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Laura Baranzini, Alda Mari

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# From epistemic modality to concessivity: alternatives and pragmatic reasoning *per absurdum*

Laura Baranzini & Alda Mari  
USI & IJN/CNRS/ENS/EHESS/PSL

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**Non final version.**

## Abstract

There is an unnoticed parallelism between what has been called the concessive future (*Sarà un professore universitario, ma sicuramente è un idiota*)<sup>1</sup> in the literature on some Romance languages (and Italian in particular), and what has been labeled ‘speech act modality’ (*He may be a university professor, but he sure is dumb*; Sweetser, 1990: 70) in the literature on English modals. In these parallel literatures, the idea is advanced that the future tense and the English modals *may/might* are concessive in that they ‘concede’ to the addressee that *p* is true and they thus convey ‘distancing’.

Establishing a connection with irrelevance conditionals (König, 1986 and subsequent literature), we propose a different unified view of these phenomena cross-linguistically, which grounds in the existential epistemic modal semantics of both the future tense in Italian and the epistemic modal in English (and French *peut-être*) their capacity of enhancing a concessive interpretation in discourse and in particular in an adversative construction.

We capitalize on their alternative semantics, as well as on the interaction between the alternatives and the adversative, and propose an account in which distancing is the pragmatic counterpart of the dismissal of a premise that leads to an inconsistency in a pragmatic reasoning *per absurdum*. We will spell out a variety of pragmatic effects, which have been previously gathered under the label ‘distancing’ and which correspond, in our analysis, to different strategies to repair the *absurdum*.

**Key-words:** Concessivity, epistemic modality, future, speech-act modality, irrelevance conditionals, reasoning *per absurdum*.

## 1 Introduction

Concessivity is a broad notional category that encompasses a variety of phenomena cross-linguistically and cross-categorically. Prototypically, it is lexically expressed by concessive adverbials (*lexical concessivity*).

- (1) a. In spite of being poor, John donates a lot to charity. (English)  
b. Benché sia povero, Gianni fa molta beneficenza. (Italian)  
In spite of be.3SG.SUBJ.PRES poor, John do a lot charity.

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<sup>1</sup>Lit. He will be a university professor, but he is certainly an idiot.

Besides lexical concessivity, theoreticians have identified a distinct category, which can be referred to as *discourse concessivity*. Discursive concessivity has been most notably studied in the literature on future tense to target one of its non-temporal uses. This type of concessivity is in the repertoire of a variety of Romance languages including, among others, Spanish (already Gili Gaya, 1951; but recently Escandell-Vidal, 2010, 2014 and Rodríguez Rosique, 2015; see (2)), Portuguese (Paiva Boléo, 1973; Giomi, 2017; see (3)) and Italian (Ageno, 1965; Bertinetto, 1979, 1986, 1991; Radanova-Kuševa, 1991-1992; Berretta, 1997; Rocci, 2000; Squartini, 2012; see (4))

- (2) Otras virtudes no tendrá, pero es muy trabajadora. (Escandell-Vidal, 2010)  
 other virtues not have-FUT.3SG, but is very hard-working.  
 ‘She may not have other virtues, but she is a very hard-working person.’
- (3) E [...] o homem até terá perdido parte de o seu glamour. Mas, boa gente, acreditem: o espírito de ele vive [...]  
 and [...] the man even have-FUT.3SG lost part of the his glamour. But, good people, trust me: the spirit of him lives [...].  
 ‘And the guy may have lost part of his glamour. But trust me guys: his spirit survives [...]’.
- (4) Sarò.FUT stupida, ma mi sono laureata con il massimo dei voti.  
 be-FUT.1SG stupid, but me am graduated with the maximum of-the honors.  
 ‘I might be stupid, but I graduated with honors.’

Works on the concessive use of the Italian future have most notably considered concessivity in the light of intersubjectivity (see in particular Squartini, 2012; for Spanish, see Rivero, 2014 and Rodríguez Rosique, 2015) and concessivity is understood as a ‘concession’ from the speaker to the addressee that  $p^2$  is true. Theoreticians have furthermore claimed that, in conceding to the addressee that  $p$  is true, the speaker ‘distances’ herself from the truth of  $p$  and thereby does not endorse  $p$ . The paradigmatic example of this distancing is in (4). By uttering (4), the speaker conveys that she does not subscribe to her own stupidity, but ‘concedes’ it to the addressee.

Other languages behave differently and do not feature a concessive interpretation (5-b) and (6-b), in spite of featuring non-temporal uses for future expressions (5-a) and (6-a).<sup>3</sup> This unavailability of the concessive reading is noted in other Romance languages such as French (5-b) or in Germanic languages such as English (6-b).

- (5) a. On sonne: ce sera le facteur.  
 One rings: that be-FUT.3SG the mailman.  
 ‘Somebody is at the door: that will be the mailman.’  
 b. #Ce sera le facteur, mais il a vraiment l’air d’un voleur.  
 That be-FUT.3SG the mailman, but he has really the look of a thief.
- (6) a. Somebody is at the door: that will be the mailman.  
 b. #He will be the mailman, but he really looks like a thief.

Both French and English express this kind of ‘concessive’ relation with modal expressions: French uses – preferably – the adverbial *peut-être* (‘maybe’), as illustrated in (7-a), while En-

<sup>2</sup> $p$  is standardly the prejacent, on the shared assumption that future expressions are propositional operators.

<sup>3</sup>We will return extensively in section 2.3 to the question of whether these languages have a proper ‘epistemic’ future.

English would typically resort to the existential modal verb *may/might* (7-b):

- (7) a. Je suis peut-être piémontaise, mais je ne suis pas stupide.  
I am maybe Piedmontese, but I not am stupid.  
'I may/might be from Piedmont, but I am not stupid.'
- b. I may/might be from Piedmont, but I am not stupid.

The goal of this paper is twofold. We aim to (i) explain how the concessive interpretation of future sentences emerges, and (ii) precisely characterize distancing as resulting from a mechanism of repairing the pragmatic reasoning *per absurdum* involving premises determined by semantic material and a limited set of pragmatic considerations. (As it will become clear in section 3, the label 'pragmatic reasoning *per absurdum*' intends to remind that the reasoning schema we are after, use a series of entailments that are grounded in stereotypicality conditions, manipulate subjective perspectives rather than objective truths).<sup>4</sup>

To achieve these goals, we will build on the view that future tense can be classified as a modal.<sup>5</sup> In particular, we identify in the *existential* modal meaning of future tense the ground for the emergence, in discourse, of a concessive interpretation of the future sentence. We will focus on Italian data, comparing them systematically to French (and English) equivalent variants, and show how, from a core existential modal meaning, the concessive interpretation arises in the case where an adversative is used. The comparison between different types of future expressions cross-linguistically is instrumental to argue that only expressions which allow an epistemic existential interpretation are eligible to enhance the concessive interpretation of the discourse.

By considering the concessive use of existential modals in discourse, we indeed target a phenomenon that is known in a parallel literature on modals as 'speech act modality' (see Sweetser, 1990). Modality is standardly described according to two major categories, i.e. 'root modality' and 'epistemic modality'. With some differences across works (see Portner, 2009 for extensive discussion), there is some consensus about the fact that root modality covers deontic, goal oriented, and abilitative modality. Epistemic modality, which is important for us here, evaluates the likelihood of the truthfulness of the proposition from the point of view of the speaker, according to her beliefs, conjectures and knowledge. Romance languages and English (among many others) lexically encode 'possibility' and 'necessity' for both root and epistemic modals.

Besides these two macro-categories, in light of examples like (7-b), Sweetser (1990) advances the hypothesis of the existence of a third modal category that operates on the speech act level ('speech-act modality'). According to Sweetser (1990), speech act modality is a manifestation of the notional category modality, which can be grounded in real world (root modals), knowledge (epistemic modals) or at the speech act level. Sweetser thus advances the idea that the speaker 'allows' the hearer to believe that the proposition embedded under the modal is true.

Papafragou (2000) notes that there is some amount of idiomaticity in Sweetser's theory, and she offers a different account where the alleged speech act use emerges from the compositional semantics of the sentence plus general pragmatic considerations (Papafragou, 2000: 522). To this aim, Papafragou exploits the notion of 'metarepresentation' from relevance theory. In her words "metarepresentation involves use of one representation to represent another representation which it resembles" (Papafragou, 2000: 526). Along these lines, in a 'speech act' modal utterance the speaker endorses, at least to some extent, some content made available in the

<sup>4</sup>We thank one of the anonymous reviewers for making this point salient.

<sup>5</sup>We will provide further arguments for this view in section 2; see Bertinetto, 1979; Pietrandrea, 2005; Mari, 2009; Giannakidou and Mari, 2013a,b, 2017 a.o.; but see Radanova-Kuševa, 1991-1992; partially Rocci, 2000; Mihoc, 2014; and especially Squartini, 2001, 2012 and to appear for a defense of the view that the Italian future tense can also be described as an evidential marker and see section 2.2 for extended discussion.

context of the conversation (this is the prejacent  $p$  of the modal), but does not subscribe to the whole array of entailments and implicatures of this content. Papafragou proposes that this lack of endorsement of entailments and implicatures of the prejacent of the modal is bolstered by *but*.

We share with Papafragou the important methodological principles according to which the alleged speech act interpretation can be derived by semantic composition, plus consideration of pragmatic reasoning, and most notably some contextual entailments. We will also assign to *but* a primordial role, and, as a result, as in Papafragou's account, concessivity is not a meaning of the modal, but an interpretation of the discourse  $A \text{ but } B$ , where  $A$  and  $B$  are sentences.

However, Papafragou (2000: 533) explains: "the class of speech-act modality is unified by the fact that modal operators may range over material which may be metarepresentationally (i.e. interpretively or metalinguistically) used. This possibility, being a general pragmatic phenomenon, is not particularly linked to modality examples." Unlike Papafragou we do not believe that the contribution of the modal is disposable. We will thus provide evidence that disputes this claim, and we will specifically address the question of what is intrinsic to existential possibility modals that make them suitable candidates pervasively, across languages, to express concessivity in discourse.

Our analysis will thus take seriously the makeup of existential modals, and will rely on König (1986)'s foundational insight that there is a strong link between expressions triggering *alternatives* and concessive constructions. König and several authors after him (see Gawron, 2001; Rawlins, 2013 for subsequent work, and discussion in section 3) focus on conditionals; König shows that 'concessive conditionals' like (8) correspond to a conditional pattern like 'if  $p$ , then  $q$ , and if  $\neg p$ , then  $q$ ':

(8) Whether he is right or not, we must support him. (König, 1986: 231)

One of the main features of these types of conditionals is that the alternatives are *not ranked* (hence the label 'irrelevance conditionals').

We will newly study existential modality in concessive discourses (which uses non-ranked alternatives) in the light of König's proposal. We show that Italian future behaves in a parallel manner and therefore adopt a unified view for modal expressions (whether tenses, modal auxiliaries or adverbs), thus avoiding treating the concessive future (and so called speech-act modality in English) as a *sui generis* phenomenon. We will argue that this concessivity with existential modal is a pragmatic discursive category that emerges when epistemic modality is embedded in a construction EXIST EPIST MOD  $p$  BUT  $\neg q$ , where EXIST MOD make available at least two equally ranked alternatives ( $p$  and  $\neg p$ ).

Going beyond the initial proposal in König (1986) and current theories that rely on truth at possible worlds (e.g. Rawlins, 2013 for the most recent treatment in time), we will then dissect the mechanics underlying the discursive emergence of the concessive interpretation of existential modal sentences, which, we agree, convey 'distancing'.<sup>6</sup>

In this pragmatic perspective, we will show that 'distancing' is too broad a notion that covers computable reasoning of different sorts but with a common core: being grounded in alternative

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<sup>6</sup>In spite of considering a few cases with existential modality, König (1986) surprisingly does not locate the source of the concessive interpretation in the modal. The examples involving existential modality are discussed in connection with 'anyway' which is seen as the source of the concession (You can give me your letter. I have to go to the post office anyway ((35) in König); He may not like the visit. (But) I will go and visit him anyway ((36) in König). According to König, it is in the incompatibility of the  $p$  and  $\neg p$  alternatives that lies the source of the concession (i.e. 'no matter what',  $q$ ). Here we undertake a different path, where it is the existential modal itself that provides the handle for the concessive interpretation along the patterns that we spell out now.

semantics and its interaction with *but*. We argue that a variety of strategies of ‘distancing’ correspond to different ways to solve a pragmatic reasoning that leads to *absurdum* once the premises provided by the semantic material, some associated entailments (see section 3 for details on the nature of this entailment) and the adversative are computed. Those premises that lead to *absurdum* are argued to convey the content that the speaker intends to distance her/himself from.

Overall, our analysis, by identifying a common semantic core in which concessive pragmatic reasoning is grounded, will attempt to explain how the interpretation is grounded in the semantics without hardwiring it in the semantics itself and will suggest some hypotheses about the evolution of this tense and its uses in different languages. Also, it provides a framework to compute a series of diverse pragmatic effects in a sound manner and which all proceed by reasoning *per absurdum*.

The remainder of the paper is articulated in three main sections. In section 2 we motivate our claim that the concessive interpretation is dependent on the availability of an epistemic modal interpretation of some element in the first conjunct, which introduces alternatives of an identical weight (we will use the phrase ‘not weighted’ for two hypotheses or alternatives, such that neither is preferred to the other). We begin by considering the uncontroversial epistemic French adverb *peut-être* and the English verb *might* and then show that the Italian future data are parallel. We also show here that the French future is not a genuine epistemic modal and is thus not eligible for enhancing concessivity in discourse. In section 3 we present our analysis of existential modals in concessive discourses, spelling out in detail the interaction between the epistemic semantics of the modals and the adversative, and we show how the future is semantically epistemic, while concessivity is a purely discursive interpretation emerging in a pragmatic reasoning *per absurdum*. Section 3 is also where we consider a series of pragmatic effects and different types of distancing. Section 4 concludes.

## 2 Epistemic modality and epistemic futures

By pointing at a deep notional relation between expressions conveying alternatives (and *if* in particular) and concessive conditional structures, König (1986) provides a handle to rethink the emergence of the concessive interpretation of the future in discourse.

As first stated in König, and subsequently adopted in the literature (see e.g. Rawlins, 2013), the alternatives must be of an identical weight, that is to say, neither of them is preferred or more likely to be realized than the other.<sup>7</sup> English and French express concessivity via the use of existential modals and adverbs. Building on the assumption that these two convey existential modality (i.e. feature non-weighted alternatives), we show that the concessive interpretation is to be situated at the discourse level, and is tributary to the addition of the *but* continuation. We will then consider Italian future and show that the data are parallel, and that there is no concessive meaning coded in its semantics.

### 2.1 Epistemic modality or ‘speech act’ modality?

Across works and frameworks (see e.g. Veltman, 1996; Tasmowski and Dendale, 1998; Pietrandrea, 2005; Portner, 2009; Mari 2015a) there is a consensus on the claim that the epistemic modal *might/may* and the adverbial *maybe* have an indisputable existential modal reading. On this reading, two alternatives are considered, both treated on a par and none of them preferred

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<sup>7</sup>We will consider in section 3.4.2 the case where *p* is factive.

or considered more likely than the other. In (9), the possibility that John is at home is one, that he is not home is the other.

- (9) a. Where is John? He may be at home.<sup>8</sup>  
b. He is maybe at home.

The same existential modal reading is prototypically featured by the French adverb *peut-être* (*maybe*).<sup>9</sup> Example (10) illustrates its epistemic contribution:<sup>10</sup>

- (10) Il est peut-être à la maison.  
he is maybe at the house.  
'He may be at home.'

The idea that epistemic existential modality expresses epistemic and/or doxastic uncertainty has received a number of formal analyses and theoretical spell-outs. According to Kratzer (1981, 1991), Dendale and Tasmowski (2001), von Stechow and Gillies (2007), or Portner (2009) a.o., the existential modal is an existential quantifier over a set of possible worlds – the modal base – which contains worlds compatible with what the assessor knows or believes. Veltman (1996), Giannakidou (2013) Giannakidou and Mari (2018a,b) advance the idea that the epistemic modal base is to be partitioned: this modal base contains  $p$  and  $\neg p$  worlds. The existence of this partition into both  $p$  and  $\neg p$  worlds reveals uncertainty.

On the basis of this shared background according to which epistemic modals enhance the representation of two non-weighted possibilities  $p$  and  $\neg p$  (see for further discussion Geurts, 2005), we will now consider the relationship between the alleged ‘speech act’ modality and the epistemic interpretation, and ask whether ‘speech act’ modality can exist independently of the epistemic meaning.

To spell out this conceptual articulation, we begin by observing that the speech act interpretation cannot arise in the absence of a *but*-continuation. Example (11) shows that in a simple utterance MOD  $p$  the modal verb can only receive an epistemic/conjectural interpretation, while the alleged ‘speech act’ reading is not accessible.<sup>11</sup>

- (11) a. He might be ill. (#speech act, epistemic only)  
b. Il est peut-être malade.  
He is maybe ill.

The second observation – related to the previous one – is that the alleged ‘speech act’ modality is compatible with the knowledge of the speaker that  $p$ : (12) is felicitous in a context where I know that I am from Piedmont.

- (12) a. I might be from Piedmont, but I am not stupid. (Berretta, 1997, modified and translated)  
b. Je viens peut-être du Piémont, mais je ne suis pas stupide.  
I come-from maybe from-the Piedmont, but I not am stupid.

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<sup>8</sup>We refer here to the epistemic interpretation only.

<sup>9</sup>See Nølke (1993) for a unified description in terms of polyphony, and, more recently, Rossari (2016) who suggests that the modal values of *peut-être* are different realizations of the same linguistic form at the truth-conditional and non-at-issue level, depending on its scope.

<sup>10</sup>Contrary to what happens with English modal verbs, the prototypical epistemic adverb in French seems to be unambiguous in expressing exclusively epistemic modality.

<sup>11</sup>In section 3.2 we discuss Papafragou’s proposal that the concessive interpretation can arise even in the absence of *but*.

When the *but q* continuation is absent, however, the use of the modal is no longer compatible with factuality.<sup>12</sup>

- (13) Context: I know that I am from Piedmont.  
a. #I might be from Piedmont.  
b. #Je viens peut-être du Piémont.  
I am-from maybe from-the Piedmont.

Our conclusion is thus that there is no such ‘speech act’ meaning of the modal independent of the *but q* continuation. The epistemic meaning, instead, arises independently of available continuations. Since the status of the two interpretations (epistemic and the alleged concessive) is not equivalent, and the hypothesis of a derivation is legitimate, we will strive to explain how the concessive reading arises in the presence of such continuations and to show that concessivity is to be understood at the discourse level and not as a meaning of the modal itself.

## 2.2 Epistemic Italian future? The debate.

With this background in mind for the modal, we now turn to the epistemic future and show that the data for the Italian future are parallel: (i) the Italian future has an existential epistemic reading and (ii) the concessive interpretation arises only when a ‘but  $\neg q$ ’ is added, and it is thus a characterization of the discourse and not of the meaning of the modal. Given this parallelism between future and existential epistemic modals we will provide a unified explanation for the emergence of the concessive interpretation in discourse.

The literature on future in Romance languages and for English is extremely vast and it would be impossible to render it justice here. It is nonetheless important for us to reconstruct the main lines of the debate. We first start with Italian and then consider French (and marginally English), for reasons that will become clear in section 2.3.

For Italian, the literature is essentially divided into two camps:<sup>13</sup> the modality camp and the evidentiality camp. The modality camp, represented by Bertinetto (1979), Berretta (1997), Pietrandrea (2005), Giannakidou and Mari (2013a,b,2018) - to mention only a few - hold that the future expresses a lack of knowledge about *p* and is thus an epistemic modal that can receive an existential interpretation: as an example, in a context where I know that John is at home, (14) is infelicitous (note the English *might/must* translation).

- (14) (#)John sarà a casa.  
John be-FUT.3SG at home.  
‘John might/must be home.’

We note that, in this respect, the Italian future aligns with English and French epistemic modals: as (13) illustrated, the same incompatibility with the knowledge of *p* is the hallmark of epistemic verbs/adverbs in non-concessive contexts. Note the same incompatibility of the Italian future in a context parallel to the one in (13), where ‘being from Piedmont’ is factive and known by the speaker.

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<sup>12</sup>We use the term *factual* to refer to a state of affairs that can be verified as a true matter of fact (and that is normally known as true by the speaker). A proposition embedding attitude (e.g. *know*) or a modal is *factive* if it entails truth of its prejacent.

<sup>13</sup>Note that this is not the only dichotomy available: regarding Spanish and Romanian, for example, Fălăuş and Laca (2014) consider futures neither as evidentials nor as propositional modals, and Radanova Kuševa (1991-1992) uses for the Italian future the label ‘epistémico-evidenziale’ (*epistemic-evidential*).



- (15) #Sarò piemontese.  
 be-FUT.1SG piemontese  
 ‘I might/must be from Piedmont.’

Granted that the assessor does not know whether  $p$  is true, the Italian future is compatible with a variety of degrees of certainty.<sup>14</sup> This was first noted in Bertinetto (1979)<sup>15</sup> and is illustrated by the following two examples:

- (16) a. Sarà a casa, ma non ne sono sicuro.  
 be-FUT.3SG at home, but not of that am sure.  
 ‘He might be home, but I’m not sure of that.’ (low certainty).  
 b. Sarà a casa, ne sono sicuro.  
 be-FUT.3SG at home, of that am sure.  
 ‘He must be home, I’m sure of that.’ (high certainty).

The variety of epistemic degrees that Italian future can express remains in the domain of the epistemic attitude of the speaker: the future can convey certainty (16-b) and doubt (16-a). The fact that the Italian future can convey doubt pleads for the fact that the Italian future has an existential modal interpretation (besides a stronger one conveying certainty, see Giannakidou and Mari, 2018 for the most recent account).

Given the availability of an existential modal meaning for the Italian future (see (16-a)), the concessive interpretation can arise (see section 3 for details).

A concurrent theory for the Italian future is what we call the ‘evidentiality camp’: in this camp, theoreticians argue that the future is not primarily/only a modal expression but rather an evidential one (Squartini, 2001, 2012; see also Radanova-Kuševa, 1991-1992; Rocci,<sup>16</sup> 2000 and Giacalone Ramat and Topadze, 2007). According to this view, the Italian future is argued not to code uncertainty in any way, but to code subjectivity. This evidential signal is compatible with both certainty or uncertainty and indeed, even knowledge. The knock-down argument according to Squartini is precisely due to what has been labeled the ‘concessive’ future: concessive future is indeed compatible with factuality and knowledge (as we can see in (17)), where the speaker certainly knows whether  $p$  or  $\neg p$  is true, and presents  $p$  as true), and that would exclude a potential existential modal semantics of this tense.

- (17) Sarò piemontese, ma non sono scema. (Italian: Berretta, 1997, modified)  
 be-FUT.1SG piemontese, but not am stupid.  
 ‘I may/might be from Piedmont, but I am not stupid.’

As a conclusion, the future is claimed to be compatible with factuality and knowledge. According to Squartini (2012), the future always marks the source of the information (identified with the speaker) and the ‘mode of knowing’ (conjectural, as opposed to inferential). In concessive contexts, the speaker becomes a secondary source of information within an intersubjective discursive strategy; the evidential function of concessive future consists in a confirmation of the information provided by an external source (see also section 3 for the discussion of the metarepresentational theory of Papafragou 2000).

Our point here is that this compatibility between future and knowledge is allowed only

<sup>14</sup>This is contrary to the English or French future, as we will see in section 2.3.

<sup>15</sup>An intuition about a possible paraphrase with both *potere* and *dovere* is already in Parisi and Antinucci (1973) and Parisi, Antinucci and Crisari (1975).

<sup>16</sup>Although the author maintains a modal analysis for the Italian future, his final analysis leaves significant space to the dimension of inference (and - in the case of the concessive future - to source attribution).

insofar as the *but*  $\neg q$  continuation is present; recall that we have noted the same fact for the existential epistemic modals: the Italian future behaves in a way exactly parallel to the English modal verb and French modal adverb in that it is not compatible with factuality when the *but*  $\neg q$  continuation is absent: (18) does not entail that *p* (*I am from Piedmont*):

- (18) Sarò            Piemontese. (acceptable if the speaker does not know where she is from)  
 be-FUT.1SG piedmontese  
 ‘I might/must be from Piedmont.’

The hallmarks of existential epistemic modality – being non-factive and being incompatible with knowledge that *p* – thus carry over to the epistemic future. However, we noticed that both the existential epistemic modals and the epistemic future are compatible with factuality and knowledge when the *but*  $\neg q$  continuation is present.

The question thus arises of what it is in the *but*  $\neg q$  continuation and in the meaning of the existential epistemic modal and epistemic future that makes these two modals compatible with factuality and knowledge.

Before presenting our proposal, we now turn to the universal epistemic modals and the French and English futures. We argue that they cannot have a concessive interpretation in discourse (see for French Rocci, 2000; Mari 2015a and Baranzini and Saussure, 2017), because they do not semantically encode existential epistemic modality, or at least not to an extent comparable to Italian.

### 2.3 French and English futures are not purely epistemic

French and English futures seem to behave in a parallel manner: they lack the concessive interpretation and in this respect, they both differ from the Italian future.

*Prima facie*, the French and English futures, like the Italian one, seem to have non-temporal uses and are able to occur in utterances where there is no forward-shifting of the time at which the state of affairs described holds:

- (19) On sonne: ce sera            le facteur.  
 One rings: that be-FUT.3SG the mailman.  
 ‘Doorbell rings: that will be the mailman.’
- (20) Somebody is at the door: that will be the mailman.

(19) and (20) also seem to be occurrences of the epistemic future that we have been discussing up to now. The question of the existence of a French epistemic future has regularly been discussed in the semantic and pragmatic literature (Schrott, 1997; Dendale, 2001; Morency, 2010; Saussure and Morency, 2012; Bellahsène, 2007; Vet, 1993; Veters and Skibinska, 1998; Rocci, 2000; Vet and Kampers-Mahne, 2001; Stage, 2003; Barceló, 2006; Mari, 2009 a.o.). Similarly, descriptions in the literature on the English future mention this epistemic use (Celle, 2004 for a cross-linguistic French-English analysis; Declerck, 1991, 2006; Enç, 1996; Palmer, 2001; Copley, 2002 a.o.). We will from now on focus on French data,<sup>17</sup> keeping in mind that the argument can be systematically extended to the English future, despite a certain degree of language-dependent peculiarity (see Giannakidou and Mari, 2018a for discussion).

<sup>17</sup>The status of English epistemic future is also discussed in the literature (see Enç, 1996). However, as for French, the judgments of native speakers are not always unvarying (see discussion in e.g. Copley, 2002 or Giannakidou and Mari, 2017). We only marginally consider English here, but see Giannakidou and Mari (*ibid.*) for a comparison between the English and Italian futures.

The Italian and French futures, however, differ in one important respect: the French future features an element of verification which Italian future lacks.

Since Damourette and Pichon (1911-1940; *futur putatif* (putative future)) and, later, Wilmet (1976; *futur conjectural* (conjectural future)), there is a solid agreement that the French future tense conveys the idea of a conjecture and of a future verification of the conjecture (see for example Dendale, 2001; Morency, 2010; Saussure and Morency, 2012; Mari, 2016). On this view, the French future is different from the Italian future which does not feature this element of verification.

First, we can observe that the French future is barely compatible with temporal adverbs referring to the ‘now’,<sup>18</sup> as illustrated in (21):

- (21) #En ce moment même il sera à la maison.  
At this moment itself he be-FUT.3SG at the home.  
‘He must be home right now.’

Note that the same utterance is perfectly natural with the Italian future, with an existential epistemic interpretation:

- (22) In questo momento sarà a casa.  
At this moment be-FUT.3SG at home.  
‘He must be home right now.’

Example (21) - and its comparison with (22) - clearly shows that the French future encodes some future temporal meaning, which is incompatible with an explicit reference to the present speech moment (Baranzini and Saussure, 2017).

Second, French future is infelicitous when it is difficult to imagine any future verification, as in (23) (Saussure and Morency, 2012: 217), whereas in Italian such a constraint does not exist (24):

- (23) #L’univers sera sphérique.  
The universe be-FUT.3SG spherical.  
‘It is possible that the universe is spherical.’
- (24) L’universo sarà sferico.  
The universe be-FUT.3SG spherical.  
‘It is possible that the universe is spherical.’

Third, French future is not felicitous in context of epistemic uncertainty like questions.

- (25) #Où sera Jean?  
Where be-FUT.3SG Jean?  
‘Where might Jean be?’

Very interestingly, French would express this kind of question with a modal verb in unbiased questions.

- (26) Où peut (bien) être Jean?  
Where may be Jean?

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<sup>18</sup>The oddness of the utterance can be canceled by omitting the temporal expression, as in - *Je me demande où il se trouve en ce moment même. - Il sera à la maison. (- I’m wondering where he might be right now. - He must be home.)* Note that the latter is acceptable and compatible with there being a time of verification. In both cases the utterance temporally refers to the present, but the linguistic expression of the temporal reference seems to interfere with felicity when the time referred to is too contiguous.

‘Where might Jean be?’

Unsurprisingly, in Italian it is possible to have a future tense in unbiased questions:

- (27) Dove sarà Jean?  
Where be-FUT.3SG Jean?  
‘Where might Jean be?’

We thus conclude that the French future is an impure epistemic element, referring to a future verification rather than to a present state of affairs.

Let us now return to the concessive structures: as we posited in section 1 (see (5-b) and (6-b), reproduced here as (28) and (29)), the French (and English) future – unlike the Italian one – cannot enhance a concessive interpretation:

- (28) #Ce sera le facteur, mais il a vraiment l’air d’un voleur.  
That be-FUT.3SG the mailman, but he has really the look of a thief.  
(29) #He will be the mailman, but he really looks like a thief.

Our conclusion is that since epistemic futures are not a homogeneous category across languages (some of them are real epistemic modals (Italian, Spanish, etc.) while others encode a different type of modality, i.e. verificational modality (French, English; see Mari, 2016; Giannakidou and Mari, 2017), related to future temporality), each language selects an existential modal expression to enhance concessivity at the discourse level. There are thus no systematic correspondences between linguistic categories and concessivity, but rather a conceptual link between two notional categories: concessivity and existential modality.

At this point it is important, however, that we highlight the following generalization. Any modal expression that can be used in what we call a concessive construction has an epistemic existential semantics. However, it is not the case that any modal expression that can have an epistemic existential semantics can be used in a concessive constructions. This is only the result of a diachronic development that not all languages, and not all existential epistemic modal expressions in all languages, have undertaken or will undertake.

One such example of an epistemic modal expression that has not fully undertaken the path towards being able to convey concessivity in discourse is the Italian *forse* (Fr. *peut-être*, En. *maybe*). Typically, *forse* can hardly be used when *p* is known (and thus factual).

- (30) #Sono forse una donna, ma non ho bisogno del tuo aiuto.  
Be-PRES.1SG maybe a woman, but not have need of-the your help.  
‘I might be a woman, but I do not need your help’.

Regarding the modal verb *potere* (*might*), it requires the presence of other adverbial markers (e.g. *pure/anche, even*) or other material to to enhance concessivity in discourse.<sup>19</sup>

- (31) Può #(pure/anche) essere il postino, ma sembra proprio un ladro.  
Can (also/too) be the mailman, but seems really a thief.  
‘He may be the mailman, but he really looks like a thief’.  
(32) Può essere il postino #(quanto vuoi), ma sembra proprio un ladro.  
Can be the mailman (as much as want.2SG.PRES), but seems really a thief.  
‘He may be the mailman as much as you want, but he really looks like a thief’.

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<sup>19</sup>The modal verb can also occur in its future form.

It does not matter for us here what the precise contribution of the adverbial markers (31) or other material such as *quanto vuoi* is (32). What matters for us, is that with the Italian future, the French existential modal adverb and the English *might/may* no addition is needed. If concessivity relies on epistemic modality, not every existential epistemic modal expression gives rise to discourse concessivity, within a language.

## 2.4 Epistemic *existential* modality

The fact that only existential epistemic modals can give rise to a concessive interpretation is extremely robust cross-linguistically (*pace* Papafragou, 2000). In Italian and French, modal *dovere* ('must') cannot enhance discourse concessivity.

- (33) a. Gianni sar  simpatico, ma non ha amici.  
John be-FUT.3SG nice, but not has friends.  
'He might be nice but he does not have friends.'
- b. Jean est peut- tre sympathique, mais il n'a pas d'amis.  
John is maybe nice, but he not has of-friends.  
'Jean might be nice, but he does not have friends.'
- c. ??Gianni deve essere simpatico, ma non ha amici.  
John must be nice, but not has friends.  
'John must be nice, but he does not have friends.'
- d. ??Jean doit  tre sympathique, mais il n'a pas d'amis.  
John must be nice, but he not-has of-friends.  
'John must be nice, but he does not have friends.'

The discourses in (33-c) and (33-d) sound odd: not having friends is interpreted as evidence for the first statement, and since the inference (not having friends hence being nice) is infelicitous, the sentence also results as somehow infelicitous or hard to parse.<sup>20</sup>

Note also that while in epistemic sentences with no *but* continuation, the future, the existential and the universal modal are banned when *p* is factual and known to be true by the speaker (34), only the existential epistemic modals (including the Italian future) become acceptable with factuality and a *but* continuation (35-b)-(35-c).

- (34) a. #Devo essere piemontese.  
Must.1SG.PRES be from Piedmont.  
'I must be from Piedmont.'
- b. #Sar  piemontese.  
be.FUT from Piedmont.
- c. #Je suis peut- tre Pi montaise.  
I am maybe from Piedmont.
- (35) a. #Devo essere piemontese, ma non sono stupida.  
Must.1SG.PRES be from Piedmont, but not am stupid.

<sup>20</sup>Tasmowski and Dendale (1998) and Dendale (2001) study the conjectural interpretation of future tense in French within a micro-system of expressions of conjecture - *lato sensu* - which includes the universal modal *devoir*. The contrast between the future and modal verbs, the authors claim, lies in the fact that the content *p* of an utterance with *devoir* is necessarily associated with some evidence supporting a belief in *p*, while this evidence is not needed to interpret future sentences.

- b. Sarò piemontese, ma non sono stupida.  
Be.1SG.FUT from Piedmont, but not am stupid.  
'I am maybe from Piedmont, but I am not an stupid.'
- c. Je suis peut-être Piémontaise, mais je ne suis pas stupide.  
I am maybe from Piedmont, but I not am stupid.  
'I might be from Piedmont, but I am not stupid.'

However, a potential problem for arguing that it is the availability of  $p$  and  $\neg p$  alternatives in the semantics of the modal that enables it to have a concessive use in discourse is represented by what it is observed with universal epistemic modal *must*. Lassiter (2016) and Giannakidou and Mari (2016, 2018a,b) have proposed that *must* is also a modal quantifier that uses a partitioned modal base (containing  $p$  and  $\neg p$  worlds), as incompatibility with knowledge would lead to the conclusion:

- (36) [Seeing the rain]  
#Deve piovere.  
#It must be raining.

According to this view, *must* would be entitled to be used in concessive constructions, contrary to what is observed (see also (35-a))

- (37) a. #It must be raining, but I go to the pic-nic.  
b. #Deve star piovendo, ma vado a fare un pic-nic.  
Must be raining, but go-1SGPRES to do a pic-nic.

This ostensible incongruity deserves at least two considerations: first, it is necessary to note that the idea that *must* conveys lack of knowledge is not unproblematic. Von Stechow and Gillies (2010) argue that *must* does not use a partitioned modal base. The authors ultimately defend an evidentiality view according to which *must* (and, we can say here, *dovere*) encodes evidentiality, specifically indirect knowledge, and is thus compatible with the assessor knowing  $p$  (see also Tasmowski and Dendale, 1998 for a parallel observation for French *devoir*).

- (38) The ball is either in A, B or C. It is neither in A nor in B. It must be in C.

Moreover, even under the view according to which *must* features a modal base partitioned into  $p$  and  $\neg p$  worlds, there is a profound difference between existential epistemic modals and universal ones. This difference consists in the fact that universal epistemic modals rank alternatives: with *must*, the  $p$  and  $\neg p$  alternatives are not considered to be equally likely (see Giannakidou and Mari, 2016,2018b), and the discrepancy between these two is for us what prevents the use of *must* in concessive constructions.

To conclude, in order to arise, the concessive interpretation we are targeting here requires that the two alternatives are equally weighted or ranked. *Must*-statements across languages express at the very least a preference for one of the alternatives (see discussion in Giannakidou and Mari, in press on the flexibility of equivalents of *must* cross-linguistically) and are thus not eligible for concessive interpretations.

We now turn to consider how the concessive interpretation arises with existential modal sentences with adversative continuations, by carefully considering the inferential processes that pragmatic reasoning *per absurdum* enhance, and which we introduce and spell out in the remainder of the paper.

### 3 From epistemic modality to discourse concessivity

#### 3.1 Alternatives and concessivity

The connection between expressions conveying choice or alternatives and concessivity is well known and well documented (Haspelmath and König, 1998), and we rely on this work here to develop our own view about the concessive interpretation of future sentences. We begin by spelling out the basic ingredients, which, in spite of the many and complex elaborations of König's (1986) initial insight (see Rawlins, 2013), have remained a milestone in all the subsequent literature.

König specifically identifies a category that he labels 'concessive irrelevance conditionals', illustrated in (39-a); their semantics is to be understood in contrast with genuine concessives (39-b).

- (39) a. Whether or not Mary comes to the party, John will come to the party.  
b. Even though Mary comes to the party, John will come to the party.

The sentence in (39-a), according to König, can be analyzed into the following meaning components:

- (40) Concessive (irrelevance) conditionals (König, 1986 and subsequent literature):  
a. Typical form: Whether  $p$  or  $\neg p$ ,  $q$   
b. Entailments:  $q$   
c. Implicature: if  $p$  then normally  $\neg q$ <sup>21</sup>

As indicated above, the 'concessive irrelevance conditionals' must be distinguished from the genuine concessives, illustrated in (39-b). This other interpretation exploits, according to König, the components illustrated in (41), the main difference between the two constructions being the entailment of  $p$  in the genuine concessives:

- (41) Concessives (König, 1986):  
a. Typical form: Even though  $p$ ,  $q$ .  
b. Entailments:  $p$ ,  $q$ .  
c. Presupposition: if  $p$  then normally  $\neg q$ .<sup>22</sup>

The concessive construction is typically illustrated by (42) in Italian, where  $p$  is introduced by *benché* (*although*) and is presupposed (see (41-b)):

- (42) Benché sia piemontese, non sono scema.  
Even though be-SUBJ.PRES.1SG Piedmontese, not am stupid.  
'In spite of being from Piedmont, I am not stupid.'

As *per* König, a genuine concessive sentence *asserts*  $p \wedge q$  thus defeating the rule  $p$  the normally  $\neg q$ . In (42)  $p$  is factive, but we can note that in genuine concessive constructions  $p$  is always necessarily entailed, whether it is a true factual content or a questionable one, presented as

<sup>21</sup>Note that, for König, the implicature in (40-c) is not essential to the computation of the interpretation of concessive irrelevance conditional, insofar as the two alternatives are overtly expressed and the rule could equally amount to "if  $\neg p$  then normally  $\neg q$ ". In our account, the entailed proposition can only follow from one of the two alternatives – the one in the scope of the modal – as we will argue in detail.

<sup>22</sup>It is not relevant here to discuss why König considers the entailment as a presupposition. See König (1986) for a discussion on this point.

*endorsed* by the speaker (being part of his beliefs). Example (43) illustrates this second case:

- (43) *Benché sia simpatico, non ha amici.*  
Even though be-SUBJ.PRES.3SG nice, not has friends.  
'Even though he is nice, he has no friends.'

This fundamental feature prevents genuine expressions of concessivity from being used in cases where the speaker does not endorse the truth of  $p$ , as in (44), while this is possible (see (45)) when concessivity arises as a discourse phenomenon.

- (44) Context: I do not believe that I am stupid.  
#*Benché sia scema, capisco questa teoria meglio di te.*  
'Even though I am stupid, I do understand this theory better than you.'
- (45) Context: I do not believe that I am stupid.  
*Sarò scema, ma capisco questa teoria meglio di te.*  
'I might be stupid, but I do understand this theory better than you.'

More interestingly, discourse concessivity can arise in a context where not only is  $p$  not endorsed by the speaker, but also where the *but*-continuation contains  $\neg q$  instead of  $q$ , whereas this is, as expected, impossible with genuine concessives:

- (46) Context: I do not believe that I am stupid.  
#*Benché sia scema, non capisco questa teoria.*  
'Even though I am stupid, I do not understand this theory.'
- (47) Context: I do not believe that I am stupid.  
a. I might be stupid, but I do not understand this theory.  
b. *Sarò stupida, ma non capisco questa teoria.*  
be-FUT.1SG stupid, but not understand this theory.

We will consider this case in detail in section 3.4.3.

It is no surprise that epistemic modality can fit the pattern in (40), as this involves consideration of the alternatives ( $p$  and  $\neg p$ ). Epistemic existential modality provides such alternatives, representing  $p$  and  $\neg p$  as two conceivable hypotheses.

The construction we are analyzing, however, differs from concessive irrelevance conditionals in one important respect, namely the presence of the adversative *but*. Compare the two following sentences:

- (48) a. *Piemontese o no, non sono scema.*  
Piedmontese or not, not am stupid.  
'Piedmontese or not, I am not stupid.'
- b. *Sarò Piemontese, ma non sono scema.*  
Be-FUT.1SG, Piedmontese, but not am stupid.  
'I might be Piedmontese, but I am not stupid.'

These are two different constructions. In the first case, when two irrelevant alternatives are present, the truthfulness of the apodosis is evaluated with respect to each of the alternatives. It is found out that the apodosis is true regardless which alternative is considered.<sup>23</sup> In (48-b) *but* is the pivotal element and the two alternatives do not have a comparable status. To understand

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<sup>23</sup>Besides König, there are a variety of formal implementations on the market, the most elaborate one being the one of Rawlins (2013) who focuses on constructions that do not involve the overt adversative.



their roles in concessive discourses, we need to discuss the role of the adversative and introduce the idea of pragmatic reasoning *per absurdum*.

### 3.2 *But*

The pivotal piece of meaning that enables the reasoning we are after is the adversative *but*. The role of the adversative has been recognized by Papafragou (2000) along the lines of what can be called the ‘inferential approach.’<sup>24</sup>

There are two views on the market for the meaning of adversative *but* across languages. The first camp is the so-called ‘formal contrast approach’ (Sæbø, 2003; Umbach, 2005), according to which the interpretation of *but* only depends on the contents of its conjuncts. In (49), *but* is a link between two opposing contents.

(49) John plays the guitar, but Ezra plays the piano.

The second camp is the so-called ‘inferential approach’, according to which the semantics of *but* relies on a pivotal inference triggered by the first conjunct and cancelled by the second (for a detailed study, see Winterstein, 2012). The specific use of *but* which we are concerned with here is what has been labeled in the literature the ‘*but* of denial of expectation’ (see Blakemore and Carston, 2005), illustrated in (50)– where the ‘expectations’ as the second element *q* of a ‘contextual implication’ (the term is used by Papafragou (2000)).<sup>25</sup>

(50) Lemmy smokes a lot, but he’s in good health. (example from Winterstein, 2012)

Example (50) is straightforwardly captured by inferential approaches that share the hypothesis that the successful interpretation of the sequence *p but q* requires the determination of the pivotal inferential element made available by the first conjunct and then denied by the second (Winterstein, 2012). Winterstein identifies a set of these approaches, which notably include, among many others, relevance theory (Sperber and Wilson, 1986), LDRT (Geurts and Maier, 2013) and argumentation theory (Anscombe and Ducrot, 1977, 1983 and Ducrot, 1980). In spite of the many differences, these approaches all subscribe to the idea that *but q* denies an inferential element enhanced by the first conjunct. In (50), *p* (*Lemmy smokes a lot*) enhances, on the basis of everyday knowledge concerning tobacco, an inference like *Lemmy is likely not in good health* that will be blocked by the *but q*-continuation, which corresponds in this case to the opposite content *he is in good health*.

(51) a. Contextual entailment : if one smokes, he is not in good health.

$$p \rightarrow q$$

b. Lemmy smokes (*p*) but he is in good health ( $\neg q$ ).

$$p \wedge \neg q$$

The idea that a concessive triggers the inference that there is a contextual entailment that

<sup>24</sup>For the work initiating this type of approach, see Anscombe and Ducrot 1977.

<sup>25</sup>Following previous accounts in Papafragou (2000) or Winterstein (2012), we can indeed posit the following rule for the adversative (this is the minimal skeleton for the adversative, for a complete argumentative theory, see Winterstein, 2012). Given two propositions *p* and *q* and the world of evaluation  $w_0$

(i)  $\llbracket p \text{ but } q \rrbracket^{c, w_0}$  is well defined iff there is a contextual entailment  $p \rightarrow q$  available in the context of the conversation *c*. if defined  
 $\llbracket p \text{ but } q \rrbracket^{c, w_0} = 1$  iff  $w_0 \in \neg q$ .

makes available  $q$  cuts across all grammatical manifestations of concessivity (no matter whether implemented by lexical material or reconstructed at the level of the discourse). We will follow the inferential view and Papafragou's proposal (also in line with König, 1985), in assuming that the *but*-sentence requires that a  $q$  is made available by contextual entailment triggered by the first conjunct (see (40-c) and (41-c)).

We submit, however, that a proper theory of concessivity with epistemic modality requires a more articulate account than those previously proposed. Papafragou's proposal can be schematized along the following lines, where the parentheses indicate optionality.

- (52) (MAY) metarepresented content  $m$ , (BUT) asserted content negating a contextual entailment enhanced by  $m$ .

According to Papafragou, the metarepresented content is endorsed, at least temporarily by the speaker, and the adversative *but* introduces an utterance that challenges a contextually available entailment of the metarepresented content. This analysis successfully covers cases like (48-b), recalled here in (53-a).

- (53) a. Sarò piemontese, ma non sono scema.  
Be-FUT.1SG, Piedmontese, but not am stupid.  
'I might be Piedmontese, but I am not stupid.'
- b. Je suis peut-être Piémontaise, mais je ne suis pas stupide.  
I am maybe from Piedmont, but I not am stupid.  
'I might be from Piedmont, but I am not stupid.'

Moreover, since metarepresentation and endorsement are different notions, Papafragou needs not to commit to the speaker's endorsement of  $p$  and can thus explain the effect of distancing from  $p$  observed in (54).

- (54) Gianni sarà simpatico, ma non ha amici.  
John be-FUT.3SG nice, but not has friends.  
'He might be nice but he does not have friends.'

Even assuming that metarepresentation and endorsement are to be kept independent, Papafragou's proposal cannot account for the whole array of cases: in (55), not only  $p$  is not endorsed by the speaker, but  $q$  does not provide a counterargument to  $p$ .

- (55) a. I might be stupid, but I do not understand this theory.  
b. Sarò stupida, ma non capisco questa teoria.  
Be-FUT.1SG stupid, but not understand this theory.  
'I may be stupid, but I do not understand this theory.'

Also, note that Papafragou supports the idea that while *but* bolsters the concessive relation, it is not mandatory – just like epistemic existential modality – and that mere juxtaposition is sufficient to express the concessive relation (Papafragou, 2000: 525).<sup>26</sup> We claim that both the existential modal and the adversative *but* are essential to the computation of the concessive reading of existential modal sentences. Besides having already shown that stronger modals cannot

<sup>26</sup>The example in Papafragou is *He may be a university professor; he sure is dumb.*, in spite of the absence of the *but*, the interpretation is concessive. We think that this very particular case is not a real counterexample, since an opposition is linguistically expressed by the symmetrical presence of *may* and *sure*. Without the epistemic adverb, the concessive interpretation is not available, and the discourse is odd, unless *may* is interpreted as an epistemic and 'being dumb' is understood as a proof for being a university professor (with a contextual entailment that being dumb can implicate 'being a university professor': *He may be a university professor; he is dumb*

achieve the same purpose, (56) illustrates a case where the most salient discourse relation, in absence of connectors, is the one of exemplification. There is no room here for reconstructing, based on pragmatic knowledge, a concessive relation and even a (c)overt *but* cannot rescue concessivity. (56) clearly contrasts with the concessive interpretation in (55), where the existential epistemic modality – with the adversative continuation – establishes an otherwise inaccessible concessive relation.

- (56) a. Sono stupida. Non capisco                      questa teoria.  
           Am stupid. Not understand.1SG.PRES this    theory.  
       b. Je suis stupide. Je ne comprends pas cette théorie.  
           I am stupid. I not understand        this theory.  
           ‘I am stupid. I do not understand this theory.’

Our approach differs from previous ones, insofar as it involves no canceling of the expectation by the adversative. Rather there is acknowledgment of the contradiction between the expectation and the adversative sentence. Repairing strategies of the contradictions are put in place, which, as we will argue, correspond to strategies of ‘distancing’ from the premises that lead to *absurdum* (e.g.  $p$ ). The reasoning schema which we will spell out rely on the contribution of the existential modal and the adversative, which, as we have shown, are mandatory to obtain the discourse concessive interpretation.

### 3.3 Epistemic modality and adversatives in concessives: pragmatic reasoning *per absurdum*

We are now ready to substantiate the idea of ‘distancing’, by resorting to reasoning *per absurdum* (known as *reductio ad absurdum*), a form of argument whereby one of the premises is concluded to be false by showing that it necessarily leads to contradiction. Specifically, the reasoning schema that we will propose here – which we call *pragmatic reasoning per absurdum* – are set of inferences that unfold based on the semantic content plus pragmatic considerations (as we make clear in detail in a few moments, by comparing pragmatic reasoning *per absurdum* to strict logical *reductio ad absurdum*).

Our proposal is that the discursive concessive interpretation is enhanced by pragmatic reasoning *per absurdum* as a way of enriching the literal meaning of the construction EXIST EPIST MOD  $p$ , BUT  $\neg q$ , where the first conjunct is a tautology, see (57).

- (57)  $p \vee \neg p$ , BUT  $q$ .

The *pragmatic reasoning per absurdum* allows the elimination of one of the alternatives in the first conjunct and thus levels the tautology, making the discourse informative.

From a strict computational perspective, the core of the pragmatic reasoning *per absurdum* which we will manipulate is given in Table 1.

1. The first premise is introduced by the existential modal expression conveying alternatives.
2. An alternative is chosen.
3. The normality entailment of the chosen alternative is calculated and posited among the premises.
4.  $q$  is calculated by *modus ponens*.
5.  $\neg q$  is asserted in the adversative statement.
6. Given 4 and 5 a contradiction arises.

1	$p \vee \neg p$		modal assertion
2		$p$	disjunction elimination
3		$p \rightarrow_n q$	normality entailment
4		$q$	modus ponens 2-3
5		$\neg q$	adversative assertion
6		$\perp$	contradiction 4-5

Table 1: Core of the pragmatic reasoning *per absurdum*

By choosing an expression introducing alternatives, the speaker creates a potentially conflictual context, where the interlocutors can choose to defend either  $p$  or  $\neg p$ .

Several comments are in order. First, given the discursive perspective, whereby the speaker/hearer can endorse any one of the alternatives, the pragmatic reasoning *per absurdum* is a strategy to ‘argue *against*’ rather than ‘argue for’. By choosing a construction that enhances such reasoning, the speaker intends to eliminate  $p$  (or some associated entailment, which we label ‘normality entailment’ cf. *infra*) as a viable option. We assume that there are only two alternatives,  $p$  and its negation  $\neg p$ , and thus, by eliminating  $p$ , the speaker intends to convey that s/he is endorsing  $\neg p$ .

One possible objection, however, is that  $\neg p$  could stand for anything other than  $p$ . The question thus arises of determining (i) why the speaker chooses to pick  $p$  to enhance the reasoning and (ii) how the alternative that the speaker is arguing for is chosen among all the possible specifications of  $\neg p$ . Note, indeed, that if  $p$  is ‘be nice’,  $\neg p$  is ‘not be nice’ and specifically, it could be any one of ‘be awful’, ‘be arrogant’, and so on and so forth. To explain (i) why the pragmatic reasoning *per absurdum* starts out with  $p$  rather than  $\neg p$  we note (besides the trivial fact that  $p$ , being overtly mentioned, is the most salient alternative in the context) that, given the hypothesis of a multiplicity of specifications of  $\neg p$ , arguing for  $\neg p$  would amount to arguing for each of them. Since this is an impossible enterprise, the speaker chooses to argue against  $p$ . Furthermore, (ii) as we have mentioned, the discursive goal of the speaker is to ‘eliminate’ one available option in the tautology, rather than ‘argue for’ an alternative. The speaker leaves it open to the participants in the conversation to endorse or to argue for a particular specific realization of  $\neg p$ . No matter which one of the other available alternatives is picked (e.g. ‘be awful’, ‘be arrogant’ as alternatives to ‘be nice’), what matters to the speaker is dismissing  $p$  as a viable alternative.

Note also that  $p$  can be previously mentioned (i.e. it can be active in the discourse), but does not need to be. Imagine a situation where Giovanna and her friend Simona are looking for the train station. They ask their way and the person they have asked provides a very confused explanation. Giovanna utters (58-a) to her friend Simona. Being from Piedmont is not active in the conversation, yet, it can be used as a premise of the reasoning. We provide the Italian, French and English versions of the same discourse.

- (58) a. Sarò piemontese, ma non sono scema. È lui che spiega male !  
be-FUT.1SG from Piedmont, but not am stupid. Is he that explains badly.  
(It.)
- b. Je suis peut-être Piémontaise, mais je ne suis pas stupide. C’est lui qui  
I am maybe from Piedmont, but I not am stupid. It is he that  
explique mal ! (Fr.)  
explains badly.

- c. I might be from Piedmont, but I am not stupid. He just does not explain clearly !  
(En.)

In this case, the discourse appeals to a fact that is presumably known by the interlocutors, namely that the speaker is Piedmontese. a generalization stereotypically ‘active’, but not necessarily active in the conversation.

However,  $p$  need not be mentioned, or even known, as in (55), repeated here in (59), where the possibility that the speaker is stupid is raised by the discourse itself.

- (59) a. I might be stupid, but I do not understand this theory.  
b. Sarò stupida, ma non capisco questa teoria.  
Be-FUT.1SG stupid, but not understand this theory.  
‘I may be stupid, but I do not understand this theory.’

Second, in the dialogical and potentially conflictual context enhanced by the introduction of more than one hypothesis that can be endorsed by the participants in the conversation, it can be the case that propositions can be assigned a truth value subjectively, that is to say relative to the epistemic or even emotional state of the speaker (see Lasersohn, 2005; Papafragou, 2006; Stephenson, 2007 among many others). By uttering (60), the speaker is revealing her/his point of view and  $p$  (‘be nice’) and  $\neg p$  (‘not be nice’) are true subjectively.<sup>27</sup> This, as we just pointed out, is not a surprise as concessive reasoning, in dialogical frameworks, has the ultimate goal of conveying endorsement and distancing with respect to the perspective of an addressee. Distancing from the truthfulness of one of the alternatives can be fully achieved when its truth is not objective, or in other words, when  $p$  is not a fact.

- (60) a. John might be nice, but he has no friends.  
b. Gianni sarà simpatico, ma non ha amici.  
John be-FUT.3SG nice, but not has friends.  
‘He might be nice but he does not have friends.’

As (58) shows, however, the prejacent can be factive (and hence be assigned truth objectively): whether the speaker is from Piedmont or not, is a matter of fact. In this case, the pragmatic reasoning *per absurdum* achieves an effect other than discarding  $p$  as premise (see section 3.4.2). It will lead to discarding  $p$  as an argument for  $q$ , that is to say to level the ‘normality entailment’ altogether, which can be cancelable and negotiable insofar as it is based on stereotypicality conditions that might not be endorsed by the speaker, as we are about to explain. With  $p$  being factive,  $p$  cannot be discarded. However, it is important to flag that the core of the pragmatic reasoning *per absurdum* is maintained, namely the calculation that leads to a contradiction.

Third, as just announced, one pivotal element in the *pragmatic reasoning per absurdum* are entailments which we call ‘normality entailments’, already present in both König (1986) and Papafragou’s (2000) proposals (under the label ‘contextual entailment’ in Papafragou’s analysis). A normality entailment, most notably studied in the context of genericity (see Krifka *et al.* 1995 and references therein) is such that  $p$  necessarily leads to  $q$  granted normalcy and/or stereotypicality conditions. For instance, in normal circumstances, being nice leads to having lots of friends. As often emphasized in the literature (see Landman, 1992; Krifka *et al.*, 1995; Portner, 2009; Mari, 2014; for an overview, see Mari, Beyssade and Del Prete, 2012), normality entailments are at the core of everyday thinking, by allowing agents to form predictions and make decisions. Without spelling out any formal implementation of the idea either in modal

<sup>27</sup>It is an open question in the literature whether in this case  $p$  and  $\neg p$  are also true objectively, see Lasersohn, 2005 and references therein.

(Krifka *et al.*, 1995) or in probabilistic terms (see Pearl, 2009), it suffices for us to say that a normality entailment is a *defeasible rule based on stereotypes or on conventions*, or on causal regularities that can be overwritten in non stereotypical or more largely non normal cases. When  $p$  is an opinion, the normality entailment might even be looser and rely on preferences, and be dismissed given the subjective perspectives of the participants in the conversation. We will write  $p \rightarrow_n q$  to indicate that we are manipulating generalizations which we call normality entailments, whereby, in normalcy conditions, the truthfulness (objective or relative) of  $p$  leads to the truthfulness of  $q$ .

Finally, in the core of the reasoning schema in Table 1, there is no notion of ‘inference cancellation’. The felicity of *but* lies in the availability of a normality entailment; however, in our reasoning schema, *but* does not ‘cancel’ the entailment. Instead, a contradiction is calculated, which arises between the consequent of the normality entailment  $q$  and the adversative sentence  $\neg q$ . This contradiction, in other words, follows from having chosen  $p$  (and the associated normality entailment  $p \rightarrow_n q$ ). One can of course argue that the canceling of the truthfulness of the prejacent is expected to happen with any occurrence of an adversative, given that leading to contradiction is precisely what the adversative is meant to achieve. We instead propose that there is no canceling of the entailment in our reasoning schema, and that the premises leading to the identified contradictions are inferred as false. This, we argue, is the case when an expression introducing alternatives is used. Hadn’t the premise leading to contradiction been inferred false, it would just be asserted or entailed to be true (as with the genuine concessives) and would not be embedded under a modal. The pragmatic reasoning *per absurdum* is thus a reasoning schema that does not arise with any occurrence of an adversative; it arises in the precise context where an adversative follows an existential modal statement using two equally weighted alternatives and where the negation of the mentioned alternative is inferred to be true.

To sum up, given a tautology in the first conjunct in combination with an adversative, *pragmatic reasoning per absurdum* (as inferences deemed to enhance discursive concessivity) differ in three respects from *reductio ad absurdum* defined in a strict logical framework: (i) they manipulate normality entailments (which are defeasible rules based on negotiable stereotypes), (ii) relatedly to (i), they can lead to dismiss the normality entailment altogether, and (iii) they manipulate truth that can be subjective.

With these specific features of pragmatic reasoning *per absurdum*, let us return now to the reasoning schema in Table 1. As we have claimed, this is the core of the pragmatic reasoning *per absurdum*, whereby a contradiction given a set of premises is calculated.

To fully achieve the discourse concessive interpretation aiming at dismissing one alternative, at the point where the contradiction arises, the contradiction is to be repaired. The pragmatic reasoning can be continued in at least two different manners: the mentioned alternative is posited as false by the speaker (in (61) the speaker intends to convey that John is not nice), or, in case of factuality, the normality entailment is given up (in (62), the speaker intends to convey that there is no causal relation between being from Piedmont and being stupid). In the two following sections, we consider these cases in turn, by disentangling reasoning schemas where  $p$  is not factual, and those where  $p$  is factual.

- (61) a. John might be nice, but he has no friends.  
 b. Gianni sarà simpatico, ma non ha amici.  
 John be-FUT.3SG nice, but not has friends.  
 ‘He might be nice but he does not have friends.’
- (62) a. I might be from Piedmont, but I am not stupid.

- b. Sarò piemontese, ma non sono scema.  
 Be-FUT.1SG Piedmontese, but not am stupid.  
 ‘I might be Piedmontese, but I am not stupid.’

Next to these two cases, we will study a third type of concessive pragmatic reasoning *per absurdum* whereby  $q$  is not a contradiction of the conclusion of a normality entailment and where  $q$  is also inferred as not endorsed by the speaker. (63) indeed conveys that the speaker should understand the theory and that the theory is not well-formed or well-explained.

- (63) a. I might be stupid, but I do not understand this theory.  
 b. Sarò stupida, ma non capisco questa teoria.  
 Be-FUT.1SG stupid, but not understand this theory.  
 ‘I may be stupid, but I do not understand this theory.’

As far as we can see, these are the three possible variants of discourse concessivity: (i) one on which  $p$  is inferred as false; (ii) one in which the entailment to which  $p$  leads to is inferred as false; and (iii) one in which  $q$  is also inferred as false. Given the specific semantic content that the discourses “EXIST EPIST MOD  $p$  but  $\neg q$ ” provide, we can foresee that this list of cases approximates exhaustivity, as there are no premises other than the two alternatives provided by the existential modal and the normality entailment associated with the one overtly mentioned that could enter the reasoning. The third case is a stretch of the pragmatic reasoning *per absurdum*, whereby, since  $q$  does not contradict  $p$ , the lack of endorsement of  $p$  leads to a lack of endorsement of  $q$  (see section 3.4.3 for details). Whether the boundaries of concessivity with epistemic modality and the adversative can be even further stretched is a question that requires larger empirical coverage beyond the languages that we have studied here.

We now spell out these three different developments of the common core of the pragmatic reasoning *per absurdum*.

### 3.4 Types of distancing

#### 3.4.1 Distancing from the truthfulness of $p$

As for this first case, the speaker intends to distance her/himself from the truthfulness of  $p$  challenging the hypothesis that ‘John is nice’.

- (64) a. John might be nice, but he has no friends.  
 b. Gianni sarà simpatico, ma non ha amici.  
 John be-FUT.3SG nice, but not has friends.  
 ‘He might be nice but he does not have friends.’

We spell out how the reasoning proceeds in Table 2 and illustrate it in Table 3.

At step 1, the alternatives are introduced: *John is nice or he is not nice*. At step 2 the alternative that *he is nice* is posited as working premise. The normality entailment that *if one is nice he has friends* is calculated at step 3 and at step 4 *he has friends* is calculated by *modus ponens*. At stage 5, the premise  $\neg q$  is introduced as *per* the adversative assertion. At stage 6 in the derivation a contradiction is established (recall that there is no notion of cancellation in our theory). At this point, the premise that leads to this contradiction is individuated and dismissed. Going through the reasoning,  $p$  is considered as the first eligible premise to be given up in order for the reasoning to get to a point of non-contradiction. Since  $p$  normally entails  $q$ , which is in contradiction with the asserted  $\neg q$ , by dismissing  $p$ , the reasoning no longer

1	$p \vee \neg p$		modal assertion
2		$p$	disjunction elimination
3		$p \rightarrow_n q$	normality entailment
4		$q$	modus ponens 2-3
5		$\neg q$	assertion adversative
6		$\perp$	contradiction 4-5
7	$\neg p$		inferred conclusion

Table 2:  $p$  is not factual

1	he is nice $\vee$ he is not nice		modal assertion
2		he is nice	disjunction elimination
3		he is nice $\rightarrow_n$ he has friends	normality entailment
4		he has friends	modus ponens 2-3
5		he does not have friends	assertion adversative
6		$\perp$	contradiction 4-5
7	he is not nice		inferred conclusion

Table 3:  $p$  is not factual (64)

leads to *absurdum*. Showing that  $p$  is not true (subjectively or objectively) is the main goal of the pragmatic reasoning. What precise other alternative to  $p$  is to be inferred true is not part of the reasoning itself, rather it is a choice left open to the participants in the conversation. By choosing a construction that enhances this type of reasoning, the speaker distances herself from the truthfulness of  $p$ , because it leads to a contradiction, and does not explicitly endorse a specific different content. Distancing is thus a predictable effect following from the leveling of a premise in the reasoning.

### 3.4.2 Distancing from $p$ as an argument for $q$

The conclusion that  $p$  is not true does not need to arise, and indeed, it is blocked with factual content (see (62), repeated in (65)). In the case of factuality of  $p$ , given contradiction, another premise other than  $p$  is to be leveled. Let us consider how the reasoning with factuality unfolds, working through the example (65).

- (65) a. I might be from Piedmont, but I am not stupid.  
b. Sarò piemontese, ma non sono scema.  
Be-FUT.1SG Piedmontese, but not am stupid.  
‘I might be Piedmontese, but I am not stupid.’

In the case where  $p$  is factual, an extra premise 1 in Table 4 is added to the core reasoning in Table 1.

Let ‘from-P’ stand for ‘be from Piedmont’, and ‘be-S’ stand for ‘be stupid’.

At step 1, it is posited that the speaker is from Piedmont. Note that this is a fact and as such cannot be leveled. The second premise at step 2 adds ‘or not from Piedmont’, which is harmless, given disjunction. Then the reasoning proceeds as usual, until step 7, where the contradiction arises. Again, there is no notion of ‘cancellation’. Instead, the premise that leads to a contradiction needs to be individuated and leveled.



	1	$p$		factual
	2	$p \vee \neg p$		modal assertion
	3		$p$	disjunction elimination
	4		$p \rightarrow_n q$	normality entailment
	5		$q$	modus ponens 2-3
	6		$\neg q$	assertion adversative
	7		$\perp$	contradiction 5-6
attempt 1:	8	$\neg p$		false 1
attempt 2	9	$\neg(p \rightarrow_n q)$		conclusion
proof	10	$p \wedge \neg q$		= 9
	11	$\neg q$		verified as correct 6

Table 4:  $p$  is factual

	1	from-P		factual
	2	from-P $\vee$ not from-P		modal assertion
	3		from-P	disjunction elimination
	4		from-P $\rightarrow_n$ be-S	normality entailment
	5		be-S	modus ponens 2-3
	6		not-be-S	assertion adversative
	7		$\perp$	contradiction 5-6
attempt 1:	8	not from-P		false 1
attempt 2	9	not (from-P $\rightarrow_n$ be-S)		conclusion
proof	10	from-P $\wedge$ not be-S		= 9
	11	not be-S		true given 6

Table 5:  $p$  is factual (65)

The first attempt is to assume that  $\neg p$  is to be preferred to  $p$ . However,  $\neg p$  is not an eligible candidate for truthfulness, as  $p$  is factual and  $\neg p$  is entailed to be false (step 8). Going through the next premises, 4 is identified as a possible reason for the contradiction. At step 9, the normality entailment is negated.

Step 10 simply rewrites the truth conditions of 9 and  $\neg q$  is calculated to follow, in accordance with the adversative assertion 6. Negating the normality entailment as in 9, thus leads to a conclusion that is consistent with the assertion in the adversative statement and the reasoning becomes non-contradictory.

Let us illustrate the reasoning against the specific example in (65), and its spell out in Table 5 from step 8 onward. We see here that going through the reasoning, premise 1 cannot be leveled, because of factivity: it is a fact that the speaker is from Piedmont. The premise in 2 is thus leveled, and the normality entailment ‘being from Piedmont means to be stupid’ is leveled. Leveling this entailment means recognizing that there is no causal connection between being Piedmontese and having no intelligence and thus (step 10) that one can be both from Piedmont and not stupid. ‘Not be stupid’ is thus also inferred true, given that the first conjunct is also true.

By this reasoning, the speaker signals that the normality entailment ‘from-P  $\rightarrow$  be-S’ is to be leveled, and thus that ‘being stupid’ is *independent* of ‘being from Piedmont’. Differently from what happens in the reasoning in Table 2, in the reasoning in Table 4 and 5 the speaker intends to signal distancing from the normality entailment  $p \rightarrow_n q$  and not from  $p$  itself. Importantly, it does not follow that we are not dealing with a pragmatic reasoning *per absurdum*. The core of the reasoning in Table 1 is unchanged. What differs between cases where  $p$  is factive and those in which it is not, is what premise is leveled. In the case where  $p$  is factive that is the normality entailment rather than  $p$  itself.

As one anonymous reviewer suggests, the reasoning schema in Table 4 and 5 can be extended to (64), and in this case, the speaker happens not to avoid endorsement of the prejacent (see Table 2 and 3), but to distance her/himself from the generalization that being nice leads to having friends, along the lines of the reasoning in Tables 4 and 5, with the main difference that in (64),  $p$  is not factive. However, one can contextually assume that  $p$  is considered as non-negotiable, as illustrated in the following reasoning schema:

1	he is nice $\vee$ he is not nice		modal assertion
2		he is nice	posited as non negotiable
3		he is nice $\rightarrow_n$ he has friends	normality entailment
4		he has friends	modus ponens 2-3
5		he does not have friends	assertion adversative
6		$\perp$	contradiction 4-5
7	$\neg$ (he is nice $\rightarrow_n$ he has friends)		inferred conclusion

Table 6:  $p$  is not factual yet non-negotiable (64)

In other words, distancing from the generalization is thus an option that is available for both factive and non factive prejacent.<sup>28</sup> Table 6 thus illustrates the reasoning underlying the lack of endorsement of the generalization  $p \rightarrow_n q$  rather than the lack of endorsement of  $p$  itself. In this case, the conclusion is understood as providing a counterargument for the generalization.

<sup>28</sup>It is unclear that, for (64), the inferences reach the point where the speaker intends to negate that in fact does Gianni have friends; note, in fact, that if we had to develop the reasoning in a manner parallel to the one in Figure 4, we would end up negating  $q$ , and in this specific case, we would have to infer that the speaker believes that Gianni has no friends. It seems to us that this inference does not arise.

For the non-factive cases such as (64), which one of the reasoning schema is chosen (showing  $p$  wrong or signaling lack of endorsement of the generalization) depends on the argumentative purpose, and it is possible to imagine contexts where the precise position of the speaker with respect to  $p$  is simply undecidable (s/he can either not endorse  $p$  or the normality entailment associated with it).

We can speculate that the preference for not endorsing  $p$  is inversely correlated with the strength of the generalization: the stronger the generalization, the weaker the possibility that the speaker is signaling lack of endorsement of it. The preference for lack of endorsement of the generalization grows for generalizations that are less well stereotypically established: for (66), where the generalization ‘be good looking’ hence ‘having friends’ is not stereotypically robust, it is easy to enhance the reasoning whereby the speaker is indeed arguing that such a generalization – if any – should be abandoned.

- (66) a. John might be good-looking, but he has no friends.  
 b. Gianni sarà bello, ma non ha amici.  
 John be-FUT.3SG good-looking, but not has friends.  
 ‘He might be good-looking but he does not have friends.’

Let us once again indeed emphasize that, given factuality of  $p$ , (65) is only eligible for being analyzed according to the reasoning schema in 4-5.

### 3.4.3 De-blocking the adversative with $\neg p$

We now turn to the last case in point (67). The peculiarity of the third case lies in the fact that the adversative does not deny a contextual entailment enhanced by the preajcent of the modal. Instead, it reinforces it. Still, the effect of ‘distancing’, that it is to say lack of endorsement of  $p$ , arises.

- (67) Sarò scema, ma non capisco questa teoria.  
 Be-FUT.1SG stupid, but not understand this theory.  
 ‘I may be stupid, but I do not understand this theory.’

We aim to explain how distancing comes about, by exploiting the interaction between modal meaning and the adversative as in previous cases. To achieve this goal we once again proceed with laying down all the premises and with calculating the possible inconsistencies. Once an inconsistency arises, we seek to identify the premise responsible for it. That premise is the content that the speaker distances himself/herself from.

In the reasoning that follows, the inconsistency arises when the contribution of the adversative is computed. As we noted, and in line with the inferential view, the adversative takes a proposition (which is made available by normality entailment) and returns its negation. In the reasoning in Table 7, the adversative does not return the negation of the normally entailed proposition, and thus the reasoning fails.

We now spell out the details by working through the example (67). Let be-S stand for ‘be stupid’, ‘not-be-S’ stand for ‘not be stupid’, U for ‘understand the theory’ and not-U for ‘not understand the theory’ (note that here  $q = \text{‘not-U’}$  and  $\neg q = \text{‘U’}$ ).

Let us comment step by step and focus on the difference with the reasoning in Table 2.

1. The two alternatives are posited as *per* the existential modal (*I am stupid or I am not stupid*)
2.  $p$  is chosen (*I am stupid*).

1	$p \vee \neg p$		modal assertion
2		$p$	disjunction elimination
3		$p \rightarrow_n q$	normality entailment
4		$q$	modus ponens 2-3
5		$q$	$\perp$ adversative
6	$\neg p$		conclusion

Table 7: The adversative is ill-defined - Part I

1	be-S $\vee$ not-be-S		modal assertion
2		be-S	disjunction elimination
3		be-S $\rightarrow_n$ not-U	normality entailment
4		not-U	modus ponens 2-3
5		not-U	$\perp$ adversative
6	not-be-S		conclusion

Table 8: The adversative is ill-defined - Part I - (67)

3. The normality entailment is calculated and posited as a premise (*If one is stupid, one normally does not understand the theory*)
4.  $q$  is calculated by *modus ponens* (*Not understand the theory*)
5.  $q$  is asserted in the adversative statement (*Not understand the theory*): here the inconsistency occurs. The adversative does not return the expected meaning (i.e. *Understand the theory*).

Note that this configuration is different from what happens in the reasoning illustrated in Table 2, where the adversative returns the negation of the contextually entailed proposition, leading to contradiction. In the reasoning in Table 7 the adversative itself fails to return the expected value  $\neg q$  (*Understand the theory*, in Table 8).

A cascade of consequences arises.

First, as in the first case that we studied,  $p$  is dismissed as being true, i.e. the speaker distances herself from the truthfulness of  $p$ , just as in Table 2. (see step 6 in Table 7 and 8).

Second, while in Table 2 the speaker endorses  $q$  (i.e. that *John has no friends*), (67) seems to suggest that the speaker believes that s/he should understand the theory, and that ultimately, the theory is ill-formed or not well-explained. Another loop of pragmatic reasoning *per absurdum* is thus enhanced by the fact that the adversative needs to be de-blocked, i.e. a  $\neg q$  (*Understand the theory*) is to be found.

Tables 9 and 10 illustrate how the reasoning is continued.

As we noted, in order for the adversative to successfully assert  $q$  (*Not understand the theory*), the context must make available  $\neg q$  (*Understand the theory*). This is made available at step 7-8, where  $\neg q$  (*Understand the theory*) is a contextual entailment given normalcy conditions from  $\neg p$  and follows from *modus ponens*. This, in turn, leads to a contradiction with the content introduced by the adversative (*Not understand the theory*), as expected by the meaning of the adversative.

Note also that a further conversational implicature can be calculated: since the speaker endorses that she is not stupid, she also endorses that she should understand the theory ( $\neg q$ , as *per* a normality entailment - see also discussion in König, 1986). She nonetheless asserts that it is not the case that she understands the theory. Given that being stupid has already been dismissed (given  $\perp$  at step 5), the implicature can arise that  $q$  (*Not understanding the theory*) is

1	$p \vee \neg p$		modal assertion
2		$p$	disjunction elimination
3		$p \rightarrow_n q$	normality entailment
4		$q$	modus ponens 2-3
5		$q$	$\perp$ adversative
6	$\neg p$		conclusion
7	$\neg p \rightarrow_n \neg q$		normality entailment
8	$\neg q$		modus ponens 6-7
9			contradiction 8-5
10			maintaining $q$

Table 9: The adversative is ill-defined - Part II

1	$\text{be-S} \vee \text{not-be-S}$		modal assertion
2		$\text{be-S}$	disjunction elimination
3		$\text{be-S} \rightarrow_n \text{not-U}$	normality entailment
4		$\text{not-U}$	modus ponens 2-3
5		$\text{not-U}$	$\perp$ adversative
6	$\text{not-be-S}$		conclusion
7	$\text{not-be-S} \rightarrow_n \text{U}$		normality entailment
8	$\text{U}$		modus ponens 6-7
9			contradiction 8-5
10			maintaining $\text{U}$

Table 10: The adversative is ill-defined - Part II - (67)

not due to her capacities (which in normalcy conditions lead to understanding the theory) by to the ill-formedness of the theory itself (which contravenes the normalcy conditions).

To conclude, we have identified a common core of what we have labelled ‘pragmatic reasoning *per absurdum*’ whereby a set of premises, which include one of the alternatives introduced by the modal, lead to a contradiction. Given this core, we have spelled out three possible strategies to repair the contradiction:

1.  $p$  is inferred to be false (case 1), because it enhances a contextual entailment which is in contradiction with the content of the adversative;
2.  $p$  is inferred not to be in a normality entailment with  $q$  (case 2);
3.  $p$  is inferred to be false, because the use of the adversative is blocked (case 3). The speaker also signals distancing from  $q$ .

As we mentioned it in the introduction, in the literature on concessivity with modals (independently from their linguistic realization in a specific language) the ‘distancing’ effect is commonly advocated. The question is posed of whether this distancing has to be coded in the semantics itself parameterizing the truthfulness of the first conjunct to the hearer, or whether it has to be attributed to contextual discursive effects. We have endorsed the second view, and explained how distancing (and thus the ‘possible’<sup>29</sup> endorsement by the hearer of the discarded alternative, in a discursive context) proceeds, based on the semantic contribution of the modal, and the precise mechanism allowing an expression of the speaker’s conjecture to enhance a reasoning involving an adversative to move towards conveying speaker’s distancing.

As we have mentioned it in section 3.3, these *reasoning* strategies become *argumentative* when they are at play in a context with at least two participants (one possibly generic, that is to say an ideal addressee that would endorse rules based on stereotypes and normalcy conditions). In our account, that the hearer endorses the truthfulness of  $p$  is not the core of the semantics, it is a by-product of the argumentative process, at the end of which the speaker distances herself from the truthfulness of  $p$  and leaves it as an open possibility that the hearer might want to endorse  $p$  even if it has shown to lead to *absurdum*. The possibility of giving rise to a conflictual situation, we have argued, is enhanced by the very fact of using an expression introducing alternatives, which leaves open the possibility of endorsing different contents, most saliently in those cases where truth is relative.

## 4 Conclusions

We are ready to draw four main conclusions:

1. It is possible to explain the concessive reading not only without multiplying the meanings of the modal expression (this remains a problematic point e.g. in Rivero, 2014; whereas Papafragou, 2000 or Squartini, 2012 maintain a unified description), but we also have precisely explained how distancing proceeds pragmatically; it is thus unnecessary to distinguish at the semantic level an evidential component of the future allowing the attribution of the content to the hearer.

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<sup>29</sup>Recall Sweetser’s idea of ‘allowance’, which we now fully explain.

2. A variety of distancing effects can be identified, which have been argued to be all grounded in the alternative semantics of the modal expression and its interaction with the adversative, and for which a fine grained analysis that does not keep them on a par has been provided.

3. The behavior of the Italian future can be understood in a cross-linguistic perspective, which involves existential modal expressions across languages, and not as a *sui generis* phenomenon.

4. New arguments supporting the conclusion that there is no such thing as ‘speech act’ modality (*pace* Sweetser, 1990) have been provided. We have shown that what has been labeled ‘speech act modality’ is a discursive effect of a specific category of epistemic modality in the context where an adversative is used and a pragmatic reasoning *per absurdum* unfolds.

Furthermore, we have shown that only expressions involving alternatives of identical weight are eligible for developing, in discourse, a concessive interpretation, and argued that universal modals are not eligible for this type of pragmatic reasoning. We have also argued that the French and English futures are, at the very least, impure epistemic futures (recall that it is debatable even that they might be epistemic modals *tout court*) and thus cannot give rise to concessive interpretations.

These observations have led us to propose two further hypotheses:

1. The choice of the modal expression liable to give rise to a concessive reading in a specific language clearly depends on the system of that language. For example, Italian exploits the future, which has a clear existential epistemic modal reading, while French exploits modal (ad)verbs because the future is blocked; English behaves similarly to French.

2. Finally, from a diachronic perspective, we have not promoted a theory according to which any epistemic modal gives rise to a concessive interpretation. However, we have submitted that if the modality, in discourse, gives rise to a concessive reading, this is due to its alternative based semantics. What matters for us here is that, regardless of what grammatical category bears the existential modal interpretation in a language, that grammatical category is eligible for developing a concessive reading in discourse. Which grammatical category conveying an alternative semantics will actually develop it - and to what extent - can only be fully answered *post facto*. We can foresee that only “pure” expressions of non-weighted epistemic alternatives will. These results, which, we hope, we have successfully argued for in this paper, will find further confirmation in future research and cross-linguistic work.

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