The real, the fake, and the fake fake: In counterfactual conditionals, crosslinguistically
Karawani, H.
CHAPTER 1

Facts and Theories of Counterfactual Ingredients

Counterfactual constructions are grammatical constructions that convey that the situations denoted by them are contrary to fact. These may be counterfactual wishes as illustrated in (1), counterfactual imperatives as in (2), or counterfactual conditionals as in (3). This dissertation focuses on counterfactual conditionals.

(1) a. If only you were here!
   b. I wish you were here!

(2) You should have been here!¹

(3) a. If John had been here (yesterday), the party would’ve been fun.
   b. If John were here (now), the party would have been fun.
   c. If John were to be here (next week), the party would be fun.²

The counterfactual conditionals in (3) are conditionals that express that the antecedent is contrary-to-fact, false, or unlikely. Namely, it is false that John was here yesterday, it is false that John is here now, and it is false (or unlikely)

¹As we will be setting this type aside, I will not go into tests to prove it is an imperative or show which diagnostics of imperatives this one exhibits. It is worthwhile to note, however, that crosslinguistically this type of sentence exhibits imperative morphology, as in Palestinian Arabic. In Spanish, these are referred to as retrospective imperatives and they seem to have some of the properties of infinitivals used as imperatives (cf. Bosque 2012).

²Please note that nothing hinges on the modality of ‘to be’ here. For our purposes, a simple verb achieves the same kind of counterfactuality that we are after. Take ‘If John came to the party next week, it would be fun.’
that John will be here next week. This means that past counterfactual conditionals express a counterfactual situation in the past; present counterfactual conditionals express a counterfactual situation in the present; and future ones express a counterfactual situation in the future.

Due to the fact that the properties of future time are such that the future is indeterminate, many consider only past and present counterfactuals to be true counterfactuals given the idea that it is only of the past and the present that one has facts. Nevertheless, in this dissertation I will consider future counterfactual conditionals to be counterfactual, as long as their grammatical properties align with past and present counterfactuals.

This chapter aims at identifying the counterfactual ingredients that are found in counterfactual constructions across languages and introducing different theories regarding the contribution of those ingredients to the semantic composition of counterfactual constructions. In §1.1, I examine crosslinguistic examples of counterfactuals that illustrate the range of morphological ingredients that take part in yielding counterfactual readings. In §1.2, I summarise different aspects in the state of the art in order to see whether we are able to answer the following questions (i) What is the semantics of irrealis morphemes that lends itself so readily to counterfactuals? (ii) What is the semantics of the past tense morpheme such that it is able to turn a conditional into a counterfactual conditional? (iii) Can this semantics be extended to account for why spatial and person morphemes are able to contribute the same meaning in those languages that lack past tense morphology? (iv) Moreover, what is it in the semantics of the imperfective, the habitual and the future, that makes their inclusion at least compatible with counterfactual meaning, if not necessary for yielding it? (v) What is the semantics of subjunctive mood such that it is included in counterfactual structures if the language has a paradigm for past subjunctive? And finally, (vi) what is in common among all the above that allows them to express, in the right morpho-syntactic context, a reading that a dedicated, or specialized, CF marker can express by virtue of its lexical semantics?

Before I proceed, a word of heed is in order. Unfortunately, it is beyond the scope of this chapter to introduce all the relevant accounts regarding the contribution of verbal morphology to the semantic composition of counterfactuals. For this reason, I am forced to ignore some accounts but this does not mean that the contribution of the authors of those accounts is less significant or unsubstantial. My choice will be based on relevance for the kind of questions I try to answer in this work.
1.1 A Cross Linguistic Exposé of Counterfactual Conditionals

It is a universal property of languages that they are able to express a counterfactual statement; they differ, however, in the devices at their disposal and accordingly in the strategies they employ to express this meaning. Some of the strategies languages use seem more transparent than others. A direct strategy is exhibited in languages that use a dedicated, or specialized, CF morpheme that yields counterfactual meaning. Other languages appeal to combinations of particular morphemes, and although such combinations are mainly of temporal (modal and aspectual) morphemes, there are languages that employ spatial morphemes or person morphemes for the same effect. What accounts for why certain morphemes are chosen and not others is a question that is central in this dissertation. Also central is the question whether the same semantic structure underlies CF compositions derived via different strategies – in other words, whether the resultant counterfactual reading is the same in all strategies.

1.1.1 Dedicated Markers

One type of languages marks counterfactuality via dedicated, or specialized, counterfactual morphemes. Hungarian is an example of a language that uses a specialized CF marker where ne/-na are phonologically conditioned variants of the counterfactual marker, as exemplified in (4).

(4) Hungarian

a. ha holnap el-indul, a jövő hétre oda-ér
   if tomorrow away-leave the following week.onto there-reach
   ‘If he leaves tomorrow, he will get there next week.’

b. ha holnap el-indul-na, a jövő hétre oda-ér-ne
   if tomorrow away-leave-CF the following week.onto there-reach-CF
   ‘If he left tomorrow, he would get there next week.’

Iatridou (2009:1 (1-2))

1.1.2 Temporal Morphemes

A second type of languages marks counterfactuality via temporal morphemes that, in such contexts, do not exhibit a temporal meaning. Note the contrast between (5a) and (5b) in Hebrew. In (5b), the past tense morpheme is not being used for yielding a temporal interpretation, but its usage, in this morphosyntactic environment, is part of a strategy that achieves a counterfactual reading of the conditional. In (5b), the past tense morpheme does not contribute
1.1. A Cross Linguistic Exposé of Counterfactual Conditionals

a temporal interpretation, as is shown by its compatibility not only with past tense adverbials, but also with present and future tense adverbials. In contrast, the past tense morpheme in (5a) is compatible with a past tense adverbial, but not compatible with present or future adverbials. The same facts are attested in Palestinian Arabic too, as illustrated in (6).

(5) Modern Hebrew

a. Dani haya ba-bayit (?etmol /*?azyav /*maya r).
   min be.pst.3sm in-home (yesterday /*now /*tomorrow)
   ‘Dani was home (yesterday).’

b. im Dani haya ba-bayit (?etmol/?azyav /maya r),
   if Dani be.pst.3sm in-home (yesterday/now /tomorrow),
   hayinu mevakRim oto
   be.pst.1pl visit.ptc.pl he.acc
   ‘If Dani were home (yesterday/now/tomorrow), we would’ve visited him.’

(6) Palestinian Arabic

a. kaan fi l-bet (*hala/*bukra).
   be.pst.3sm in-the-house (*now/*tomorrow)
   ‘He was home.’

b. iza kaan fi l-bet (hala/*bukra), kunna
   if be.pst.3sm in-the-house (now/tomorrow), be.pst.1pl
   zurna-a.
   visit.pst.pfv.1pl-him
   ‘If he were home (now/tomorrow), we would’ve visited him.’

Among the temporal morphemes found in counterfactuals, the past morpheme appears to be the necessary one. But it is not necessarily sufficient in all languages. There are languages that require additional temporal, aspectual or modal morphemes to convey counterfactuality. Imperfective aspect is a common morpheme that combines with the past morpheme in counterfactuals. This is the case in Modern Greek and Zulu, as (7) and (8) show, respectively.

(7) Modern Greek

An pandrevotan mia prigipisa, 6a esoze tin eteria
if marry.pst.impfv a princess, fut.save.pst.impfv the company
his tu.
‘If he married a princess, he would save his company.’
Iatridou (2000:234 (15))

(8) Zulu

ukuba be-ngi-thimul-ile, be-ngi-zo-dinga ithishi
if pst.impfv-1sg-sneeze-pfv, pst.impfv-1sg-fut-need 5tissue
‘If I had sneezed, I would have needed a tissue.’ (conveys: I did not sneeze)
Halpert and Karawani (2012:100 (5))
Another morpheme that combines with the past is the subjunctive. Subjunctive mood morphemes are common in CFs in those languages that have a paradigm for past subjunctive, as is illustrated in (9), where the antecedent and consequent exhibit past subjunctive morphology – note, however, that the consequent exhibits an additional modal würden in German.

(9) German
Wenn du Zitronen mitgebracht hättest, würden wir Limoncello gemacht haben.
‘If you had brought lemons with you, we would have made Limoncello.’

This pattern is employed in Icelandic, too. But in Icelandic, the antecedent and consequent are symmetric with respect to the verbal morphology employed, where the antecedent and consequent both exhibit past subjunctive morphology, as illustrated in (10).

Colloquial Catalan counterfactual conditionals exhibit past subjunctive morphology and show symmetry as well, as illustrated in (11). Note that in Standard Catalan the symmetry is restricted to past tense morphology. In other words, in Standard Catalan, as illustrated in (12), the antecedent and consequent are symmetrical in that they both exhibit past tense morphology, but whereas the antecedent exhibits a past subjunctive, the consequent exhibits a past future. Note, moreover, that this means that what is standardly glossed as conditionnel (COND) morphology may well be FUT plus PST – as Iatridou (2000) argues for French.

(10) Icelandic
Ef ég ætti bíl, tæki ég hann með mér.
‘If I owned a car, I would take him with me.’ Freyr Viðarssson (p.c.)

(11) Catalan
Si l’hagués vist, t’hagués vist, t’hauria avisat.
‘If I had seen him, I would have told you.’ Josep Quer (p.c.)

(12) Catalan
Si l’hagués vist, t’hauria avisat.
‘If I had seen him, I would have told you.’ Quer (2009:1780 (2))
1.1. A Cross Linguistic Exposé of Counterafactual Conditionals

Sometimes, the subjunctive combines with both past and imperfective, as in (13) in Portuguese.

(13) Portuguese
Se tivesse bastante dinheiro, comprava um carro novo.

‘If I had enough money, I would buy a new car.’

Marcus Lunguinho (p.c.)

The future tense morpheme is yet another temporal morpheme that frequently combines with the past, and sometimes it even combines with both the past and the imperfective, as is illustrated in (14) where the conditionnel is historically a future stem inflected for past imperfective as noted in Iatridou (2000).

(14) French
Si Paul écrivait à Marie, elle serait contente.

‘If Paul wrote to Marie, she would be happy.’

Anand and Hacquard (2009:5 (12))

Irrealis morphemes combine with the imperfective as well, as exemplified in (15), to yield a counterfactual reading.

(15) Limbu
yaŋ kØtt-u-gØ:ni iŋ-u-ŋ-ba.
‘If only I had the money, I would buy it.’

van Driem (1987:141)

1.1.3 Spatial Morphemes

Within those languages without a dedicated counterfactual marker, some languages do not employ temporal morphemes for the expression of counterfactuality, but a spatial morpheme instead. For example, as noticed by Nevins (2002), khe in Burmese is a spatial morpheme which marks spatial displacement and means in another place, as illustrated in (16a). In a conditional, this spatial morpheme contributes to counterfactual meaning, as illustrated in (16b).

Limbu is a Tibeto-Burman language.
Facts and Theories of Counterfactual Ingredients

(16) Burmese

a. m‘ei chau? khe re
   snake scare  KHE DECL
   ‘(I) scared a snake [in another place before I arrived here].’

b. shei θau? khe yin, nei kaun la ge lein-me
   medicine drink KHE if, stay good come KHE predictive-IRR
   ‘If he took the medicine, he would have gotten better.’

Nevins (2002:442 (2a,b))

We see, then, that languages employ different strategies to establish counterfactual interpretation and that there are several morphological categories that are able to give rise to counterfactuality. The following sections deal with finding a common denominator among the strategies listed above such that a counterfactual reading is made possible.

1.2 Theories of Counterfactual Meaning

In order to be able to find a common denominator for all the strategies that give rise to counterfactuality, the leading question in the following discussion is what is it about irrealis, temporal, aspectual, modal, and mood morphemes that allows them to express, in the right morpho-syntactic environment, the same meaning that a specialized CF marker does. In addition, we will try to answer the question as to what the morpho-syntactic environments are that make this possible.

As it is the closest to the notion of counterfactuality, I will start this discussion with the irrealis. I will then proceed with discussing the role of past tense morphology in yielding counterfactual readings. It is essential to discuss past tense morphology before proceeding with theories that try to account for the role of imperfective aspect, modals, and subjunctive mood morphemes because imperfective, modal, and mood morphemes are not sufficient without past tense morphology to yield counterfactual readings.

1.2.1 What’s in Irrealis?

What are the semantic properties of irrealis that allow irrealis morphemes to lend themselves naturally to counterfactuals in many languages? Authors agree that the meaning of irrealis revolves around a feature [¬ real] or [¬ actual]. But they also agree that it is hard to come up with a definition of irrealis that covers all usages of irrealis morphemes and the environments in which they occur. Bybee, Perkins and Pagliuca (1994:239) even question the validity of a crosslinguistic grammatical category of realis/irrealis based on the diversity of usages associated with irrealis morphemes. According to Steele (1975:200), irrealis can be best defined by what it does not include, rather than what it

---

5Burmese is the native language of the Bamar and related sub-ethnic groups in Burma.
1.2. Theories of Counterfactual Meaning

includes: “the notion obviously does not include what is considered real.” And Plungian (2005:138) tells us that past perfective and present progressive, for example, are never marked as irrealis.

Irrealis morphemes are able to express notions that may otherwise be expressed by modal, tense, aspect or mood morphemes. Irrealis morphemes express counterfactuality, as illustrated in (17). Also, futures, especially those that are uncertain or remote, are often expressed by irrealis morphemes in those languages that exhibit the irrealis, as exemplified in (18); similarly, imperatives, as in (19); and, in some languages, negation selects irrealis too, as in (20).

(17) Bardi
Milarra oo-la-ri-na-ngayoo  joorroo-nim.
almost 3NOM.FUT/IRR-IRR-eat-PST-1ACC snake-ERG
‘The snake almost bit me.’

(18) Amele
Ho bu-busal-eb  age qo-qag-an.
pig SIM-run.out-3SG.DS.IRR 3PL hit-3PL-FUT
‘They will kill the pig as it runs out’.
Roberts (1990:372 (3a))

(19) Amele
Ho bu-busal-eb  age qo-ig-a.
pig SIM-run.out-3SG.DS.IRR 3PL hit-3PL-IMPFV
‘Kill the pig as it runs out.’
Roberts (1990:372 (3b))

(20) Muyuw
nag  i-n / b-ei-n  wa-ven
NEG 3SG-go / IRR-3SG-go to-village
‘He is not going to the village (now).’ or ‘He did not go to the village.’
de Haan (2012:17 (32))

Two questions arise. What is the semantic common denominator among the usages of irrealis morphemes such that they are able to express different notions and, crosslinguistically, lend themselves naturally to counterfactuals, as we have seen in (15) and (17–20)? Further, what is this semantic denominator such that it is incompatible with both the past perfective and the present progressive, crosslinguistically?

As mentioned, authors agree that the meaning of irrealis revolves around a [¬ real] or [¬ actual] feature. Yet, in their attempt to define a crosslinguistic category of irrealis, while some have argued for a (Jacobsonian) binary approach to meaning in terms of binary oppositions between reals and irreals, others

---

6Bardi is spoken in Western Nyulnyula of Western Australia.
7Amele is spoken just south of the town of Madang in Papua New Guinea.
8Muyuw is an Austronesian language from Woodlark Island, Papua New Guinea.
have argued for a non-binary approach to the meaning of irrealis, such as Bybee (1985) and Givón (1984). See also Plungian (2005), whose proposal represents an analysis of categories divided along realis/irrealis lines, but note that De Haan (2012) writes that although Plungian’s proposal might not be intended as a proposal for a prototype analysis, it represents the closest proposal for a prototype approach.

The non-binary approach to the realis/irrealis distinction proves important for accounting for the diversity of meanings, or usages, associated with irrealis morphemes, as opposed to the seemingly more specific meanings, or usages, associated with realis morphemes. The non-binary approach proves especially important, since irrealis morphemes are also sometimes used to express real or actual notions such as habituals (see Plungian 2005).

Roberts (1990) argues that the diversity of meanings associated with the irrealis, as opposed to the realis, is a reflection of the idea that there are many possible worlds, as opposed to one real world. Nevertheless, the actual world is one of the possible ones. Therefore, irrealis morphemes should be able to denote real events or situations in the real world. This means that we can tackle the meaning of the irrealis vis-à-vis the realis with a non-binary approach to meaning, such as a prototype approach (à la Lakoff 1970) or an asymmetric entailment relations approach (à la Heim 1991).

The prototype approach suggests that the feature $\neg$ real or $\neg$ actual is prototypically representative of irrealis morphemes, but that there are notions that are expressed by irrealis morphemes that are closer to the core meaning of this feature than others.

On the other hand, the asymmetric entailment relations approach suggests that irrealis morphemes are able to express $+/\neg$ real or $+/\neg$ actual, whereas realis morphemes express $+\neg$ real or $+\neg$ actual only. In other words, irrealis entails both realis and irrealis notions, whereas realis entails realis only – hence the asymmetric entailment relation.

For our purposes, the latter approach proves more adequate since it takes into account that irrealis morphemes are able to express realis situations, such as habituals.

Since non-reality, or non-actuality, is close at heart to counterfactuals, this approach proves important in the debate on counterfactuals: what is behind irrealis and counterfactuals is the same. At the very least, both do not entail that the actual world is in the denotation. This explains the incompatibility of irrealis morphemes with past perfective and present progressive, which denote real and actual situations or events.

This approach allows us to account for the diversity of meanings associated with the irrealis, without committing ourselves to irrealis being necessarily not real, or not actual – leaving open, for now, whether counterfactuals entail falsity, non-reality, or counterfactuality.

As this thesis progresses, the semantics of counterfactuals proves to be a function of the ingredients of counterfactuals; as irrealis is one such ingredient, we will, therefore, shed light also on the meaning of irrealis. With this in mind,
we still need to understand what blocks irrealis from certain episodic, actual contexts, as those expressed by a past perfective: if the past perfective is not a category that can be expressed via an irrealis morpheme, why is the past a category that can be expressed by irrealis morphemes. In turn, why is the past a category that can be used to express notions that are typically expressed by irrealis morphemes. This concerns us next.

1.2.2 What’s in the Past?
There are two main theories regarding the contribution of the past tense morpheme in counterfactuals. One takes the past tense morpheme to express real past tense. This approach takes the past tense morpheme to contribute a temporal reference to a time previous to the present time in all of its usages – i.e. in its counterfactual usage, too. It takes the counterfactual reading of past tense morphemes to follow from a past evaluation point. It is advocated by Dahl (1997), Ippolito (2004), Arregui (2008), among others. The second theory takes the past tense morpheme to be fake. This approach argues that the contribution of past tense morphemes is not temporal reference, but in fact something else that makes past temporal reference possible while at the same time makes a counterfactual meaning possible, too. The advocates of this theory (Iatridou (2000) and partly Nevins (2002), a.o.) take past tense morphemes to contribute either temporal reference to a time different from the present time (not necessarily preceding it) or modal reference to a world different from the actual world.

1.2.2.1 A Real Past
The past as real hypothesis is a theory that argues that the past tense morpheme is chosen in counterfactuals because of a prior to now temporal feature. As such, the past morpheme places the proposition denoted by the condition that is within its scope prior to the present or utterance time (UT). Hence, a past tense morpheme places the proposition denoted by the antecedent in the past, on the time line.

Standard theories in philosophy of time, as in Prior (1957) and Partee (1977), represent time as in the following figure featuring the timeline.

Figure 1.1: The Timeline Model
This representation aims at capturing the fact that the past is closed whereas the future is open. As such, for every point in time there is a future that follows which is unsettled from the perspective of this point in time. This means that with respect to a proposition that includes an eventuality located in the scope of a future tense morpheme there are two open possibilities, either the eventuality actualizes or it does not. This results in having one past, one history; but two futures, and thus, two possible continuations of the timeline, or two possible worlds. Each possible timeline is further divided. Two timelines give rise to four more branching timelines, or four possible worlds. These four timelines create eight more. And so on, infinitely. This model describes the world as having one past but an infinite number of futures. It is called the branching futures model.

Figure 1.2: The Branching Futures Model

The branching futures model is useful for the assumption that the past is real because it relies on the temporal nature of the past tense morpheme in its ability to shift back an evaluation time to a time prior to UT, while at the same time making use of the indeterminate nature of the future. Since for any point in time there is one past and an indeterminate future consisting of two possibilities (for any proposition $\phi$ expressing an eventuality or situation, there are two possibilities, either that it actualizes or it does not, i.e. either $\phi$ or $\neg\phi$), if we assume that we are at a certain point in time, then this point that we are at is in the future of a past point. As we are in the future of a certain past point, then from the perspective of this past point, the future is indeterminate: we are actually at one of the possibilities, and there is an alternative possibility. A counterfactual situation, with respect to a point in time $t$, say the one that we are at, is assumed to be located at a branch of the tree that can be found by going backwards in time from $t$ and then forwards along the alternative path (Dahl 1979). Please note that Ippolito’s (2004) stand is slightly different; the next section capitalizes
1.2. Theories of Counterfactual Meaning

(21)  a. If Germany played England, Germany would win the game.
    b. If Germany had played England, Germany would have won the game.

A model of (21a) is represented in figure 1.3.

Figure 1.3: A Counterfactual Past Model

(adapted from Dahl 1997)

Assume that we are at $t_3$. $t_1$ is the point at which it was decided that Germany does not play with England. At the alternative branch Germany does play with England, and at $t_2$ Germany wins. This suggests the following reinterpretation of the function of the past morpheme.

(22) It was the case (at a given past evaluation point) that: If Germany plays England, Germany will win the game.

Note that according to (22), $t$ is the reference time of the conditional. And this is important. The proponents of the real past tense in counterfactuals advocate their hypothesis by pointing to the crosslinguistic observation that one past tense morpheme in counterfactuals gives rise to a counterfactual with a non-past reference, i.e. to a present or future counterfactual; whereas two past tense morphemes are needed for achieving a past counterfactual. Hence, the past tense morpheme shifts-back the temporal evaluation point of the conditional leaving the conditional with a temporal reference one tense forward from the overt specification.

The use of past perfect for past time reference in counterfactuals, as in (21b), then means that one goes back into the past once more. This suggests the following reinterpretation of the pluperfect morpheme in conditionals as (21b).

(23) It had been the case (at a double past evaluation point $t$) that: If Germany played England, Germany won the game.

on her approach.
Although the branching times model might be able to explain how we reach the alternative branch to make the counterfactual assumption, it is not clear whether it is able to explain how the past tense morpheme gets to signal that an alternative path has been taken. To be able to do so, this theory must rely also on the fact that the speaker (or the evaluator of the conditional, i.e. the hearer) knows the actual world, for otherwise how, by going into the past, are we to know which path is the alternative one? To know the alternative we have to know what is actually the case.

Ippolito’s approach relies on this idea and this is why she proposes an epistemic treatment of counterfactuals. A case in point is that Ippolito’s approach is slightly different from Dahl’s. While Dahl’s suggestion relies on the fact that a counterfactual signals that an alternative path has been taken, for Ippolito this is merely a matter of implicature. For her, a past evaluation point, in comparison with a present evaluation point, comes along with the inference that the condition can no longer be satisfied. Hence, according to Ippolito, the counterfactuality is derived from the fact that past tense morphology takes scope over the whole conditional. Ippolito (2004) uses the felicity condition in (24) for conditionals.10

(24) Felicity Condition for Conditionals: \( \neg (\text{know} (\neg \phi)) \).
Ippolito (2004:33(33))

This means that according to Ippolito, a speaker utters a conditional when s/he does not have evidence that the antecedent is false. So when a speaker combines a conditional with past tense morphology, the speaker indicates that this evidence was available at a given past point, and therefore signals that this evidence might no longer be available. In other words, according to Ippolito, choosing past tense morphology (to take scope over the conditional) allows the speaker to signal that s/he is not committed to the fact that s/he does not have evidence that the antecedent is false, hence implicating that s/he might have evidence that the antecedent is false, contra to what is indicated by the complementary present tense morphology which signals that the speaker is committed to not having evidence that the antecedent is false at the evaluation time UT. Note that although attractive, this kind of explanation does not suffice to explain the inference that the antecedent and consequent separately do not hold or are not true, not without further machinery to derive this meaning. Note further that this difference is pragmatic in nature, and not semantic, on Ippolito’s account.

Nevertheless, we might understand the theory of past as real in counterfactuals in terms of relying on the inherent nature of the past being closed – intuitively, on the fact that the past cannot be changed. In this sense, the usage of the past in the condition indicates that the condition is closed. When the condition is closed, there is very little that can be done to fulfil it – hence the inference that the condition is impossible, false or at least unlikely. Again, to be

10See Veltman (1978) for a much earlier formulation of this condition.
able to adopt this view one needs to assume an epistemic modal base and thus an epistemic treatment of counterfactuals. Ippolito suggests this by assuming that the past tense morpheme contributes a past epistemic evaluation point. This hypothesis does not explain how a past tense morpheme that usually contributes a past time reference is able to contribute, in these morpho-syntactic environments, a past time evaluation point – unless we are willing to assume that propositions come along with belief operators that the past can syntactically take scope over, instead of remaining syntactically low and scoping over the event and locating it in past time. But this is a problem, because past tense morphology does not seem to exhibit this kind of behaviour outside of conditionals.\footnote{We will return to Ippolito's account in §1.2.3.2.}

1.2.2.2 An Unreal Past

1.2.2.2.1 Strong Past as Unreal Hypothesis  Iatridou (2000) suggests a richer meaning of past tense morphology. She formalizes the meaning of past tense morphemes not in terms of reference to a temporal ordering that places an event prior to the present moment, but rather in terms of an exclusion feature that the past tense morpheme denotes. This exclusion feature is able to exclude \( x \) from the present moment or the actual world. When the past morpheme, as denoting this exclusion feature, is used to exclude an event from the actual world, the resultant meaning is counterfactual, or unreal; whereas when the past morpheme is used to exclude the event from the present moment, the resultant meaning is factual, or real. The factual interpretation gets a past time reference because Iatridou (2000) considers the future to be modal. Hence, when the past tense morpheme as denoting exclusion is used to exclude times, the reading is automatically past time.

What we know from Iatridou’s proposal is that when the exclusion feature functions to vary over times, it results in a real (i.e., actual) interpretation of the event, while when it varies over worlds, it results in an unreal (i.e., counterfactual) interpretation. However, it is not clear from Iatridou’s proposal whether we are able to predict when the exclusion feature quantifies over worlds to exclude the actual world and when it quantifies over times to exclude the utterance time. By looking at the antecedent alone, we are unable to predict whether the past tense morpheme varies over times and introduces a past time reference or over worlds, and thus, introduces counterfactuality – as can be seen in (25) where both continuations, the indicative in (25a) and the counterfactual in (25b), are possible.

(25)  a. If they went to the market, then they got milk.
      b. If they went to the market, then they would get milk.

Further, it is not clear how exclusion semantics is compatible with sentences referring to events that took place in the past but still go on, as exemplified
in (26a); or counterfactual sentences that might also refer to real situations in the real world, as in (26b). Iatridou (2000) mentions that the unreality of the event is only an implicature; the question is whether she would similarly conclude that the pastness of the event is only an implicature as well. Iatridou follows others in the field like Klein (1994), who takes the past tense to be *topic time before utterance time* and for whom it is easy to see that when past tense morphology is used nothing about the present is asserted (Iatridou p.c.). This is illustrated in (27), where the book is in fact still in Russian, but present tense morphology is ungrammatical, as illustrated in (28). However, maintaining that the pastness of the event is only an implicature is problematic for Iatridou’s (2000) account, as she formalizes exclusion (whether temporal or modal) as an entailment of the past tense morpheme *topic (x) excludes time/world(x).*

(26)  
   a. John was a teacher (and in fact he still is).
   b. John would’ve been a teacher (and in fact he is).

(27)  I saw a book on the table. It was in Russian.  

(28)  # I saw a book on the table. It is in Russian.  

(Klein 1994)

Nevins (2002) picks up exactly on this question. In his interpretation of Iatridou (2000), he thinks of exclusion not as a semantic feature of the past morpheme but as an implicature that accompanies it. Nevins’s interpretation, therefore, is weaker than Iatridou’s and may be taken to be part of the weak *past as unreal* hypothesis, to which we turn next. Nevertheless, he takes temporal exclusion to be the primary implicature, so in a sense, his arguments may also be taken to be part of the *past as real* hypothesis.

1.2.2.2.2 Weak Past as Unreal Hypothesis  While, for Iatridou (2000), the exclusion feature is the basic meaning of the past tense morpheme and can function equally on times and on worlds, for Nevins, exclusion is derived as an implicature from the basic temporal/spatial meaning. For example, the basic meaning of (26a) is that John was a teacher in the past but that he is no longer a teacher (i.e. that being a teacher is excluded from the present time) is merely an implicature. In this sense, Nevins (2002) is able, through Iatridou’s formal notion of exclusion, to provide a more formal approach to the theory of *past as metaphor,*12 which was advocated by James (1982), among others.

---

12If metaphors are extensions, then Nevins does so by taking exclusion as an extension of the temporal reading of past tense morphemes as signalling that $t'(t$. Nevins follows Iatridou in that the exclusion feature is able to vary over times and worlds alike, but while for Iatridou (2000) exclusion is the basic meaning, for Nevins “it is an inherent property of the past tense, then, that the exclusion of the utterance time is only an implicature” (Nevins 2002:448). Note that this is important for Nevins (2002) because it allows him to follow his argument in assuming that a counterfactual that uses a morpheme that implicates temporal exclusion will only be able to implicate modal exclusion (i.e. and not something stronger, like presuppose or entail), as will be discussed in later chapters, specifically in chapter 4.
1.2. Theories of Counterfactual Meaning

In her crosslinguistic study of counterfactual uses of the past tense, James (1982) defends the past as metaphor hypothesis and argues against the hypothesis that past tense means ‘distance’ which originates in the work of Joos (1964). She writes that “the hypothesis that past tense simply means distance is untenable” based on her observation that while “the [temporal use of past tense morphemes] is normally regular and productive; the [counterfactual] use is typically irregular and idiosyncratic” (James 1982:398). Note that in the terminology used here, following Iatridou (2000), James would have had to argue that past tense simply means ‘exclusion’ is untenable. Pointing to this asymmetry between the temporal and counterfactual interpretations of the past tense, James (1982) argues that the counterfactual (irregular) uses are metaphorical extensions from the basic (regular) meaning of past tenses.\(^\text{13}\)

Metaphors are usually understood in terms of extensions. In this sense, Nevins (2002) extends temporal exclusion into modal exclusion. Nevins does so with the formal tools of today.\(^\text{14}\) While stressing the fact that for him exclusion is an implicature of the past tense, he extends this implicature to the modal domain arguing that in the modal domain, too, this feature is also interpreted as an implicature.

Here’s an illustration of Nevin’s idea. A sentence including a past tense morpheme as in (29a) refers to a situation that occurred in the past, i.e. prior to UT. Such past tense sentences are in contrast with present tense sentences like (29b). This contrast is what causes past tense sentences to come accompanied with the inference that the past situation no longer holds – or is excluded from the present. The logic behind this is that if John had still been a teacher, the speaker would have used the present tense. By analogy, (29c) will only implicate that John isn’t a teacher in the real world – again based on the same (kind of) contrast.

\begin{enumerate}
  \item a. John was a teacher.
  \item b. John is a teacher.
  \item c. If John were a teacher, ...
\end{enumerate}

This idea is important for Nevins (2002) since it allows him to explain data that show that in languages that do not employ a past tense morpheme to denote counterfactuality, a spatial morpheme may be employed. For him, a spatial morpheme is also something that is able to denote exclusion as an implicature. See (16a) for a relevant example.

Following Iatridou (2000) and Nevins (2002) – but keeping aside the question whether exclusion is the basic meaning of these morphemes or is merely implicated – we are able to explain the correlation between the temporal domain and the spatial domain. Both domains are able to express exclusion. Therefore,

\(^{13}\)The same position is taken by Fleischman (1989).
\(^{14}\)Namely the principle of Maximize Presupposition of Heim 1991 that we will introduce later.
whether it is carried by a morpheme from the temporal domain or by a morpheme from the spatial domain, the exclusion feature is able to exclude the x it applies to. Nevertheless, since counterfactuality is a modal notion, we still need to understand how temporal and spatial morphemes are able to exclude the actual world. In other words, we still need to explain how temporal and spatial morphemes are able function modally and vary over worlds.

1.2.2.3 Past as ‘Not Here-and-Now’

Karawani and Zeijlstra (2010, 2013b) build on Iatridou’s notion of exclusion and Giannakidou’s notion of veridicality, but try to capture the intuitions behind the different treatments that past tense morphology receives in the literature – namely, the past as expressing remoteness, hypotheticality, or unreality in the accounts by Lyons (1977), James (1982), Iatridou (2000), and Palmer (2001) versus the past as real in the accounts of Dahl (1997), Ippolito (2003), and Arregui (2008), for example. Karawani and Zeijlstra (2010, 2013b) provide an account in which past tense morphology is taken to be denoting non-actual veridicality (NAV), defined in (30).

\[
\text{NAV} \phi(w,t) \text{ presupposes that } \exists w,t.[(w,t) \neq (w^0,t^0) \land \phi(w,t)]
\]

where \( t^0 \) denotes the time of utterance and \( w^0 \) the actual world

Karawani and Zeijlstra (2013b:4)

In simple words, the definition in (30) states that including a NAV morpheme in a sentence means that the proposition it applies to is ‘taken to be true’\(^{15}\) in a world and time pair different from the one consisting of the actual world and the time of utterance. This definition captures the fact that past tense morphemes can be used both as tense markers (expressing past tense) and as mood markers (expressing counterfactuality).

Without much further postulation, apart from the fact that they assume that (with the possible exception of imperatives) all sentences must be tensed, Karawani and Zeijlstra’s proposal accounts not only for the past and counterfactual facets of meaning of past tense morphemes crosslinguistically, but they also account for a lesser noted phenomenon and that is that past tense morphemes are also able to have future reference.

Basically, NAV as defined above states that if \( w = w^0 \), then \( t \) is different from \( t^0 \). This means that \( t \) can refer to a time before \( t^0 \), i.e. a past time, or after \( t^0 \), i.e. future. They present examples showing that, indeed, ‘past tense’ morphemes can refer to the future under certain pragmatic restrictions (for crosslinguistic examples see also Karawani and Zeijlstra 2013a). Alternatively, if \( t = t^0 \), then \( w \) is different from \( w^0 \), hence the counterfactual reading.

\(^{15}\)This is a sloppy way of putting it; see chapter 4 for a discussion around the notion of presupposition not in terms of truth but in terms of a definedness condition on information states.
Hence, the ‘not here-and-now’ meaning that they ascribe to past tense morphology nicely captures the many uses that are associated with past tense morphemes, crosslinguistically. Their proposal will constitute the main hypothesis for dealing with counterfactuality in this dissertation.

1.2.3 What’s in Imperfective Aspect?

1.2.3.1 Fake Imperfective

Iatridou (2000) shows that in addition to the fake past, imperfective aspect plays an important role in counterfactuals, crosslinguistically. In Greek, in particular, imperfective aspect not only accompanies the past in counterfactuals, but also seems to play an essential role in rendering a counterfactual reading. Iatridou shows that in Greek while past perfective morphology renders an epistemic, non-counterfactual, reading as illustrated in (31a), past imperfective morphology in conditionals renders a counterfactual reading as in (31b).

\[(31)\] Greek Aspectual Contrast

\[\begin{align*}
a. & \quad \text{An ipxe afo-to siropi th a eyine kala} \\
& \quad \text{if drink.PST.PFV this syrup FUT become.PST.PFV well} \\
& \quad \text{‘If he drank the syrup, he must be better.’ Iatridou (2000:237 (20))}
\end{align*}\]

\[\begin{align*}
b. & \quad \text{An eperne afo-to siropi th a yinotan kala} \\
& \quad \text{if take.PST.IMPFV this syrup FUT become.PAST.IMPFV well} \\
& \quad \text{‘If he took this syrup, he would get better.’ Iatridou (2000:234 (8))}
\end{align*}\]

(31a) is an example of a temporal interpretation of the past morpheme. Conditionals like (31a) are incompatible with non-past adverbials; unlike (31b), where we have imperfective aspect and a fake interpretation of the past morpheme, which allows non-past adverbials.

Iatridou argues not only that the past morpheme is fake in (31b), but also that the aspectual imperfective morphology in counterfactuals is fake: fake in that it appears to be receiving an interpretation that we do not find outside of counterfactuals.

According to Iatridou (2000:236) “even though the sentence displays imperfective morphology, the event is interpreted perfectly [in that] the antecedent refers to a situation that is completed and that lacks a progressive or generic interpretation.” Iatridou concludes this also based on the compatibility of the antecedent with completive adverbs, i.e. denoting completion, such as \textit{in one month}, as exemplified in (32a). Notice that outside of counterfactuals imperfective aspect is incompatible with such adverbs (32b).

\[(32)\] a. An e\textit{gtizes to spiti (mesa) se ena mina th a} \\
\quad \text{if build.PST.IMPFV the house in one month FUT} \\
\quad \text{prolavenes na to pulisis prin to} \\
\quad \text{‘have.time.enough’.PST.IMPFV SUBJNC to it sell before}
‘If you built this house in a month, you would be able to sell it before the summer.’ Iatridou (2000:237 (19))

b. *Ežtize afto to spiti mesa ena mia mia
   build.PST.IMPFV this house in one month
   *‘S/he was building this house in one month.’ Iatridou (2000:237 (18))

Since such adverbs are usually compatible with telic predicates (Vendler 1957) and since imperfective aspect is generally associated with progressive or generic readings and is incompatible with adverbs such as in one hour, Iatridou concludes that imperfective aspect is fake in counterfactual environments.

The contrast in (31) (showing that past perfective morphology yields an epistemic conditional as opposed to a counterfactual conditional yielded by past imperfective morphology) is important for Iatridou’s conclusion that the (fake) imperfective is necessary for the past to be fake as well: “fake past can only appear with fake imperfective”, i.e. “fake past cannot appear with perfective morphology” so that when the “aspectual part of the verb is perfective, the past morpheme becomes real; that is, it receives a past tense interpretation and it talks about events of the past” (Iatridou 2000:237).

We see then that aspect is essential for counterfactual interpretation, since by just changing the aspectual morphology of the verb, we affect whether the conditional receives a counterfactual interpretation even though we leave the tense morphology untouched.

Nevertheless, while perfective aspect seems to block a counterfactual reading of conditionals in Greek, the crosslinguistic picture does not support a conclusion to the effect that the semantics of the perfective is in contradiction with counterfactuality (as Ferreira 2011 concludes). In other words, although imperfective aspect is a common ingredient in counterfactuals crosslinguistically, we cannot conclude that the perfective is banned in counterfactuals or that perfective semantics clashes with counterfactual semantics (cf. Halpert and Karawani 2012). The question then is whether the semantics of imperfective is necessary for achieving a counterfactual reading or it is there for syntactic reasons. This is addressed in Iatridou (2009).

Naturally, two potential answers offer themselves. It is either that imperfective aspect has a specific semantics that brings about a counterfactual reading, or it doesn’t. If it doesn’t, then imperfective is there for other reasons. For example, it may be that imperfective is a default aspect marker, so that if a language has a (syntactic) requirement for aspect, then the default aspect fills the slot. This indirectly means that perfective aspect has non-default, or marked, semantics; if so, then by filling the slot with default imperfective aspect, the marked semantics of the perfective in this case would be avoided, while at the same time the syntactic requirement for aspect is fulfilled.
Recall that Iatridou’s conclusion – that the past tense morpheme is fake in counterfactuals and that the past tense morpheme is a main contributor to counterfactual semantics – leads her to devise a unified semantics for past tense morphemes that accounts for both temporal and modal readings. Let’s see whether we can extend this approach to imperfective aspect. A case in point is the fakeness of the past: the past in CFs lacks the generic/eventive ambiguity generally associated with the past tense outside of CF environments (Iatridou 2000:240). In CF environments, only the generic reading (which is generally associated with the present tense) survives. This provides further evidence for the fakeness of the past in that its temporal properties are not available in counterfactuals.\(^{16}\)

We have seen parallel properties exhibited by the imperfective in CF environments: namely, the habitual/progressive readings that are generally available outside of CFs do not always seem to be available in counterfactual environments. Instead, a perfective behaviour can be manifested, both in that its progressive/habitual readings are not readily available and in that completive adverbs are available as modifiers (see the contrast between (32a) and (32b)).

The fakeness of the past leads Iatridou (2000) to opt for a semantics of the past morpheme such that “the past always has the same meaning, but the domain it operates on varies according to the environment” (Iatridou 2000:245). Can we, in the same spirit, opt for a semantics of the imperfective such that its contribution to counterfactuality is essential?

Aspectual opposition has often been analysed in terms of such properties as (a)telicity, (un)boundedness and (in)completion (see Comrie 1976, Smith 1991, Klein 1995. and Filip 1999). Whereas the perfective is assumed to denote telicity,\(^{17}\) boundedness and completion, the imperfective is assumed to denote atelicity, unboundedness and incompletion. Following such analyses, one might argue that it is this semantics of the imperfective that lends itself to counterfactuals, since, at the very least, it avoids entailments of completion, whereas the complementary semantics of the perfective is what blocks the perfective from appearing in CF environments. However, since the perfective does occur in counterfactual environments in some languages, this conclusion is untenable.

Instead, we may follow Kagan (2007, 2010) in her view that the imperfective is neutral with respect to such properties and not negatively marked for telic-

\(^{16}\)The exact quote from Iatridou (2000) is the following:

\[ ... \text{past tense permits both generic and eventive readings, whereas present tense permits only generic readings. The sentence \textit{John smoked} can mean either that John smoked on a particular occasion in the past or that John in the past had the habit of smoking. On the other hand, \textit{John smokes} means only that John is a smoker, not that he is smoking at the moment of utterance. If we observe the past morphology in CF wishes under this light, we see that it does not have the generic/eventive ambiguity of the past tense (Iatridou 2000:240).} \]

\(^{17}\)It is important to note that while telicity has often been taken to be a distinguishing notion, telicity is orthogonal to perfectivity to the extent that one can have imperfective aspect on telic predicates.
ity, boundedness and completion. Furthermore, Kagan’s (2007) examples reveal that there is no inherent incompatibility between imperfectivity and telicity. This conclusion might lead us to question the fakeness of imperfective aspect in counterfactuals that Iatridou (2000) argues for based on the compatibility of imperfective with telic adverbs. Note that although Iatridou is tempted to argue for the fakeness of imperfective aspect based on this test, she notes that the imperfective does not behave like a perfective with respect to other characteristic tests – such as the inchoative reading that actual perfective morphology renders with stative predicates:

“However, not all perfective behaviours are possible. For example, the perfective on statives yields inchoatives/inceptives. But the “fake” imperfective in CFs does not bring about inchoativity on a stative predicate. This may be because to get the completed/perfective meanings of fake imperfective verbs, all you need is the right context, adverbs etc. To get the inchoative on a stative you apparently need actual perfective morphology” (Iatridou 2009:fn.4).

Further, Iatridou also exemplifies that it is not the case that the imperfective in counterfactuals is interpreted only perfectively. The predicate with imperfective can also be interpreted as in progress.

(33) An dhiavazes Dostoyevsky tin ora pu tha bi, tha if read-PST-IMPFV Dostoyevsky the time that comes in, FUT endiposiazotan be-impressed-PST-IMPFV
‘If you were reading Dostoyevsky when s/he comes in, s/he would be impressed.’ Iatridou (2009:7 (8))

That the imperfective aspect is not interpreted perfectly only, but may still render a progressive reading as exemplified in (33) supports Kagan’s arguments for the imperfective being the neutral, semantically default, aspect and lends support to the imperfective being real rather than fake.

Although Iatridou (2009) maintains the idea that imperfective aspect is fake in counterfactuals, she suggests that there is nothing in the semantics of the imperfective that makes it a necessary ingredient for rendering a counterfactual reading. In fact, she opts for concluding that the imperfective makes no semantic contribution to counterfactuality: it is simply the elsewhere morpheme, necessary only in those languages that have a (syntactic) requirement for aspect – in which case the default morpheme fills the syntactic slot for aspect. This is an interesting conclusion that is supported in languages that allow for more than one slot for aspect, such as Hindi.
1.2. Theories of Counterfactual Meaning

(34) Hindi
   a. *vo gaa raha prog ho-taa
      he sing PROG be-HAB
   b. agar vo gaa raha ho-taa, to log wah wah kar rahe
      if he sing PROG be-HAB then people ‘wow’ ‘wow’ do PROG.MPI
      ho-te
      be-HAB.
      ‘If he were singing, people would be going wow wow.’
      Iatridou (2009:10 (12))

The contrast in (34) shows that while the stacking of aspectual markers is ungrammatical outside of counterfactuals, in present counterfactuals this is exactly what we get. This suggests that while there is a requirement in the language for aspect, there is still another slot available for aspect in counterfactuals. This means that while one aspectual morpheme might be just filling this syntactic requirement, another aspectual morpheme might be doing something related to the rendering of the counterfactual reading.

Iatridou takes this piece of data to support her analysis of imperfective as fake. She argues that in a language such as Hindi, there’s a slot for fake imperfective (in this case the habitual morpheme) and a slot for real imperfective (in this case, the progressive morpheme), as you see in (34). This is reminiscent of Iatridou’s treatment of the pluperfect in counterfactuals. The pluperfect is generally viewed as containing two past morphemes (Steedman 1997). Hence, when the pluperfect shows up in a counterfactual, as in (35), one past morpheme is taken to be part of those ingredients contributing to counterfactuality, and the other as contributing temporal specification. Similarly, with respect to the Hindi example in (34), Iatridou takes the habitual morpheme to be part of the counterfactual ingredients, while the progressive as a pure aspectual marker.

(35) If he had bought a ticket, he would have gone to the concert.

Nevertheless, the Hindi data do not provide evidence for the fakeness of imperfective. In fact, the Hindi data provide evidence for the need to separate imperfective aspect from the markers (future, habitual and progressive) that select for, or instantiate, imperfective aspect. In other words, it might actually be the case\(^{18}\) that these markers (in particular future and habitual morphemes as modals), and not the imperfective \textit{per se}, are the necessary ingredients for yielding counterfactuality and that imperfective aspect is not but the aspect that is selected by these morphemes. In other words, while imperfective aspect might indeed show up in counterfactuals due to it being default aspect (Iatridou 2009, Gronn 2006, Halpert and Karawani 2012), it might actually be the case that in some languages, like Hindi, aspectual markers are required, such that there is evidence for the existence of overt morphemes that select for the imperfective. This is also in line with Boneh and Doron (2008), who argue

\(^{18}\)I will argue for this position at length in chapter 3.
for the existence of a habituality modal operator $\text{hab}$ which is independent of imperfective aspect. This analysis contrasts with reductionist views such as Ferreira (2005), who treats $\text{hab}$ as reducible to imperfectivity of plural events, and Hacquard (2006), who treats imperfective aspect as reducible to modal operators such as $\text{hab}$ or $\text{prog}$. If this is correct, then the role of the imperfective in counterfactuals is a function of the role of imperfective aspect in other modalities such as the future, the habitual, and the progressive. The answer to the question on the role of the imperfective in counterfactuals is therefore part of a larger question; yet understanding the role of modals in counterfactuals might brings us closer to this end.

1.2.3.2 Modal Imperfective

In their search for a unified analysis of the diverse uses of the present imperfective (traditionally referred to as *presente*) in Romance, many authors have appealed to an analysis in which the imperfective has an inherent modal value (a.o. Bonomi 2009, Bertinetto 1986, Squartini 2001). This modal value accounts for the different uses of imperfective, namely progressive, habitual/generic, and future.

(36) Leo corre nel parco. Bonomi (2009:3 (11))

In different contexts, (36) can mean different things. It can be an example of the progressive reading, the future reading, and the habitual reading of the present form (Bonomi 2009).

It is not surprising then that the past version of this imperfective form is the one that shows up in counterfactuals. Recall that in her crosslinguistic survey of counterfactuals, Iatridou (2009) shows that the languages that use imperfective in their counterfactuals are a proper subset of those that use the past. Since the Italian imperfect is both a past and an imperfective, it is the candidate par excellence for counterfactuals – according to Iatridou’s crosslinguistic picture.

Ippolito (2004) focuses on the use of the Italian imperfect in counterfactuals. She notes that the imperfect “can be described as an imperfective past” (ibid:1). In her analysis, she capitalizes on the modal nature of the imperfect in Italian and tries to provide a unified analysis of its uses in counterfactual conditionals (37a) and in simple clauses (37b).

(37) a. Se arrivavi prima, vedevi il film dall’inizio.

‘If you had arrived earlier, you would have seen the movie from the beginning.’

b. Che cosa c’era domani al cinema?

‘What was there tomorrow at the movies?’
In her modal treatment of the Italian imperfect, Ippolito (2004) does not disentangle its pastness from its imperfectivity, and works with its modality without tracing it back to imperfective. In fact, she derives the modality of the Italian imperfect from what she argues to be the ability of the past tense morpheme to scope over a proposition. For Ippolito, the past “is not always interpreted as locating the event in the main predicate in time” but can be “interpreted as dislocational, that is to say it shifts the evaluation time to some contextually salient time” (ibid:2). For this to be possible, Ippolito relies on her (2003) proposal.

In Ippolito’s (2003) account, the past tense in counterfactuals scopes over the conditional as a whole such that it is interpreted outside of the clause in which it superficially occurs. In contrast, the past tense morpheme in (38) for example is interpreted inside the clause. As such, it restricts the event time.

(38) Lucy’s cat was asleep.

When the past tense morpheme does not scope over the sentence, the time of evaluation is always the present, utterance time (UT). This is true even when evaluating a past tense sentence like (38). That the time of evaluation is utterance time (UT) means that “it is true or false now that Lucy’s cat is asleep at some past time” (Ippolito 2003:165, fn.13). This means that the time of the event is determined by the tense inside the clause.

Evaluating non-counterfactual conditionals is similar. There is no past tense that takes scope over the conditional, and therefore, the time of evaluation is the present, utterance time (UT). As such the conditional is evaluated as a present conditional: it quantifies over the worlds that are accessible from the actual world and in which the antecedent is true. In contrast, a counterfactual conditional is evaluated as a past conditional: it quantifies over the (maximally similar) worlds that were accessible at some past time from the actual world and in which the antecedent is true (Ippolito 2003:162).

Ippolito (2004) argues that the past component of the imperfect in Italian is also able to perform this dual function of being interpreted outside the clause as locating the time of evaluation (i.e. restricting accessibility relations) or inside the clause as locating the time of the event. This accounts for the fact that the imperfect has both modal and non-modal uses. In its modal use, the past tense component is used to shift the evaluation time to the past. In its non-modal use, the past tense component is used to locate the event in the past. The non-modal use of the imperfect is manifested in its past progressive reading, as illustrated in (39). The modal use is illustrated in (40). The modal

---

19There appears to be a problem/mistake in footnote 13 in Ippolito’s (2003). Ippolito seems to require for the interpretation of the past tense sentence “Lucy had a cat” that “Lucy has a cat must be compatible with the current context”. Nevertheless, this is true in case of a present tense sentence; for the past tense sentence what is required is the presupposition that she had a cat, i.e. that Lucy had a cat in the past must be compatible with the current context. She need not have a cat at UT.
and non-modal (or aspectual) readings of the imperfect are in complementary distribution (ibid.).

(39) **Aspectual Imperfect**

    Ieri/*domani alle 3, Abelardo dormiva.

    ‘Yesterday/*tomorrow at 3, Abelard was sleeping.’

    Ippolito (2004:2 (1))

(40) **Modal Imperfect**

    Giochiamo ad un gioco nuovo! Io ero l’albero, tu il cavallo.

    Let’s play a new game! I was the tree, you the horse.

    Ippolito (2004:4 (3d))

Ippolito (2004) regards the past progressive use of the imperfect as consisting of a real past and a real imperfective, whereas the other uses as consisting of a modal value. In this sense, the modal uses of the Italian imperfect involve a real past but a fake aspect. Of the many modal uses that Ippolito (2004) lists,20 I exemplify the ‘of play’ reading in (40).

So when the imperfect occurs in a conditional rendering it counterfactual, it does so by what Ippolito (2003, 2004) argues to be its ability to scope over the whole conditional. When the past tense component is interpreted outside the clause in which it superficially occurs, it shifts the evaluation time of the conditional to the past. This shift renders the conditional counterfactual by means of a (scalar) implicature which arises according to Ippolito (2004) due to the fact that the conditional is being presented as true in the past, not as true in the present – see the felicity condition in (24). She argues that this analysis is extendible beyond Italian and outside of conditionals, too. For example, in the English examples in (41), the past tense morpheme can also shift the evaluation time, according to Ippolito (2004).

(41) a. What was the name of that movie?

    b. I was going to the library.

Ippolito, therefore, follows the tradition represented by Bazzanella (1990), among others, of treating the imperfect as a modal complex. Yet, while Bonomi (2009), for example, links the modality of the imperfect to the modality of the present imperfective form (or *presente*), Ippolito does not link this modality to the modality that is accompanied by the imperfective in Italian as manifested in its habitual/generic or future readings. Instead, she links the modality of the imperfect to the past component as restricting epistemic accessibility relations or locating an epistemic statement in past time. Hence, while for Ippolito the past is always temporal (i.e. real, but it differs in whether it locates the event in past time, or locates an epistemic attitude of the speaker or belief state with

20Such as oneiric, hypothetical, potential, of play, of politeness, epistemic, and planning.
1.2. Theories of Counterfactual Meaning

respect to the proposition in the past), by this approach, she assumes that propositions come along with epistemic operators that the past can operate on.

This provides an interesting answer to the question regarding the falsity inference: for Ippolito, the past renders the conditional counterfactual by virtue of an implicature derived from the location of the belief in the past, i.e. as opposed to utterance time. This inference, according to Ippolito, is derived from the speaker not signalling that s/he endorses the proposition at the utterance time, but at some past time. Nevertheless, the past can occur in indicative conditionals, so what blocks this in the non-counterfactual case, given that in Romance the conditional complementizer is the same in both cases? We, therefore, find it necessary to look into the modal value that the imperfective brings in, such that it is not sufficient to say that the modality is contributed solely by if, which according to Ippolito is the “par excellence domain of modality.” The covert modality contributed by imperfective aspect in Romance and in Greek is an issue that is important to capitalize on, as I hinted at in the previous section when I discussed shortly the overt modal heads that we find in Hindi. Section §1.2.4 is devoted to this end: understanding the contribution of modals in counterfactual environments.

1.2.3.3 Future Imperfective

Iatridou (2000) discusses the origins of the conditionnel in French. The conditionnel is a form that is traditionally considered to express conditional mood, but Iatridou shows that there is no reason to say that this special conditional mood exists. She shows that, in fact, the conditionnel is the morphosyntactic manifestation of an exclusion feature and an imperfective on a stem that is already inflected for future. In other words, it carries ‘past tense’ morphology in addition to a future stem and an imperfective ending. Iatridou, therefore, concludes that what appears to be counterfactual mood in French is actually part of the past imperfective debate, not mood. Hence, what is considered a specialized CF mood is actually nothing but a combination of a past, an imperfective and a future marker and as such it should be considered on par with any construction of that kind in any language where this constellation of morphemes is available in counterfactuals.

Anand and Hacquard (2009) pick up on exactly this point. They capitalize on the role of imperfective aspect as introducing modality (‘responsible for ongoingness’). They try to find a unified semantics for the modal readings of the imperfect as manifested in its progressive, habitual and generic readings, as illustrated in (42), as well as for the counterfactual reading, as illustrated in (43).

(42) a. Paul traversait la rue, quand il s’est fait écraser.
   Paul cross.pst.impfv the street, when he got crushed
   ‘Paul was crossing the street, when he got run over.’
b. Quand elle était jeune, Marie jouait du piano.
   ‘When she was young, Marie play.pst.impfv the piano.’

c. A l’époque, les femmes portaient des corsets.
   ‘In those days, women wear.pst.impfv corsets.’

Anand and Hacquard (2009:1 (1a-c))

(43) Si Paul venait, Marie serait heureuse.
If Paul come.pst.impfv, Marie be.pst.impfv.fut happy
   ‘If Paul came, Marie would be happy.’

Anand and Hacquard (2009:1 (1d))

Following Iatridou’s (2000) observation that the conditionnel is composed of the imparfait (i.e. past imperfective) and future, they argue that what is responsible for counterfactuality is a past tense presupposition in addition to a future modal. The future modal introduces metaphysical modality (Copley 2002, Condoravdi 2001). The past tense presupposition is responsible for introducing a past event. Following Bennet (2003), this event is a forking event at which it is determined whether the actual world is a φ world or a ¬φ world. The modality of the imperfective, per se, is neutralized, however. They say that it is neutralised, following Hacquard (2006), who argues for vacuous quantification that results from stacking of modals – here, the stacking of the imperfective as a modal on top of the future modal.

For Anand and Hacquard (2009), the modality of the imperfective in counterfactuals amounts to the modality of the imperfective outside of counterfactuals – where the hallmark readings of the imperfective are attested. These hallmarks are taken to be proof that the imparfait in French is modal in nature, following Landman (1992) and Portner (1998), who argue for a modal analysis of the progressive, Krifka (1995), who argues for a modal analysis of generics, and Ferreira (2005), who argues for a modal analysis of habituals.

As such, while this proposal accounts for conditionnel morphology in the consequent and treats it as a future consequent in the scope of imperfective, this proposal does not answer the question as to why the imperfective is selected in the first place, other than the fact that the imparfait introduces past framing and combines with future morphology in the consequent. This is especially problematic because, on the one hand, they argue that the modality of the imperfective in counterfactuals boils down to the modal force exhibited by the imparfait outside of counterfactuals in French; but on the other hand, what the imperfective is bringing in is lost – as they argue that the imperfective loses its modal force in this construction, its modality is neutralised, or quantifies vacuously, and that AspP is null.

To answer the question why imperfective aspect is selected, we can return to Iatridou (2000): it might be the case that here too imperfective aspect is selected due to its being the form that can combine with the necessary ingredient – the past tense – and fulfill the requirement for aspect – though null aspect, as Anand and Hacquard (2009) say. See (44a) and (44b), which receive perfective and ongoing interpretations, respectively, and show that the hallmarks of
imperfective are not manifested in the counterfactual use of the imperfective in French and that both perfective and imperfective readings are possible.

(44) a. Si Paul arrivait demain, il rencontrerait Marie.  
   if Paul arrive.pst.impfv tomorrow, he meet.pst.impfv.fut Marie  
   ‘If Paul arrived tomorrow, he would meet Marie.’  
   Anand and Hacquard (2009:5 (12))

b. Si Jean courrait régulièrement, il serait en bonne forme.  
   if Jean run.pst.impfv regularly, he be.pst.impfv.fut in good form  
   ‘If Jean ran regularly, he would be healthy.’  
   Anand and Hacquard (2009:6 (152))

Might it be the case that imperfective aspect is selected also because it is able to combine with the future morpheme? And is the latter indeed necessary for introducing metaphysical modality and future shift? English data seem to support this conclusion. The crosslinguistic picture seems to not be in contradiction with this either. Zulu, for example, manifests the same ingredients: past, imperfective and future. Moreover, if we are willing to follow Condoravdi (2001, 2003) in that modals in general expand the domain of quantification forward, then we might also consider Hindi to fit within this picture – Hindi exhibits (past and imperfective) habitual morphology.

If this is correct, then imperfective aspect occurs in counterfactuals due to its ability to combine with other ingredients that prove to be necessary, but not because it is necessary in particular. This is a position taken by Halpert and Karawani (2012), as is summarised in the next section.

1.2.3.4 An Illusion

Halpert and Karawani (2012) conclude that imperfective aspect in counterfactuals is illusory. By looking at Palestinian Arabic and Zulu, they show that the necessary ingredient in both languages is past tense morphology but that imperfective morphology ‘comes along for the ride’ if it is bundled with past tense on a single morpheme, as is the case in Zulu.

Along the same lines, Bjorkman and Halpert (2012) also conclude that in languages where past is formally underspecified for aspect, marking a CF as past results in the occurrence of what looks like aspectual marking. For example, imperfective morphology in Greek or Romance counterfactuals is merely a morphological reflex of the need to realize a true past feature. It does not reflect syntactic imperfective features. In other words, morphological imperfective comes ‘for free’ with past tense morphology as the ‘past imperfective’ is the only true exponent of past features in these languages.

In contrast, they argue that past perfective expresses only perfective features, and thus cannot satisfy the CF requirement for past tense morphology.21

---

21Bjorkman and Halpert (2012) argue that past perfective morphology receives a past
Bjorkman and Halpert’s (2012) proposal, thus, rests on the idea that past imperfective is specified simply as [past], whereas past perfective morphology is specified simply for [perfective], in Romance or Greek.

1.2.4 Mood or Modality of Modals?

In previous sections, we have seen examples showing that imperfective aspect has a modal flavour contributed either by overt morphemes that combine with the imperfective, or covert operators. In this section, we try to understand whether the elements that express the modalities that are generally associated with the imperfective play an essential role in counterfactuals and whether this type of modality is a necessary ingredient of the counterfactuals in which the imperfective combines. In particular, we will look at English as a language that is often assumed to lack aspect (Guéron 2007) and ask whether a modal element plays an essential role in yielding counterfactuality.

From looking at languages that have imperfective aspect exhibited overtly in counterfactuals, Iatridou (2009) concludes that in those languages that morphologically distinguish imperfective aspect, future and habitual morphemes play a role in CFs, while the progressive (if represented by a separate morpheme) remains solely in the aspectual domain and does not play a role in yielding counterfactuality. In other words, the imperfective form that is used in CFs is the one that is used to express future and habituality and not the one used to express progressive aspect. Ippolito’s (2004) discussion of the imperfect in Italian reaches a similar conclusion. She treats the past progressive reading of the Italian imperfect as the aspectual counterpart to the modal imperfect.

The picture in English is no exception: it is would that we find in CFs, an element that outside of CFs can express past habits or past futures.

1.2.4.1 If there’s a will, there’s a mood or a modal?

An important debate in the literature revolves around the nature of English will, in particular whether it is a tense morpheme or a modal. This debate is crucial for understanding the contribution of would in English counterfactuals. Two main approaches have been taken to account for the different readings that will exhibits: the first, a unitary modal approach to the semantics of will (a.o. Palmer 1979, Smith 1978, Enç 1996, Haegeman 1983, Stowell 2004) and the second, a tense/modality semantic ambiguity approach (a.o. Hornstein 1990, Declerck and Depraetere 1995, von Stechow 1995). This debate is important because one needs to understand the compositionality behind the contribution of would to the counterfactual reading: in particular, we need to understand
whether both \textit{will} and \textit{would} are modal and if the modality contributed by \textit{would} is the same as or even derived from the (same source of) modality of \textit{will}, in which case the difference between the two is a featural difference related to the modal base, as Condoravdi argues; or whether \textit{will} is a tense, in which case \textit{would} is \textit{future tense} \textit{will} plus something else, which some take to be a past tense (cf. Iatridou 2000). The tools we have at our disposal thus far developed from our crosslinguistic exposé should be sufficient to, at least, propose which of the two approaches might be a better fit for compositionality in CFs.

To account for the variety of its temporal and modal uses, Condoravdi (2003) motivates a modal account of English \textit{will} and proposes a unitary semantics for \textit{will} and \textit{would} as a necessity modal. Stressing the need for a unitary semantics, she invokes a label: \textit{woll} referring to both \textit{will} and \textit{would}. Such an analysis aims to provide the ingredients for a compositional semantics of \textit{woll} which accounts for (i) the temporal, i.e. future reference of \textit{will}; (ii) the epistemic modal use of \textit{will} which is not temporally restricted to future reference; (iii) factual \textit{would}; and (iv) counterfactual \textit{would} (have).

(45) a. Future \textit{will}: ‘She will leave the island by next week.’

b. Epistemic \textit{will}: ‘That will/would be the postman at the door.’

c. Factual, future in the past, \textit{would}: ‘She wrote a book. It would later become a bestseller.’

d. Counterfactual \textit{would}: ‘Otherwise, he would be at home right now.’

e. Counterfactual \textit{would have}: ‘(In that case) she would have left the island yesterday.’

Condoravdi (2003:2)

Condoravdi (2003) argues for a unified account (and against a semantic ambiguity approach that takes \textit{will} to be sometimes purely temporal and sometimes modal) based on two important considerations: the first is particular to English, while the second is based on a crosslinguistic observation. First, morpho-syntactically, there is no distinction between future \textit{will} and modal \textit{will}; and second, there is crosslinguistic evidence for modals to have, in addition to future readings, epistemic necessity readings. One example is in (46), from Cappadocian Greek.

(46) Cappadocian Greek

a. ato to les as to melo z na to vgalis
that which say-2SG from the mind yours NA it take-out

Epistemic: ‘You must have made up what you are saying.’

Condoravdi (2003:3 (7a))
b. Dere vava m na ert, ge na se rotis
     now father my NA come-3SG and NA you ask-3SG
     Future: ‘Now my father will come and will ask you.’

Condoravdi (2003:4 (7c))

Further, Condoravdi shows that other morphemes that we consider to be uncontroversially modal behave in a way comparable to will, for example may. Condoravdi, therefore, proposes a semantics of will as a necessity modal (just like may, for example, is a possibility modal). By doing so, she also provides some of the ingredients for a compositional analysis of counterfactual would (have).

Condoravdi argues that the same readings can, in principle, be obtained with other modals, the only difference being in the type of quantification – be it universal in will but existential in may, as exemplified in (47).

(47) a. Future may: ‘She may leave the island by tomorrow.’
     b. Epistemic may: ‘He may be in his room right now.’
     c. Ambiguous might epistemic/counterfactual: ‘She might have left the island yesterday (or not/but she didn’t).’

Condoravdi (2003:6)

Condoravdi accounts for the semantics of the different readings achieved by will in terms of four variables: past/present tense and indicative/subjunctive mood. The feature [present] indicates that the modal is in the scope of (semantic) present tense. The feature [past] indicates that the modal is in the scope of (semantic) past tense. The mood feature indicates the kind of alternatives the modal quantifies over, such that the feature [indicative] is compatible with epistemic modality (and a particular kind of metaphysical modality). The feature [subjunctive] indicates metaphysical modality (Condoravdi 2003:9).

According to these distinctions, will is the morpho-syntactic manifestation of [present, indicative], whereas would is the morpho-syntactic manifestation of [past, indicative] or [present, subjunctive]. [Past, indicative] would generates factual, future in the past, readings. [Present, subjunctive] generates counterfactuals (Condoravdi 2003:10).

Condoravdi’s attempt at a uniform semantics of will is considerable. It is a proposal that can solve much of the controversy around the topic - especially by giving will a universal force and encoding the notion of settledness as a pragmatic presupposition. She suggests that on its ‘plain future’ reading, will asserts that a given future fact is already settled at the time of utterance; similarly, factual would asserts that a particular past fact was already settled (again as a future with respect to that salient past reference point).

Note, however, that would is also able to instantiate a past habit. Condoravdi (2003) does not mention past habitual usages of would or future habitual usages of will in this paper. As such, it is not clear how one might extend her account to distinguish between how a past habit is instantiated as opposed to a
past future. This becomes especially problematic if we consider her suggestion that modals in general “expand the time of evaluation forward” (Condoravdi 2003). In other words, if a future reading is always available, how is a habitual reading ever to become available? Furthermore, and this is what interests us here, it is not clear how we are able to generate a counterfactual reading from a universal modal, a present tense feature and a subjunctive feature.

For Condoravdi, the subjunctive feature is enough to generate a counterfactual by appealing to a metaphysical modal base. Perhaps Condoravdi is using the subjunctive as a semantic notion, and not referring to the morphological make-up. However, she does argue that the modal surfaces as the morphosyntactic realization of these features. In any case, the set of ingredients that combine to achieve counterfactuality, which we have collected thus far in this chapter, does not include the combination present subjunctive. So these features cannot be the morpho-semantically active ingredients yielding the meaning we are after. At the very least, we have to give up that the active feature in counterfactual would is [present, subjunctive]. We have seen [past subjunctive], as in (9) for example, but not [present subjunctive].

If this is correct, and we still want to follow Condoravdi’s (2003) account, we are left with only one option: a [past, subjunctive]. Alternatively, we might want to consider dealing with a [past], a [modal], and an [imperfective]. This means that would is either part of the past subjunctive debate or the past imperfective debate. The latter option is, thus far, preferable for the simple reason that the complex consisting of a modal and an imperfective in so many languages is the candidate for expressing habits and futures, and it is this very same complex that also achieves the counterfactual reading in the scope of a past morpheme. If this latter option is correct, all we have to do when we think of would is think of the verb embedded under would as carrying an imperfective feature, or default aspect. Would, in turn, provides the past and the modal woll. Notice that PST, IMPV and FUT are the features of the conditionnel in French, as Iatridou (2000) shows. Crucially, these features go with the consequent of the conditional, in both English and French.

1.2.5 In the Mood?

From Iatridou (2000) we learn an important fact about the contribution of mood in counterfactuals: in languages that have a subjunctive mood, subjunctive mood can occur in counterfactuals but only if the language has a paradigm for a past subjunctive. This fact provides further support for Iatridou’s conclusion that the past morpheme (as a carrier of an exclusion feature) is the main ingredient contributing to counterfactuality. This also indirectly means that the semantics of the subjunctive, although compatible with counterfactuality, is not sufficient to bring about a counterfactual reading. In what follows, I will summarise the usages of subjunctive morphology in order to try and understand the contribution of subjunctive mood to the composition of counterfactuality.
1.2.5.1 Subjunctive Mood

The divide between counterfactual and non-counterfactual conditionals is also often referred to in the literature as the divide between subjunctive and indicative conditionals. Although this labelling is more of a notional one (in the philosophical sense) than morphological, there are languages that do reflect this notional divide also morphologically, one such language being Catalan. In Catalan, counterfactual conditionals exhibit subjunctive mood morphology, as exemplified in (48b), while non-counterfactual conditionals exhibit indicative morphology, as in (48a).

(48) Catalan
    a. Si el veig, t’avisaré.
       'If I see.INDIC him, I will.INDIC tell you.'
    b. Si el veïes, t’avisaria.
       'If I saw.SUBJNC him, I would.COND tell you.'

Quer (2009:1780 (2))

Needless to say, this notional divide was probably a reflection of the morphology exhibited in such languages as Germanic and Romance. Nevertheless, as we have seen, since other ingredients participate in the expression of counterfactuality, this divide has become more and more notional, so that we also speak of subjunctive conditionals in languages that do not exhibit a subjunctive to begin with, or in languages that have a subjunctive and do not use it in counterfactual conditionals due to the lack of a past subjunctive paradigm, for example. Attempts to account both for the notional and morphological distinction have often taken the indicative/subjunctive opposition to be part of a realis/irrealis divide.

Quer (2009) sets up the core cases that determine mood distribution. He notes that many attempts have been made at defining the interpretive contribution of indicative and subjunctive, beyond the crude of the realis/irrealis divide. One core distinction is along an epistemic/non-epistemic divide. This notion is derived from a subset of subordinate contexts which are considered to be crucial cases, such as complement clauses of propositional attitude verbs. In this context, the main divide (although not without exception) is established between epistemic predicates, such as ‘say’ or ‘believe’, and volitional or directive predicates, such as ‘want’ or ‘order’ (Farkas 1992, Giannakidou 1997, Quer 1998) – as illustrated in (49).

(49) French
    a. Marc croit que le printemps est arrivé.
       'Marc believes that the spring has-INDIC arrived.'
    b. Marc veut que le printemps soit long.
       'Marc wants for the spring to-be.SUBJNC long.'

Quer (2009:1779 (1))
1.2. Theories of Counterfactual Meaning

Although an important case, this epistemic/non-epistemic distinction is not without exception: some variation exists across languages (Farkas 1992) but also within a single language (Quer 1998). Hence, while this distinction suggests that the subjunctive is selected in non-epistemic environments, in fact, factive/emotive predicates that are epistemic in that they do presuppose the truth of their complement also select for subjunctive in some cases (see (50)).

This is a case that would have been unexpected under a distinction that is based on epistemic status. Even more unexpected, under this distinction, are the complements to causative and implicative predicates, which invariably select for subjunctive despite the factual interpretation of the embedded proposition (Quer 1998), as illustrated in (51).

(50) Spanish
Me molestó [que me llamara/*llamó tan tarde]
me annoy.pst.3sg that me call.subjnc/*indic so late
'It annoyed me that he called me so late.' Quer (1998:99 (38))

(51) Catalan
Van aconseguir [que sortís un candidat [que defendès els seus interessos]]
AUX.3pl to-manage that come-out.subjnc.3sg a candidate that defend.indic.3sg the their interests
'They managed for a candidate to come out that would defend their interests.' Quer (1998:106 (47))

However, even though such examples are counterexamples to the conclusion that the subjunctive is the non-epistemic counterpart of the indicative, the fact that the subjunctive is licensed in conditionals in general, and in counterfactual conditionals in particular and also in ‘polarity’ environments which include negation or question operators, does lend support to the non-epistemic status of the subjunctive. (52) is an example of subjunctive morphology being licensed by a negative operator in consecutively embedded domains.

(52) No piensa que creas que tienes/tengas razón
'S/he does not think you believe.subjnc that you are.indic/subjnc right.' Quer (2009:1781 (6a))

Data at our disposal, thus, suggest that the subjunctive might be the neutral, default, mood with respect to epistemic status. But it is still not clear whether this conclusion is tenable. As Quer (2009) mentions, it is precisely this difficulty in giving the subjunctive a unified characterization that has led some to propose that the indicative is the marked mood (say, for epistemic status) while the subjunctive is the default mood (Portner 1997, Schlenker 2005). Nevertheless, Quer (2009) suggests that this proposal faces empirical problems: “data that question subjunctive as a default category display contrasts

22 As labelled by Stowell (1993) and Quer (1998).
where the subjunctive does appear to have a semantic contribution” (Quer 2009:1781). One such example is the subjunctive/indicative alternation under a verb like ‘seem’ in Spanish, where with the subjunctive only a counterfactual interpretation obtains.

(53) Spanish
   a. Parece que llueve
      ’It seems that it is raining-INDIC.’
   b. Parece que llueva
      ’It looks as if it were raining-SUBJNC.’

Quer (2009:1781 (7))

While the indicative example in (53a) expresses a (weak) epistemic commitment that it is raining, in (53b) it is not the case that there is no epistemic commitment that it is raining, but there is a commitment that it is not raining. Hence, a strong semantic contribution of the subjunctive, in this case, and not default semantics.

This type of objection, that the subjunctive does not simply have a default contribution, is raised also in other cases such as with verbs like ‘admit’, ‘understand’, and ‘accept’ in French, or in temporal clauses with ‘después/després que’ (after) in Spanish and Catalan. These types of examples have been labelled ‘presuppositional subjunctive’ suggesting that the subjunctive cannot possibly be taken to be the default, i.e. non-presuppositional, counterpart of the indicative – as there are well documented cases, as the ones mentioned, in which the subjunctive does seem to come along with a (strong) presupposition.

Iatridou (2000) seems to prefer this view yet without necessarily associating the subjunctive with a strong semantics. Iatridou suggests that the subjunctive fulfills a syntactic wellformedness condition, such that the subjunctive is selected “when the proposition talked about is marked by something as not true in the set of worlds that as far as the speaker knows is the actual world” (2000:265).

Iatridou (2000) presents an interesting set of examples which exemplify when the occurrence of the subjunctive is important for achieving a certain reading and when the subjunctive requirement may be overridden in favour of another morpheme (presumably with stronger semantics) that proves more important for achieving the required reading. Here’s an illustration. Looking at French, a language that lost its past subjunctive, but still retains present subjunctive, let us consider the following requirements. First, the requirement for temporal match: that the verb of the complement clause agree with the tense of the original sentence. Second, the requirement for a subjunctive, in the complement of dubitative verbs. Now consider what French does when faced with “the choice between a present subjunctive and past indicative under ‘doubt’ – that is, when faced with the choice of satisfying the subjunctive selection of ‘doubt’ or remaining loyal to the temporal makeup of the original sentence – it opts for the former” (Iatridou 2000: 265). Hence, the subjunctive wins. The semantics of the subjunctive in this context is strong enough to override the
temporal match requirement. Nevertheless, it does not win in counterfactuals. When faced with the choice between a past indicative and a present subjunctive, the past wins. So it sounds reasonable to assume that the semantics of the past is stronger, or more substantive, than that of the subjunctive, and without it counterfactuality could not be derived.

(54) French

a. Je doute que Marie ait/ *a/
   I doubt that Marie have.PRS.SUBJNC/ *have.PRS.INDIC/
   *avait un parapluie rouge
   *have.PST.INDIC an umbrella red
   Iatridou (2000:265 (98))

b. Si Marie avait/ *ait un parapluie rouge,
   if Marie have.PST.INDIC/ *have.PRS.SUBJNC an umbrella red
   ‘If Marie had a red umbrella, …’ Iatridou (2000:265 (99))

Still, however, our question remains unanswered. What is the semantics of the subjunctive such that it always participates in counterfactuals when it can (i.e. when the language has a paradigm for past subjunctive)? The arguments for strong semantics of the subjunctive do not seem to present a satisfactory answer. The arguments for zero semantics, presented in this section, do not do either. Perhaps, what we need instead is weak semantics.

In sum, several proposals have attempted to capture the meaning of the subjunctive as a verbal mood category.\textsuperscript{23} While some take the subjunctive to be the marked counterpart, others take it to be default. Yet different others argue that while it is not easy to come up with a unitary semantics for the subjunctive, evidence proves that the subjunctive does not have default or zero semantics (Quer 2009). At this point, for our purposes, we may conclude the following. Whatever the meaning of the subjunctive is, it is too weak to function on its own to achieve a counterfactual reading. When it occurs in CFs, the subjunctive is accompanied by the past morpheme.

1.3 Common Denominator?

To the best of my knowledge, Ritter and Wiltschko (2009, 2010) are the first to propose a syntactic account that attempts at finding the common denominator among tense, spatial and person morphemes that allows them to be used to express counterfactuality. For Ritter and Wiltschko (2009, 2010), the common

\textsuperscript{23}For a review of verbal mood, see Portner (2011) who summarises several theoretical approaches, most notably those using the concepts of the possible worlds semantics for modality, but also those based on ideas from temporal and nominal semantics. For a recent analysis of verbal (and notional) mood with respect to assertivity, see Jary (2010); for an analysis of verbal mood in terms of veridicality, see Giannakidou (Giannakidou (2009)); and for a distinction based on modal base and models of interpretation, see Quer (1998).
denominator is that these are all Infl area morphemes. Based on the non-universality of morphological tense, they argue that it is Infl, and not Tense, that is syntactically represented. Hence, Ritter and Wiltschko argue against the Pollockian split-IP hypothesis, and for maintaining IP as the projection which hosts inflectional features – thus providing a uniform account of tense oriented languages and spatial or participant oriented languages. For example, they assume the syntactic structures in (55) for English, Halkomelem, and Blackfoot respectively (Ritter and Wiltschko 2009).

(55) a. $[\text{CP } \text{IP } [\text{I } +\neg \text{ past } [\text{vP}]]]$
   b. $[\text{CP } \text{IP } [\text{I } +\neg \text{ distal } [\text{vP}]]]$
   c. $[\text{CP } \text{IP } [\text{I } +\neg \text{ local } [\text{vP}]]]$

In order to account for the crosslinguistic variation, Ritter and Wiltschko (2010) follow Hale (1986) in assuming that Infl is specified for a universal feature $[u \text{ coin}]$ which stands for $+/\neg$ coincidence. That is, a sentence specifies whether the event described in it coincides or not with the utterance time, place, or participants of the conversation depending on whether the language manifests a temporal, spatial, or participant related distinctions. A tense language like English then specifies Infl as $[\neg \text{ coin}]$ when the morphological tense of the verb is past, and specifies Infl as $[+ \text{ coin}]$ when the morphological tense is non-past. However, to accept the approach taken by Ritter and Wiltschko (2010) one has to import the semantics into the syntax, as in their system semantics gets to be valued by abstract arguments that establish spec-head relations.

According to Ritter and Wiltschko (2010) a past tense sentence like (56a) in English gets the structure and valuation in (56b).

(56) a. I drove to the store.
   b. $[\text{CP } [\text{IP } \text{Infl } (\neg \text{ coin}) [\text{vP } \text{V (past)}]]]$

Thus, Infl gets valued as $[\neg \text{ coin}]$ from the past feature in the vP, according to Ritter and Wiltschko (2010). On the other hand, a counterfactual sentence like (57a) in English gets the structure and valuation as represented in (57b).

(57) a. If I had a car, I would drive to the store.
   b. $[\text{CP } (\text{past}) [\text{IP } \text{Infl } (\neg \text{ coin}) [\text{vP } \text{V}]]]$

Ritter and Wiltschko (2010:44 (48a, b))

---

$24$This means that even if Ritter and Wiltschko (2010) are to assume, as Han (1996) does, that the non-past tense in English is a zero tense morpheme, still their system allows for tenseless Infl, but not zero Infl or zero T. In other words, $[u \text{ coin}]$ can still be valued in the absence of morphological marking of tense. This might be an alternative, less ad hoc, approach to analysing the data that Han (1996) takes to argue for null tense, as we will see in chapter 3.
Recall that the past marking in counterfactuals is not associated with temporal force, but with modal force. Ritter and Wiltschko (2010), thus, assume that counterfactuality is a function of the CP domain. As such, Infl in counterfactuals gets valued as \([\neg\text{coin}]\) from the past feature in the CP – in particular, from past inflection in Comp. They follow Demirdache and Uribe-Etxebarría (1997, 2000), in assuming that in spec-IP there is an abstract utterance situation argument relative to which the event is evaluated; and they follow Mezhevich (2006), in assuming that there is an abstract evaluation situation argument in spec-CP relative to which the utterance is evaluated (cf. also Zagona 2003). “Thus the abstract past marker in Comp of counterfactuals indicates that the utterance situation does not coincide with the evaluation situation” (Ritter and Wiltschko 2010:46). Note that instead of valuating the CP, the past tense feature valuates IP. Unfortunately, it is counter-intuitive that the past feature percolates from the VP up to C and then lowers to check Infl. The problem is that (i) a feature in C is checked in IP, and CP remains unchecked. And (ii) there is no explanation concerning real tense interpretation.

We see, then, that on Ritter and Wiltschko’s account the past tense morpheme can value Infl from inside the VP in the temporal case, or from the CP in the modal case. Thus Infl is valued as \([\neg\text{coin}]\) in past indicatives, as illustrated in (56b), as well as non-past counterfactuals, as in (57b). They say that in the counterfactual case, Infl is not associated with substantive content. This is not surprising given the fake nature of the past tense in counterfactuals. But what is surprising is that, on their account, as we see in the structure in (57b), Infl does get to be valued as \([\neg\text{coin}]\) from the substantive content of C that they assume. Albeit they also say that “in this context past marking in Infl remains uninterpreted (i.e. an instance of fake agreement)” (Ritter and Wiltschko 2010:47).

Their assumptions, thus, run the risk of being contradictory or counter-intuitive. On the one hand, they have a proposal which claims to provide a uniform account for temporal and non-temporal languages which does not run the risk of postulating zero morphology; but on the other hand, they allow for non-substantive content. In other words, according to their analysis \([\neg\text{coin}]\) is supposed to suffice as substantive content, whether or not it is valued from inside or outside the VP. If they are correct about the fact that a \([\neg\text{coin}]\) Infl in CFs is not associated with substantive content then they’d better assume that \([\neg\text{coin}]\) remain a value of the CP domain, i.e. it should remain where they assume it to be instantiated. Otherwise they fail in providing an account in which there are no non-substantive valuations, which is the reason that made them propose returning to a pre-Pollockian system in the first place.

One amendment of this approach, might be Bjorkman’s (2012), who assumes that an instance of Agree allows for the past tense morphology to be interpreted in C, thus C gets to be valued as \([\neg\text{coin}]\) in counterfactuals in

---

25Note that this means that their account is incompatible with the past in CFs being a real past.
Bjorkman’s account and not Infl/T.

Ritter and Wiltschko’s (2010) approach also encounters a semantic problem. If [u coin] is a feature checked by either [+] or [¬] coin and if [¬ coin] stands for a past feature while [+ coin] stands for a non-past feature, then this system fails to account for present CFs vs. FLVs, as every time spec-VP is valued as [+ coin], the event situation must overlap with the utterance situation in spec-TP (Demirdache and Uribe-Étxebarria 2000), yielding a present and not a future event reading. In fact, if Hale’s (1986) [u coin] feature is to be maintained and if it is indeed to account for the data, then [+ coin] must be maintained as a present feature, and [¬ coin] as a non-present. If so, then we are also able to account for the ambiguity in eventives between a past indicative and a FLV: the event argument in the vP will ensure that spec-VP is valued as [¬ coin]. In turn, past tense inflection would value spec-TP (and thus situation time) in the temporal (indicative) case, but spec-CP (and thus evaluation time) in the modal case. This is what I suggest needs to be amended in the system proposed by Ritter and Wiltschko. As you see, these amendments allow them to maintain the assumptions they follow from Hale (1986), Demirdache and Uribe-Étxebarria (2000) and Mezhevich (2006). However, this system allows for a syntax-semantics interface that is too dense.

Importantly, if Ritter and Wiltschko assume that past counterfactuals include two past tense features, then the main problem that challenges the Ritter and Wiltschko (2010) approach is the following: if their analysis is to be extended to past counterfactuals, Infl gets to be valued twice: once from the content in the VP and once from the content in the CP. Further, one valuation would be substantive and the other not. Consider the past counterfactual in (58).

(58) If I had had a car, I would have driven to the store.

I am not committed here to whether Ritter and Wiltschko’s (2010) account works or fails. They are unclear about what motivates their analysis, in which Comp carries the substantive content that valuates Infl as [¬ coin], I think that the substantive content of Comp valuates Comp as [¬ coin]; and the same mechanism which valuates Infl as [+/- ¬ coin] outside counterfactuals should be responsible for valuating Infl as [+/- ¬ coin] inside counterfactuals. Thus, it is necessary to avoid a double valuation of Infl, which seems possible in Ritter and Wiltschko’s account.26

In sum, the Ritter and Wiltschko (2010) account of counterfactuals is complex. What we in fact need is a more transparent system. The underspecification approach to the semantics of the past tense morpheme as suggested by Karawani and Zeijlstra (2010) might be exactly what we need for (i) explaining the temporal and modal semantics of past tense morphemes, crosslinguistically.

---

26 Please note that I will argue in later sections that English past perfect does not include two layers of past. Nevertheless, their analysis is still problematic, precisely because in other languages like Palestinian we do witness double past tense morphology.
(while keeping in mind that we also need to account for spatial and participant oriented morphemes), and for (ii) maintaining a simple syntax and syntax/semantics interface. This approach will be argued for at length in chapters 2 and 3.

1.4 Concluding Remarks

The discussion around the crosslinguistic examples that we have seen allows for the conclusion that the insertion of dedicated CF markers into a conditional has the ability to render it counterfactual; moreover, a dedicated marker can do so on its own, by virtue of its lexical semantics. In the absence of dedicated CF markers, languages (with temporal systems) employ past tense morphology. Past tense morphology is able to render a conditional counterfactual; however, in some languages it seems to be the case that past tense morphology is unable to do so on its own, but requires additional morphology. This additional morphology is often attested by subjunctive mood or imperfective aspect. In those languages that require the imperfective in addition, sometimes imperfective morphology is still not sufficient, but further modification by, for example, a future morpheme is required. Notice, however, that this seems to be a requirement imposed on consequents. In other words, it seems to be the case that the consequent requires this extra future morphology to be overt – cf. English, Greek, Zulu.

For Iatridou (2000), the subjunctive seems to occur in CFs to satisfy a well-formedness condition, or some syntactic requirement. It does not have a semantics of its own but occurs in environments that are marked for some sort of unreality. In other words, it is the semantics of some other element which brings about the required meaning: for instance, the meaning of the verb ‘doubt’ or the meaning of the exclusion feature in the past morpheme.

However, Iatridou’s conclusion does not seem to be borne out: if the meaning of the subjunctive is not sufficient to bring about a CF reading, and the meaning of if is not enough either, what meaning do we get in Romance with PRS.SUBJNC?

As far as I know, one does not get counterfactuals with present subjunctives in Romance. In Catalan, there are cases like the example in (59).

(59) En cas que vingui, t’avisaré
     in case that come.SUBJNC.3SG you-warn.FUT.INDIC.1SG
     ‘In case he comes, I’ll let you know.’ Quer (2009, p.c.)

However, while the example above is not counterfactual, it is not factual/realis in the strong sense of the word. By using the subjunctive, the speaker indicates that s/he finds the possibility unlikely, although possible, that he come. This is in contrast with the indicative counterpart in (60), in which the complementizer si is obligatory unlike the periphrastic form with
the subjunctive in (59). Quer (2009) suggests that the contrast is due to some particularity of if as a conjunction.

(60) Si ve, t’avisaré.
    if come.INDIC.3SG you-warn.FUT.INDIC.1SG
    ‘If he comes, I’ll let you know.’ Quer (2009, p.c.)

Although the contrast is minimal, as Josep Quer explains (in personal communication), si together with the indicative morphology introduce an open set of possibilities, while those possibilities introduced by the periphrastic construction with the subjunctive are more restrictive and they seem to be compatible with a more unlikely scenario. In fact, you can have (61a) but not (61b).

(61) a. en el cas improbable que vingui....
    in the case unlikely that s/he come.SUBJINC
    ‘In the unlikely case that he comes,...’

b. #en el cas probable que vingui....
    in the case likely that s/he come.SUBJINC
    ‘In the likely case that he comes,.....’ Josep Quer (p.c.)

Another way to highlight the slight contrast would be in the following context. The weather forecast announced a cloudy day without rain for tomorrow, but...

(62) a. ... en cas que plogui, tampoc anullarem la festa
    ‘... in case it rains, we won’t cancel the party either.’

b. ? si plou, tampoc anullarem la festa
    ‘... if it rains, we won’t cancel the party either.’ Josep Quer (p.c.)

Although the contrast is minimal, the subjunctive option in (62a) is more natural, and is therefore preferred to (62b) in contexts involving unlikelihood or negative expectations. Hence, there seems to be a need to postulate weak semantics of the subjunctive and not zero semantics.

Iatridou (2009) also has a well-formedness condition on the imperfective. So what do we do when a language has a paradigm for a past subjunctive and a past imperfective, if both are there to satisfy a well-formedness condition? In other words, (i) what determines whether in this context aspect is selected or mood? And (ii) what would the differences in interpretation be if both are available?

Italian provides a case in point as both options are available, i.e. both past imperfectives and past subjunctives show up in Italian CFs. Ippolito (2004) shows that PST.IMPVF.INDIC paradigm produces a stronger CF reading than the PST.SUBJINC paradigm. She shows that this is the case by alluding to cancellation. In (63) we see that (63b) is an infelicitous continuation of (63a), but (63c) is okay. This means that a CF conditional carrying past subjunctive morphology is licensed in a context in which Gianni might be coming to the concert,
but past imperfective morphology is not because past imperfective morphology introduces stronger (uncancellable) counterfactuality as opposed to the past subjunctive counterpart.

(63) Italian Mood Paradigm in CFs

a. Ho regalato il biglietto del concerto a Gianni, per cui è likely che venga.
   ‘I gave the concert ticket to Gianni, hence it’s likely that he’ll come.’

b. #Se veniva, si divertiva da morire.
   ‘If he came, he would have a lot of fun.’

c. Se venisse al concerto, si divertirebbe da morire.
   ‘If he came, he would have a lot of fun.’

Ippolito (2004:28)

Whether subjunctive/imperfective morphology is there to fulfill a syntactic requirement and is thus syntactically active depends on the morpho-syntactic make-up of the language, i.e. on the morphological bundling that goes with past tense morphology in a particular language. But once that is settled, the semantics of the morphemes that ‘come along for the ride’ can play a role in the overall interpretation.

I have the impression that (syntactic) well-formedness conditions come first but that there is a (semantic) hierarchy of tense, aspect and mood which is responsible for semantic differences among counterfactuals in those languages that allow for more than one strategy, such that there is reason to motivate a weak semantics of imperfective and subjunctive (not zero semantics and a syntactic requirement alone). For example, while the Italian example above shows that Italian alludes to a mood paradigm to distinguish semantically among counterfactuals, the following example shows that Palestinian Arabic resorts to an aspectual paradigm.

(64) a. law b-itrūuh yā-l-hafle bukrā, kunt
   if$_{CF}$ b-go.IMPFV.2SM to-the-party tomorrow, be.PST.2SM
   b-ītkayyef.
   b-have.fun.IMPFV.2SM
   ‘If you were to go to the party tomorrow, you would have a lot of fun.’
Finally, a note on compositionality is in order. While crosslinguistic research shows that past tense morphology is the locus of CF meaning, those who propose compositional accounts of counterfactuals relying on the temporal semantics of past tense (Condoravdi 2003, Ippolito 2002 and Arregui 2004, 2009) fail to account for the crosslinguistic morphological diversity. In particular, they fail to account for the fact that languages that do not have tense systems, but location/participant oriented systems, employ morphemes from those domains – morphemes that do not exhibit past tense semantics.

In other words, while proposals that argue that the counterfactual component of counterfactual conditionals results from evaluating metaphysical alternatives in the past (Condoravdi 2001, Ippolito 2003), or proposals that argue that the settledness of the past is what yields the contrary-to-fact inference (Anand and Hacquard 2009) are interesting from a philosophical perspective, unfortunately, by relying solely on the meaning of the past tense morpheme as introducing real past tense semantics, we fail to account for the diversity of strategies among which strategies that do not appeal to temporal morphology/semantics.

The following chapters will proceed in trying to find an answer to the main questions that are posed in beginning of this chapter – namely, what allows temporal morphemes to express, in the right morpho-syntactic environment, a reading that a specialized CF marker expresses? Further, what exactly is this morpho-syntactic environment and how is it satisfied? Furthermore, what is the common denominator among temporal, spatial, and person morphemes, such that spatial and person morphemes lend themselves to yielding counterfactuality in those languages that lack past tense morphology? And moreover, how similar is the compositional meaning to that yielded by virtue of the lexical semantics of a dedicated morpheme?

27If a context is needed, “... I know you won’t go/ I know you don’t want to go.”