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Accommodation: a cognitive heuristic for background information

Misha-Laura Müller

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1. Introduction

- 1 Accommodation is traditionally defined as an inferential process that allows listeners to incorporate information – presented as common ground – into their set of previous beliefs. For instance, Karttunen (1974: 191) argues that whenever a presupposition is conveyed by a speaker, “the listener is entitled and expected to extend [the context] as required”. This paper tackles the notion of presupposition accommodation and the nature of this process: how are presuppositions processed relatively to asserted contents and implicatures? Is accommodation restricted to semantic presuppositions, or does it also apply to more pragmatic contents? Finally, is this process always conscious and under voluntary control (cf. von Stechow 2000: 11)? Before addressing these issues, accommodation should be distinguished from a) the concept stemming from Communication Accommodation Theory (cf. Giles, Coupland & Coupland 1991; Giles 2016), and b) other pragmatic adjustments involved in utterance comprehension.
- 2 Regarding the first point, one should stress that the concept of accommodation differs significantly from one framework to another: on the one hand, Communication Accommodation Theory studies how people adjust their communicative behavior during social interaction and what “social consequences” might result from such adjustments (Giles 2016: 36). In this case, the object of study is not limited to linguistic communication but applies also to any behavioral input (gestures, prosody, conversational pauses, etc.) and the way this can be modulated for communicative purposes. While both approaches

study some “adjustments” that are intended to make communication successful, Communication Accommodation Theory focuses on behavioural adjustments from the speaker’s perspective, while presupposition theory focuses on meaning adjustments from the perspective of the listener. In what follows, accommodation will be exclusively used to designate the latter concept, stemming from presupposition theory.

- 3 The second point relates to the fact that accommodation does not relate to all types of pragmatic adjustments. Accommodation should be distinguished from both primary and secondary pragmatic processes (see Recanati 2004, 2013; Carston 2007 *inter alia*), inasmuch as these latter processes are recovered through the search of the speaker’s intended meaning. As it will be argued later, presuppositions are peripheral to the main point of a discussion, to the extent that they present themselves as background information. To clarify the difference between primary and secondary pragmatic processes, on the one hand, and presupposition accommodation, on the other, consider the following examples (taken from Recanati 2012: 69 and Carston 2007: 28):

(1)	Sally is ready.
(1a)	Sally is ready [to go/to eat/to listen, etc...] ¹ .
(2)	The ATM swallowed my credit card.
(2a)	The ATM SWALLOWED* my credit card ² .

- 4 Example (1) involves an unarticulated constituent, namely what Sally is ready for. The pragmatic enrichment mentioned in (1a) is mandatory to recover a truth-evaluable proposition (Recanati 2010: 4). In (2), the listener is likely to prefer a metaphorical understanding of the concept SWALLOW over a literal one, resulting from what Recanati calls pragmatic ‘modulation’ (Recanati, 2004:131), or an ‘ad hoc concept’ (Carston 2007: 28).
- 5 Finally, (3a) illustrates the output of a secondary pragmatic process, best known as a ‘conversational implicature’ (Grice 1975):

(3)	A: Will you be able to attend the conference tomorrow?
	B: I must look after my son, he still has got this terrible flu!
(3a)	<i>B will not be able to come to the conference.</i>

- 6 Importantly, (1a), (2a) and (3a) are inferred on the basis of ostensive communicative behaviors provided by the speaker (Sperber & Wilson [1986] 1995). They should be distinguished from presuppositions, which are relatively less ostensive, to the extent that they are “not intended by the speaker to be part of the main point” (Simons 2005: 341).
- 7 Presupposition accommodation is best illustrated by adopting the perspective of an eavesdropper or an “agnostic listener” (von Stechow 2000: 11). When hearing B’s reply in example (3), an agnostic listener would not only understand that B is not coming to the conference tomorrow (i.e. the conversational implicature (3a)), but also that B has a son

(3b), that his son has had the flu for a few days from now (3c) and that this specific flu is likely to have previously been discussed between A and B (3d).

(3)	A: Will you be able to attend the conference tomorrow?
	B: I have to look after my son , he still has got this terrible flu!
(3a)	<i>B will not be able to come to the conference.</i>
(3b)	B has a son.
(3c)	B's son has had the flu for some time.
(3d)	A is aware of B's son having the flu.

- 8 In addition to such classical semantic presuppositions (3b) – (3d), this paper focuses on ‘discursive presuppositions’ (de Saussure 2013). These contents share with semantic presuppositions the property of not belonging to the intended communicative import (i.e. they are considered as background information). However, unlike semantic presuppositions, they are pragmatic contents akin to weak implicatures³. As illustrated below, the semantic presupposition (4a) can be distinguished from the discursive presuppositions (4b) – (4c), which are pragmatic contents, but are nonetheless necessary conditions for sentence (4) to be relevant in the context:

(4)	Women are as clever as men: the fact that a young girl has been accepted at the Polytechnic School proves it well enough ⁴ .
(4a)	Men are intelligent. (semantic presupposition)
(4b)	Women could be less intelligent than men. (discursive presupposition)
(4c)	There are reasons to believe that women are less intelligent than men. (discursive presupposition)

- 9 In section 2, I elaborate on the notion of semantic presupposition and show to what extent it constitutes a heterogeneous category (§2.1). I specifically present the distinction between mandatory and optional presupposition triggers (Glanzberg 2005; Domaneschi et al. 2014) and argue that it does not give a convincing picture of how presuppositions are processed (§2.2). I then propose a view of semantic presuppositions as lower entailments (Wilson & Sperber 1979), which contribute to relevance by saving cognitive efforts (§2.3). This view allows a better understanding of the properties semantic presuppositions share with discursive presuppositions (§2.4). In section 3, I argue that the accommodation of semantic and discursive presuppositions can be given a unitary account (§3.1). I then present Stalnaker and von Stechow's account of presupposition accommodation within Common Ground Theory, arguing that it cannot explain “presupposition biases” (de Saussure 2013: 179), as the ones attested in experimental psychology (§3.2). I conclude that presupposition accommodation should be defined as a cognitive heuristic. The benefit of this heuristic is to allow the listener to

save cognitive efforts, whereas the costs involve a risk of overlooking relevant information or making epistemic errors (§3.3).

2. Conveying background information

2.1. Semantic presuppositions

- 10 The notion of ‘semantic’ presupposition can be traced back to Frege’s seminal paper *Über Sinn und Bedeutung* (1892). The most famous example discussed in the early stages of presupposition theorizing is the definite description contained in the sentence “The king of France is bald”, which triggers the existential presupposition that *there exists a king of France*. According to Frege, the fact that there exists a king of France is not “part of the thoughts expressed by a proposition” (Frege 1892: 33) but rather serves as a precondition for the sentence to have a denotation (or a truth value). At that time, wondering whether presuppositions correspond to a precondition for a sentence to have a truth value was at the core of the debate (cf. Russel 1905 and Strawson 1950).
- 11 Presupposition triggers, upon which accommodation operates, have been listed and abundantly discussed in the literature. As illustrated below, some triggers depend on lexical items, such as factive verbs (5) (Kiparsky & Kiparsky 1970), change of state verbs (6), definite articles (7), focus-sensitive particles (8) and iteratives (9). The syntactic structure, as in cleft sentences (9), can also trigger a presupposition. Finally, stress patterns (10) have been listed as an essential presupposition trigger, capable to “override syntactic or lexical effects” (Wilson & Sperber 1979: 310-317):

(5)	John knew/forgot/regrets that Mary had an affair.
	Pp: Mary had an affair.

(6)	Paul quit smoking.
	Pp: Paul used to smoke.

(7)	I took the umbrella.
	Pp: there exists one specific umbrella [at home, in the room, etc.].

(8)	# Me too ⁵ !
	Pp: <i>someone else</i> is concerned by <i>x</i> .

(9)	Make America Great Again .
	Pp: America used to be great and is no longer great.

(10)	It is Mary who took the last piece of cake!
	Pp: Someone took the last piece of cake.

(11a)	YOU'VE eaten all my apples. (Wilson & Sperber 1979: 317)
	Pp: Someone's eaten my apples.

(11b)	You've eaten all my APPLES . (Wilson & Sperber 1979: 316)
	Pp: You've eaten something.

- 12 As we can see above, presupposition is not a homogeneous phenomenon. While presupposition triggers have widely been studied with respect to their “projective behavior” (Heim 1983; Beaver 2001; Simons et al. 2010, *inter alia*), very little has been said regarding how they are processed in terms of attentional requirements and processing costs. I shall now turn to this question.

2.2. Mandatory vs optional presupposition triggers

- 13 Glanzberg (2005) focuses on contexts in which presuppositions are not part of the common ground, amounting to a presupposition failure. He argues that, in such cases, presuppositions are divided between mandatory triggers, namely those which are necessary for assigning a truth-value to a sentence; and optional triggers, which do not directly impact the truth-value of the sentence. In (12), for instance, the presupposition triggered by the factive verb “regret” (*John voted for Bush*) is mandatory in order to process the asserted content, namely John’s attitude towards the fact that he voted for Bush. On the other hand, the presupposition triggered by “even” in (13) remains optional to process (or requires only “optional repair”), inasmuch as it does not affect the truth conditions of the proposition. Indeed, the truth-conditions of (13) are verified if John solved the problem, regardless of the meaning conveyed by the trigger “even”:

(12)	John regrets voting for Bush. (Glanzberg 2005: 369)
(13)	Even John solved the problem. (Glanzberg 2005: 370)

- 14 Quite recently, Glanzberg’s distinction between mandatory and optional triggers has been addressed experimentally by Domaneschi et al. (2014). The purpose was to assess whether this distinction exists when listeners process informative presuppositions. They also investigated whether presupposition triggers imply different processing costs.
- 15 Five presupposition triggers were tested, namely factive verbs (FV), iteratives (IT), focus-sensitive particles (FC), definite descriptions (DD) and change of state verbs (CS). In a first phase, participants were asked to memorize short stories which contained a series of

informative presuppositions. In a second phase, participants had to answer questions that allowed to check whether they remembered the presupposed contents, thus allowing to assess whether they had been processed. Mandatory triggers were expected to involve fewer memory errors than optional triggers, inasmuch as the former category is taken to be necessarily processed to assign a truth-value to the sentence.

- 16 In order to evaluate the processing costs of each trigger, they divided participants in two groups: group A had to accomplish the task under low cognitive load and group B had to accomplish the task under medium cognitive load⁶. They hypothesized that costly triggers would be correlated with an increased difficulty of memory retrieval under condition B (medium cognitive load).
- 17 Interestingly, Domaneschi and colleagues found some trends supporting the view that a distinction should be made between mandatory and optional triggers. However, they also found some intermediary triggers, namely some that were mandatory under condition A (low cognitive load) and optional under condition B (medium cognitive load). Their results can be summarized as follows:
- Mandatory triggers (processed most of the time):** definite descriptions (DD) and factive verbs (FV).
- Optional triggers (processed less frequently):** focus-sensitive particles (FC) and iteratives (IT).
- Intermediary triggers (processed most of the time in condition A and less frequently in condition B):** change of state verbs (CS).
- 18 Regarding the processing costs, Domaneschi and colleagues suggest two categories of triggers, i.e. “costly triggers” and “less costly triggers”. Iteratives (IT) and change of state verbs (CS) are taken to be “costly triggers”, because they were correlated with a strong variation of memory performance across condition A and condition B. That is to say, whenever participants were under medium cognitive load (condition B), they would present relatively more difficulties to remember the presupposition. On the other hand, the triggers which were not affected by the change of cognitive load were taken to be less costly.
- 19 Table 1 summarizes Domaneschi and colleagues’ results. It contains the distinction between mandatory and optional triggers across condition A and B, as well as the distinction between costly and less costly triggers:

Table 1. *Mandatory vs Optional triggers according to Domaneschi et al. (2014)*

	Mandatory trigger	Optional trigger
Condition A (low cognitive load)	(DD), (FV), (CS!)	(FC), (IT!)
Condition B (medium cognitive load)	(DD), (FV)	(FC), (IT!), (CS!)

Mandatory vs optional triggers across condition A and B. Definite descriptions (DD) and factive verbs (FV) correspond to mandatory triggers under both conditions. Focus-sensitive particles (FC) and iteratives (IT) correspond to optional triggers under both conditions. Change of state verbs (CS) constitute an intermediary category, as it is mandatory under condition A and appears to be optional (less often processed) under condition B. Costly triggers are marked with an exclamation mark, as in (CS!) and (IT!). These last triggers involved a significant drop in memory performance in condition B.

20 The complexity of these results calls for prudence. For instance, while looking more closely at iteratives (IT), one could argue that they were more difficult to memorize because they were optional triggers in the first place. In other words, if a trigger is optional to process, one could expect relatively low results under condition B. However, this would not apply to change of state verbs, which are mandatory under low cognitive load but optional under medium cognitive load. According to Domaneschi et al. (2014: 143-144), iteratives (IT) and change of state verbs (CS) may have been more difficult to process because they imply a “representation of temporally displaced events”. In the remainder of this paper, I argue that presupposition triggers may be less affected by truth-condition requirements (cf. Glanzberg 2005) than by the context and cognitive biases. In §3.2., for instance, I present cases in which definite descriptions (DD) lead to significant epistemic errors, suggesting that they are not fully processed, *contra* what is suggested in Domaneschi et al.’s (2014) results.

2.3. Presuppositions as lower entailments

21 The '70s represented a turning point in presupposition theory, as its semantic nature was severely put into question. Perhaps the most emblematic paper regarding this shift would be Böer & Lycan’s (1976) *The myth of semantic presupposition*, in which they argued that presuppositions are no more than mere inferences that are perfectly cancellable, making them comparable to Gricean implicatures. Independently of this approach, Wilson (1975) and Wilson & Sperber (1979) suggested that presuppositions should be seen as types of logical entailment⁷, but they inherit a hierarchical instruction. In their perspective, sentence processing provides ordered sets of entailments, some of which are centrally important / focalized, and some others are peripheral. According to Wilson & Sperber (1979), these ordered sets guide the listener in his search for relevance:

The interpretation of an utterance will involve some method of picking out and bringing to **the forefront of attention** the pragmatically most important entailments, on which general relevance of the utterance depends. (Wilson & Sperber 1979:304, *my emphasis*)

22 In Table 2, I summarize the gist of Wilson & Sperber’s (1979) arguments and examples. In (14), they argue that the sentence with two conjunct propositions does not give any instruction regarding the order of entailments (see (14a) – (14b)). This is not the case in (15), where the cleft structure brings a hierarchy to the set of entailments ((15a) – (15b)):

Table 2. *Wilson & Sperber’s (1979) ordered entailments*

(14) Peter is married, and he is married to Sarah ⁸ .	(14a) Peter is married to Sarah. (14b) Peter is married to someone.
(15) It is Sarah that Peter is married to.	(15a) Peter is married to Sarah . (higher entailment) (15b) Peter is married to someone . (lower entailment).

23 According to Wilson and Sperber, the higher the entailment, the more relevant it will be. In (15), for instance, the presupposition that “Peter is married to someone” corresponds

to a lower entailment, which is less relevant than the higher entailment, namely that “Peter is married to Sarah (i.e. he is not married to someone else)”. In later works, Sperber & Wilson ([1986] 1995: 706) distinguished foreground implications (i.e. explicatures and implicatures) from background implications (what they call “presuppositional effects”). They argue that while foreground implications contribute to relevance by providing additional cognitive effects, background implications contribute to relevance by allowing to save efforts. In other words, presuppositions are expected to attract less attention, relatively to other types of contents. However, Wilson and Sperber underline that presuppositions remain crucial within the cognitive environment of the listener. As they put it:

Without being relevant itself, [the background of an utterance] will be a necessary condition for establishing relevance. (Wilson & Sperber 1979: 317)

- 24 As we shall see, the idea that semantic presuppositions serve as preconditions for establishing relevance (Wilson & Sperber 1979) is very close to de Saussure’s (2013) notion of ‘discursive presuppositions’, which he defines along the same lines. However, discursive presuppositions differ from semantic ones in the way they are triggered.

2.4. Discursive Presuppositions

- 25 The term ‘discursive presupposition’ was proposed by de Saussure (2013, 2014, 2016), but a similar notion can be found in Marmaridou (2000: 123), Simons (2005) and Capone (2017). It should be distinguished from Stalnaker’s (1973, 1977) ‘pragmatic presupposition’; while pragmatic presuppositions relate to what a speaker takes for granted, discursive presuppositions relate to some preconditions for the relevance of an utterance.
- 26 De Saussure (2013) distinguishes between implicatures which correspond to the speaker’s communicative intention and those which are more backgrounded and serve as relevance establishers. To illustrate this distinction, recall example (4) adapted in (16). One can imagine a context in which an employer would be wondering whether to hire a man or a woman (called Mary). One of the employer’s advisers could utter (16), implicating (16a), but discursively presupposing (16b) and (16c):

(16)	Women are as clever as men.
(16a)	There is no reason not to hire Mary. (implicature)
(16b)	Women could be less intelligent as men. (discursive presupposition)
(16c)	There are reasons to believe that women are less intelligent than men. (discursive presupposition)

- 27 Unlike semantic presuppositions, discursive presuppositions are sensitive to the illocutionary force. For instance, if we apply the negation test within the same context, the employer would draw some significantly different implicatures and discursive presuppositions:

(17)	Women are not as clever as men.
(17a)	You should not hire Mary. (implicature)
(17b)	Women could be as intelligent as men, or more intelligent. (discursive presupposition)
(17c)	There are reasons to believe that women are as intelligent as/ more intelligent than men. (discursive presupposition)

- 28 Discursive presuppositions differ from semantic presupposition in the way they are triggered. While semantic presuppositions rely on a local trigger (lexical, semantic, stress patterns), discursive presuppositions are triggered globally (i.e. by the utterance and the context). In this sense, discursive presuppositions are akin to implicatures (i.e. weak implicatures), but remain distinct from them to the extent that they do not inform the listener about the speaker's intended meaning. Rather, discursive presuppositions are inferred in order to make the context of the utterance relevant.
- 29 Table 3 presents a brief summary of the two categories of presuppositions discussed above, namely semantic and discursive presupposition.

Table 3. *de Saussure's (2013: 181) distinction between semantic and discursive presuppositions*

	Overtly conveyed as manifest contents	Conversational background/ precondition for relevance
Semantic	Propositional content (asserted and implicated)	Semantic presuppositions
Pragmatic	(Strong) implicatures	Discursive presuppositions

- 30 As illustrated above, both semantic and discursive presuppositions share the property of being part of the conversational background. In other words, they are "not at issue" (Simons et al. 2010), or not part of the "question under discussion" (Roberts 1996). From a conversational point of view, this property implies a certain number of constraints (Ducrot 1972; von Stechow 2004) and risks (de Saussure 2013: 184), which have been discussed in the literature. Regarding the constraints, presuppositions cannot be challenged without breaking the conversation flow (or without entering meta-discursive considerations). As for the risks, it appears that questioning a presupposition can be "face-threatening" in the sense of Goffman (1959) and Brown and Levinson (1987).
- 31 Example (18) illustrates to what extent semantic presuppositions are difficult to challenge. B_2 would be a conversationally acceptable answer, whereas B_1 would not be conversationally acceptable as it directly addresses the presupposition (triggered by "again"). As for a possible face threat, this is exemplified by B_3 , where the speaker reveals his own ignorance regarding some information considered to be part of the common ground (in this case, the presupposition addressed is the one triggered by "the regime"):

(18)	A: Did the regime attack the civilians with chemical weapons again ?
	B ₁ : *No (i.e. the regime never attacked the civilians in the first place)!
	B ₂ : No (i.e. the regime hasn't done this again).
	B ₃ : Hey, wait a minute! ¹⁰ ! What regime are you talking about? I didn't know some civilians had been attacked with chemical weapons in the first place!

- 32 Interestingly, discursive presuppositions also exhibit the same conversational constraints. In (19), it is impossible to directly challenge a discursive presupposition without breaking the conversation flow (see contrast between B₁ and B₂). The face threat can be illustrated in B₃, where the speaker directly addresses A's reasons for uttering "women are as clever as men". In this context, the face threat is directed towards speaker A:

(19)	A: Are women as clever as men?
	B ₁ : *No (i.e. there is no reason to believe that women are less intelligent than men)
	B ₂ : No (i.e. women are not as clever as men).
	B ₃ : Hey, wait a minute! Are there reasons to believe that women are less intelligent than men?

- 33 The shared properties between semantic and discursive presupposition pleads in favor of the view that linguistically triggered presuppositions constitute only a "subcase of the broader phenomenon" (Simons 2005: 351). I present more arguments in favor of this view within the next section.

3. Accommodation as a cognitive heuristic

3.1. Where does accommodation stop?

- 34 Accommodation occurs in the context of a presupposition failure, i.e. whenever a speaker conveys some background information, *via* a presupposition trigger, which is not shared by the listener. Beaver & Zeevat (2007: 503) underline that Lewis (1979) was the first to bring the term "accommodation" in philosophy of language and semantics¹¹. They highlight the tensions between Lewis's (1979) and Thomason's (1990) definition of accommodation: while Lewis considers accommodation as restricted to the recovery of semantic presuppositions, Thomason argues that accommodation may go beyond the recovery of semantic presupposition and include, for instance, Stalnaker's pragmatic presuppositions:

[...] Thomason's account implies that what is accommodated could stand in a much more nebulous relation to what is conventionally presupposed: we accommodate whatever seems most appropriate to make sense of the speaker's intentions in the

light of our joint communicational goals. That is, **while what we accommodate must satisfy conventionally signaled presuppositions, it may also incorporate other information.** (Beaver & Zeevat 2007:505, *my emphasis*)

- 35 This view is compatible with the claim, advocated here, that semantic and discursive presuppositions could be given a unitary account (see discussion in §2.4.). In fact, there are cases in which a broad sense of accommodation seems to be unavoidable. In (20), for instance, the listener does not only draw an implicature (20b) based on an implicated premise (i.e. the presupposition (20a)), he is also likely to infer more backgrounded information, namely that it might rain outside (the discursive presupposition (20c)):

Context: *speaker A leaving the house. She says to B who is still in bed:*

(20)	A: I took the umbrella.
(20a)	There is one specific umbrella at home. (semantic presupposition)
(20b)	There is no more umbrella at home. (implicature)
(20c)	It is raining/ it might rain outside. (discursive presupposition)

(adapted from Marmaridou 2000:123¹²)

- 36 In light of this example, it seems plausible that accommodation could be a broad process. In fact, accommodation, thus defined, can be compared to Sperber & Wilson's relevance-guided comprehension heuristic (Table 4): to the extent that a single comprehension heuristic is responsible for the recovery of explicatures and implicatures, it is likely that a single accommodation process is responsible for the recovery of semantic and discursive presuppositions. However, accommodation differs from the relevance-guided comprehension heuristic in that it relates to background information.

Table 4. *Sperber & Wilson's (2006: 613) relevance-guided comprehension heuristic*

<p>a) Follow a path of <i>least effort</i> in computing <i>cognitive effects</i>: Test interpretive hypotheses (disambiguation, reference resolutions, implicatures, etc.) in order of accessibility.</p> <p>b) Stop when your expectations of relevance are satisfied.</p>

3.2. Accommodation, context and cognitive biases

- 37 According to Stalnaker (1998, 2002), presuppositions impose certain requirements on the common ground. For instance, when a speaker utters (21), this entails that the common ground should include the semantic presupposition (21a).

(21)	It is Mary who finished the red wine!
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(21a)	Requirement on the common ground: « <i>Someone</i> finished the red wine ».
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- 38 Von Fintel (2000) rightly underlines that presuppositions conveyed in conversations do not need to be assumed to be part of the common ground to be felicitous. To illustrate this point, he quotes one of Stalnaker's famous examples:

(22)	I couldn't arrive in time. I had to pick up my cat at the veterinarian. (Stalnaker 1998).
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- 39 According to von Fintel, presupposition accommodation may be successful in two kinds of circumstances:

1. The listeners may be genuinely **agnostic** as to the truth of the relevant proposition, **assume that the speaker knows** about its truth and **trust the speaker** not to speak inappropriately falsely.
2. The listeners may not **want** to challenge the speaker about the presupposed proposition, because it is irrelevant to their concerns and the smoothness of the conversation is important enough to warrant a little leeway. (von Fintel 2000: 11, *my emphasis*)

- 40 Thus, von Fintel views accommodation as a voluntary process, requiring that the listener is agnostic and that she trusts the speaker. At first glance, the listener's agnosticism seems to be a good criterion to predict whether a presupposition will be accommodated. It explains why, for instance, the addressee of (22) would have no trouble accommodating the fact the speaker has a cat (see example previously mentioned). Furthermore, the claim that listeners accommodate a presupposition depending on how relevant it is to their own concerns predicts why (23) would be considered as conversationally "inappropriate" or "undue" (cf. de Saussure 2013: 182; von Fintel 2000):

(23)	<i>A woman to her father, who is not aware of her having a fiancé.</i>
	Oh Dad, I forgot to tell you that my fiancé and I are moving to Seattle next week.
	Pp: The Speaker has a fiancé.

- 41 However, a closer look at further examples leads to the conclusion that von Fintel's criteria are neither sufficient nor necessary. They are not sufficient because accommodation may be constrained by other variables. For example, even if the presupposition in (24) is not relevant for the listener's concerns, it may be more difficult to accommodate it in B_1 than in B_2 :

(24)	A: Will you be able to attend the conference tomorrow?
	B_1 (<i>a 20-year-old student</i>): I'm sorry, I must look after my daughter tomorrow.
	B_2 (<i>a 45-year-old professor</i>): I'm sorry, I must look after my daughter tomorrow.

- 42 The increased difficulty to accommodate B₁'s response is due to a stereotypical representation, namely that it is unusual for a 20-year-old student to have children. Interestingly, the well-known *Moses Illusion* – which involves the accommodation of a false presupposition – was first interpreted in a way akin to a stereotype effect. The original experiment (cf. Erickson & Matson 1981), consisted in having participants answer questions such as ‘How many animals of each kind did **Moses** take on the Ark?’. Erickson and Matson observed that participants were more likely to fall in the trap when the false lexical item was semantically close to the accurate one. For instance, more mistakes were involved when the question was ‘How many animals of each kind did **Moses** take on the Ark?’ than when it was ‘How many animals of each kind did **Kennedy** take on the Ark?’, because Moses is semantically closer to Noah (both being biblical figures).
- 43 Beside stereotype effects and semantic illusions, Singh et al. (2016) have underlined that accommodation is sensitive to the plausibility of the context in which presuppositions occur. Their results show that it is more difficult to accommodate “the bouncer” in the context of (25b) than in the context of (25a). This is due to the fact that it is less likely to encounter a bouncer in a circus than in a club:

(25a)	Bill went to a club last night. The bouncer argued with him for a while.
(25b)	Bill went to the circus last night. The bouncer argued with him for a while.

- 44 In view of the foregoing, accommodation is not only constrained by the listener’s concerns, but also by other variables such as stereotypes, semantic proximity and the plausibility of the context.
- 45 Beside being insufficient, von Fintel’s criteria may not all be necessary. In this respect, it seems that the listener’s trust is not a necessary criterion in the above-mentioned *Moses Illusion*: in this experiment, participants were explicitly told that the sentences they would evaluate contained some errors (Bredard & Modolo 1988: 138). Thus, even when the listener is vigilant towards the source (in the sense of Sperber et al. 2010), she may still accommodate the presupposition. Furthermore, the relevance of the presupposition with respect to the listener’s concerns does not always allow to block the accommodation process. For instance, Barton & Sanford (1993) observed that people easily accommodate obviously false contents – thus relevant to a certain extent – in examples such as (26), called the *Plane Crash Illusion*. Even though one could argue that accommodation is facilitated by the semantic proximity between ‘dead’ or ‘alive’, the fact that they couldn’t be more opposed makes it difficult to describe it as a mere semantic illusion:

(26)	If a plane crashes on the border between the US and Mexico, where do they bury the survivors?
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- 46 In short, accommodation appears to be highly constrained by the context and cognitive biases. These elements put into perspective von Fintel’s (2000) claim that accommodation is a voluntary process, initiated by an agnostic listener who trusts the speaker.

47 Furthermore, the above-mentioned findings call into question Domaneschi et al.'s (2014) claim that presuppositions are, *in abstracto*, divided between mandatory or optional triggers and costly or less costly triggers (see §2.2.). Indeed, if one looks at the case of definite descriptions (DD), they appear to be mandatory in some cases, but with varying costs: for instance, it is less costly in plausible contexts such as (25a) above than in implausible contexts such as (25b). However, definite descriptions no longer seem to be mandatory (or processed) in the *Plane Crash Illusion* (26), inasmuch as they lead to significant epistemic errors.

3.3 The tradeoffs of presupposition accommodation

48 The puzzling results obtained in the *Plane Crash Illusion* led Barton & Sanford (1993) to the conclusion that when a content is presupposed, it is not completely processed. As they put it: “although the establishment of a coherent mental representation depends on semantic analysis, such analysis is not necessarily complete” (Barton & Sanford 1993: 477). In fact, the incompleteness of analysis appears to be a key property of accommodation.

49 In order to explain the correlation between accommodation and epistemic errors, this process should be understood as a “cognitive heuristic”, in the sense of Gigerenzer (2008) and Kahneman (2011). The benefit of accommodation is that it allows the listener to save cognitive efforts in order to process the foregrounded implications (Sperber & Wilson [1986] 1995: 706). The tradeoff is that the fast and superficial processing of accommodation may lead the listener to overlook relevant information or make epistemic errors (see §3.2.). Furthermore, along the lines of the proposed analysis in this paper, accommodation is responsible for the recovery of both semantic and discursive presuppositions.

50 De Saussure (2013) highlighted to what extent the shallow processing of background information may have an impact on how political slogans are processed. He gives the example of the Swiss vote on minarets (in 2009), for which the population had to give a yes/no answer to the question below (27). He argues that, in order to make the statement relevant, people had to recover some (but not necessarily all) of the discursive presuppositions cited below:

(27)	“Do you accept the vote proposal to ban the construction of minarets?”
	Discursive presuppositions:
(27a)	There is a relevant number of minarets actually in place or projected.
(27b)	Minarets could modify Swiss landscapes.
(27c)	Minarets are a threat of some type.

(de Saussure 2016:187)

51 De Saussure underlines that the above-mentioned discursive presuppositions may have been accommodated, in a strong sense, by the Swiss population. That is to say, unlike in

the *Moses Illusion* or in the *Plane Crash Illusion*, people incorporated such contents into their set of previous beliefs.

- 52 According to Lombardi Vallauri and Masia (2018), asserted and presupposed contents go through different processing paths. They argue that the asserted (or focused) content of an utterance goes through ‘controlled processing’, whereas presuppositions give the instruction to the listener to go through ‘automatic processing’. In this perspective, they say, accommodation is an ideal tool for manipulation, massively exploited in political and commercial ads. They give the example of an advertisement for Audi in which figures the slogan “It’s time for your first Audi”, presupposing that if people buy one Audi, they will buy a second or a third one (Lombardi Vallauri & Masia 2018: 350-351). However, it’s worth noting that the relationship between presupposition accommodation and actual decision-making merits further investigation.

4. Conclusion

- 53 In this paper, my aim was to provide a cognitive pragmatics account of presupposition accommodation. In section 2, I presented two types of presupposition, i.e. semantic and discursive, and the criteria that distinguish these two categories. Even though they are not triggered in the same way (local vs global triggers), both share the property of relating to background information. Additionally, both contents cannot be challenged without breaking the conversation flow and without implying a face-threat for the speaker or the listener. In this respect, semantic and discursive presuppositions are very close, and much more if semantic presuppositions are considered as lower entailments (Wilson & Sperber 1979) which give the pragmatic instruction to treat the content as poorly relevant.
- 54 In particular, I showed to what extent accommodation can be viewed as a unique inferential process, responsible for the recovery of both semantic and discursive presuppositions (cf. Thomason 1987 and Simons 2005). I also challenged Stalnaker’s and von Stechow’s Common Ground Theory with some experimental findings in cognitive psychology. This leads to the conclusion that von Stechow’s conditions are neither necessary nor sufficient to explain when accommodation takes place. Furthermore, these experimental findings allowed to put into perspective Domaneschi *et al.*’s (2014) claim that presuppositions are divided, *in abstracto*, between mandatory and optional triggers, as well as costly or less costly triggers. Rather, presupposition accommodation seems to be highly constrained by the context and by cognitive biases, such as stereotype effects, semantic proximity and plausibility effects.
- 55 To conclude, I proposed a view of accommodation as a cognitive heuristic, which borrows energy saving paths to process information. The benefit of accommodation consists in allowing the speaker to save cognitive efforts. The tradeoff of this process is that it may lead the listener to overlook relevant information or make epistemic errors. The main claim is that this heuristic is responsible for the recovery of semantic and discursive presuppositions. However, even though a unitary account appears to be theoretically plausible, this claim merits to be addressed within experimental pragmatics.

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NOTES

1. The content that figures within the brackets “[...]” corresponds to the inferred elements on the explicit level of communication (i.e. explicatures in Relevance Theory).
2. In the relevance-theoretic notation, the symbol “*” indicates that a concept – written in small capitals – should not be interpreted literally. Rather the concept requires an *ad hoc* adjustment, meaning that it should be understood in a broader or in a narrower sense. For more information on lexical pragmatics, see Wilson (2004), Allott and Textor (2012) and Carston (2010) *inter alia*.
3. Relevance Theory makes a distinction between 1) strong implicatures, which are highly relevant in the context, and 2) weak implicatures, which are not highly relevant in the context, “because the utterance suggests a range of similar possible implicatures” (Sperber & Wilson 2008: 643).
4. I am indebted to Blandine Pennec for sharing this example with me. The original example can be found in Dassault (1978).
5. “#Me too” is a hashtag that went viral on social media networks after the Harvey Weinstein scandal came out. This slogan was used by women to express that they had been a victim of sexual harassment.
6. The task consisted in memorizing geometric shapes. Group A had to memorize one shape (low cognitive load), while group B had to memorize three shapes (medium cognitive load).
7. Traditionally, presuppositions are defined as semantic because they are not cancellable (just like entailments). Furthermore, they differ from entailments in that they are not sensitive to the illocutionary force (cf. Beaver 2001: 7-30). However, it is important to note that Wilson (1975) and Böer and Lycan (1976) present convincing arguments supporting the view that presuppositions are entailments. For instance, Wilson (1975:50-53), shows that presuppositions under the scope of negation, as in “John doesn’t know that Nixon is bald” (presupposing that Nixon is bald), do not necessarily project, thus making them akin to entailments.
8. One could argue that depending on the order of appearance of each proposition, i.e. whether it stands before or after the connector “and”, this might have an impact on the order of importance of each element. However, if we compare example (14) with (15), the hierarchy of entailments is much more apparent in (15).
9. Here, I chose to use only questions involving yes/no answers in order to make the conversational constraints more obvious. Other examples illustrating a challenge of semantic presuppositions can be found in de Saussure (2013: 184-185).
10. More details regarding the “Hey, wait a minute” test can be found in von Stechow (2004).
11. Beaver & Zeevat’s (2007) address two main questions regarding presupposition accommodation: what is accommodated and where (within the structure of the sentence). The former question is the most relevant for the present discussion in that it relates to whether semantic and discursive presuppositions can be given a unitary account.
12. I am indebted to Louis de Saussure for sharing this example (under this specific form) with me.

ABSTRACTS

Presuppositions are usually defined as a linguistic means to convey background information, which require very little cognitive effort to be interpreted (Sperber & Wilson [1986] 1995: 706). As for the accommodation of presupposition, it is defined as a process by which the listener updates – also at minimal costs – the presupposed information whenever it is not mutually shared. Accommodation is generally considered to be a voluntary process (cf. von Stechow 2000), which may be inhibited when information is problematic or contradicts the listener's prior beliefs.

The aim of this paper is to challenge the idea that accommodation operates only on traditional presuppositional triggers (Beaver 2001). Furthermore, I argue against the claim that this process is autonomous and always under voluntary control. To do so, I first show how traditional triggers form a heterogeneous class that is difficult to capture in terms of attention requirements and cognitive costs (see Domaneschi et al. 2014). I then present discursive presuppositions (de Saussure 2013) and underline their similarities with semantic presuppositions. I show to what extent accommodation is likely to be a process dedicated to both semantic and discursive presuppositions. Finally, I argue that accommodation can be viewed as a cognitive heuristic for background information, involving minimal attention. Such an approach should allow to explain why presupposition accommodation is likely to bypass the listener's epistemic vigilance (Sperber et al. 2010), as evidenced by experiments in experimental psychology (Bredart & Modolo 1988; Reder & Kusbit 1991; Park & Reder 2004 inter alia).

Dans la littérature, les présuppositions sont définies comme un moyen linguistique d'amener des informations d'arrière-plan, ne nécessitant que très peu d'efforts cognitifs pour être interprétés (Sperber & Wilson [1986] 1995 : 706). Quant à l'accommodation de présuppositions, elle se définit comme un processus à travers lequel le destinataire incorpore – également à moindre coût – les informations présupposées qui n'étaient pas, dans les faits, mutuellement partagées. L'accommodation est généralement considérée comme un processus volontaire (von Stechow 2000), susceptible d'être inhibé lorsqu'une information pose problème ou contredit les croyances préalables du destinataire.

Cet article a pour but de remettre en perspective l'idée que l'accommodation concerne uniquement les déclencheurs présuppositionnels classiques (Beaver 2001) et que ce processus est volontaire et autonome. Pour ce faire, nous montrerons d'abord en quoi les déclencheurs classiques forment une classe hétérogène, difficile à saisir en termes de coûts cognitifs (cf. Domaneschi et al. 2014). Nous proposerons ensuite de considérer les présuppositions discursives (de Saussure 2013) comme une partie intégrante des processus d'accommodation. Enfin, l'accommodation présuppositionnelle sera conçue comme un heuristique cognitif dédié aux informations d'arrière-plan, impliquant une attention minimale. Une telle approche permettrait d'expliquer pourquoi l'accommodation de présuppositions est susceptible de contourner la vigilance épistémique (Sperber et al. 2010) du destinataire, tel qu'attesté dans des expériences en psychologie expérimentale (Bredart & Modolo 1988 ; Reder & Kusbit 1991 ; Park & Reder 2004 inter alia).

INDEX

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