistants whether the organization of a focus group was compatible with the deadline, and Joe replied:

Joe: A focus group is a good idea.

Did you think Joe meant that you have enough time to organize a focus group?

Scenario 4

You are the manager of a small company. Some confidential files have been leaked to the press. You email your two assistants to ask whether they have any insights on the issue.

The replies come back as follows:

Mark: Max stored the files on his personal laptop and they got stolen.

Adam: Max stored the files on his personal laptop and as a result they got stolen.

Joe: Max stored the files on his personal laptop.

In light of this, you write the following message to Max: *[type text]*

In the end, you decide to fire Max. Later on, you find out that Max had stored the files securely on his laptop, and an employee who was sacked last week had leaked the files.

Implicature Question: Remember what happened. Some confidential files of your company have been leaked to the press. You asked your assistants whether they had any insights on the issue, and Joe replied:

Joe: Max stored the files on his personal laptop.

Did you think Joe meant that the files got stolen as a result of Max storing them on his personal laptop?

Scenario 5

You are a lawyer in a small town and hear a rumour that a local bar has broken a new law forbidding businesses from refusing service on the basis of LGBT status. You would be interested in representing the couple who are complaining, so you email your two assistants, who were at that bar on the evening in question, to find out what happened.

The replies come back as follows:
Mark: The bartender refused to serve a gay couple.
Adam: The bartender refused to serve a gay couple because they were gay.
Joe: A couple are complaining about being refused service, and they're gay.
In light of this, you write the following message to the couple: *[type text]*
In the end, you represent the couple in their case against the bar. Later on, you find out from other witnesses that the bartender refused to serve the couple, who were gay, because they were already very drunk when they got to the bar.
Implicature Question: Remember what happened. A rumour that a local bar has broken a new law forbidding businesses from refusing service on the basis of LGBT status and you would be interested in representing the couple who are complaining. You asked your assistants, who were at the bar on the evening in question, what happened, and Joe replied:
Joe: A couple are complaining about being refused service, and they're gay.
Did you think Joe meant that the couple are complaining that they were refused service because they are gay?

Scenario 6

You want to buy a colour printer for your firm. You do not need a very good model, as your main concern is to not spend much money. One model has been recommended to you. You email your two assistants to ask them to check how it compares on price with other models.
The replies come back as follows:
Mark: The printer you were recommended is cheap.
Adam: The printer you were recommended is cheap compared to other colour printers.
Joe: The printer you were recommended is good value.
In light of this, you write the following message to the IT department to place the order: *[type text]*
In the end, you get the printer you were recommended. Later on, you find out that the printer you bought is slightly better and more expensive than several other models.
Implicature Question: Remember what happened. You wanted to buy a colour printer for your firm without spending much money. One model has been recommended to you. You asked your assistants how it compares on price with other models, and Joe replied:
Joe: The printer you were recommended is good value.
Did you think Joe meant that the printer you were recommended is cheap compared to other colour printers?

Appendix B

List of scenarios. Most scenarios are adapted from Study 1. For each scenario, we present the three possible answers. Each condition displayed only two out of three answers. As the *Trust Question* is the same for every scenario, we only report the *Implicature Question*. For each scenario, *Mark* corresponds to the Enriched speaker, *Adam* to the What is said speaker and *Joe* to the Implicature speaker.

Expansion scenarios

Scenario 1

You are the manager of a small advertising agency. Today, an important customer, Ms. Smith, is visiting your offices to discuss a new promotional campaign. As you are unexpectedly busy during lunchtime, you write an email to your two assistants to ask whether one of them can have lunch with Ms. Smith.
The replies come back as follows:
Mark: I've eaten today.
Adam: I've eaten lunch today.
Joe: I've just come back from the canteen.
In light of this, you write the following message to Ms. Smith: *[type text]*
In the end, Ms. Smith spent her lunchtime alone before meeting you in the afternoon. Later on, you discover that neither of your two assistants had already had lunch that day but they had met Ms. Smith before and didn't like her.
Implicature Question: Remember what happened. Ms Smith, an important customer, was visiting your offices but you were very busy at lunchtime. You asked your assistants whether one of them could have lunch with her, and Joe replied:
Joe: I've just come back from the canteen.
Did you think that Joe meant that he had eaten lunch today?

Scenario 2

You are the invited speaker at a political rally. In the morning, you write an email to your assistants to ask them who is bringing the visuals that your team has prepared for you to display during your talk.

The replies come back as follows:

Mark: Peter took your USB key and he saved the visuals.

Adam: Peter took your USB key and he saved the visuals on it.

Joe: Peter took your USB key.

In light of this, you write the following message to the organizer of the political rally: *[type text]*

At the rally, you realize that nobody in your team has the visuals and you are forced to give your presentation without them. Later on, you find out that Peter has indeed taken your USB to the rally but, unaware of your expectations, he had only saved the visuals on the office hard disk as a backup. Your assistants knew about this but, as they can't stand Peter, they were happy for him to be blamed.

Implicature Question: Remember what happened. You had to give an invited talk at a political rally during which you would display the visuals prepared by your team. You asked your assistants who would bring the visuals to the rally, and Joe replied:

Joe: Peter took your USB key.

Did you think Joe meant that Peter had saved the visuals on the USB key?

Scenario 3

You are the manager of a small company. Some confidential files have been leaked to the press. You email your two assistants to ask whether they have any insights on the issue.

The replies come back as follows:

Mark: Max stored the files on his personal laptop and they got stolen.

Adam: Max stored the files on his personal laptop and as a result they got stolen.

Joe: Max stored the files on his personal laptop.

In light of this, you write the following message to Max: *[type text]*

In the end, you decide to fire Max. Later on, you find out that Max had stored the files securely on his laptop, and an employee who was sacked last week had leaked the files. Your two assistants don't like Max and they would be happy if he got fired.

Implicature Question: Remember what happened. Some confidential files of your company have been leaked to the press. You asked your assistants whether they had any insights on the issue, and Joe replied:

Joe: Max stored the files on his personal laptop.

Did you think Joe meant that the files got stolen as a result of Max storing them on his personal laptop?

Completion scenarios

Scenario 4

Your assistants insisted that you buy a colour printer for the office and recommended one model to you. You do not need a very good model, as your main concern is to not spend much money. You email your two assistants to ask them to check how this printer compares on price with other models.

The replies come back as follows:

Mark: The printer is cheap.

Adam: The printer is cheap compared to other colour printers.

Joe: The printer is good value.

In light of this, you write the following message to the IT department to place the order: *[type text]*

In the end, you get the printer you were recommended. Later on, you find out that the printer you bought is slightly better and more expensive than several other models and that your assistants benefited from a discount for a private purchase from the printer provider.

Implicature Question: Remember what happened. You wanted to buy a colour printer for your firm without spending much money. Your assistants recommended a model. You asked your assistants how it compares on price with other models, and Joe replied:

Joe: The printer is good value.

Did you think Joe meant that the printer is cheap compared to other colour printers?

Scenario 5

You are the manager of a small advertising agency. Your team is expected to deliver a project to a customer. Your two assistants have worked on it for a long time and would like to move on to new projects. However, you are still not convinced of the end result. Before your assistants send it off, you would like to conduct a focus group discussion. You write an email to your two assistants and ask them whether this is compatible with the deadline.

The replies come back as follows:

Mark: You have enough time.

Adam: You have enough time to organize a focus group.

Joe: A focus group is a good idea.

In light of this, you write the following message to your pool of participants for focus groups: *[type text]*

In the end, you manage to organize a focus group discussion for the following week. Later on, you find out that the deadline for submitting the project is tomorrow morning so your assistants plan to send it off then.

Implicature Question: Remember what happened. Your team is expected to deliver a project to an important customer and before sending it off, you would like to conduct a focus group discussion on the work that your two assistants have delivered. You asked your assistants whether the organization of a focus group was compatible with the deadline, and Joe replied:

Joe: A focus group is a good idea.

Did you think Joe meant that you have enough time to organize a focus group?

Scenario 6

You are the manager of a company and are interviewing employees who have applied for a promotion. Your two assistants are helping you schedule the interviews. You email your two assistants to say that you want to start the interviews tomorrow with Marie, but you don't know whether she has had time to prepare for the interview.

The replies come back as follows:

Mark: Marie is ready.

Adam: Marie is ready for the interview.

Joe: You should interview Marie first.

In light of this, you write the following message to Marie:

Later, it turns out that Marie is well-qualified for the role, but was unprepared for the interview because she had just come back from leave. You also find out that your assistants want someone else to get the promotion.

Implicature Question: Remember what happened. You wanted to start the interviews for the job promotion tomorrow and asked your two assistants whether Marie had enough time to prepare for it. Joe replied:

Joe: You should interview Marie first.

Did you think Joe meant that Marie is ready for the interview?

References

Bach, K., 1994. Conversational impliciture. Mind Lang. 9 (2), 124–162.

Bezuidenhout, A., 2002. Truth-conditional pragmatics. Phil. Perspect. 16, 105–134.

Bonalumi, F., Scott-Phillips, T., Tacha, J., Heintz, C., 2020. Commitment and communication: are we committed to what we mean, or what we say? Lang. Cognit. 12 (2), 360–384.

Borg, E., 2004. Minimal Semantics. Oxford University Press, Oxford.

Borg, E., 2019. Explanatory roles for minimal content. Noûs 53 (3), 513–539.

Brandom, R., 1983. Asserting. Noûs 17 (4), 637–650.

Brandom, R., 1994. Making it Explicit: Reasoning, Representing, and Discursive Commitment. Harvard University Press, Cambridge.

Camp, E., 2018. Insinuation, common ground. In: Fogal, D., Harris, D.W., Moss, M. (Eds.), New Work on Speech Acts. Oxford University Press, New York, NY, pp. 40–65.

Cappelen, H., Lepore, E., 2005. Insensitive Semantics: A Defense of Semantic Minimalism and Speech Act Pluralism. Blackwell, Oxford.

Carston, R., 1988. Implicature, explicature and truth-theoretic semantics. In: Kempson, R. (Ed.), Mental Representations: the Interface between Language and Reality. Cambridge University Press, Cambridge, pp. 155–181. Reprinted in Davis, S. (Ed.) 1991 Pragmatics: A Reader (pp. 33–51). Oxford: Oxford University Press.

Carston, R., 2002. Thoughts and Utterances: the Pragmatics of Explicit Communication. Blackwell, Oxford.

Carston, R., 2009. Relevance theory: contextualism or pragmaticism? UCL Working Papers in Linguistics 21, 19–26.

Fricker, E., 2012. Stating and insinuating. In: Proceedings of the Aristotelian Society Supplementary, LXXXVI, pp. 61–94. https://doi.org/10.1111/j.1467-8349.2012.00208.x.

Green, S.P., 2001. Lying, misleading, and falsely denying: how moral concepts inform the law of perjury, fraud, and false statements. Hastings LJ 109 (1984), 157–212.

Grice, H.P., 1989. Studies in the Way of Words. Harvard University Press, Cambridge, MA.

Hall, A., 2008. Free enrichment or hidden indexicals? Mind Lang. 23 (4), 426–456.

Marsili, N., 2020. Lying, speech acts and commitment. Synthese. https://doi.org/10.1007/s11229-020-02933-4. Online First.

Mazzarella, D., 2021. I didn't mean anything like that!": deniability and context reconstruction. Mind Lang. https://doi.org/10.1111/mila.12377.

Mazzarella, D., Reinecke, R., Noveck, I., Mercier, H., 2018. Saying, presupposing and implicating: how pragmatics modulate commitment. J. Pragmat. 133, 15–27.

Michaelson, E., 2016. The lying test. Mind Lang. 31 (4), 470–499.

Neale, S., 2007. Heavy hands, magic, and scene-reading traps. Eur. J. Anal. Philos. 3, 77–131.

Peet, A., 2021. Assertoric content, responsibility and metasemantics. Mind Lang. https://doi.org/10.1111/mila.12372. Early View.

Pinker, S., 2007. The evolutionary social psychology of off-record indirect speech acts. Intercult. Pragmat. 4 (4), 437–461. https://doi.org/10.1515/IP.2007.023.

Pinker, S., Nowak, M.A., Lee, J.J., 2008. The logic of indirect speech. Proc. Natl. Acad. Sci. USA 105 (3), 833–838. https://doi.org/10.1073/pnas.0707192105.

Reboul, A., 2017. Is implicit communication a way to escape epistemic vigilance? In: Assimakopoulos, S. (Ed.), Pragmatics at its Interfaces. De Gruyter Mouton, pp. 91–112.

Recanati, F., 2004. Literal Meaning. Cambridge University Press, Cambridge.

Rees, C., 2014. Better lie! Analysis 74, 69–74.

Reins, L.M., Wiegmann, A., 2021. Is lying bound to commitment? Empirically investigating deceptive presuppositions, implicatures, and actions. Cognit. Sci. 45 (2), e12936. https://doi.org/10.1111/cogs.12936.

Salmon, N., 1991. The pragmatic fallacy. Phil. Stud. 42, 37–45.

Saul, J., 2012. Lying, Misleading, and the Role of what Is Said. Oxford University Press, Oxford.

Soames, S., 2002. Beyond Rigidity: the Unfinished Semantic Agenda of Naming and Necessity. Oxford University Press, Oxford.

Sperber, D., Wilson, D., 1986/1995. Relevance: Communication and Cognition. Blackwell Publishing, Oxford.

Sperber, D., Wilson, D., 2007. Pragmatics. In: Jackson, F., Smith, M. (Eds.), Oxford Handbook of Contemporary Philosophy. Oxford University Press, Oxford, pp. 468–501.
Sperber, D., Clément, F., Heintz, C., Mascaro, O., Mercier, H., Origgi, G., Wilson, D., 2010. Epistemic vigilance. Mind Lang. 25 (4), 359–393. https://doi.org/10.1111/j.1468-0017.2010.01394.x.
Stainton, R., 2006. Words and Thoughts: Subsentences, Ellipsis and the Philosophy of Language. Oxford University Press, Oxford.
Sternau, M., Ariel, M., Giora, R., Fein, O., 2017. Deniability and explicatures. In: Giora, R., Haugh, M. (Eds.), Doing Pragmatics Interculturally. Cognitive, Philosophical and Sociopragmatic Perspectives. De Gruyter Mouton, Berlin/Boston, pp. 97–120.
Tenney, E.R., MacCoun, R.J., Spellman, B.A., Hastie, R., 2007. Calibration trumps confidence as a basis for witness credibility. Psychol. Sci. 18 (1), 46–50. https://doi.org/10.1111/j.1467-9280.2007.01847.x.
Tenney, E.R., Spellman, B.A., MacCoun, R.J., 2008. The benefits of knowing what you know (and what you don't): how calibration affects credibility. J. Exp. Soc. Psychol. 44 (5), 1368–1375. https://doi.org/10.1016/j.jesp.2008.04.006.
Tenney, E.R., Small, J.E., Kondrad, R.L., Jaswal, V.K., Spellman, B.A., 2011. Accuracy, confidence, and calibration: how young children and adults assess credibility. Dev. Psychol. 47 (4), 1065.
Timmerman, F., Viebahn, E., 2020. To lie or to mislead? Phil. Stud 178 (5), 1481–1501.
Viebahn, E., 2021. The lying-misleading distinction: a commitment-based approach. J. Philos. 118 (6), 289–319.
Vullioud, C., Clément, F., Scott-Phillips, T., Mercier, H., 2017. Confidence as an expression of commitment: why misplaced expressions of confidence backfire. Evol. Hum. Behav. 38 (1), 9–17. https://doi.org/10.1016/j.evolhumbehav.2016.06.002.
Weissman, B., Terkourafi, M., 2019. Are false implicatures lies? An empirical investigation. Mind Lang. 34 (2), 221–246.
Wiegmann, A., Meibauer, J., 2019. The folk concept of lying. Philos. Compass 14 (8), e12620.
Wiegmann, A., Willemson, P., Meibauer, J., 2022. Lying, deceptive implicatures and commitment. Ergo 8 (0). https://doi.org/10.3998/ergo.2251.
Wilson, D., Sperber, D., 2002. Truthfulness and relevance. Mind 111 (443), 583–632. https://doi.org/10.1093/mind/111.443.583.
Yuan, W., Lyu, S., 2022. Speech act matters: commitment to what's said or what's implicated differs in the case of assertion and promise. J. Pragmat. 191, 128–142.

Alison Hall is Senior Lecturer in English Language at De Montfort University, UK. She has a PhD in Linguistics from University College London. Her main research interests are in pragmatics and its interface with semantics, particularly the explicit-implicit distinction, lexical pragmatics, and ellipsis.

Diana Mazzarella is Professor in Communication and Cognitive Science at the University of Neuchâtel, Switzerland. She has a PhD in Linguistics from University College London. Her main research interests are in experimental pragmatics, particularly the interface between linguistic communication and other cognitive systems, such as Theory of Mind and epistemic vigilance.