Comparatives under the microscope (COMIC)
Project description

1   Introduction

The COMIC-project will investigate the morphology, syntax, and semantics of adjectival comparative constructions of the type illustrated in (1).[1]

(1)   Jill is taller than Fred.

Compared to the positive degree (*Jill is tall*), the comparative construction adds two pieces of material. First, the comparative morpheme *–er* is added to the adjective *tall*, and second, the comparative adjective *taller* introduces the phrase *than Fred*, which contains the comparative standard *Fred*, to which Jill is compared. The comparative standard is introduced by the standard marker *than*. Comparative constructions thus combine **morphological** marking (the *–er*-morpheme), **syntactic** structure (the *than*-phrase), and a **semantic** interpretation, in which two entities are compared with respect to a certain property (in this example Jill and Fred with respect to their height).

Existing approaches typically study the morphology or the syntax or the semantics of comparative adjectives. This has led to a situation where the outcomes of the different perspectives do not properly link up with one another: semantic analyses do not take into account—and are sometimes incompatible with—typological observations and generalisations, and syntactic and morphological approaches are insufficiently informed by the insights of compositional semantics. The COMIC-project aims to fill this gap by developing a fully integrated analysis of these three aspects of comparative constructions.

To this end, it will investigate the cross-linguistic macro- and microvariation in the expression of adjectival comparison and the comparative standard, with the aim of investigating the hypothesis that there is more morphological and syntactic complexity to comparative adjectives than is conventionally assumed. It will develop a strongly compositional semantics of comparative adjectives and the comparative standard, which is informed and constrained by the findings of the morphological and syntactic investigations.

The structure and timeline of the COMIC-project are visually represented in Figure (1). The morphology, syntax, and semantics of adjectival comparison are each the subject of a Work Package (WP1, WP2, and WP3 respectively). The specific research questions of each WP are discussed in the sections below. WP4 develops the fully integrated analysis of the comparative. The relation between the WPs is as follows: **WP1** (morphology, Y1–4) and **WP2** (syntax, Y1–4) are each carried out by a PhD student. **WP3** (semantics, Y2–4) builds on the empirical results of WP1 and WP2 and is carried out by a postdoc. **WP4** (integration, Y4) is a joint effort of the postdoc and the three PIs of the COMIC-project.
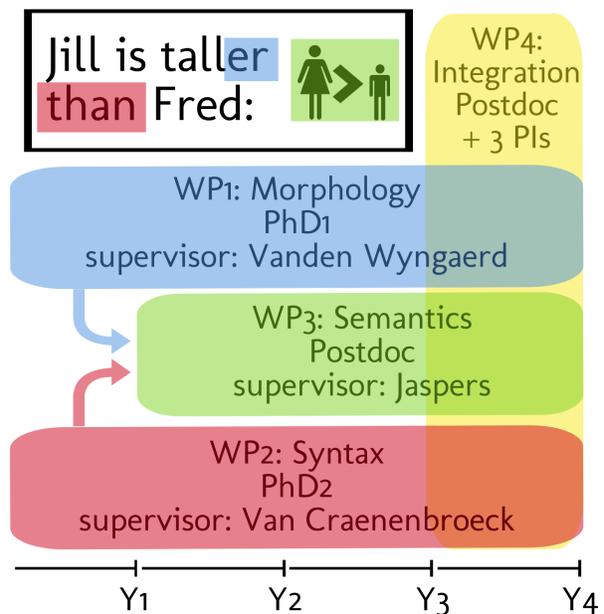

Figure 1: the COMIC-project

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[1]We discuss other ways of marking the comparative in section 8.

2 WP1: Morphology of the comparative (PhD1, G. Vanden Wyngaerd)

2.1 Research questions

> *Research Question WP1*
> What is the functional hierarchy underlying the positive and the comparative degree of gradable adjectives?
> - *Research Question WP1a*
>   Is the structure of the positive degree fully contained in the comparative?
> - *Research Question WP1b*
>   What is the internal structure of the comparative marker?

2.2 Aims

WP1 investigates the morphology of the comparative marker. This study has two parts: (i) investigating structural containment in the pair positive–comparative, and (ii) investigating the internal structure of the comparative marker.

    With respect to the first question, Bobaljik (2012) has argued that the triplet positive–comparative–superlative is characterized by a containment relationship: the superlative contains the comparative, which in turn contains the positive. This is shown in the structure in (2) (where A = adjective, CMPR = comparative, and SPRL = superlative):

(2)   [[[A] CMPR] SPRL]

This containment structure receives empirical support from morphological containment. In Persian, the comparative ending is *-tar*, and the superlative marker *-in* stacks on top of *-tar*, yielding triplets like *kam*, *kam-tar*, *kam-tar-in* 'little, littler, littlest' (Bobaljik 2012:31). Morphological containment in the pair positive–comparative also seems to be well-attested, to such an extent even that Grano & Davis (2018:133) propose this as a candidate for a language universal:

(3)   *The Comparative Base Generalisation* (CBG)
        Universally, the comparative form of a gradable adjective is derived from or identical to its positive form.

There is, however, counterevidence against (3). Data from Czech and Slovak for example suggest a more symmetric relationship between the positive and the comparative. Both languages feature a class of adjectives (the *k*-adjectives), which have a morpheme *-k* in the positive but not in the comparative (e.g. Czech *říd-k-ý* 'thin', *řid-š-í* 'thinner'). Grano & Davis (2018:134) explicitly rule out such a pattern (their pattern D). These adjectives suggest a non-containment structure as in (4), where a common gradable base is elaborated upon in different, complementary ways in the positive and the comparative. In particular, the POS-head of the positive degree is absent in the comparative.

(4)   a.   [[A] POS]
        b.   [[A] CMPR]

The first aim of WP1 is therefore to investigate the cross-linguistic viability of the non-containment relationship between the positive and the comparative shown in (4). The existence of POS is also relevant for the compositional semantics (investigated in WP3), where a corresponding semantic primitive POS is widely assumed (see below, section 4).

The second aim of WP1 is to investigate the internal structure of the comparative marker, and more specifically, the hypothesis that Bobaljik's CMPR head is to be split up into two distinct heads, C1 and C2.

(5) [[[A] C1] C2]

This structure explains a range of facts about the allomorphy of the comparative marker in Czech, the distinction between morphological and syntactic comparatives in English, and suppletion in both Czech and English comparatives (Caha et al. 2019). WP1 wants to extend the empirical scope of this investigation, and aims at finding more cross-linguistic support for this fine-grained structure for the comparative from typological data. The aim is to contribute to the development of a map of the functional superstructure of gradable adjectives, in the spirit of the cartographic programme (see e.g. Cinque 2010).

2.3 State of the Art

2.3.1 Containment

Morphological containment in the pair comparative–superlative is well-attested, albeit far from universal. In the pair positive-comparative morphological containment appears to the norm. As briefly shown above, both Slovak and Czech deviate from this norm, but only with certain adjectives. Three classes of adjectives can be distinguished. Class 1 adjectives are underived, and they are unremarkable in every respect: in the comparative, they add the marker *–(ěj)š* to the positive degree adjective, and as such they observe the CBG in (3). Class 2 and Class 3 adjectives are complex, consisting of a root and an additional marker, which comes in three different forms: *–k*, *–ok*, and *–n* (henceforth AUG, for augment). AUG behaves in two different ways in the comparative. In Class 2, it disappears when the comparative marker *–(ěj)š* is attached, yielding a pattern that violates the CBG. In Class 3, AUG is preserved in the comparative, and the comparative marker *–(ěj)š* stacks on top of it. This pattern is represented in (6) and illustrated with Czech data in (7). (The final *i/ý* is an adjectival agreement marker, which we shall henceforth ignore.)

(6)

	POS	CMPR	
Class 1	A	A	*-(ěj)š*
Class 2	A-AUG	A	*-(ěj)š*
Class 3	A-AUG	A-AUG-*(ěj)š*	

(7)

POS	CMPR	
star-ý	star-š-í	'old'
šir-ok-ý	šir-š-í	'wide'
div-ok-ý	div-oč-ejš-í	'easy'

The Class 2 adjectives suggest a non-containment structure for the positive and the comparative, as sketched in (4) above, with *–ok* a marker of POS and *–š* a marker of CMPR:

(8) a. [$_{POS}$ [$_A$ šir] ok] (positive)   b. [$_{CMPR}$ [$_A$ šir] š] (comparative)

Taking this to be the case, the Class 3 adjectives now raise a problem, since they keep AUG in the comparative, thus suggesting a containment structure:

(9) a. [$_{POS}$ [$_A$ div] ok] (positive)   b. [$_{CMPR}$ [$_{POS}$ [$_A$ div] oč] ejš] (comparative)

As the contrast in (8) and (9) shows, the same AUG marker (in this case *–ok*) sometimes disappears in the comparative, and sometimes remains, so that the source of the contrast cannot be easily attributed to a property of individual AUG-suffixes.

2.3.2 Internal structure of the comparative

The more fine-grained structure of the comparative shown in (5) above receives empirical support from the regular comparative in Czech, which is formed with the suffix *-ějš* (e.g. *bujar-ý* 'merry', *bujař-ejš-í* 'merrier').

Caha (2017) presents two pieces of evidence suggesting that –*ějš* in fact consists of two parts, i.e. that it is to be segmented as -*ěj* + -*š*. The first is that with certain adjectives, the first exponent (-*ěj*) disappears, as is shown in (10) (and as was also the case in the first two lines of (7)). Secondly, the other exponent (-*š*) systematically disappears with comparative adverbs, as shown in (11).

(10)

POS	CMPR	
star-ý	star-š-í	'old'
such-ý	suš-š-í	'dry'

(11)

CMPR ADJ	CMPR ADV	
červen-ěj-š-í	červen-ěj-i	'redder'
hloup-ěj-š-í	hloup-ěj-i	'sillier'

This suggests that these exponents spell out different heads, the C1 and C2 heads shown in (12):

(12) $[_{C2} [_{C1} [_A \text{bujar}] \text{ěj}] \text{š}]$

This proposal also affords a new view on suppletion. The idea is that a suppletive root like *bett-* in the comparative *bett-er* realises both the adjectival root and a part of the functional superstructure, in this case C1, i.e. *bett* = *good*+C1. A portmanteau form like *worse* realises the entire structure in (5), i.e. *worse* = *bad*+C1+C2. This can be achieved under the mechanism of phrasal spell-out, as assumed in the framework of nanosyntax (Starke 2009, Caha 2009). This analysis predicts that root suppletion in Czech should be incompatible with the presence of the C1 exponent -*ěj*, a prediction confirmed by a pair such as *dobr-ý* 'good'–*lep-š-í* 'better'. Since the suppletive form *lep-* spells out the complex A+C1, C1 is no longer available for lexical insertion of the regular exponent -*ěj*. Caha (2017) further argues that the proposal in (5) also applies to analytic markers of the comparative, like English *more*, which realises C1+C2. This correctly predicts that *more* is incompatible with suppletion (see the *Root Suppletion Generalization* of Bobaljik 2012).

2.4   Data and methods

The investigation of Research Question WP1 will involve a typological study into the regular marking of the comparative. It will take as a starting point Bobaljik's "focussed survey" (Bobaljik 2012:247–258), a collection of 169 languages from 31 different families, all of which have a morphologically marked comparative. For all of these languages, literature resources (and in a subset of cases: access to native speakers) are available. In addition, information about regular degree comparison is typically available in even the most basic of traditional grammars and language descriptions, so that there is no scarcity of relevant data. The typological data will be examined with regard to morphological containment of the pair positive–comparative (WP1a), as well as the internal structure of the regular comparative marker (WP1b). In those languages where evidence for separate C1 and C2 exponents is found, the prediction will be tested that suppletion is incompatible with the realisation of these two heads each by a separate exponent.

3   WP2: Syntax of the comparative (PhD2, J. van Craenenbroeck)

3.1   Research questions

Research Question WP2
What is the functional hierarchy underlying the standard marker in comparative constructions?
  • *Research Question WP2a*
    To what extent does the functional hierarchy of the standard marker differ between phrasal and clausal comparatives?

> - *Research Question WP2b*
>   Is there cross-linguistic variability in the functional structure of the standard marker?

3.2 Aims

WP2 focuses on standard markers (henceforth STMs) in adjectival comparative constructions. An example of a STM is the word *than* in (13).

(13)   Jill is taller **than** Fred.

WP2 will explore the hypothesis that STMs are syntactically complex by examining cases of STM-stacking and STM-syncretism. STM-stacking is the phenomenon whereby the STM consists of more than one word or morpheme. Assuming a one-to-one correspondence between morphemes and syntactic terminals (Halle & Marantz 1993), this would imply that these STMs are syntactically complex as well. A similar conclusion follows from the phenomenon of STM-syncretism. As pointed out by Stassen (1985), STMs are typically syncretic with other functional elements, such as conjunctions, relative pronouns, or negation markers. In order to be compatible with such seemingly dissimilar roles, the syntactic makeup of STMs has to be sufficiently rich and internally complex.

3.3 State of the art

3.3.1 Phrasal versus clausal comparatives

A central distinction with respect to comparatives, and one that is crucially related to the STM, is that between phrasal and clausal comparatives (Lechner 2020). The contrast is illustrated in (14)–(15) for Greek (Merchant 2009).

(14)   I   Maria   pezi   kiθara kalitera **apo**   ton Gianni.
        the Maria.NOM plays guitar better   than the Gianni.ACC
        'Maria plays the guitar better than Giannis.'   Greek

(15)   I   Maria   pezi   kiθara kalitera **ap'oti** pezi   kiθara o   Giannis.
        the Maria.NOM plays guitar better   than   plays guitar the Gianni.NOM
        'Maria plays the guitar better than Giannis plays the guitar.'   Greek

While in (14) the STM is followed by single phrase, the DP *ton Gianni*, in (15) it is followed by a clause. This distinction between phrasal and clausal comparatives is also reflected in the form of the STM: the STM found in the phrasal comparative in (14) (*apo*) is formally distinct from the one in the clausal comparative in (15) (*ap'oti*). The example in (16) further shows that clausal comparatives can be elliptical, to the point where they too contain but a single constituent:

(16)   I   Maria   pezi   kiθara kalitera **ap'oti** o   Giannis.
        the Maria.NOM plays guitar better   than   the Gianni.NOM
        'Maria plays the guitar better than Giannis.'   Greek

Both the choice of the STM (*ap'oti*) and the nominative case on the remnant in (16) show that this is a clausal comparative that has undergone ellipsis (Bacskai-Atkari 2018, Lechner 2018). For a language like English, this creates a methodological problem: given that the language has only one STM (*than*) and no case marking on its DPs, an example like (17) is ambiguous between a phrasal and a clausal comparative.

(17)   Jill is taller than Fred.

The distinction between phrasal and clausal comparatives is of crucial importance, though, to WP2. If (17) is a phrasal comparative, then the STM *than* is part of the nominal functional superstructure and should be analyzed accordingly, while if (17) is a reduced clausal comparative, *than* is more complementizer-like and should be analyzed as part of the clausal functional sequence. Similarly, the question of how the STM-constituent is structurally related to the comparative adjective—is it a complement, an adjunct, or a specifier?—also depends on the categorial status of that constituent. Fortunately, the extensive literature on the phrasal-clausal distinction has devised a battery of tests to distinguish between the two types (e.g. the possibility of non-DP remnants, reflexives as remnants, STM-stranding, etc. See Merchant (2009) and references mentioned there for details). When examining concrete examples of STMs, WP2 will systematically apply these tests to determine whether we are dealing with phrasal or reduced clausal comparatives.

3.3.2   STM-stacking

STM-stacking is the term we use to refer to the phenomenon whereby a STM is multi-morphemic, i.e. it consists of more than one word or morpheme. An example from the Dutch dialect of Tongerlo is given in (18) (Barbiers et al. 2006).

(18)   Ze gelooft da gij eer   thuis zijt **lek as** ek   ik.
        she believes that you sooner home be like as I.WEAK I.STRONG
        'She thinks you'll be home sooner than me.'   Tongerlo Dutch

The STM in this example consists of two independent words, namely *lek* 'like' and *as* 'as'. This suggests that the functional superstructure of a constituent introducing the standard in a comparative is more complex than is traditionally assumed. Rather than a single functional projection headed by a single morpheme (e.g. the STM *than* in English) like in (19a), STM-stacking suggests that the functional sequence of standard phrases contains more material, either as the specifier and head of the standard projection as in (19b), or two separate projections, as in (19c).

(19)   a. $[_{STMP} [_{STM} \text{ than }] \dots]$
        b. $[_{STMP} [_{SPECSTMP} \text{ lek }] [_{STM'} [_{STM} \text{ as }] \dots]]$
        c. $[_{STM_1P} [_{STM_1} \text{ lek }] [_{STM_2P} [_{STM_2} \text{ as }] \dots]]$

STM-stacking has thus far received hardly any attention in the literature on comparatives, in spite of the insights it can offer into the fine-grained functional structure of the constituent introducing the standard of comparison. WP2 will fill this void by systematically collecting and describing stacked STMs and exploring their implications for the syntax of comparatives.

3.3.3   STM-syncretism

STM-syncretism is the term we use to refer to the phenomenon whereby a STM in a language is homophonous (i.e. syncretic) with another functional element in that language. To illustrate this, we return to the dialect of Tongerlo. Recall from the previous subsection that *as* 'as' is one of the elements used to introduce a standard constituent. Interestingly, this same element can also be used to introduce conditional clauses in this dialect (Barbiers et al. 2006). More generally, Stassen (1985) shows that this kind of syncretism is attested for the overwhelming majority of STMs.

        Following work such as Wiese (2008) and Caha (2009) we take such cases of syncretism to be significant. As assumed in the framework of nanosyntax (Starke 2009, Caha 2009) (see also WP1 above), we take an element that is syncretic between two contexts A and B to contain a featural (and structural) superset

of the features (and structures) characterizing A and B independently. Applied to the case at hand, this would mean that the structures in (19b) or (19c) would need to be expanded further, as illustrated in (20).

(20) a. $[_{\text{STMP}} [_{\text{SPECSTMP}} \text{STM}_1] [_{\text{STM}'} [_{\text{STM}} \text{STM}_2] [_{\text{CONDP}} \text{COND} \dots]] \dots]$
      b. $[_{\text{STM}_1\text{P}} \text{STM}_1 [_{\text{STM}_2\text{P}} \text{STM}_2 [_{\text{CONDP}} \text{COND} \dots]] \dots]$

In Standard Dutch, the (non-stacked) STM *dan* 'than' spells out the entire sequence consisting of STM_1, STM_2 and COND, with the conditional complementizer *als* 'as' spelling out only COND. The Tongerlo dialect has a different division of labor, with *lek* spelling out STM_1, and *as* spelling out the combination of STM_2 and COND. Like STM-stacking, then, STM-syncretism offers new insights into the fine-grained structural makeup of the functional sequence of the standard constituent.

3.4 Data and methods

WP2 will explore the research questions formulated above both from a macro- and from a microcomparative perspective. Typologically, we will first focus on what Stassen (1985) refers to as "Particle Comparatives". The STMs of these comparatives have a variety of etymological origins (conjunction, disjunction, negation, relative/interrogative pronoun). As such, these constructions form an empirical treasure trove for cases of STM-syncretism. The investigation will start from the 18 languages listed by Stassen (1985) as having "a primary Particle Comparative" and expand the list as necessary based on the existing literature (Bobaljik 2012, Ultan 1972). For all of these languages, reliable descriptions are readily available, and for many of them native speakers can be contacted relatively straightforwardly. We aim at providing a systematic overview of all cases of STM-stacking and STM-syncretism in these languages, while at the same time making a principled distinction between clausal and phrasal comparatives.

The second empirical-methodological component of WP2 is a microcomparative one, for which we turn to comparative constructions in Dutch dialects. These varieties show massive variation when it comes to their STMs: for a simple comparative construction like *You'll be home sooner than me*, the dialects of Dutch have no less than six possible STMs (Barbiers et al. 2005). Here too, we will provide an overview of all cases of STM-stacking and STM-syncretism, again with an eye towards the distinction between clausal and phrasal comparatives. We will start from the data that is already available (but not yet explored) in Barbiers et al. (2005) and Barbiers et al. (2006), and based on those data, we will select a sample of roughly 20 dialects to analyze more in depth. Informants from these dialects will be selected via the informant network of the Meertens Institute, a database of over 7,000 informants, many of whom are dialect speakers.

4 WP3: Semantics of the comparative (postdoc, D. Jaspers)

4.1 Research questions

Research Question WP3
To what extent can the syntactic heads uncovered in WP1 and WP2 be given a strictly compositional semantic interpretation?
- *Research Question WP3a*
  What is the compositional semantics of the functional hierarchy underlying the positive and the comparative degree of gradable adjectives?
- *Research Question WP3b*
  What is the compositional semantics of the functional hierarchy underlying the standard marker?

4.2   Aims

WP3 takes the results from the morphological and syntactic studies as a starting point for a novel semantic analysis of comparatives, in which the findings from WP1 and WP2 receive a strongly compositional interpretation. While there is no *a priori* guarantee that there will turn out to be a perfect match between morphosyntactic structure and semantic compositionality, taking strong compositionality as a null hypothesis has frequently served as a successful heuristic in the past in order to uncover meaning in elements where earlier "mindless morphs" (Bolinger 1977:ix) had been postulated.

With respect to the findings from WP1, WP3 will focus on (a) the semantic decomposition of the positive degree, (b) the semantic decomposition of the comparative, and (c) the interaction between the two. In all three areas, the goal will be to determine the extent to which a semantic analysis of the positive and comparative degrees can be aligned with the available morphosyntactic evidence—both facts already known and ones to be uncovered in WP1.

With respect to the findings of WP2, WP3 will focus on the question to what extent the semantics of the comparative construction can/must be attributed to the standard marker. It will start from the morphosyntactic findings from WP2, and develop a semantics that fits the morphosyntactic facts. Cases of STM-stacking and STM-syncretism will receive a semantically complex analysis, in accordance with the fine-grained syntax proposed for them in WP2. WP3 will thus arrive at an optimally strong compositional syntactic-semantic analysis of standard constituents.

4.3   State of the art

4.3.1   The semantics of positive and comparative degree

Semantic analyses of gradable adjectives in terms of degrees (Cresswell 1976, Bartsch & Venneman 1972, Kennedy 1999) typically assume that gradable adjectives involve a function mapping individuals onto degrees on a scale. In these analyses, a POS(ITIVE)-head is usually assumed (e.g. von Stechow 1984, Kennedy & McNally 2005). POS serves two functions: (i) it turns the measure function (a function from individuals to degrees) into a property (a function from individuals to truth values), and (ii) it introduces the meaning of exceeding a contextual standard. While the semantics of this POS-head are clear, its mapping onto a syntactic head is much less so. For one, the head typically has zero exponence (though recall that the Class 2 adjectives of Czech and Slovak discussed in section 2.3.1 above can be seen as providing morphosyntactic support for its existence). A different question is whether the functions of POS mentioned above should be packed into a single syntactic head. Consider the following examples.

(21)   a.   Fred is tall.
        b.   How tall is Fred?
        c.   Fred is 1.5m tall.
        d.   Fred is that tall.

Example (21a) implies that Fred's height exceeds a contextual standard (i.e. function (ii) mentioned above), but this meaning component is absent from the neutral use of *tall* in (21b–d). This suggests that positive degree adjectives might involve as many as three different heads, with POS decomposed into its semantic components: a root representing the measure function, a head turning this measure function into a property, and another head contributing the contextual standard in a case like (21a). These three distinct heads, each with their own semantic contribution, might still correspond to a single adjective under the mechanism of phrasal spell-out discussed in section 2.3.2 above.

An important semantic question that is raised by WP1, and in particular, the proposal in section 2.3.2 above, is the compositional semantic contribution of the heads C1 and C2. A possible avenue for an answer

to this question can be found in Kennedy & Levin (2008). Their analysis holds that POS can come on top of the adjective (in the positive degree), but also on top of the CMPR-head (in the comparative):

(22)   a.   [[A] POS]   (positive)
        b.   [[[A] CMPR] POS]   (comparative)

The comparative adjective is a measure function like the positive degree adjective, but one of a particular type: a difference function. This function measures the difference between the standard of comparison in the *than*-phrase and the degree of the individual on the scale of the adjective. The POS-head converts this measure function into a property, in the same way as in the positive degree. Under this view, the comparative involves two distinct functional heads rather than one, just as in the proposal that splits up CMPR into C1 and C2. One hypothesis would then be to equate C2 with POS of (22b). That this approach is too simple is shown by the fact that the exponent corresponding to C2 in Czech (–*š*) does not surface in the positive degree, which we would expect if C2 were identical to POS. An even more fine-grained approach is therefore needed, in line with our earlier remarks on the potential semantic decomposition of POS.

4.3.2   The semantics of standard markers

The classic semantic analysis of comparatives places the full burden of the denotation on the comparative marking itself. Consider how this works based on the examples in (23).

(23)   a.   Jill is taller than Fred is.
        b.   Jill is taller than Fred.

Both these sentences can be paraphrased as follows: "the maximum degree to which Jill is tall is greater than the maximum degree to which Fred is tall". This paraphrase suggest that we should analyze the comparative morpheme as a quantifier over degrees. Depending on whether we are dealing with a clausal comparative (as in (23a)) or a phrasal one (as in (23b)), this would yield the two denotations in (24) (Bylinina & Lander 2013). In (24a) MORE directly compares the (maximum) degree expressed by the main clause with that expressed by the *than*-clause, while in (24b) it does not take two sets of degrees as arguments, but rather two individuals and a gradable predicate and then states that the maximum degree to which one of the individuals meets said predicate exceeds the maximum degree to which the second individual does.

(24)   a. $[\![\text{MORE}]\!] = \lambda D_{<dt>}.\lambda D'_{<dt>}.\max(D') > \max(D)$
        b. $[\![\text{MORE}]\!] = \lambda s_e.\lambda g_{<d,et>}\lambda x_e.\max(\lambda d.g(d)(x)) > \max(\lambda d.g(d)(s))$

Note that the STM *than* has no semantic role to play under this analysis. It is a semantically vacuous complementizer (in (23a)) or preposition (in (23b)) introducing the standard constituent. Yet, as Alrenga et al. (2012) illustrate by means of the Greek contrast in (25)–(26) (repeated from section 3.3.1), languages that morphologically mark the distinction between clausal and phrasal comparatives, always do so in the standard constituent (i.e. the STM and/or the standard itself), and never in the adjectival comparative marking.

(25)   I   Maria   pezi kiθara kalitera **apo** ton Gianni.
        the Maria.NOM plays guitar better   than the Gianni.ACC
        'Maria plays the guitar better than Giannis.'   Greek

(26)   I   Maria   pezi kiθara kalitera **ap'oti** o   Giannis.
        the Maria.NOM plays guitar better   than the Gianni.NOM
        'Maria plays the guitar better than Giannis.'   Greek

In this pair the contrast between phrasal and clausal is morphologically marked, but only in the standard

constituent: the two examples have a different STM, and a different case marking on the standard. The comparative marking on the adjective, however, remains the same: both examples use the comparative suffix *-ter*. Given that the distinction between these two types of comparatives is strongly linked to the semantics of the construction (see the two denotations in (24)), these data seem to suggest that it is the standard phrase that contributes this semantics, rather than the adjectival comparative marking.

The accounts in Kennedy (2007), Schwarzschild (2010), Alrenga et al. (2012), Bylinina & Lander (2013), and Menon (2017) differ in the precise denotation they ascribe to the STM, and also in whether the comparative semantics are entirely or only partially expressed by the STM, but they all reject the idea that STMs are semantically vacuous. What is missing in this literature, however, are considerations of a morphosyntactic nature. In particular, to what extent is the proposed denotation of a certain STM compatible with the morphosyntactic properties of that STM? The few attempts at answering this question that do exist suggest that this is potentially a very fruitful domain of inquiry. For example, Schwarzschild (2010) links the denotation of English *than* as a degree pronoun to its etymology/morphology as a pronominal time adverbial, and Bylinina & Lander (2013) go even one step further: they decompose the Circassian STM *nah(r)jə* into two separate morphemes—a case of STM-stacking—and assign a different denotation to the two parts, one that is in line with their uses in other contexts—a case of STM-syncretism. More specifically, *nah* also occurs as a comparative morpheme and so is assigned a denotation comparable to the ones in (24), while *rjə* is argued to introduce exhaustivity or maximization at the edge of the standard clause, in accordance with its use as a focus particle meaning 'even'. As such, their account clearly shows the added value of a semantic investigation into the denotation of STMs that is informed by the morphosyntactic properties of those markers (see also Den Dikken 2005 for a compositional account of a related construction). This is precisely the challenge that WP3 will take on: based on the macro- and microvariational data, generalizations, and syntactic analyses that emerge from WP2, it will explore the denotation of STMs crosslinguistically, but with a strong focus on their morphosyntactic properties, and with the goal of providing a strongly compositional account of these STMs.

4.4   Data and methods

As stated above, the empirical data uncovered in WP1 and WP2 will provide the concrete input for WP3. The semantic analysis will be both informed and constrained by the findings of the morphological and syntactic investigations. This is the reason why WP3 only starts in year 2 of the project: at this point the research in WP1 and WP2 will have advanced far enough to serve as input for WP3. The research hypothesis adopted in WP3 will be that each syntactic head proposed in WP1/WP2 corresponds to a single semantic function. Compared to existing semantic approaches, it is therefore to be expected that the semantics to be developed will be more 'atomic', i.e. it will involve more functions than existing accounts, but these functions will be simpler in nature and hence usable in more syntactic contexts. In other words, the morphological and syntactic decomposition will go hand in hand with a semantic decomposition.

5   WP4: Integration (postdoc + 3 PIs)

5.1   Research question

Research Question WP4
How can the fine-grained compositional morphosyntax and semantics of comparative marking be integrated with that of standard marking into a compositional analysis of comparative constructions as a whole?

5.2 Aims

While the three work packages of this project discussed so far constitute self-contained projects that will make meaningful contributions to the research on adjectival comparison in and of themselves, it is the combination of the three that will really take this research to the next level. The added value of the COMIC-project lies in its integrated approach to the morphology, syntax, and semantics of adjectival comparison. While there is no dearth of studies that have looked at one or at most two of these domains, the novelty of this project is that it aims at integrating these three perspectives, and thus to substantially advance our understanding of the comparative. In order to achieve this integrated analysis, WP4 will build on the results reached by the end of Y3 of the project, when the postdoc (WP3) will have developed strictly compositional semantic interpretations of comparative marking (WP1) on the one hand and standard marking (WP2) on the other. Given that these two analyses were developed independently, there is no *a priori* guarantee that their outcomes will be compatible. For example, when the semantic analysis of standard marking (WP2) in WP3 assigns a certain semantics to STMs, this will have repercussions for the kinds of denotations that are available for the various parts of the comparative marking (WP1). Truly integrating these different analysis into a single unified account is the challenge that will be taken up in WP4.

5.3 Data and methods

The analysis proposed in WP4 will build on the typological investigation of comparative marking on the one hand (WP1) and the combined micro- and macrovariational perspective on standard marking on the other (WP2). It will draw upon the strictly compositional semantic interpretations provided by WP3 of the project to express to what extent each part of the entire adjectival comparative construction contributes to the compositional semantics of the whole. This will constitute a joint effort, taken up by the postdoc in collaboration with the three PIs of the COMIC-project. As is normal in such an integrative effort, the main focus will be on universals. This is not problematic, given that features of the rich cross-linguistic variability that may turn out to be peripheral to the main discussion during this integration stage, are part and parcel of WP1 and WP2, thus ensuring that the different work packages of the project are both integrated in their formal analysis and complementary in their main focus.

6 Budget

Personnel	Total in EUR	Consumables	Total in EUR
2×PhD	370,000	PhDs (€ 5,000/yr)	20,000
postdoc	270,000	postdoc (€ 2,500/yr)	7,500
		hotel & travel Kennedy/Corver/Caha	5,000
		workshop	2,500
TOTAL personnel	€ 640,000	TOTAL consumables	€ 35,000
PROJECT TOTAL			€ 675,000

7 Project team, work packages, and timing

The COMIC-project team will consist of the three PIs, 2 PhD-students, and 1 postdoctoral researcher. The PhD-students will be hired for WP1 and WP2 respectively, both for the four years of the project. Given that WP3 builds on the empirical results from WP1 and WP2, a postdoc with an already established level of expertise in semantics will be hired for this work package from Y2 onwards. That timing allows for three years of overlap with the rest of the project team, two of which (Y2-3) will involve primary collaboration

with the PhD students and one (Y4) with the PIs on WP4. In developing an integrated analysis of comparatives in WP4, the additional expertise and experience of the postdoc will be an added value as well.

For the two PhD-projects WP1 and WP2, we foresee a similar trajectory: a stage of literature review and PhD-training followed by data collection, formal analysis, and the writing of the dissertation. The data collection stage has been split up into two: a longer one at the beginning of the project and a second, shorter one after the first analytical results have been obtained. The two PhDs are expected to deliver 3 publications: a data-oriented one in Y2-Q1, and two theoretical papers in Y3-Q1 and Y4-Q1 respectively (in journals like e.g. *Glossa*, *Syntax*, *The Linguistic Review*, *Natural Language and Linguistic Theory*, *Linguistic Inquiry*). Throughout their second and third year, they are also expected to present (intermediate) results of their research at national and international conferences.

The postdoc will start by providing independent semantic analysis of the morphological marking of the comparative (building on the results from WP1) and the standard marker (building on the results from WP2). Each of these subtopics is expected to lead to a theoretical publication in an international journal (like *Semantics & Pragmatics*, *Journal of Semantics*, *Natural Language Semantics*), or in a book volume with an internationally recognised publisher. The postdoc is also expected to present the results of their research at national and international conferences. In Y3-Q4, the postdoc will spend two months in Chicago to work in close collaboration with Prof. Chris Kennedy of the University of Chicago. In Y4, the postdoc will co-supervise WP4 (the integrated analysis of adjectival comparison in general), together with the three PIs.

The PIs will be in charge of the general aspects of project management (budget, university-internal reporting, etc.), as well as most supervision. WP1 and WP2 will be supervised by Guido Vanden Wyngaerd and Jeroen van Craenenbroeck respectively, albeit in close collaboration with the postdoc, who will be given a chance to develop their mentoring skills by working together closely with the PhD-students. WP3 will be supervised by Dany Jaspers, and WP4 jointly by the three PIs and the postdoc. During the final six months of the project they will develop a follow-up application on a larger topic, but building on the results of the comic-project (see below, section 8).

The entire project team will organise a workshop on comparatives in Y4-Q2. It will be an instalment in the *Brussels Conference on Generative Linguistics* series (see http://www.crissp.be/events/ for details about past editions). For this workshop we will also invite prof. Kennedy (Chicago), prof. Corver (Utrecht), and prof. Caha (Masaryk), so that we can discuss the intermediate results of the comic-project with them. We will also have a meeting with these three experts in Y2-Q4, when the two PhD-students have obtained their first analytical results.

The work packages and their different stages are outlined in the Gantt-chart in Figure 2 on p.13.

8   Leverage towards obtaining external funding

Towards Y4 we expect the project to be sufficiently developed so as to be able to apply for additional funding from FWO (Research Foundation Flanders), either in the form of an individual fellowship for one or more PhD-students, or a research project. Typological research into the comparative (Stassen 1985) shows that, apart from the morphological comparatives investigated in the comic-project, there are two types of periphrastic comparative marking: conjoined comparatives (*A is tall, B not*) and *exceed*-comparatives (*A exceeds B in height*). An obvious research question that such project(s) could investigate is how the findings of the present project extend to the two types of periphrastic comparatives.

In the final two years of the comic-project we will contact strategic partners in other European countries with an eye towards applying for an ERC Synergy Grant, or similar such European funding. Based on the outcomes of WP1 and WP2 we will be able to identify languages that show interesting variation in comparatives beyond what we are able to investigate in this project. Although the precise selection of

	Y1				Y2				Y3				Y4			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WP1: morphology of the comparative																
literature review & PhD-training	■															
data collection		■	■	■						■	■					
formal analysis						■	■	■				■				
dissertation writing														■	■	■
WP2: syntax of the comparative																
literature review	■															
data collection		■	■	■						■	■					
formal analysis						■	■	■				■				
dissertation writing														■	■	■
WP3: semantics of the comparative																
semantic analysis of comparative marking					■	■	■	■								
semantic analysis of standard marking									■	■	■	■				
WP4: integrated analysis of the comparative																
unified analysis of the adjectival comparative													■	■	■	■
general																
PhD supervision	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
project management	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
preparation of follow-up application														■	■	■
Milestones and deliverables																
- data-oriented publication					■											
- theoretical publication								■				■				■
- conference presentations								■			■			■		
- PhD-defense															■	■
- research stay Chicago											■					
- workshop organization														■		
- meeting with Kennedy/Corver/Caha								■						■		

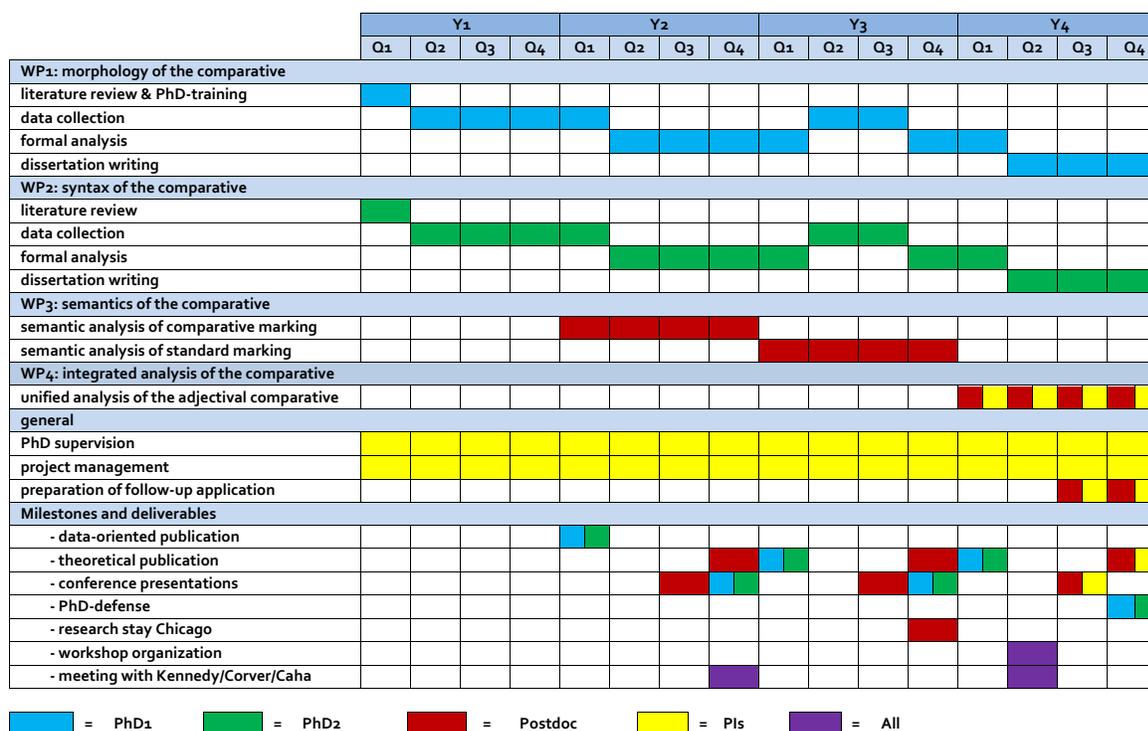■ = PhD1   ■ = PhD2   ■ = Postdoc   ■ = PIs   ■ = All

Figure 2: Gantt-chart of the COMIC-project

those European partners will depend on the research outcomes of the COMIC-project, there are a number of groups and researchers that we already have in mind at this point. These include the research groups of Pavel Caha at Masaryk University in Brno, the one of Sigrid Beck at the Eberhard Karls Universität in Tübingen, and the one of Elvira Glaser at the University of Zürich.

In addition, the project team will remain on the lookout for other relevant calls within the European and national research programmes. For example, we will strongly encourage the postdoc to apply for a Marie Skłodowska-Curie Actions Individual Fellowship, and the two PhDs for a junior postdoctoral fellowship with FWO at the end of the project, and we will assist them in these applications.

9 Outreach

While an integrated account of the morphology, syntax, and semantics of adjectival comparison might seem like an arcane and technical subject with little appeal to a broader audience, we are convinced that the research conducted in the COMIC-project has the potential of striking a chord with the interested layman. Being able to compare two objects or people and order them on a particular scale is a core property of human cognition. Moreover, comparatives are acquired early and show interesting variation in the acquisition data (Syrett 2016). It is against this background that we think the research results from the COMIC-project will find an interested audience. We will report on our findings on our personal blogs (see http://bit.ly/2u0AyDd for an example of a popularising blog post), and submit short and accessible pieces to popularising venues, such as *Onze Taal*, *Neerlandistiek*, *The Layman's Linguist*, *Language Log* (more examples *here*). We will also prepare a session on comparatives for the *Dag van het taalonderwijs*, a yearly info session organised by the Faculty of Arts of KU Leuven and aimed at high school teachers.

13

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