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Chapter 1

Introduction

Imagine that your friend utters the sentence in (1a). Why did they decide to package the information she wanted to express in this particular way? Another choice would have been the sentence in (1b), where the appositive relative clause and the Verb Phrase appear in reverse order. So why was the first variant preferred over the second? At least initially, it seems that the two sentences amount to the same thing, which can be rendered by the conjunction in (2).

(1) a. Sophie, who is a classical violinist, performed a piece by Mozart.
b. Sophie, who performed a piece by Mozart, is a classical violinist.

(2) Sophie is a classical violinist and she performed a piece by Mozart.

Or picture that your friend utters the sentence in (3a). Why not just use the embedding construction in (3b) instead? After all, both sentences report on the same piece of information. What is the gain of placing the evidential information in a parenthetical construction?

(3) a. Mayor Walsh will take on traffic issues, Karina told me.
b. Karina told me that Mayor Walsh will take on traffic issues.

In some abstract sense, this book attempts to answer the question of what is achieved by niching part of the semantic content of an utterance into a parenthetical. The book sets out to answer this question by studying seven types of parenthetical expressions in English: appositive relative clauses, nominal appositives, clausal parentheticals, *as*-parentheticals, utterance adverbs, antecedents of biscuit conditionals, and slifting parentheticals. It investigates their semantic properties by paying close attention to their idiosyncrasies, with an eye on the general mechanisms that underscore their commonalities. It also provides theoretical avenues for studying parenthetical meaning by comparing it to the core meaning dimensions of entailment, presupposition, and implicature, and by emphasizing the role it plays in shaping the semantics/pragmatics divide. Overall, the book seeks to establish parenthetical meaning as a kind of meaning that is somewhat detached from the proposition expressed by the main sentence but interacts with it and the larger discourse in various and mostly pragmatic ways.

This introductory chapter achieves several things. Section 1.1 looks into the tripartite division into entailment, presupposition, and implicature, and situates parenthetical meaning somewhere between the former two dimensions, while simultaneously taking heed of the way it differs from

both. Section 1.2 explores the empirical landscape of parenthetical expressions and fixes the terminology to be used in the rest of the book. Section 1.3 struggles with the nature of parentheticality itself, exploring the possibility that an expression becomes parenthetical due to its prosodic pattern, syntactic properties, lack of truth-conditional effects, or illocutionary independence. Section 1.4 lists the novel contributions of the book. These include the claim that parentheticals carry their own illocutionary force, the distinction between pure vs. impure parentheticals, and the empirical puzzles it sets out to solve. Section 1.5 introduces the basic formalism and Section 1.6 is the summary.

1.1 Parentheticality and the layers of meaning

1.1.1 Entailment, presupposition, implicature

In textbooks on formal semantics, it is standard to divide propositional content into **entailment**, **presupposition**, and **implicature** (for an authoritative example, see Chierchia and McConnell-Ginet 2000). A single sentence can carry all three components, as demonstrated below.

(4) Most students arrived late.
   a. ENTAILMENT: Most students arrived late.
   b. PRESUPPOSITION: There is a unique group of students.
   c. IMPLICATURE: Not all students arrived late.

In practice, what is intuitively felt to be the "meaning" of a sentence is some combination of these three components (and potentially more). In (4), we can take – as a first approximation – the conjunction of the three implications as constituting what an utterance of this sentence communicates. More elaborate theories of meaning study the layered way in which these components interact with themselves and the context.

Entailment, presupposition, and implicature are distinguished by a number of properties. Starting with entailment, it is the most vanilla-flavored type of meaning, one that is due to the literal meaning of the words that make up the sentence. It decides between truth and falsity, in the sense that a sentence cannot be true if one of its entailments is false. The sentence in (4), for example, carries with it a number of entailments, including "Some students arrived late", "Most students did something", "Some students did something", etc., and all of these need to hold in order for the sentence to be true. The most informative entailment, i.e. the one from which all other entailments follow, is listed as (4a).[1]

Entailment amounts to what a sentence "says" or "asserts" or adds to the context. As Stalnaker (1978) points out, such information should be fresh and should not already be contained in the linguistic context. This means that the entailments of an utterance should not follow from the entailments of a previous utterance. As an example, consider the following short discourse, which violates the informativity requirement and leads to infelicity.

(5) A woman bought an iPhone X with a stolen identity. #She bought a phone.

[1]The entailments of a sentence form a partial order based on their informativity. In the above example, "Some students did something" is less informative than either "Some students arrived late" or "Most students did something", while the latter two entailments are not ordered by informativity.

In addition to conveying new information, entailment constitutes the main point of the utterance or what is **at-issue**. It is the kind of content that attends to the main goals of the conversation and helps provide an answer to the question under discussion (Roberts 2012). Entailment is also the kind of content that is targeted by propositional operators such as negation, modal auxiliaries, or propositional attitude verbs. If content does not obligatorily embed under such operators, it is not entailed.

Presupposition is about what needs to hold in the context of evaluation in order for the sentence to be interpretable, or to be judged as true or false. Thus, (4) would be difficult to make sense of should (4b) be not assumed to hold, i.e. should there be no salient group of students or several such groups. Obviously, the presupposition inherited by this sentence is due to the quantifier phrase *most students*. The same implication would not arise if *no students* was used instead.

The hallmark property of presupposition is **projection** (Langendoen and Savin 1971). Projection means that an implication survives in an unmodified form when the triggering expression is syntactically embedded under a propositional operator that cancels the entailments of its argument. Thus, (4) retains its original presupposition if the sentence is embedded under negation, a possibility modal, an *if*-operator, or a question operator. All of the sentences in (6) presuppose (4b).

(6) a. Most students didn't arrive late.
b. It's possible that most students arrived late.
c. If most students arrived late, then the party was a disaster.
d. Did most students arrive late?

Another prominent feature of presupposition is its non-central discourse status, as previously discussed in Strawson (1950), Karttunen and Peters (1979), Simons et al. (2010), a.o. In most cases, presupposed inferences do not contribute to what is at-issue in the given discourse, a feature that goes hand-in-hand with their discourse-old status. This is illustrated in (7), where what would otherwise answer the question under discussion is presented as presupposed and the discourse feels infelicitous. Contrast this with (8), where the answer is entailed and the infelicity melts away.

(7) Q: Was there a party last night?
A: #Most students arrived late at the party last night.

(8) Q: How many students arrived late at the party last night?
A: Most students did.

Where entailment and presupposition are conventionally triggered, i.e. they are due to the meaning of particular words or constructions, implicature is classically understood to be computable on the basis of entailments plus rational principles of cooperative conversation (Grice 1989).[2] Thus, assuming that the speaker in (4) is being maximally informative, we can conclude that they were not in a position to utter the stronger sentence *All students arrived late*. This latter sentence must then be considered false (or so the reasoning goes), hence the implicature in (4c).

Since implicatures emerge by reasoning about alternatives and optimization, they are difficult to directly compare to lexically-triggered inferences like entailments or presuppositions. This might

[2]Here I disregard pragmatic presuppositions, which are not lexically coded but have to do with the general assumptions participants make about the context (Stalnaker 1974). Also disregarded are theories which compute scalar implicatures by means of exhaustivity operators (Chierchia et al. 2012).

be the reason why the discourse status and the projection properties of implicatures have not been much investigated. Still, in the former case it seems reasonable to assume that the question under discussion has an effect on implicature computation (van Kuppevelt 1996; Romoli 2015; Koev 2019a). Indeed, since implicatures are assumed to be optional and sensitive to the context, we would expect them to only arise if relevant to the question under discussion. In the latter case, it may not even make sense to talk about "implicature projection", given that implicatures are not lexically triggered and thus cannot be said to project in the usual sense. Because of all that, implicatures will not prominently feature in our discussions of parenthetical meaning in the rest of this book.

1.1.2 Where does parenthetical meaning fit?

We now come to discuss implications triggered by parenthetical expressions. Two examples are listed below.

(9) a. Edna, a fearless leader, started the descent.
b. PARENTHETICAL IMPLICATION: Edna is a fearless leader.

(10) a. Mayor Walsh, Karina told me, will take on traffic issues.
b. PARENTHETICAL IMPLICATION: Karina told me that Mayor Walsh will take on traffic issues.

Where do parenthetical implications fit into the tripartite classification of entailment, presupposition, and implicature? The first thing to notice is that parenthetical implications are conventionally triggered and would not come about if the parenthetical expression was removed from the sentence. This observation suggests that parenthetical meaning is more similar to entailment and presupposition than to implicature. Indeed, parenthetical meaning has long been recognized to share properties with both entailment and presupposition, but is also known to differ from both of these in several respects (Böer and Lycan 1976; Sells 1985; Berckmans 1994; Bach 1999; Asher 2000; Chierchia and McConnell-Ginet 2000; Dever 2001; Potts 2005; Simons 2007; AnderBois et al. 2015). On the one hand, parenthetical meaning bears some resemblance with regular entailments (and is unlike presupposition) in that it obligatorily introduces fresh information. This is illustrated in (11), where the parenthetical information is contextually given and the discourse sounds needlessly repetitive.

(11) Edna is a fearless leader in all of her endeavors. #So Edna, a fearless leader, started the descent.

On the other hand, parenthetical meaning is much more closely aligned with presupposition (rather than entailment) when it comes to its scopal properties and discourse status. Yet it also exhibits properties that set it apart from both entailment and presupposition.

Let us start with the scopal properties. It is well known that (a subset of) parenthetical expressions trigger implications that survive syntactic embedding under non-veridical propositional operators (Thompson 1971; Böer and Lycan 1976; Chierchia and McConnell-Ginet 2000; Asher 2000; Green 2000; Dever 2001; Potts 2005; Schlenker 2013; Koev 2014; Venhuizen et al. 2014;

AnderBois et al. 2015; Martin 2016). This is illustrated in (12), where all of the embedded counterparts inherit the parenthetical implication of the original sentence in (9), i.e. that Edna is a fearless leader.

(12) a. Edna, a fearless leader, didn't start the descent.
b. It's possible that Edna, a fearless leader, started the descent.
c. If Edna, a fearless leader, started the descent, then we have nothing to worry about.
d. Did Edna, a fearless leader, start the descent?

This is the same kind of projection test that we used in (6) for presupposition, so we can call parenthetical implications with this property "projective". However, we would be better advised to use it as a merely descriptive term. As we will discover in Chapter 3, parenthetical projection has a different profile and is more robust than presupposition projection. So the mechanisms that derive these two instances of projection should differ as well.

Projection is not the only pattern available to parentheticals. Another group of parentheticals show a rather distinct scopal behavior. Rather than triggering an inference that survives syntactic embedding, these parentheticals systematically resist embedding in the first place. An example of this pattern is shown in (13). If interpretable at all, the parenthetical expression here takes scope over the entire structure, not just over the embedded clause. A sign for that is the intuition that the parenthetical is not interpreted under the possibility modal.

(13) ?It's possible that Mayor Walsh, Karina told me, will take on traffic issues.

This is a very different kind of scopal behavior than that of presupposition. It suggests that certain parentheticals need to occur in root clauses and modify entire utterances. We can summarize the two scopal patterns for parentheticals (i.e., projection vs. unembeddability) by saying that parenthetical implications are "scopeless", or that they cannot take scope under propositional operators.

Parenthetical meaning shares with presupposition one more property: that of discourse status. Both parenthetical meaning and presupposition are (usually) not at-issue relative to the question under discussion (Simons et al. 2010; Syrett and Koev 2015; Hunter and Asher 2016; Beaver et al. 2017). Thus, while (9a) communicates that Edna is a fearless leader and that she started the descent, the former piece of information cannot naturally answer the question under discussion, see (14). In a similar vein, the parenthetical implication in (10b) has a looser link to the question under discussion than do the regular entailments, see (15).[3]

(14) Q: Is Edna a fearless leader?
A: #Edna, a fearless leader, started the descent.

(15) Q: Who told you that Mayor Walsh will take on traffic issues?
A: #Mayor Walsh will, Karina told me, take on traffic issues.

In general, by marking semantic content as parenthetical the speaker strongly suggests that this content is not relevant to the current discourse topic.

[3] As we will discover in Chapter 4, the actual pattern is more involved. What is actually wrong with (14)–(15) is not that the parentheticals answer the question under discussion but that the root clause does not answer that question, although it has to. But for now, the examples cited above are enough to make the general point.

Beyond scope and information status, I mention one more property that is parochial to certain parentheticals. Unlike entailment and presupposition, parenthetical meaning can have an impact on various components of the illocutionary force associated with the main sentence. Looking back at (10a), this sentence incurs a weaker commitment to the core proposition than would a plain assertion of *Mayor Walsh will take on traffic issues*. At the same time, (10a) is not fully equivalent to the parenthetical implication in (10b), if non-truth-conditional meaning is taken into consideration. While (10b) expresses a single (if complex) proposition, (10a) preserves the original illocutionary force of the core sentence and ends up expressing two different communicative acts (Davis et al. 2007; Koev 2019a). Parentheticals with this property serve as linguistic tools for modifying aspects of the utterance meaning rather than just contributing additional content. Although such parentheticals may add descriptive content, they also have illocutionary effects.

We have arrived at the following picture of the place of parenthetical meaning among the entailment/presupposition divide (Table 1.1).

	entailment	presupposition	parenthetical meaning
conventionally triggered	✓	✓	✓
(typically) discourse-new	✓	✗	✓
(obligatorily) at-issue	✓	✗	✗
(obligatory) scopal interaction	✓	✗	✗
(potential) illocutionary effects	✗	✗	✓

Table 1.1: Comparing parenthetical meaning to entailment and presupposition.

Given their in-between status, trying to fit parentheticals into the familiar boxes of meaning may not be the best strategy. Neither is, I think, a good idea to subsume their meaning under fashionable labels like "conventional implicatures", "projective entailments", "not-at-issue content", etc. The reason is that such labels are both too broad and too narrow, and thus do not make the right cut. On the one hand, these labels crisscross the implications triggered by a wide range of expressions, some of which are far distant from parentheticals. Thus, Potts (2005) borrows the term "conventional implicature" from Grice (1989) but redefines it to apply to implications triggered by parentheticals, expressive adjectives, honorifics, etc. Beyond that, conventional implicature-like analyses have been proposed for evidentials (e.g. McCready 2010), quotational indefinites (e.g. Koev 2017), and more. The class of triggering expressions then becomes too broad to leave any hope of a unified analysis. On the other hand, parentheticals are too diverse semantically, and such labels cover only a subset of them. Specifically, Potts's conventional implicatures single out parentheticals of the projective kind and ignore parentheticals that preferably appear in root clauses. The diversity of parenthetical expressions raises the questions of whether it makes sense to study them as a single phenomenon at all. True, the term "parenthetical" may be a useful descriptive aide, but does it carve out a uniform semantic category? This book aims to show that this is indeed the case. I will try to demonstrate that – idiosyncrasies aside – there is nothing too mysterious about parentheticals. Such expressions instantiate what may be called "illocutionarily independent meaning", i.e. meaning that is encapsulated in a separate force operator and that assumes a relative autonomy from the remaining part of the sentence.

1.2 The empirical landscape

Every scientific endeavor requires a careful selection of the data. The nature of parenthetical meaning too can be fruitfully studied on the basis of a representative and smartly selected sample of parenthetical expressions. We would be well advised to assemble an appropriate list and fix labels before embarking on the actual analysis. This is what I will do in this section.

The most widely studied kind of parentheticals is appositives (Jackendoff 1977: ch.7; Sells 1985; McCawley 1988: ch.13; Demirdache 1991; Del Gobbo 2003; Potts 2005; a.m.o.). The two types of appositives that will prominently feature in this book are **appositive relative clause**s (16) and **nominal appositives** (17). (All parentheticals in this section are typographically set off by underlining.)

(16) Lance, who was about to retire, admitted to doping.

(17) Jon Stewart, my favorite comedian, appeared on Larry King Live.

Appositive relative clauses are also known as "nonrestrictive" relative clauses.[4] They contain a referential *wh*-element modified by a predicate and are contrasted with restrictive relative clauses, which have a similar surface syntax but are interpreted intersectively with the head noun they modify (Partee 1975). In turn, nominal appositives are so-called because they have the external shape of a Determiner Phrase and seem to lack verbal projections such as tense or mood. These are sometimes referred to as "appositions", although I prefer the term "nominal appositives" since it emphasizes their similarities to appositive relative clauses.

The class of appositives may not end here, as it is often unclear whether a particular construction belongs to this class at all. One construction that will be argued to not have a parenthetical semantics is *one*-modifiers, as in *If a professor, a famous one, publishes a book, he will make a lot of money* (see Section 3.5.1). Other potential candidates – that will not be further discussed in this book – include particular kinds of small clauses (e.g. *The representatives, most of them women, wore fancy attires*), adjectival phrases (e.g. *The guest, visibly angry at the host, left the studio*), and absolutes (e.g. *The police took the highway, hoping to save time*).

I next mention **clausal parentheticals**, illustrated in (18).

(18) Kurt (he is one of my office mates) will join us for dinner.

Clausal parentheticals are in some sense the "purest" kind because they express fully independent sentences interpolated into a bigger structure and set off intonationally or orthographically. I borrow the label "clausal parentheticals" from Schlenker (2013), although these expressions have also been called "discourse parentheticals" (Blakemore 2006).

Another major type are ***as*-parentheticals**, previously discussed in Green (2000) and Potts (2002; 2005).

(19) Kim arrived early, as we expected.

The main predicate of an *as*-parenthetical lacks an (overt) internal argument, which is intuitively understood to be filled by the root clause.[5]

[4] I limit my attention to appositive relative clauses with nominal anchors.

[5] I focus on clausal *as*-parentheticals, thus ignoring predicative *as*-parentheticals like *Kim arrived early, as we expected he would*. The latter lack a VP, not a TP, but seem to have an identical meaning.

Utterance adverbs are a subclass of manner-of-speech adverbs that modify not an event described by the sentence but rather the event of uttering the sentence itself (Thorne 1972; Mittwoch 1977; Bach and Harnish 1979: 10.3; Bach 1999; Potts 2005: 4.7.3; Piñón 2013; Krifka 2014; Morzycki 2016: 5.5.1). Such adverbs are known under different names in the literature, including "illocutionary", "speech act", "pragmatic", "discourse-oriented", and belong to the larger class of speaker-oriented adverbs.[6] A sentence with an utterance adverb is given below.

(20) Honestly, Alex is a fraud.

We can intuit the meaning of *honestly* here by saying that the speaker describes her own utterance as honest.

The next kind of parenthetical expressions I list is **biscuit conditional antecedents**. These have been problematized in Austin (1961) and have garnered a significant amount of attention ever since (see Davison 1979; Iatridou 1991; Geis and Lycan 1993; DeRose and Grandy 1999; Siegel 2006; Franke 2007; Predelli 2009; Ebert et al. 2014; Krifka 2014; Sano and Hara 2014; Starr 2014; Francez 2015). Biscuit conditionals are conditional structures as in (21) and are also known as "relevance", "Austin", "speech act", or "non-conditional" conditionals.

(21) If you are hungry, there are biscuits on the sideboard.

Biscuit conditionals differ from regular conditionals (like *If Mary went shopping, there are biscuits in the fridge*) in several respects, but their defining characteristic is that the consequent is plainly entailed (see Section 2.4.2 for discussion). The basic intuition is that the antecedent of a biscuit conditional conditionalizes not the content of the root clause but rather its relevance. The root clause is assumed to hold whether or not the antecedent is true.

Finally, **slifting parentheticals** are interpolated matrix clauses whose attitude predicate apparently lacks an internal argument. They have been discussed in Urmson (1952), Jackendoff (1972), Ross (1973), Hooper (1975), Asher (2000), Jayez and Rossari (2004), Davis et al. (2007), Murray (2014), Maier and Bary (2015), Hunter (2016), Koev (2019a), a.o. One example is provided below.

(22) The dean, Susan said, flirted with the senator.

Shifting parentheticals may look similar to *as*-parentheticals, but these two constructions turn out to significantly differ in interpretation and distribution. Most important, *as*-parentheticals have no effect on the main assertion. They readily syntactically embed, and when they do they trigger projective inferences. In contrast, slifting parentheticals attach to a root sentence and may modify the strength with which that sentence is asserted.

Needless to say, the above list is by no means exhaustive. Although this book makes important strides in exploring the empirical landscape, it does not attempt a comprehensive description.[7] Its main goal is to provide enough breath to lay the groundwork for further studies of parentheticality. But this raises the question of what motivated the choice of these particular constructions in the

[6]Other types of speaker-oriented adverbs include evaluatives like *fortunately* or *surprisingly* and epistemics like *likely* or *certainly*. For classifications and systematic treatments of adverbs, see Jackendoff (1972: ch.3), Bellert (1977), Ernst (2004: ch.2), Maienborn and Schäfer (2011), and Morzycki (2016: ch.5).

[7]For comprehensive surveys of English parentheticals, the reader should consult reference grammars like Quirk et al. (1985) or Huddleston and Pullum (2002).

first place. The above list was curated with three criteria in mind: diversity, popularity, and stability. I briefly comment on each.

The first criterion is the most obvious one. We want the list of expressions to include enough diversity, so that we get a fair description of the lay of the land. One compromise I made here was to forgo the systematic treatment of non-declarative parentheticals.[8] The reason is that such parentheticals are not as common, and there is little hope of getting a balanced list across illocutionary force.[9] But why the disbalance in markedness between declarative and non-declarative parentheticals? One potential explanation is that – due to their secondary information status – parentheticals center around the least morphologically marked force, i.e. that of declaratives. This might be because questions and commands require more input from the addressee while assertions may be accepted by default. It would then be strange if the speaker tried to elicit such a stronger reaction from the addressee by means of a parenthetical construction.

The second criterion, popularity, prefers constructions that are sufficiently prominent in existing literature, with the goal of situating the proposed analysis within the larger theoretical debate. One consequence of popularity is that parentheticals that have received more attention in the literature ended up featuring more prominently in this book as well. Another consequence is that the data comes almost exclusively from English, notwithstanding occasional examples from other languages.[10]

Finally, stability ensures that the list contains expressions that are robust enough to be considered proper grammatical constructions. This criterion leaves out "performance" phenomena due to dysfluencies or similar notions.

1.3 What makes a parenthetical expression "parenthetical"?

Merely putting up a list of expressions begs the question of what requirements a given expression must meet in order to count as a parenthetical. What exactly is a parenthetical? Dehé (2014: 1) ventures the following definition:

> "[A] parenthetical is [...] a linguistic entity which is linearly integrated in another linguistic structure but is unrelated to the surrounding linguistic material in one way or another, i.e. in terms of syntactic structure, semantic meaning and/or intonation."

[8] One exception are biscuit conditional antecedents, which I argue carry an interrogative force (see Section 2.4.2). This exception is justified because such antecedents are not interrogative in form and are typically given a non-interrogative semantics (Franke 2007; DeRose and Grandy 1999; Siegel 2006; Krifka 2014; Predelli 2009; Ebert et al. 2014; a.o.).

[9] Interrogative parentheticals are possible, and include question tags (e.g. *Amalia left, didn't she?*) and interrogative slifts (e.g. *Is Raul coming, do you think?*), a.o. Question tags have been widely studied, not least because they convey an epistemic bias toward the core proposition (Sadock 1974: ch.6; Ladd 1981; Romero and Han 2004; Reese 2007; Northrup 2014; Krifka 2015; Malamud and Stephenson 2015; Farkas and Roelofsen 2017). Interrogative slifts have barely been discussed (but see Haddican et al. 2014). In turn, imperative parentheticals do not seem to exist, though. Consider, for example, the lack of imperative appositive relative clauses in English: **I left the dishes, which please wash*, with the intended meaning of "I left the dishes, please wash them".

[10] This is less of a limitation than it may first appear, as parentheticals in other Western languages seem to share most properties. But it leaves out non-Western languages. As far as I am aware, systematic studies of parentheticality in such languages are still pending.

This definition emphasizes the important fact that parentheticals enjoy a significant amount of independence from the host sentence. At the same time, it raises a host of issues. One issue is how much independence we should allow for parentheticals. On the one hand, we want enough separation so that parentheticals are distinguished from regular modifiers with a similar structure. For example, we would like to be able to draw a line between appositive relative clauses and their restrictive counterparts. On the other hand, we must be careful not to make parentheticals too detached from the main sentence because – as we will soon discover – they interact with it in various ways. Another important issue is whether all parentheticals are independent to the same degree or perhaps some are more integrated than others. Probably the most important issue concerns the source of parenthetical meaning. What linguistic features do parentheticals owe their special properties to? This section examines prosodic isolation, structural separation, and non-truth-conditional contribution as potential choices and argues that none of these is on the right track. What I will propose instead (in Section 1.4) is that the key to parentheticality lies in their illocutionary independence.

1.3.1 Prosodic independence

One hypothesis is that parentheticals owe their special semantic properties to their prosodic independence. The reason is that parentheticals are typically set off by a "comma" intonation (Emonds 1970), characterized by the occurrence of pauses before and after a single prosodic contour.[11] Theoretically, this has led to the claim that parentheticals projects their own Intonational Phrases (IntPs). Nespor and Vogel (1986: ch.7) design a prosodic formation rule according to which root sentences and parentheticals are the two major constituents that are mapped on to IntPs in the phonological representation. Selkirk (2005) seconds this view. She borrows from Potts (2005) the idea that parenthetical structures are marked by a [COMMA] feature, which projects a Comma Phrase in the syntax and an IntP in the phonology. In illocutionary terms, this places parentheticals on a par with root clauses:

> "Root sentences and supplements form a natural class in that they are both Comma Phrases, and so are performed as distinct speech acts and are set off by Intonational Phrase edges from what surrounds them." (Selkirk 2005: 17)

In prosodic terms, this predicts that the sentence contour is divided into a parenthetical and a non-parenthetical component.

(23) ($_{\text{IntP}}$ Isabelle is an artist), ($_{\text{IntP}}$ as you know).

Could prosodic marking be the key to parenthetical meaning? A closer look reveals several stumbling blocks to establishing too tight a link between prosody and interpretation. One immediate issue arises with sentence-medial parentheticals. According to Nespor and Vogel (1986), parentheticals in this position interrupt the main prosodic pattern by forcing the preceding and the following material to form separate IntPs, even when such material does not form a syntactic constituent. The following example provides an illustration.

(24) ($_{\text{IntP}}$ Isabelle is), ($_{\text{IntP}}$ as you know), ($_{\text{IntP}}$ an artist). (Nespor and Vogel 1986: 189)

[11] See Selkirk (2005) for a detailed description of the phonetic pattern.

Although this parsing keeps the *as*-parenthetical wrapped into a separate IntP, it also splits the non-parenthetical contour into two non-overlapping parts. If prosody was tightly linked with illocutionary independence, as Selkirk suggests, then we seem forced to say that (24) amounts to three independent assertions, and this seems unreasonable. Is there a way to "compose" the first and the third chunk into a single prosodic constituent? One obvious solution would be a recursive prosodic structure where one IntP is nested within another IntP.

(25) ($_{\text{IntP}}$ Isabelle is, ($_{\text{IntP}}$ as you know), an artist).

However, in a comprehensive study of parenthetical prosody in spoken English, Dehé (2014) finds little acoustic evidence for such recursive structures. The problematic parsing in (24) then remains the only option.

A second obstacle to a prosody-based account of parentheticality is the variability of intonational phrasing, which allows that the same syntactic string be mapped into different prosodic patterns. Both Nespor and Vogel (1986) and Selkirk (2005) note that a large contour can be restructured due to performance factors such as length, rate of speech, focus structure, or style. Thus, the long contour in (26a) can be restructured as in (26b), or even as in (26c). Something similar is going on in (27), where each item on the list projects its own IntP.

(26) (Nespor and Vogel 1986: 194)

a. ($_{\text{IntP}}$ My friend's baby hamster always looks for food in the corners of its cage).
b. ($_{\text{IntP}}$ My friend's baby hamster) ($_{\text{IntP}}$ always looks for food in the corners of its cage).
c. ($_{\text{IntP}}$ My friend's baby hamster) ($_{\text{IntP}}$ always looks for food) ($_{\text{IntP}}$ in the corners of its cage).

(27) The most famous signers of the Declaration of Independence are
($_{\text{IntP}}$ the designer of a beautiful plantation and house in Charlottesville, Virginia),
($_{\text{IntP}}$ an inventor and scientist who was ambassador to France),
($_{\text{IntP}}$ and a man made famous to schoolchildren by his refusal to tell a lie).
(Selkirk 2005: 48)

If this kind of restructuring is allowed outside parentheticals, there is no reason why it should be ruled out inside parentheticals. (28) is a slight variation on (27) and preserves the core prosodic pattern.

(28) The most famous signers of the Declaration of Independence –
($_{\text{IntP}}$ the designer of a beautiful plantation and house in Charlottesville, Virginia),
($_{\text{IntP}}$ an inventor and scientist who was ambassador to France),
($_{\text{IntP}}$ and a man made famous to schoolchildren by his refusal to tell a lie) –
were all proponents of free speech.

The formation of prosodic structure seems too flexible to serve as a reliable indicator of semantic independence.

A third problem with the idea that parentheticality is rooted in prosody comes from cases in which a parenthetical expression does not form an IntP on its own but together with surrounding material. Selkirk (2005) observes a common asymmetry between the right and the left edge of parenthetical intonation: while the right edge has the hallmarks of an IntP boundary, the left edge

may display the properties of a lower prosodic constituent. Thus, (29) can be parsed not only as in (29a) but also as in (29b), where the appositive relative clause forms a phonological constituent together with its anchor.

(29) The Romans, who arrived early, found a land of wooded hills. (Selkirk 2005: 20)
  a. ($_{\text{IntP}}$ The Romans), ($_{\text{IntP}}$ who arrived early), ($_{\text{IntP}}$ found a land of wooded hills).
  b. ($_{\text{IntP}}$ The Romans, who arrived early), ($_{\text{IntP}}$ found a land of wooded hills).

Dehé (2014) provides additional evidence that not all parentheticals are prosodically separated from the rest of the sentence. The class of prosodically separated expressions includes appositives and *as*-parentheticals (among others) but excludes slifting parentheticals, which are typically integrated into the main prosodic contour.[12] If a subset of parentheticals systematically fail to form their own IntP, then phonological information cannot lie at the heart of parenthetical meaning.[13]

1.3.2 Structural independence

Another hypothesis is that parenthetical meaning arises from structural separation. If so, there must be something special about the syntax of parentheticals that sets them apart from other constructions. There are three main approaches to the syntax of parentheticals in the literature, and it will be instructive to look into these for potential support.[14]

The older view is that parentheticals are generated outside the host clause and are linearized in their surface position by some special mechanism. Since here parentheticals are viewed as unaffiliated or "orphan" constituents, this is called the **orphanage approach**. This approach can be fleshed out by assuming varying degrees of separation, including coordination with the host clause (Ross 1967; Emonds 1979), adjunction to the host clause (McCawley 1982), attachment that comes late in the syntactic derivation (Safir 1986), or a fully independent structure that intersects the main sentence at the terminal string (Espinal 1991).

Although these syntactic accounts do not make elaborate semantic predictions, the basic idea is clear: parentheticals are interpreted in their underlying host-external position. The orphanage approach then does well in deriving the overall lack of semantic interaction with the main sentence. We do not expect any amount of scopal interaction and get projection for free. However, anaphoric phenomena (discourse anaphora, presupposition, VP ellipsis) provide evidence that parenthetical expressions are interpreted in surface position rather than externally to the host. AnderBois et al. (2015: 102) point out that in (30) the appositive relative clause needs to be interpreted locally in order to preserve the indicated anaphoric links. As seen in (30a) and (30b) respectively, the appositive cannot be interpreted as entirely preceding or as entirely following the main sentence.[15]

(30) John^x, who$_x$ nearly killed [a woman]^y with [his car]$_x$, visited her$_y$ in the hospital.

[12] Ladd (1981) also points out the existence of two prosodic patterns for question tags: "nuclear" tags form a separate IntP while "post-nuclear" tags continue the contour of the root clause.

[13] Still, the fact that prosody cuts the parenthetical pie in this particular way seems significant for interpretation. The two prosodic patterns of separation vs. integration closely align with the distinction I draw in Section 1.4.2 between "pure" and "impure" parentheticals, respectively.

[14] Several of the cited works make predictions for only a subset of parenthetical expressions, with appositive relative clauses taking center stage. Here I gloss over these limitations.

[15] I adopt the notation ANTECEDENT^i ... DEPENDENT$_i$.

a. #He$_x$ nearly killed [a woman]^y with [his car]$_x$ and John^x visited her$_y$ in the hospital.

b. #John^x visited her$_y$ in the hospital and/because he$_x$ nearly killed [a woman]^y with [his car]$_x$.

The orphanage approach fails to predict these facts. And the challenges for this approach do not stop here. Potts (2005), Arnold (2007), and AnderBois et al. (2015) establish the same pattern for presupposition and VP ellipsis. The examples in (31) are acceptable because the antecedent (a full clause or a VP) linearly precedes its dependent (the presupposition trigger *too* or a VP gap). However, if the antecedent follows the dependent, the sentences become incomprehensible out of the blue, see (32). In both cases, the dependent requires an antecedent from the prior discourse.[16]

(31) a. John, [who saw Mary]^p, saw Susan too$_p$. (AnderBois et al. 2015: 97)

b. Sandy, who [supports the war]^P, insulted someone that doesn't Δ_P. (Arnold 2007: 290)

(32) a. #John saw Susan too$_p$, and [he saw Mary]^p.

b. #Sandy insulted someone that doesn't Δ_P, and she [supports the war]^P.

Structural independence then seems too crude a tool to be the culprit. It is blind to the interpretational procedure and it separates the parenthetical too strictly to make reasonable predictions.

A related problem with the orphanage approach is that it does not predict specific niching possibilities for parentheticals, although it is well known that parenthetical expressions are only licensed in certain positions. Thus, appositives are right-adjacent to their anchors, *as*-parentheticals appear in adverbial positions, etc. This is not just a syntactic issue, as parenthetical position matters for interpretation. Compare e.g. *Cory praised Maryam, a friend of mine* to *Cory, a friend of mine, praised Maryam*, which mean two very different things. Yet the linearization mechanisms proposed by the orphanage approach are usually compatible with a number of surface occurrences and thus vastly overgenerate (but see Espinal 1991 for qualifications).

An opposing and more recent view is that parentheticals are generated locally as structurally integrated constituents (Jackendoff 1977; de Vries 2006; Citko 2008). This is called the **constituency approach**. This approach can easily impose linear restrictions on parenthetical occurrence, e.g. by applying whatever mechanism is available for delimiting the surface possibilities of adverbial phrases in general. But without further qualifications, the constituency approach would not be able to distinguish between parentheticals proper and other non-selected constituents, thus missing the special properties of parenthetical meaning.

In order to explain the semantic inertness of parentheticals, some constituency accounts augment local attachment with additional characteristics. These include a [COMMA] feature that projects an independent assertion (as well as a separate IntP; Potts 2005), a special type of conjunction that makes parentheticals "invisible" to operators residing higher up in the structure (de Vries 2006), etc. But since these embellishments have semantic effects, the linguistic source for parentheticality is no more structural. It is now properly semantic. I will adopt a version of this view, although the heavy lifting will be done by illocutionary force operators rather than a [COMMA] feature or a special conjunction rule.

[16] The same point can be made with sentence-final appositives in a version of the orphanage approach that interprets parentheticals as preceding, not following the host.

There is also a **mixed approach**, which integrates components of the two main approaches, but it seems to offer little new insight. As under the constituency approach, parentheticals are generated or linearized locally, but as under the orphanage approach, they are raised to a higher node (Demirdache 1991; Del Gobbo 2003) or interpreted as conjoined with such a node (Schlenker 2013). The mixed approach does better in delimiting the available options for surface position. But since parentheticals end up being interpreted as conjuncts, it falls prey to the same objection regarding anaphoric processes as does the orphanage approach.

1.3.3 Non-truth-conditionality

We already know from Section 1.1 that parenthetical meaning exhibits features that are uncharacteristic of regular entailments (a special discourse status, a lack of scopal interaction, potential illocutionary effects). Since entailments matter for truth, one might conclude that what makes parenthetical meaning special is its lack of truth-conditional import. There are, in broad strokes, two main semantic approaches to parentheticals, and these approaches make different predictions about truth-conditionality.

The first approach views parentheticals as conjoined with the rest of the sentence (Böer and Lycan 1976; Rodman 1976; Sells 1985; Asher 2000). In its basic form, this **conjunction approach** predicts that parenthetical meaning is part and parcel of the sentence's (single) truth value. Exemplifying this position, Böer and Lycan (1976: 18) remark that (33a)/(33b) are truth-conditionally equivalent to (34).

(33) a. Dick, who is an expert on Austin, loves the Bonzo Dog Band.
b. Dick, who loves the Bonzo Dog Band, is an expert on Austin.

(34) Dick is an expert on Austin and loves the Bonzo Dog Band.

Schlenker (2013), Murray (2014), AnderBois et al. (2015), and Koev (2019a) offer dynamic implementations of essentially the same position. These accounts preserve truth-conditionality because parentheticals and root clauses contribute to the same body of shared information, although they also make room for the observation (mentioned in Section 1.1) that parenthetical content is not relevant to the question under discussion. Although it is not entirely transparent how truth interacts with dynamic updating, under these accounts we expect the entire sentence to be judged as false if the information expressed by parenthetical is false, thus echoing the predictions of the conjunction approach.

An alternative view is that parentheticals contribute not-at-issue propositions that are valued independently of the root clause. This approach invokes a two-dimensional semantic architecture, which has its roots in Karttunen and Peters' (1979) analysis of presupposition and has later been applied to parenthetical constructions (Berckmans 1994; Bach 1999; Dever 2001; Potts 2005). The main idea behind this **two-dimensional approach** is sketched below.

(35) a. Lance, who cheated his way to the top, admitted to doping.
b. $\langle admit(lance), cheat(lance) \rangle$

The two-dimensional approach places the parenthetical contribution into a separate meaning dimension.[17] It thus predicts that parenthetical meaning is overlooked and the truth of the sentence is calculated solely based on the truth of the root clause. Thus, Bach (1999: 345–346) hypothesizes that speakers "tend to ignore" the truth value of propositions contributed by appositives and that "the proposition expressed by the main clause is the one whose truth value is intuitively judged to bear on that of the whole utterance". Dever (2001: 294) is more careful, saying of sentences with false appositives that "there is something right and something wrong" about them and cautioning that we should try to avoid a "univocal evaluation", contra the conjunction approach.[18]

We now ask: Does the two-dimensional approach make better predictions than the conjunction approach? Looking closer, it turns out that parentheticals may have two kinds of truth-conditional effect: (i) they may modify the truth of the root clause, and (ii) their own truth value may be taken into account when computing the truth value of the entire sentence. Starting with the former case, Potts (2005: 92) observes that slifting parentheticals may mitigate the speaker's commitments and thus affect the interpretation of the core proposition. Consider the example below. If two-dimensionality is to be preserved, we may analyze (36a) as in (36b), where the core proposition is prefixed by an epistemic possibility operator and amounts to something like "Max might be a Martian".

(36) a. Max, it seems, is a Martian.

b. $\langle \Diamond(martian(max)), seem(martian(max)) \rangle$

The modalized force of the core proposition is obviously due to the parenthetical: it would be absent if the parenthetical is removed from the sentence. We cannot maintain that parentheticals have no interpretational effects on the main sentence.

As for the second case, experimental work has shown that parenthetical meaning counts when judging a sentence as true or false. Syrett and Koev (2015: Experiment 4) presented participants with a series of sentences with appositives, and asked them to render a truth judgment for each. The truth values of the main clause and the appositive were manipulated, giving rise to four possible combinations: true-true, true-false, false-true, false-false. The true-true case turned out to be the only one which was robustly judged as true. All other combinations displayed extremely low percentage of true responses, including the crucial case of a true main clause and a false appositive. In addition, all judgements were accompanied with consistently high confidence ratings. These findings suggest that appositives have a rather severe effect on the truth of the sentence in which they appear: a false appositive makes the entire sentence false. This means that even appositives, which have been presented as the poster child of semantic independence, make a truth contribution. In sum, lack of truth-conditionality is not what defines parentheticality.

[17] Since a single sentence can contain several parenthetical expressions and each of them contributes a separate proposition, the second dimension is really a set of propositions (see Potts 2005). This detail is irrelevant here.

[18] One should be careful to distinguish between (i) parentheticals contributing to the truth value of the entire sentence and (ii) parentheticals contributing truth-conditional content that is valued independently. Two-dimensional architectures are clearly incompatible with the former view. But they may be compatible with the latter view, if e.g. both meaning dimensions are taken to contribute information to the same common ground.

1.3.4 Intermediate summary

We have entertained three potential explanations for the special interpretational properties of parentheticals that have to do with prosodic, syntactic, or semantic isolation, but have found that none of them rises to the challenge. What remains the only game in town is the idea that parentheticality is an illocutionary-level phenomenon. This is indeed what the rest of this book will argue. I will seek to establish the notion of parenthetical meaning as content that is marked by a special force operator and that interacts with the root clause (and the larger discourse) in primarily pragmatic ways.

1.4 Main contributions of this book

This section gives a heads-up on the original contributions of the book. It spells out the claim that parentheticality amounts to illocutionary independence, it argues that there are two major kinds of parenthetical expressions (each coming with a host of additional properties), and it identifies six semantic puzzles about parentheticals to be addressed in following chapters.

1.4.1 Parentheticals as illocutionarily independent adjuncts

The idea that parentheticals carry their own illocutionary force and thus engender independent speech acts has been suggested in various places in the literature (Hooper 1975; Bach 1999; Dillon et al. 2014; Syrett and Koev 2015; Ott 2016; Frazier et al. 2018). A fairly explicit statement to that effect is found in Dillon et al. (2014: 15), who write:

> "[...] we suggest that parentheticals are processed independently of the at-issue material, perhaps in a separate memory store, as a result of their status as quasi-independent speech acts."

I codify this intuition by formulating the following constraint.[19]

(37) ILLOCUTIONARY INDEPENDENCE
A parenthetical expression is headed by a force operator and carries a separate illocutionary force, one that is independent and may differ in kind from the force associated with the root clause.

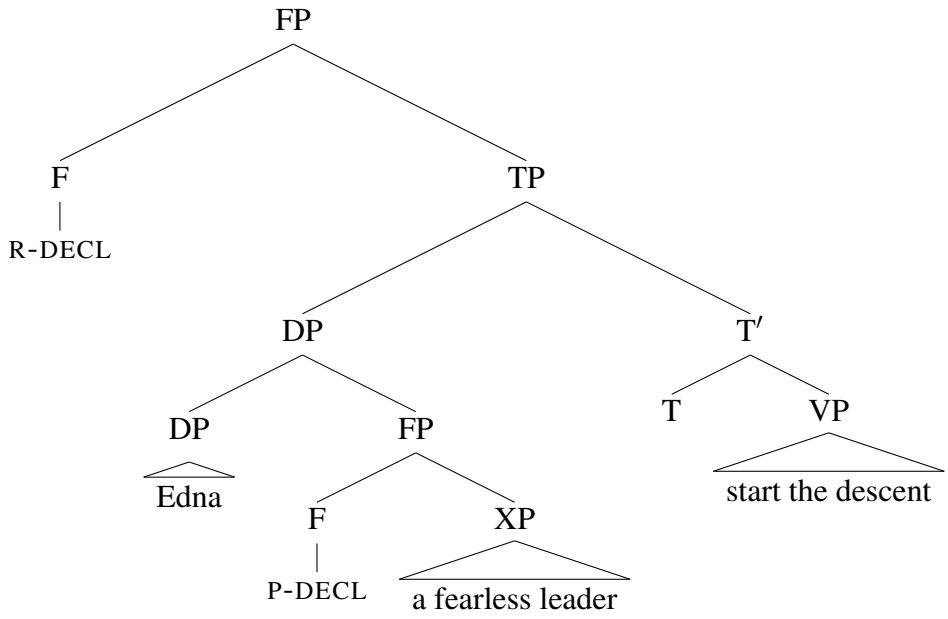
In essence, this constraint says that parenthetical expressions are encapsulated in force operators, just like root clauses. A sentence with parentheticals then incorporates multiple forces, a fact from which the major interpretational properties of parentheticals will be claimed to follow.

To get a concrete idea of how this is supposed to work, consider (38a) and its parse in (38b).

(38) a. Edna, a fearless leader, started the descent.

[19] Notice that this constraint talks about "illocutionary force", which is conventionally encoded, and not about "speech act", which is a pragmatic or derived notion. This distinction is explicitly drawn in Chierchia and McConnell-Ginet (2000: 4.3–4.4), Farkas and Roelofsen (2017), and Murray and Starr (2020), albeit under a different labeling. See Section 2.1.1 for discussion.

b.



What is crucial here is the presence of a declarative operator inside each Force Phrase (FP), one for the root clause and another for the nominal appositive. Although the two force operators are of a kind (both are declarative), the root clause operator differs from the parenthetical operator, hence the notation R-DECL vs. P-DECL, respectively. This is needed in order to derive the contrast in status between regular entailments and parenthetical implications, pointed out in Section 1.1. I will hold on with distinguishing between root clause and parenthetical force operators until Chapter 4, where this distinction is properly motivated.

Illocutionary Independence makes a number of good predictions. One prediction is that parentheticals are root clause-like in that they tolerate utterance adverbs, which are usually ruled out in subordinate clauses (Schreiber 1972; Thorne 1972; Sadock 1974; Mittwoch 1977; Potts 2005; see also the discussion in Section 3.6). For example, *frankly* can occur inside an appositive but not inside a restrictive relative clause.

(39) (Thorne 1972: 553)

a. The girl, who frankly he had praised, left the room blushing.

b. *The girl who frankly he had praised left the room blushing.

A second prediction is that the force of a parenthetical may differ in kind from that of the root clause (Levinson 1983; McCawley 1988; Frazier et al. 2018). For example, the appositive relative in (40a) carries a declarative force despite being part of an interrogative sentence. In (40b), it is the other way around: here a reverse-polarity tag (an elliptical interrogative clause) is attached to a declarative clause. We can call such cases **hybrid sentences**.

(40) (Levinson 1983: 261)

a. Does John, who could never learn elementary calculus, really intend to do a PhD in mathematics?

b. Wittgenstein was an Oxford philosopher, wasn't he?

Illocutionary Independence also makes the more general prediction that a parenthetical expression has about the same amount of interaction with the host clause as that between two independent sentences. The most obvious case in support of this prediction is the apparent inability of parentheticals to take narrow scope, mentioned in Section 1.1.2 and discussed at length in Chapter 3.

We have arrived at a characterization of parentheticality according to which parenthetical expressions are a kind of adjuncts and as such are structurally integrated into the host sentence. At the same time, parentheticals are headed by force operators and carry a separate illocutionarily force. The basic formula then boils down to this: *parentheticality* = *adjuncthood* + *illocutionary independence*.

1.4.2 Pure vs. impure parentheticals

One of the main claims of this book is that parentheticals fall into two major classes, which I dub "pure" vs. "impure". **Pure parentheticals** include appositives, *as*-parentheticals, and clausal parentheticals (among possibly others). These parentheticals are pure in the sense of being semantically inert and having no effect on the interpretation of the root clause. They comment on descriptive content and are syntactically embeddable, but may not be modified by higher operators and trigger projective inferences (see Sections 3.2–3.5). This class of parentheticals contributes to the kind of meaning which Potts (2005) calls "conventional implicature". In turn, **impure parentheticals** include utterance adverbs, antecedents of biscuit conditionals, slifting parentheticals, etc. These are called impure because they may have an effect on how the root clause is interpreted. Thus, utterance adverbs describe the manner of utterance, biscuit conditional antecedents update the question under discussion, and slifts modulate the assertion strength. Impure parentheticals operate on the illocutionary level and perform second-order illocutionary tasks (cf. Bach 1999). It then comes as little surprise that impure parentheticals are root clause-bound and their occurrence in subordinate positions is severely limited (see Section 3.6 for discussion).

Drawing a line between pure and impure parentheticals raises the worry that the two kinds of expressions are now too far apart to belong to the same category. What are the benefits of calling both kinds parentheticals? There are at least two reasons for maintaining uniformity. The first reason has to do with the illocutionary nature of parenthetical meaning. If pure and impure parentheticals are treated as distinct categories, we are in danger of missing an important commonality. While standing apart, both kinds of parentheticals latch on to the context by adding to the stock of speaker commitments, something that is otherwise reserved to independent utterances. One symptom of this is the general inability of operators to take scope and modify parenthetical commitments.

The second reason is that parentheticals are best thought of as living on the cline between full semantic dependence and full semantic independence, with impure parentheticals engaging more actively with the root clause than pure parentheticals. The following four major levels emerge (Figure 1.1).

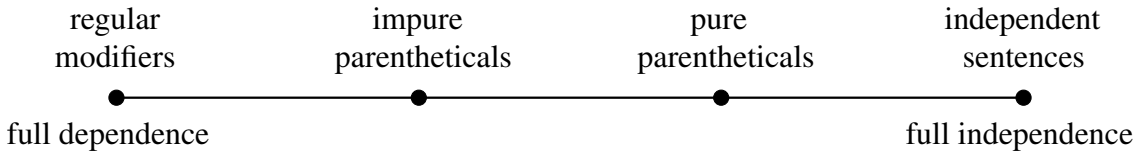


Figure 1.1: Levels of semantic (in)dependence.

In fact, it might be possible to enrich this scale even further. This is because the constructions within a given class may differ among themselves with respect to their degree of integration. For example, within impure parentheticals, utterance adverbs and biscuit conditional antecedents appear to be more independent than slifting parentheticals, as the root content is entailed only in the former case (see Section 2.4). In addition, a member of the pure or impure class may sometimes cross over and moonlight as a member of the opposite class. Thus, *as*-parentheticals are pure with respect to most of their properties but exhibit polarity restrictions similar to those of impure parentheticals (see Section 2.5). Or take utterance adverbs: these act as impure most of the time but under certain conditions can syntactically embed and trigger projective inferences, just like their pure cousins (see Section 3.6).[20] In sum, the distinction between pure and impure parentheticals does not drive a wedge between the two kinds of expressions but rather presents parentheticality as a unified (if rich) phenomenon.

1.4.3 Six puzzles about parentheticals

A semantic analysis is of as much value as it is successful in predicting the observed patterns. But what is the empirical baseline for a successful analysis of parentheticality? This section identifies six empirical puzzles that the rest of the book strives to solve. All of these puzzles come from previous literature. Here I spell them out and label them, thus emphasizing their significance in understanding parenthetical meaning.

I start with the **projection puzzle**. It concerns the fact that when a pure parenthetical occurs in the syntactic domain of a propositional operator, it fails to take scope under that operator. This puzzle was illustrated in (12), and (41a) below makes the same point. In this sentence the parenthetical content projects, i.e. it is not affected by the possibility modal found higher up in the structure. It is easily noticed that projection is a general property of (pure) parentheticals and not the result of pragmatic implausibility. If the same content is coordinated with the embedded clause, it readily contributes to the scope of the modal operator, as shown in (41b).

(41) a. It's possible that Edward, who is from Minnesota, enjoys cold winters.
b. It's possible that Edward is from Minnesota and enjoys cold winters.

The projection puzzle is well known in the literature (see the references cited right before example (12)). A good chunk of Chapter 3 (see especially Sections 3.2 and 3.4) is devoted to describing and explaining the pattern.

Another puzzle that involves restricted scopal interaction is what I call the **binding puzzle**. Quantifier binding from the main sentence into a parenthetical expression (or vice versa) is typically ruled out, even when it is possible in structurally similar non-parenthetical configurations.

[20] It is also possible that the dependence order is partial rather than linear. A given parenthetical may be more dependent than another parenthetical in one respect but less dependent in another respect.

(42) a. *[Every cheerleader]^x greets Chomsky, who remembers her$_x$.
b. [Every cheerleader]^x greets the professor that remembers her$_x$.

This puzzle has been discussed in Jackendoff (1977: ch.7), Safir (1986), Demirdache (1991: III.3.2), Dever (2001), Del Gobbo (2003: 2.3.1.1, 3.6.5), Potts (2005: 3.10), and Grimshaw (2011). Problematic examples, like *[Every rice-grower in Korea]^x owns a wooden cart, which he$_x$ uses when he harvests the crop*, have been cited in Sells (1985) and Kamp and Reyle (1993: 264). However, such examples are best analyzed not as proper quantifier binding but rather as cases of quantificational subordination or "telescoping", a process whereby the domain of a quantifier is artificially enlarged so as to include subsequent discourse (Karttunen 1976; Roberts 1989; Poesio and Zucchi 1992; Brasoveanu 2010). The binding puzzle is addressed in Section 3.7.

Next is the **embeddability puzzle**, already mentioned in (13) above. We have noticed that impure parentheticals are difficult to syntactically embed. (43a) shows this for slifting parentheticals, and (43b) demonstrates that the restriction is at work even if an embedded interpretation of the parenthetical would be quite natural.

(43) a. *Selena thinks that Justin, the vocal coach said, is a talented singer.
b. Selena thinks the vocal coach said that Justin is a talented singer.

The embeddability puzzle is not very robust and does allow for exceptions, although these are rather systematic (Schreiber 1972; Ross 1973; Iatridou 1991: 56; Bach 1999; Morzycki 2016: 225). The pattern is discussed in Section 3.6.

The next puzzle is familiar from (14)–(15) above. There we observed that parenthetical content – even if it contains the required information – cannot naturally answer the question under discussion. This is different from root content, which naturally does so. The relevant contrast in illustrated in (44)–(45). I call this the **at-issueness puzzle**.

(44) Q: Why are you so upset today?
A: #Jon Stewart, who just appeared on Fox News, is my favorite comedian.

(45) Q: Why are you so upset today?
A: Jon Stewart, who is my favorite comedian, just appeared on Fox News.

The at-issueness puzzle has generated a lot of attention in the literature (Potts 2005; Simons et al. 2010; Murray 2014; AnderBois et al. 2015; Syrett and Koev 2015; a.o.). My own take on it is detailed in Section 4.4.

The **polarity puzzle** involves impure parentheticals (although it is also found in *as*-parentheticals; see Section 2.5.3). It labels the observation that, say, a slifting parenthetical cannot create a downward-entailing environment, even though a minimally different sentence with a matrix clause is fully natural.

(46) a. Sam is in his office, $\left\{ \begin{array}{c} \text{I think} \\ \text{\#I doubt} \end{array} \right\}$.
b. $\left\{ \begin{array}{c} \text{I think} \\ \text{I doubt} \end{array} \right\}$ Sam is in his office.

This type of polarity restriction on parentheticals has previously been noticed but is not very well understood (Jackendoff 1972; Ross 1973; Hooper 1975; Scheffler 2009; Haddican et al. 2014; Maier and Bary 2015; Hunter 2016; Koev 2019a). Section 2.5 offers a lengthy discussion.

The final puzzle I identify is the **hedging puzzle**. It involves the observation that modification by a slifting parenthetical reduces the possibility of hedging as compared to modification by a matrix clause. The pattern is illustrated below and has been claimed to reflect on to the degree of speaker commitment to the main claim.

(47) (Asher 2000: 36)

a. #John, Mary assures us, can be trusted, but I don't trust him.

b. Mary assures us that John can be trusted, but I don't trust him.

Although assumed to be categorical in nature (Jackendoff 1972; Asher 2000; Murray 2014), Koev (2019a) adduces experimental data to show that the above contrast is real but less strict. The hedging puzzle is addressed in Section 4.5.2.

1.5 Basic formalism

This book comes with a good deal of logical formalism. In spite of that, I tried to make the main ideas as accessible as possible by using a minimal amount of logic and holding off on presenting the formal system until Chapter 5. At the same time, one cannot hope for a predictive theory without some level of formal rigor. In trying to balance these opposing pressures, this section will sketch the basic formalism, which (modulo occasional additions) should suffice to get the reader through Chapters 2–4. Readers not interested in formal detail may want to skip over this section and go straight to the book corner of their choice.

The main claims of this book are couched in a version of update semantics, which represents one form of a dynamic semantic architecture. Update semantics differs from static semantic architectures in that sentential terms are not evaluated for truth but express functions over information states or "contexts" (Heim 1982; 1983; Veltman 1996; Beaver 2001; a.o.). Such states serve as storage for the (factual and referential) information that has been accumulated so far in the given conversation. But why do we need an update semantics? The choice of a dynamic formalism along these lines is motivated by the principle of Illocutionary Independence, formulated in Section 1.4.1. This principle postulates that force operators play a key role in turning parenthetical meaning into what it is. Since force operators act directly on the context, it is difficult to see how their effect can be modeled without building some level of dynamicness into the system.[21]

Let us be more concrete. By means of introduction, I emphasize three basic features of the proposed formalism. The first feature is that in update semantics logical representations consists of a series of conjuncts that are interpreted left to right. Thus, conjunction is not commutative, so $\phi \wedge \psi$ and $\psi \wedge \phi$ will generally differ in meaning. The reason is that the two conjuncts will be evaluated against a different state in each case. In the case of $\phi \wedge \psi$, ϕ will be evaluated against the input state and ψ will be evaluated against the state produced by updating the input state with ϕ. In the case of $\psi \wedge \phi$, it is the other way around: ψ will be evaluated against the input state

[21] What exactly makes a logical system "dynamic" is a matter of debate. Attempts to settle the issue are discussed in Section 5.1.6.

and ϕ will be evaluated against the state produced by updating the input state with ψ. Since prior conjuncts may have interpretational effects on follow-up conjuncts (e.g., in the form of anaphoric dependencies), order matters.

The second feature is specific to the version of update semantics employed here. This version involves explicit representation of propositional information in the form of propositional variables (Stone 1997; 1999; Stone and Hardt 1999). Thus, the information that x likes y will be represented as $\lambda p\,.\,like_p(x,y)$, where p stands for the set of worlds throughout which the stated condition is met.[22] Such formulas thus express functions from classical propositions to updates. Doing things this way allows operators to compose with such formulas and make statements about their content by referring to classical propositions rather than dynamic meanings.

The third feature is a consequence of the second feature. Since propositional information is explicitly represented, force operators and their metalinguistic effects are part of the formalism as well. The sentence in (48) serves as an illustration. This sentence introduces three referents (by means of $\exists p$, $\exists x$, and $\exists y$), imposes certain restrictions on them (by means of $x = abby$, $y = ice.cream$, and $like_p(x,y)$), and makes the descriptive content part of the commitments of the speaker (by means of $c + p$). Notice that the third effect is not part of the at-issue meaning of the sentence. It is due to the declarative operator DECL that sits on top of the structure.

(48) Abby likes ice cream.

a. $[_{\text{FP}}\ \text{DECL}_c^p\ [_{\text{TP}}\ \text{Abby}^x\ \text{like ice cream}^y]]$

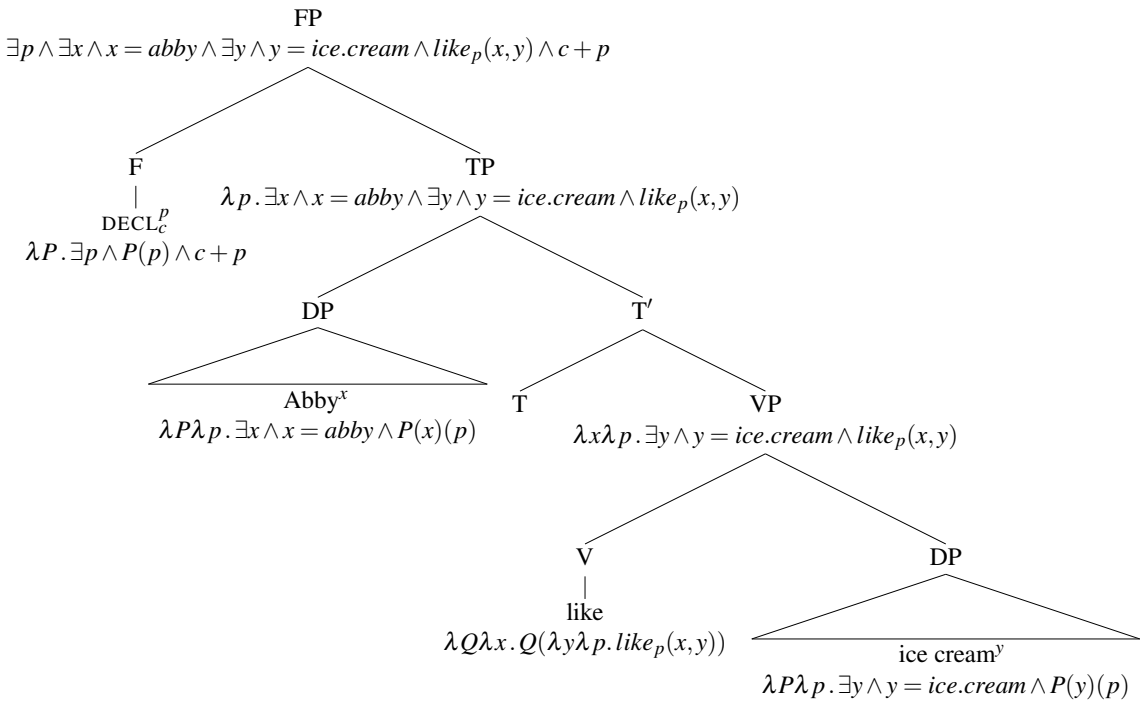
b. $\exists p \wedge \exists x \wedge x = abby \wedge \exists y \wedge y = ice.cream \wedge like_p(x,y) \wedge c + p$

I close this section with two minor points. First, and quite unsurprisingly, logical representations of sentences are not arbitrarily assigned but are compositionally derived. (48) is assembled as shown in (49).[23]

[22] Writing p as a subscript is just for readability. Officially, the proposition expressed is an argument to the predicate, so we could also have written $\lambda p\,.\,like(p,x,y)$.

[23] The contribution of tense marking is ignored throughout the book.

(49)



Second, I will use a number of abbreviations in order to improve readability. For example, (48b) is not easy to read, as it mixes descriptive content and metalinguistic information. I thus abbreviate this formula as in (50), where the two layers are cleanly separated.

(50) $\mathbf{decl}_c^p(like_p(abby^x, ice.cream^y))$

The particular abbreviation conventions will be presented in due course.

This is the basic skeleton of the semantics. More details will be revealed in Chapters 2–4 when directly relevant to the argumentation. The full-blown system is presented in Chapter 5.

1.6 Chapter summary

This chapter laid out the empirical and theoretical basis for the rest of the book. It achieved several things:

- It gave a first taste of parentheticality by emphasizing the commonalities and differences across a wide range of constructions which form the empirical core of the discussion to come.
- It situated parentheticality among the familiar layers of meaning, arguing that parenthetical content shares properties with entailment and presupposition but also differs from these in its ability to impact the interpretation of the root sentence.
- It argued against tying parentheticality to intonational phrasing, structural separation, or the lack of truth-conditional effects. Instead, it proposed that what all parentheticals have in common is their illocutionary independence, or the fact that they carry own force operators and thus constitute independent speech acts.

- It established two major levels of parenthetical independence. Pure parentheticals comment on the descriptive content of the root clause but have no effect on its interpretation. Impure parentheticals operate on the illocutionary layer, thus having an effect on the truth or felicity of the root clause. No parenthetical may modify the descriptive content or be further modified by higher operators. This is the job of regular adjuncts.
- It identified six semantic puzzles about parentheticals that the rest of the book strives to solve.
- It sketched a basic semantic formalism that underlies the theoretical claims.

From here on, the reader may proceed to Chapter 2 (which investigates the illocutionary effects of parenthetical expressions), Chapter 3 (which looks into their scopal properties), or Chapter 4 (which studies their information status). Chapter 5 presents the formal account and is best read after getting through most of these prior chapters.