

Project Description: Past Tense Morphology in Tense and Modality

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1 State of the art and preliminary work

1.1 State of the art

Introduction

The project intends to investigate the meaning of past tense morphology, with particular reference to the way it is syntactically represented. It concentrates on phenomena in which the semantic contribution of past tense appears to vary according to the syntactic context in which it occurs. Such phenomena are problematic for the principle of compositionality, which states that the meaning of a sentence results from the meaning of its parts and the way they are combined. This principle is empirically predictive only if the meanings of the parts are not allowed to vary with the context in which they appear, or in which such variation – as with anaphoric pronouns or indexical expressions – is constrained by other well-motivated theories. Despite its great intuitive appeal and heuristic power (cf. Werning e.a. 2012), the principle of compositionality is challenged by various phenomena, such as agreement (where agreement markers arguably do not contribute to the meaning of the sentence), mismatches in scope construal (where the surface orders do not reflect scopal orders), or doubling (where the presence of a single semantic operator or property is manifested twice in the morphosyntactic form). Mismatches of this type have been a major inspiration for the researchers (cf. Zeijlstra 2004, 2008 *et seq* on negation, Grosu & Krifka 2007 on relative clauses) to rethink and refine the relation between linguistic structure and its interpretation.

In typical cases, past tense morphology simply marks that the event expressed by the verb or predicate is located prior to the time of utterance:

- (1) John had a car (last year / *next year).

But this is not always the case. For example, in the embedded clause of (2) past tense conveys, in its prominent reading, that the embedded clause expresses that the car owning holds at the time of John's dream. In such Sequence-of-Tense (SOT) cases, the contribution of past tense appears vacuous; note that it can be replaced by present tense, *John dreamed he has a car*, which has a different reading.

- (2) John dreamed he had a car.

In other cases, past tense seems to express something different than reference to the past. In counterfactual conditionals like (3)a, the past tense in the antecedent conveys that she *does not* own a car right now, as opposed to (3)b which is neutral with respect to whether or not she owns a car, and to (3)c which conveys that she indeed owned a car in the past.

- (3) a. If she had a car now, she could drive to school.
b. If she has a car now, she can drive to school.
c. She owned a car.

Sometimes, past tense is compatible with reference to times in the future, as in (4). In some languages, past tense morphology may be used in imperatives, even though imperatives, being performative (cf. Han 1998, Schwager 2005, Grosz 2011, a.o.), generally require a present or future interpretation (5). And finally, past tense morphology can sometimes convey particular speech acts, as shown in (6).

- (4) We were meeting up tonight at 7pm, right? (Uttered before 7pm)
- (5) Had dat eerder gedaan! Dutch
 had that earlier done
 'You'd better had done that earlier.'
- (6) a. I had a beer, please. (uttered to a waiter arriving at the table with drinks)
 b. What was your name?

The apparently divergent semantic contribution of past tense morphology has received a large amount of study with respect to counterfactual conditionals and SoT. Below we will outline the state of the art in the study of these phenomena. In contrast, the other three phenomena have not been investigated into much detail.

What is remarkable, however, is that these phenomena have almost always been analysed independently from each other, not as a uniform property of past tense morphology, which would have been natural under the principle of compositionality. For instance, under an important approach to SoT effects, the semantics of past tense morphology in counterfactuals was analysed different from the semantics of past tense morphology in SoT constructions, since in the case of SoT only the second past tense morpheme appears to be semantically redundant, whereas in counterfactual clauses none of the morphemes that contribute to counterfactuality refer to the past (cf. Grønn & von Stechow 2010). This case-by-case treatment of past tense in different uses is unsatisfactory, as it runs against the principle of compositionality. Furthermore, it runs the risk of leading to contradictions, for instance, if a theory for SoT would predict that past tense morphology in counterfactual conditionals could not refer to the present time (as in *John is dreaming he had a car*). Hence what is needed is an overarching perspective on past tense morphology that covers all usages, including those that seem to deviate from past tense reference.

A second shortcoming in the current research to past tense semantics is that the cross-linguistic variation with respect to the meaning of past tense morphology has not been systematically investigated. Counterfactual conditionals have only been investigated in detail for a small number of languages (English, French, German, Greek, Italian, Portuguese, and Hindi); the discussion on cross-linguistic variation with respect to SoT focuses primarily on English, Russian, Hebrew and Japanese, and a few related languages. However, establishing the range of cross-linguistic variation is a necessary ingredient for any theory of form-meaning (mis)matches, since it forms strong diagnostics in determining what constraints this variation is subject to and why this should be so.

Another reason why an overarching theory of the syntax and semantics of past tense morphology is lacking is that, as of yet, it has not been investigated whether the phenomena outlined below, in particular counterfactual conditionals exploiting past tense morphology and SoT effects, are cross-linguistically independent or whether they are correlated. If theories of tense morphology take these phenomena to be independent from each other, this should naturally have typological consequences: it is then expected that they are not correlated (unless such a correlation would receive a separate explanation). If they are typologically related, this would call for a more integrated theory of past tense morphology. Hence, typological research can be used as an empirical testing ground to evaluate different theories of the semantics of past morphology.

The current stage of investigating the nature of past tense morphology should, therefore, be subject to the following three goals:

- A description of the potential typological correlations between the phenomena discussed above and the way they are manifested;
- A systematic description and understanding of the range of cross-linguistic variation of the phenomena outlined above;
- An overarching perspective and understanding of the syntax, semantics, pragmatics and typology of past morphology, such that the co-occurrence of the discussed phenomena, as well as their typological correlations and their ranges of cross-linguistic variation can be naturally captured.

The set-up of the research project (see section 2) will show how we aim at meeting these goals. However, we first introduce a brief discussion of the state of the art in the study to the usage of past tense morphology and of what preliminary research, both by the prospective team members and other scholars, has already revealed.

Past tense morphology in counterfactuals

Counterfactual conditionals (as in (7)) come along with the inference that their antecedent is false or unlikely. If we substitute the past tenses in (7) by present tense morphology as in (8), this inference is lost. As such, it is widely accepted that the counterfactual inference is due to the presence of past tense morphology (at least since Joos 1964, James 1982, Palmer 1986, Dahl 1997).

- (7) If it rained, we would stay home.
 (8) If it rains, we will stay home.

In an important study, Iatridou (2000) shows that past tense morphology is a necessary ingredient in languages that use a temporal strategy to express counterfactuality. This usage of past tense morphology to achieve counterfactual meaning is attested in many other languages. (9) illustrates this with Arabic (cf. Karawani 2014). In German, the form Konjunktiv II is a subjunctive derived from past tense (cf. (10)).

- (9) Iza kaanu jaaybin laymoon maà-hom , kunna àmilna Limoncello
 if be.PST.3PL brought lemons with-them, be.PST.1PL make.PST.1PL Limoncello
 'If they had brought lemons with them, we would have made Limoncello.'
 (10) Wenn sie Zitronen mitgebracht hätten, würden wir Limoncello gemacht haben.
 if they lemons brought have.PST.SBJ will.PST.SBJ we Limoncello made have
 'If they had brought lemons with them, we would have made Limoncello.'

To cite an example of a non-Indoeuropean language, consider the Austronesian language Daakie (Ambrym, Vanuatu). While indicative conditionals are expressed by irrealis, counterfactuals are expressed with a form that is also used to refer to past (cf. Krifka 2012).

- (11) Ka ko-t pyah ne vyoh, a-ko-t idi popat.
 SUB 2sg-DIST chose TRANS coconut, FUT-2sg-DIST take pig
 'If you had chosen the coconut, you would have gotten the pig.'

Van Linden & Verstraete (2008), in a typological overview of counterfactuals in simple clauses in over forty languages, find that the majority involve some kind of past tense, as in (12) and (13), cf. similar examples by Leirbukt (1991) in German.

- (12) The police should have done something to prevent the killing.
 (13) Next year he would have had his 200th birthday.

However, not every language exploits past tense morphology to express counterfactuals. Hungarian, for instance, uses a specialized counterfactual morpheme (*-ne/-na*) to achieve a counterfactual reading. Past tense morphology in Hungarian yields solely a temporal reading (in accordance with the semantics proposed by Enç 1987, 1996) and its use in a conditional can only yield a factual interpretation (Karawani 2014: 94).

- (14) a. Ha holnap el-indul, a jo:vö 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 jo:vö 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.'
- c. Ha hétfőn elindult, (akkor) péntekre odaért.
 if Monday.on away-leave.PST.3SG, (then) Friday.onto there-reach.PST.3SG
 'If he left on Monday, (then) he got there by Friday.' (Iatridou 2009: 1)

The cross-linguistic landscape sketched above raises important questions for any theory of the meaning of past tense morphology. First, what is the meaning of past tense in counterfactuals such that it captures both the temporal and the modal use of past tense morphology? Second, how can such a theory also account for the absence of the non-temporal usage of past morphology in counterfactuals in certain languages?

There are two main theories regarding the contribution of the past tense morpheme in counterfactuals. The first is known as the **past-as-real** hypothesis (Dahl 1997, Ippolito 2004, Schulz 2007 (to a lesser extent), Arregui 2009). It assumes that in counterfactuals a past operator referring to some time prior to the present scopes over a modal operator, resulting in a reading that at a time in the past, the counterfactual proposition was a possible outcome. Placing the counterfactual proposition in the past gives rise to the inference that the condition can no longer be satisfied in the present, as otherwise present tense would have been used; this explains the falsity inference. This explanation assumes a branching time model in which at any given time point, there are multiple possible futures but a unique past. The pragmatic implicature of counterfactuality can undergo grammaticalization, resulting in a semantic realization of counterfactuality. (A similar explanation of irrealis and distal morphology in Daakie has been proposed by Krifka 2012.)

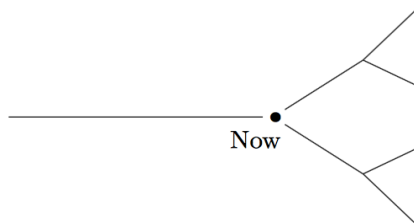


Figure 1: Branching Futures Model

The derivation of the pragmatic inference is actually not straightforward, as there is in fact no contradiction in the claim that the counterfactual proposition was a possible outcome in the past and in fact it is still the case that it is a possible outcome in the present. According to Ippolito (2006), and following Veltman (1986), conditionals come with the condition that the speaker considers the antecedent proposition possible at the time of evaluation. In an indicative, present-tense conditional, this condition must hold at the present time, whereas in a past-tense conditional, it needs to hold at some past time. Thus, using a past-tense conditional can trigger the implicature that the speaker does not consider the antecedent proposition possible at the time of evaluation anymore. We think that this type of explanation raises a number of questions, for example, whether past tense morphology can indeed scope over epistemic operators (cf. Condoravdi 2001), and what accounts for the linguistic variation that we find if this is a general pragmatic process.

The second theory that deals with the meaning of past tense morphology in counterfactuals assumes that the temporal reference of past tense morphology is in fact not reference to a past time. This approach, therefore dubbed the **past-as-fake** hypothesis, argues that the contribution of past tense morphemes is something that makes past temporal reference possible while at the same time allowing for a counterfactual meaning. The advocates of this theory (Iatridou 2000, Nevins 2002, Karawani and Zeijlstra 2013a, Karawani 2014, a.o.) take past tense morphemes to be underspecified with respect to the

kind of reference they denote: either temporal reference to a time different from the present time or modal reference to a world different from the actual world.

Iatridou (2000) 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. This exclusion feature excludes that the proposition holds at the present moment or the actual world. When this exclusion feature varies 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. This question is taken up by Karawani and Zeijlstra (2010) who argue for a stronger formalization of the meaning of past tense morphology in which it varies over pairs of times and worlds simultaneously, and it is the structural position of the past tense morpheme in the sentence that determines whether the reading is temporal or modal. According to their proposal, past tense morphology is reinterpreted in terms of non-actual veridicality (NAV). The semantic representation is as follows; it builds on Iatridou's (2000) notion of exclusion and Giannakidou's (1998) notion of veridicality.

- (15) $[[NAV]](\varphi)(w,t)$ presupposes that $\exists w,t.[\langle w,t \rangle \neq \langle w^0, t^0 \rangle \wedge \varphi(w,t)]$ where t^0 denotes the time of utterance and w^0 denotes the actual world. (Karawani and Zeijlstra 2013a)

Since propositions are generally evaluated against the actual world, the difference between Iatridou's exclusion feature and NAV is that the latter, but not the former, takes the temporal interpretation for past tense morphology to be the default, and only allows for a modal interpretation in specific grammatical contexts. As such it may serve to better understand the fact that past tense morphology can be ambiguous, but that its temporal usage dominates over its modal usage.

Past Tense in Sequence of Tense effects

The other well-known phenomenon where past tense morphology does not seem to match with past tense semantics is Sequence of Tense (cf. Abusch 1988, 1997, Heim 1994, 2005, Ogiwara 1995, 1996, Von Stechow 2003, 2005, Kratzer 1998, Schlenker 1999, Sharvit 2003, Kusumotu 2005, Stowell 2007, Khomitsevich 2008, Ogiwara & Sharvit 2012 a.o.). In languages that exhibit SoT, such as English and Dutch (and, similarly, German), subordinate tense can be parasitic on matrix tense

- (16) a. John said Mary was ill.
 b. Jan zei dat Marie ziek was.
 John said that Mary ill was
 'John said Mary was ill.'

The sentences in (16) are ambiguous between the following readings that can loosely be paraphrased as in (17). Whereas (17)a expresses the most salient reading, standardly referred to as the simultaneous reading, the reading in (17)b is referred to as the backward shift reading.

- (17) a. John said: 'Mary is ill'.
 b. John said: 'Mary was ill'.

Languages like Japanese (cf. Ogiwara 1995, Kusumotu 2005), and arguably Russian and Polish (cf. Schlenker 1999, Khomitsevich 2008, Altschuler 2008, for discussion) lack SoT. In such languages, only the reading in (17)b survives. The SoT literature further distinguishes different SoT effects in relative clauses from SoT effects in complement clauses, as well as different SoT effects between clauses introduced by intensional and extensional predicates.

What all approaches share is some kind of an operation that appears to remove the semantic contribution of the embedded past tense morpheme. Three questions emerge: (i) what is the nature of this removal mechanism; (ii) what determines in which contexts such a mechanism applies (accounting for the variation between relative clauses and different types of complement clauses); and (iii) how can the cross-linguistic variation with respect to the presence or absence of this removal mechanism be accounted for?

A variety of theories have been formulated in order to account for these questions. Ogihara (1995) postulates a rule that (optionally) deletes the past tense operator at LF when it is in the (local) scope of another past tense. When this embedded tense operator is deleted, the temporal denotation of the embedded clause is interpreted as simultaneous to the higher tense. In a language without SoT, such a rule may not apply.

Abusch (1997) assumes that tense morphemes are referential and can have both a *de re* and a *de dicto* reading, and that SoT effects may arise as a result of some feature transmission mechanism (applying at LF) that is available only for those tense morphemes that receive a *de dicto* interpretation under an intensional predicate. These tense morphemes inherit the temporal features, and the simultaneous reading thus follows. In this approach, embedded past tense clauses are ambiguous with respect to the interpretation of the past tense morpheme: a *de dicto* interpretation yields a simultaneous reading, and a *de re* reading yields the backward shift interpretation. Since a *de re* reading of an embedded past tense morpheme in principle allows a reading where the embedded past tense is interpreted at a later stage than the time of the matrix predicate, Abusch postulates an additional constraint, known as the Upper Limit Constraint that forbids embedded tenses to be interpreted later than matrix tense. The absence of SoT effects in other languages for Abusch then results from the inability of intensional predicates to transfer their temporal features to a lower past tense morpheme.

Kratzer (1998, 2006) argues for a mechanism that allows bound variables to be spelled out according to the features of the matrix predicate (i.e. optional feature transmission at PF) and von Stechow's (2003) proposal, followed up by Grønn & von Stechow (2010), allows past tense features to be deleted at LF, resulting in a simultaneous reading. Von Stechow (2003) further parameterizes the availability of the deletion mechanism. In Russian, for instance, he argues that feature deletion may only target present tense features, thus excluding SoT effects with embedded past tense in this language; English allows feature deletion of only past tense features; and Japanese does not allow any temporal feature deletion.

Ogihara (1995), Abusch (1997) and von Stechow (2003) (and to a lesser extent Kratzer 1998, 2006) all resort to semantic mechanisms that account for SoT effects, whose effect or presence may be subject to cross-linguistic variation. This semantic locus of the mechanism behind SoT effects has been criticized on various grounds. For instance, for Abusch it would entail that Russian or Japanese intensional predicates must be semantically distinct from the English ones (as they do not allow feature transmission), but this assumption is not independently motivated. Also, according to the Borer-Chomsky-conjecture (Borer 1984, Chomsky 1995), the source for variation should lie in the lexicon and not in syntactic, let alone semantic, language-specific rules. For these reasons, other scholars argue that the locus of the mechanism behind SoT should lie in the different syntactic features that constitute (past) tense morphology (Kusumotu 2005, Khomitsevich 2008, the latter following related work by Pesetsky & Torrego 2004, 2007 on feature chain formation). Also von Stechow & Grønn (2010), following ideas by Zeijlstra (2004, 2008) in negative feature chains, argue that past tense morphemes carry a semantically uninterpretable feature (in the sense of Chomsky 1995) that must stand in a syntactic agreement relation with some, tense head T (although they still resort to LF feature deletion too). All these approaches thus allude to a syntactic feature-checking mechanism that is at least partially responsible for SoT effects (for additional arguments that SoT should also involve syntactic agreement, cf. Schlenker 1999).

The observation that past tense morphology in subordinate clauses does not appear to be semantically active combines nicely with another observation described by von

Stechow (2003), namely that verbal tense morphology itself is semantically vacuous and that tense is induced by a different element (T° , according to Pesetsky & Torrego 2007, Op_{PAST} , according to Von Stechow 2003, 2005). Take (18), for example.

- (18) Wolfgang played tennis on every Sunday.
'For every Sunday in the past there is a time t at which Wolfgang plays tennis.'
 \neq 'There is a past time on every Sunday at which Wolfgang plays tennis.'
 \neq 'For every Sunday, there is a time t such that Wolfgang plays tennis before t .'

In (18), the distributive quantifier *every Sunday* takes scope between past tense and the lexical contents of the verb *play*. This means that the past tense morpheme cannot a priori be said to be the carrier of semantic past tense.

The idea that SoT effects result from a syntactic agreement mechanism is in accordance with the goals of the current research proposal, as it opens up ways of accounting for the other past tense phenomena as well. For instance, if tense morphemes agree with some higher operator, this operator does not necessarily have to be an absolute tense operator – other operators, such as Iatridou's exclusion feature or Karawani & Zeijlstra's (2013) NAV-operator, are possible candidates as well (see Karawani 2014 for discussion). Moreover, this treatment embeds SoT in a series of phenomena where semantic redundancy results from syntactic agreement of semantically uninterpretable morphemes with higher abstract operators, much like Negative Concord (cf. Zeijlstra 2004, 2008) and other upward agreement phenomena (cf. Zeijlstra 2012, Wurmbrand 2012, Chierchia 2013). Finally, as Zeijlstra (2012) argues, this approach may align different properties of semantic tense along with different syntactically active elements. Zeijlstra argues that English past tense morphemes carry a semantically uninterpretable past tense feature that must agree with matrix T , but that past tense morphemes also denote a relative non-future (meaning something like 'no later than some previously bound tense variable'). In essence, this reflects Abusch's original Upper Limit Constraint, but is now part of the lexical semantics and may thus be subject to cross-linguistic variation, opening up further ways of understanding and representing cross-linguistic variation with respect to SoT along the lines of the goals of this project.

Past-for-future

Another environment in which past tense morphology does not contribute a straightforward interpretation, according to the classical view that past tense marks a precedence relation to the present or utterance time, is in constructions as (19). This example shows that past tense morphemes appear to allow for reference to an event located in the future.

- (19) We were meeting up at 7 tonight, right?

English constructions like these have received only some attention in the literature (Dowty 1979 and Moens and Steedman 1988, Ippolito 2004, Copley 2002). As such past-for-future constructions (PastFFs) in English are restricted to planned activities, the explanations provided by the aforementioned scholars were restricted to linking the time of reference to the time that the plans were made, i.e. past tense, and to some type of modality specific to the way the future is manifested in the language (Copley 2002).

However, Karawani and Zeijlstra (2013b), who investigate this phenomenon from a cross-linguistic perspective, find that the potential usage of the PastFF construction can be much wider than in English. PastFFs appear to be subject to two constraints. First, a PastFF can only be used when the speaker somehow signals or feels some amount of uncertainty about the denoted event, as indicated by the *right*-tag in (19). Second, PastFFs can denote the same kind of futurate readings as so-called present-for-futures (PrsFFs). The restriction of English to planned activities comes from the fact that the present tense allows a futurate interpretation for planned activities only:

- (20) a. We are meeting up at 7 tonight.
 b. #It rains tomorrow.

Other languages are more liberal in the denotation of PrsFFs. In Dutch, where the PrsFF construction is allowed for both planned and metaphysical events, we see that PstFF is allowed in both as well. Again, for PastFFs it is required that an uncertainty marker is present. Similar effects show up in Arabic, Catalan, Spanish and Italian.

- (21) a. We aten vanavond om 7 uur #(nietwaar?)
 we eat.PST tonight at 7 o'clock right
 'We were having diner tonight at 7, right?'
 b. Morgen regende het #(toch?)
 tomorrow rain.PST it PRT
 'Tomorrow it'll rain won't it?'

The explanation that Karawani & Zeijlstra (2013b) provide is in terms of blocking effects: if the absence of certainty about the denoted event prevents the speaker from using a PrsFF construction, s/he may use a PastFF instead. This blocking effect could readily be explained in terms of Maximize Presupposition (after Heim 1991).

However, such an analysis raises questions about the nature of tense morphology in general, relating it directly to the discussion on counterfactuals, since it suggests that not only past tense morphology, but also present tense morphology is inherently modal: it may either refer to actual events in the past / present, or to modalized events after the past / present (c.f. Verkuyl 2008, Broekhuis & Verkuyl 2014). Such a view on tense naturally complies with the views on tense in counterfactual conditionals, as pursued by Ippolito (2003), as well as Iatridou (2000), though in different ways. For example, for Ippolito's approach one would confirm the idea that modal and actual references of past tense morphology have the same temporal source; for Iatridou (2000) it would solve the problem that exclusion from present tense in the actual world (which is her semantics of past tense morphology) can also have a future tense interpretation. This does not only suggest that PstFFs and counterfactual conditionals should be analysed in similar terms, but also that the predictions that different accounts make for the morphological make-up of counterfactual conditionals can be evaluated against the predictions they make for PstFFs.

The fact that PstFFs allow past tense morphology with a future tense interpretation potentially relates to the discussion on SoT as well. Abusch (1988) already shows that in SoT constructions involving *would*, past tense morphology refers to the future as well:

- (22) John decided a week ago that in ten days at breakfast he would say to his mother that they were having their last meal together.

Naturally, it depends on the exact analysis of SoT-effects whether the future tense reference of *were* in (22) is similar to its usage in PstFFs as well, or whether this is due to an agreement relation between *decided* and *were*, mediated by the past tense form *would*, which induces a forward shift. The discussion so far suggests the latter, but it shows again that the phenomena discussed here show more intrinsic relations than previously thought.

Past tense speech acts

A fourth phenomenon of unexpected meaning contributions invoked by past tense morphology involves cases where the inclusion of a past tense morpheme gives rise to particular illocutionary effects. For instance, in English, the following sentence, when uttered to a waiter can mean that the speaker wants to have a coffee. The same phenomenon also occurs in Dutch.

- (23) a. I had a coffee, please.
 b. Ik had graag een koffie.
 I had please a coffee
 'I had a coffee, please.'

It should be noted that the present tense counterparts of these expressions lack this illocutionary force, which proves that its source is indeed the past tense morpheme:

- (24) ??I have a coffee, please.

Not many languages exhibit this particular phenomenon (German, for instance, lacks it), and it has not been well investigated. However, a typologically almost equally rare and related phenomenon has received some amount of discussion and analysis: so called Retrospective Imperatives (RIs).

RIs are constructions that have the form of a perfect imperative, but rather express past counterfactuality. Again, only a few languages exhibit it, such as Spanish (Bosque 1980, Biezma 2011), Dutch (Bennis 2006, Mastopp 2005, Van der Wurff 2007, Vicente 2013), Austrian German (Vicente 2010) or Syrian Arabic (Palmer 1986, Vicente 2013):

- (25) a. Was toch thuisgebleven!
 was PRT home.stayed
 'You should have stayed at home!'
 b. Kent ko!
 you.were eat.IMP
 'You should have eaten!'
 c. Hätt's euch selbst was angebaut!
 had.2PL you.DAT self something grown
 'You should have grown something yourselves!'

In addition, Vicente (2013), basing himself on Bosque (1980), and Biezma (2011) argues that infinitival perfect imperatives have the same effect in Spanish.

- (26) Haber cogido el metro!
 have.INF taken the subway
 'You should have taken the subway!'

For Vicente, these sentences are truncated past tense imperatives, which underlyingly have a similar structure as the ones in (25). Crucially, for Vicente, these sentences contain a finite past tense auxiliary, which Vicente takes to be the source of the counterfactual effect (much along the lines of Ippolito 2004, 2013 for the semantic contribution of past tense morphology in counterfactual conditionals). Although the counterfactual semantic contribution of such past tense imperatives could be analysed along these lines, it is unclear why their cross-linguistic distribution is so much more limited. Alternatively one might argue that in these constructions, the past tense operator takes scope over the illocutionary operator, effectively positing the imperative in a retrospective position (much in the same vein as Iatridou & Tatevosov 2014, who argue that the modal particle *even* may sometimes take scope over interrogative speech act operators). Then, the sources of counterfactuality in RIs and counterfactual conditionals are different, giving rise to cross-linguistic differences between the two phenomena. At the same time it will need to be understood what explains the cross-linguistic limits on the embedding of such speech act operators.

1.2 Preliminary work

Manfred Krifka has investigated a number of phenomena concerning the syntax / semantics interface and its interplay with pragmatic phenomena. In particular, he has worked on nominal reference (e.g. the mass/count distinction), aspectual classes, genericity,

quantification, and focus, among others. Of particular relevance for the current project is his work on negative polarity items (Krifka 1995) and on apparently non-interpreted negation phenomena (e.g., Krifka 2010). In his more recent work, Krifka has developed a formal semantic theory of speech acts that allows for semantic operators like negation, conjunction, conditionalization and temporal operators to scope over illocutionary acts (cf. Cohen & Krifka 2014, Krifka 2014); this will be of particular relevance for the current project proposal. He is currently working on a grammar of the language Daakie (Austronesian, Vanuatu) based on the data of a 5 year documentation project sponsored by the VolkswagenFoundation; this language and related languages have an irrealis / realis system with various subcategories in which time and modality are related in different ways than in European languages. Such systems have not been analysed in greater detail with formal semantic means; Krifka 2012 provides a first and still rather sketchy analysis.

Krifka has supervised a Ph.D. project on the use of the Konjunktiv I in German (mostly in its reportative use), Sode (2014), which argues that this modal feature is anaphoric to some perspective given by the context.

Hedde Zeijlstra has worked intensively on agreement systems in the domain of syntax and semantics. In his PhD thesis he developed a view on those semantic dependencies that are encapsulated in the grammar that takes such dependencies to be the result of syntactic agreement mechanism. In later work he applied this agreement mechanism to the domains of tense (Zeijlstra 2012, Koenenman & Zeijlstra 2013), phi-agreement (Zeijlstra 2012) and modality. In Koenenman & Zeijlstra (2013) Sequence of Tense effects are taken into consideration as well to solve puzzles related to the distinction between the syntactic position of tense morphology and the locus of its semantic interpretation. In Karawani & Zeijlstra (2013) the notion of Non-Actual-Veridicality has first been introduced, which paves the way for integrating agreement mechanism (as he takes to underlie Sequence-of-Tense effects) and a unified semantics for past tense and counterfactuality, further developed in Karawani (2014).

Zeijlstra is known for his work on mismatches between morphosyntactic structure and realizations and semantic interpretation and has written various handbook and overview articles on this topic, including on concord and doubling phenomena (Dekker & Zeijlstra 2012)

Together with Fred Weerman and Kees Hengeveld (both University of Amsterdam) and Olaf Koenenman (Radbout University Nijmegen) Zeijlstra has supervised two typological PhD-projects, one on the syntax of tense morphology and (among others) temporal adverbs and one on gender morphology. He also supervises PhD-projects on regular and irregular tense morphology, on cross-linguistic semantics (focussing on negative quantifiers) and on the acquisition of modal auxiliaries with a restricted syntactic and/or semantic distribution.

Hadil Karawani has a strong academic background in linguistics, philosophy and logic as she is a graduate of the Hebrew University of Jerusalem and a postgraduate of the University of Amsterdam. Her PhD dissertation is entitled “The real, the fake, and the fake fake in counterfactual conditionals, crosslinguistically” and it explores the role of tense, aspect and mood in yielding counterfactual readings from a syntax-semantics perspective as well as from a semantic-pragmatic perspective.

Her research interests and publications have been, by large, of a theoretical and typological nature focussing on syntax, semantics and pragmatics of conditionals, tense and aspect in different language such as Arabic, Hebrew, Amharic, Zulu, Hungarian and Hindi. In her thesis, she developed a theory within dynamic semantics to account for the various types of conditionals depending on the morpho-syntax and pragmatic information of the participants in a conversation, their knowledge and their expectations. This theory was applied to English, Arabic and Dutch, in the thesis, with a view to further fine-tune the sketch into a fully fledged semantic/pragmatic proposal taking into account other languages as well.

At the moment, she is co-working on smaller crosslinguistic projects on the non-past tense uses of past tense morphology (with Hedde Zeijlstra), imperative/optative mood (with

Josep Quer), imperfective aspect in counterfactuals (with Claire Halpert), and tense and aspect in counterfactuals and evidentials (with Bronwyn Bjorkman and Claire Halpert).

1.3 Project-related publications

1. Cohen, A. & M. Krifka. 2014. Superlative quantifiers and meta speech acts. **Linguistics and Philosophy** 37: 41-90.
2. Halpert, C. & H. Karawani. 2012. 'Aspect in Counterfactuals from A(rabic) to Z(ulu).' In J. Choi, E. Hogue, J. Punske, D. Tat, J. Schertz & A. Trueman (eds), *Proceedings of the 29th West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadilla Proceedings Project. 99-107.
3. Karawani, H. 2014. *The Real, the Fake, and the Fake Fake in counterfactual conditionals, crosslinguistically*. Ph.D. Dissertation, University of Amsterdam. LOT publications: Utrecht.
4. Karawani, H. & H. Zeijlstra. 2013a. *The semantic contribution of the past tense morpheme kaan in Palestinian counterfactuals*. **Journal of Portuguese Linguistics** 12: 105-120.
5. Koenenman, O. & H. Zeijlstra 2014. 'The Rich Agreement Hypothesis Rehabilitated.' **Linguistic Inquiry** 45: 571-615.
6. Krifka, M. 1995. The Semantics and Pragmatics of Polarity Items. **Linguistic Analysis** 25: 1-49.
7. Krifka, M. 2010. How to interpret "expletive" negation under 'bevor' in German. In Th. Hanneforth & G. Fanselow (eds.), *Language and logos. Studies in theoretical and computational linguistics*. Berlin: Akademie Verlag. 214-236.
8. Krifka, M. 2012. Notes on Daakie (Ambrym, Vanuatu): Sounds and modality. In L. Clemens, G. Scontras & M. Polinsky (eds), *Proceedings of AFLA 18 (Austronesian Formal Linguistics Association)*. Cambridge, MA: Harvard University, 46-65.
9. Krifka, M. 2014. 'Embedding illocutionary acts.' In T. Roeper & M. Speas (eds.), *Recursion, Complexity in Cognition (Studies in Theoretical Psycholinguistics 43)*. Berlin: Springer. 125-155.
10. Zeijlstra, H. 2012. 'There is only one way to agree.' **The Linguistic Review** 29: 491 – 53.

2 Objectives and work programme

2.1 Anticipated total duration of the project

3 years (intended starting date: January 1, 2016)

2.2 Objectives

As indicated in section 1, the central objectives of this project are the following:

- A description of the potential typological correlations between the phenomena discussed above and the way they are manifested;
- A systematic description and understanding of the range of cross-linguistic variation of the phenomena outlined above;
- An overarching perspective and understanding of the syntax, semantics, pragmatics and typology of past morphology, such that the co-occurrence of these phenomena, as well as their typological correlations and their ranges of cross-linguistic variation can be naturally captured.

In order to obtain these three goals, three types of investigations need to be conducted: a typological survey, a series of cross-linguistic syntactic and semantic analyses of several selected languages, and the development of an overall theory of the nature of past tense morphology and the way it manifests itself. For this reason, the project will consist of three subprojects. The specific tasks and methods of the three subprojects, as well as how they address the above mentioned objectives, are described below.

2.3 Work programme incl. proposed research methods

The project team will consist of five team members: two PIs (Krifka, Zeijlstra), one postdoc (Karawani), one PhD student and one student assistant. The PIs will coordinate and supervise the project and include their expertise (tense and speech acts in the case of Krifka, tense agreement for Zeijlstra). The PhD student (RG Göttingen) will be responsible for the typological study. The Postdoc (RG Berlin), bringing in her own expertise in conditionals, tense and modality, will be responsible for an in depth study of in total 6 languages, focussing on all phenomena under investigation. The student-assistant (RG Göttingen) will assist in the set up and update of the database and will also assist with the collection of the typological data.

Project team members will intensively collaborate, but for every component one team member is mainly responsible. Team members thus share responsibility for the subprojects, but at the same time maintain a fair level of independence. This ensures a high feasibility of success for the project and it creates a stimulating work environment, but at the same time it leaves room for the younger team members to build their own career by having primary responsibility over parts of the project.

2.3.1 The architecture of the project

Typological survey

The first subproject concerns a largely descriptive research to the way that the phenomena described above interact language-internally and cross-linguistically. For this reason, the PhD student will conduct a typological survey of 25 unrelated languages. The selection of these languages will take place according to the sampling method developed by Rijkhoff et al. (1993) and Rijkhoff and Bakker (1998). Hence it will be ensured that these languages would be genetically and geographically independent. In short, the researcher will investigate:

- whether counterfactuality in these languages is expressed by means of past tense morphology or not, and if so, whether other grammatical requirements need to be met in order to express counterfactuality, such as mood restrictions (e.g. whether subjunctive mood is required or not), aspectual restrictions (is imperfective aspect always required or not), whether an additional dedicated marker is obligatory (for instance irrealis morphemes) etc; in addition, the researcher will, to the extent possible, establish whether the counterfactuality inference is presuppositional, i.e. part of the assertion, or rather an implicature. Even though such assessments are not always possible on the basis of the prime literature, language informants may be of help; if a language exhibits multiple means of expressing counterfactuality, it should ideally also be investigated whether the counterfactual inferences are equally strong or not.
- whether SoT is available in these languages, and if so, if it is restricted to particular grammatical constructions (complement clauses with and without intensional predicates, relative clauses, etc.) and if it is restricted to particular tenses (past tense, present tense, future tense); naturally, such analyses also require a description of the exact kind of past tense morphology (affixal, or expressed by particles, or even not realized at all).
- whether the languages exhibit PstFFs, and if so, to what extent the usages of past tense futrates are subject to the same kind of uncertainty condition as the PstFFs described in section 1 and whether the modal restrictions on PstFFs (e.g. only for planned activities or include metaphysical event) are the same as the ones on PrsFFs.
- whether the language allows past tense morphology in imperatives and other speech act constructions for example expressing requests and politeness (see section 1), and if so, what other conditions such past tense constructions are subject to (e.g. inclusion of subjunctive mood, aspectual restrictions, inclusion of discourse particles, etc.)

The research will use existing descriptive work, and where applicable, follow up on it with short investigations in search of more fine-grained data with the help of language consultants and native informants. Earlier projects showed that such in-depth typological descriptions are realistic and feasible. The purpose of this stage is to collect a sample of languages that features a range of variation with respect to the usage of past tense morphology. The second part of this typological project will consist of investigating possible correlations between the four discussed phenomena: are certain phenomena dependent on other phenomena or are all independent. The result of this subproject is therefore to identify the possible dimensions of variation with respect to the distribution and interpretation of past tense morphology.

This typological research subproject will be carried out by the PhD student, under supervision of promotores Zeijlstra and Krifka. Krifka is a widely renowned cross-linguistic semanticist, and Zeijlstra is currently supervising other typological PhD projects (one involving gender, and one involving the correlation between richness of verbal agreement and verbal movement).

Cross-linguistic syntax and semantics

The second subproject concerns an in-depth investigation of a few languages that have proven to be of special interest when it comes to the distribution and interpretation of past tense morphology. In total 6 languages will be subject to a full description of the described phenomena (to the extent that they are all available) and therefore provide a small sample of very precise and detailed descriptions and explanations of the past tense system.

The first set of three languages, Hungarian, Arabic, and Japanese, all from three different language families, have been based on what is known from the existing literature. Hungarian is special as it employs a separate marker for counterfactuality and does not resort to past tense morphology. Therefore this language serves as an example to see to what extent other semantic properties of past tense morphology are sensitive to the availability of expressing counterfactuality in the first place. Arabic is interesting as it seems to lack over present tense, but it has a past tense auxiliary (*kaan*). Moreover, Arabic alludes to two conditional complementizers, one that can only be used in counterfactual conditionals, and one that is neutral with respect to counterfactuality; the choice of one over the other in combination with past tense morphology affects the strength of the counterfactuality inference (whether the inference is a weak unlikelihood inference or a stronger falsity inference) (cf. Karawani 2014). Japanese is chosen as it is well studied in connection to SoT and fairly well studied with respect to counterfactuality, but understudied with respect to the other phenomena; it is therefore a good starting point for the attempt to assess the different theories that account for SoT and counterfactuality, with a view to explicate the analysis of the other phenomena.

The second set of three languages is to be determined on the basis of the outcomes of the typological project, as well as findings described in the existing literature.

All six studies will yield full syntactic and semantic analyses of the attested phenomena in the individual languages. The result is a better understanding of different past tense systems and their intrinsic properties. The research will be carried out by the prospective postdoc, Hadil Karawani, who carried out similar research in her PhD thesis (Karawani 2014).

Development of the theory

The third subproject integrates both the typological results and the cross-linguistic analyses and aims at developing a theory that describes and explains the different usages of past tense morphology, their interactions, and their range of cross-linguistic variation. Whereas several components of the theory need to be developed during the project, the following three hypotheses will be taken as a starting point and be subject to critical evaluation:

- Tense morphemes, at least in the languages where tense does not necessarily surface in a vP-external position, are agreement markers. That is, they do not encode

their entire semantic contribution in their lexical semantics but are rather equipped with uninterpretable features that need to be checked by a higher (potentially) covert operator, along the lines of upward agreement (Zeijlstra 2012). The advantage of this hypothesis is that it readily explains that tense morphemes may appear in a position where they are not interpreted and why multiple past tense morphemes do not give rise to an iterated past tense interpretation. This naturally extends to SoT phenomena, but also opens up a possibility to the facts related to past tense and speech acts. As a number of studies have revealed (e.g. Iatridou & Tatevosov t.a. on the modal particle *even* that may scope over illocutionary operators, Krifka 2014 on other instances of embedded illocutions), various scopal elements may actually take scope over elements that encode the illocutionary force of a speech act, and nothing a priori rules out that tense operators are exempt from that. Hence, past tense speech acts could result from this agreeing operator in a position higher than the position responsible for the introduction of the speech act (presumably ForceP).

- Operators that can check past tense morphology can, but do not have to, apply to time-world pairs instead of temporal intervals only. This idea, elaborating on the hypotheses put forward by Iatridou (2000), Karawani & Zeijlstra (2012) and Karawani (2014), allows modal non-temporal readings of past tense morphology. Such operators, dubbed Non-Actual-Veridicality (NAV) operators, should receive a semantics such that their default interpretation is temporal (preventing expressions like *John walked* to mean *John may walk*), and only if the world variable is already taken to be different from the actual world, the time-world-pair bound by the NAV operator may include the time of utterance. This hypothesis allows for the present counterfactual interpretation in conditional clauses, but at the same time ensures that the temporal reading of past tense morphology is the default. Note that it also allows for cross-linguistic variation. Languages that lack counterfactual interpretations of past tense morphology lack NAV operators, but have purely temporal operators agreeing with past tense morphology.
- Finally, as NAV operators are modal, they should select for modal bases. We hypothesize that such modal bases are circumstantial, similar to the branching worlds model as depicted in figure 1 in section 1. Such a modal base ensures that every counterfactual interpretation about a clause containing past tense morphology involves a world that has a common ancestor with the actual world. The advantage of assuming that NAV-operators select such modal bases is that this assumption gives rise to the same kind of facts that Ippolito (2002, et seq) took to be arguments for inherent temporal interpretation of counterfactual past tense morphology, without being forced to adopt the problems that this approach faces when it comes to cross-linguistic variation. In addition, it predicts the kind of blocking effects that seem to underlie PstFFs and makes us understand why past tense imperatives always refer to an actual past tense event that has not been realized.

These three hypotheses, naturally, need further refinement and empirical and theoretical motivation, and may very well turn out to be subject to replacement depending on the outcomes of the (other) subprojects. At the same time, they provide the outlines of a theoretical framework that is able to capture the full range of interpretation and variation of past tense morphology, and have all been deeply rooted in its current understanding.

The theoretical subproject will be conducted by all project team members. We note that together they exhibit full expertise of the related phenomena and the necessary theoretical equipment.

2.3.2 Work plan

The project thus combines both theoretical objectives and empirical objectives in the domain of typology / cross-linguistic semantics. The theoretical and empirical objectives naturally

interact. In order to satisfactorily reach the theoretical objectives, first the empirical results must have been obtained. At the same time, meeting the empirical objectives requires a proper theoretical basis, which guides the empirical research. Hence the project will be split up in the following four phases.

- I. The first stage is the **state of the art and introductory phase** (M1-M6). The project team members set up the preparations for the empirical studies, including the language sampling. In this phase, the design of the database will also be developed. Furthermore, in this phase, a start-up workshop will be organized, inviting several national and international scholars to discuss the recent developments in the study the syntax, semantics, pragmatics and typology of past tense morphology.
- II. In the **data collection phase** (M7-15), the researchers conduct their first empirical studies. For the PhD student this amounts to investigating the behaviour of past tense morphology for the 25 selected languages based on existing grammars, language descriptions, advices of language consultants and data elicited from native speakers. For the Postdoc, this means that for the first three languages the exact distribution and contribution of past tense morphology will be investigated. The postdoc will also continue her research on counterfactual conditionals, counterfactual imperatives and PastFFs. The PI in Göttingen will further elaborate his ongoing research on tense agreement and, together with the postdoc, continue their research on PastFFs. The PI in Berlin will continue his work on past tense speech acts.
- III. The next stage is the **analysing phase** (M16-M24). In this phase, several results of the initial data collection will be further investigated, and be subject to initial analyses. For the PhD student, the results obtained in the previous stage will be analysed and it will be investigated how the described phenomena correlate. Where necessary, a number of additional typological surveys will take place as well. For the postdoc, based on the results on the second small language sample, the typological results and the results of the additional research, the first unified analyses of the described phenomena and the explanations for their exact cross-linguistic distribution should be formulated and presented at international conferences. Naturally, both PIs are involved in this as well.
- IV. In the **dissemination phase** (M25-36), all analyses will be published. The PhD student will finalize her analyses of the cross-linguistic distribution of usages of past tense morphology and use the rest of the time in this phase to work on the dissertation, to ensure completion by the end of the project. The PIs and the postdoc, assisted by the PhD student, will further develop their theories of the syntactic, semantic and pragmatic behaviour and distribution of past tense morphology, resulting in at least two international journal publications.

2.4 Data handling

We plan to prepare a publicly available database in the course of the project. The format of the database will be as follows: they will have entries for individual examples, where will be marked:

- (i) the example itself and its exact readings;
- (ii) how exactly the example was acquired (from a primary written source; from a secondary source such as a grammar or research paper; from elicitation);
- (iii) the broader linguistics and extralinguistic context of the example sentence;
- (iv) any special relevant information regarding the example.

The student assistant will assist the postdoc and the PhD student with the set up of the database. The database will be built using existing database software, such as FileMakerPro (the final choice being made in Phase I), will be made freely accessible on a Göttingen/ZAS based website and will remain accessible for at least five more years after closing of the project. Since the data mostly reflect published material or data obtained from language consultants/informant, no sensitivity issues arise.

2.5-7

Does not apply

3 Bibliography

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4 Requested modules/funds

4.1 Basic Module

4.1.1 Funding for staff

Berlin:

1 Postdoctoral researcher (100 %) TV-L 13 for 3 years (36 months)
The postdoc position is intended to be occupied by Hadil Karawani.

Göttingen:

1 PhD student (65 %) TV-L 13 for 3 years (36 months)
 1 Student Assistant for 36 months, 40 h. per month

4.1.2 Funding for direct project costs

4.1.2.1 Equipment up to €10,000, software and consumables

Copies, printing paper and postage costs	1.000
Software costs for the database (if not available in Göttingen/Berlin)	250
Publication costs (€750/year)	2.250
	<u>3.500</u>

4.1.2.2 Conferences and Travel

Appr. 6 European conferences (2 conferences per person): (Per conference: flight €300; hotel €80/nights/person, 3 nights; fees, etc. €100)	3.840
Appr. 6 International conferences (2 conferences per person): (Per conference: flight €700; hotel €100/nights/person, 4 nights; fees, etc. €100)	7.200
	<u>11.040</u>

4.1.2.3 Research meetings

Appr. 5 meetings/year in Berlin and 5 meetings/year Göttingen: (Per Berlin meeting: PI, PhD student, Student assistant: train €80 each) (Per Göttingen meeting: PI, Postdoc: train €80 each)	6.000
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4.1.2.4 Visiting researchers

Invitation for all 5 project advisers to come to Berlin/Göttingen (see 5.4.1) (Flight Condoravdi, Iatridou, Harpert: €700 each, Hotel: €80/nights/person, 3 nights each; Train Hengeveld €120, Altschuler, €120, Hotel: €80/nights/person, 3 nights each).	<u>3.540</u>
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4.2 Workshop module

The project will start with a start-up workshop in Göttingen with 6 invited speakers and several speakers who are selected after abstract submission

Travel (6 * €500/each)	3.000
Hotel nights (Hotel: €80/nights/person, 4 nights each)	1.920
Booklets, rooms, etc.	1.000
	<u>5.920</u>

5 Project requirements

5.1 Employment status information

Prof. Dr. Manfred Krifka, Professor (C4), director of ZAS
Prof. Dr. Hedde Zeijlstra, Professor (W2)

5.2 First-time proposal data

Does not apply

5.3 Composition of the project group

Prof. Dr. Manfred Krifka, Professor (C4), director of ZAS
Prof. Dr. Hedde Zeijlstra, Professor (W2)

5.4 Cooperation with other researchers

5.4.1 Researchers with whom you have agreed to cooperate on this project

Prof. Daniel Altschuler (Düsseldorf)

Daniel Altschuler is an expert in the semantics-pragmatics interface: primarily, context dependency of temporal expressions with a focus on understanding how compositional semantics interacts with discourse structure and discourse coherence. His cross-linguistic expertise on tense, aspect, and double access readings is especially important for work on the relationship between past tense and sequence of tense effects.

Prof. Cleo Condoravdi (Stanford)

Cleo Condoravdi is an expert in the semantics of mood, modality, temporality, imperatives and performatives. Her cross-linguistic expertise on sequence of tense and imperatives is especially important for our understanding of past tense semantics.

Dr. Claire Halpert (University of Minnesota)

Claire Halpert is an expert in morpho-syntax and typology of counterfactuals and also in data elicitation and original field work of understudied languages. Her expertise will be especially important for our investigation of cross-linguistic patterns and eliciting grammaticality judgements from native speakers.

Prof. Kees Hengeveld (University of Amsterdam)

Kees Hengeveld is an expert in the typology of tense and modality. He is renowned for his work on transparency in language. His expertise on evidentiality, modality and grammaticalization of tense and aspect is especially important for our understanding of the typology of past tense.

Prof. Sabine Iatridou (MIT)

Sabine Iatridou is an expert in syntax and semantics of past tense, modality and counterfactuality. Her expertise on modals, imperative modality, imperfective aspect and past tense is especially important for our understanding of the relationship and overlap between tense and modality and the semantic overlap between expressions of time and space.

5.4.2 Researchers with whom you have collaborated scientifically within the past three years

Manfred Krifka: Prof. Dr. Arik Cohen (Bar Ilan); Prof. Dr. Roland Hinterhölzl (Ca' Foscari, Venice); Dr. Hans-Martin Gärtner (Hungarian Academy of Sciences, Budapest); Prof. Dr. Hubert Truckenbrodt (ZAS Berlin and HU Berlin); Dr. Uli Sauerland (ZAS Berlin); Dr. Kilu von Prince (HU Berlin).

Hedde Zeijlstra: Dr. Theresa Biberauer (Cambridge); Dr. Bronwyn Bjorkman (Toronto); Prof. Dr. Regine Eckard (Konstanz); Prof. Dr. Anastasia Giannakidou (University of Chicago); Dr. Hadil Karawani (ZAS Berlin); Prof. Sabine Iatridou (MIT); Dr. Olaf Koenen (Nijmegen); Jing Lin (Amsterdam); Prof. Dr. Fred Weerman (Amsterdam).

Hadil Karawani: Dr. Bronwyn Bjorkman (Toronto); Dr. Natalia Gagarina (ZAS Berlin); Dr. Claire Halpert (Minnesota); Prof. Dr. Josep Quer (Barcelona); Dr. Uli Sauerland (ZAS Berlin); Prof. Dr. Frank Veltman (Amsterdam); Prof. Dr. Hedde Zeijlstra (Göttingen).

5.5-6

Does not apply

6 Additional information

Does not apply