

NORM-RELATEDNESS IN AN *EXCEED*-TYPE LANGUAGE: THE CASE OF YORÙBÁ

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1. *Introduction*

In this paper, we begin by introducing the comparison constructions in Yorùbá. Next, we investigate the distribution of norm-related readings in Yorùbá and review how this distribution has been predicted for English and Russian in the literature.

This paper is structured as follows: in the first section, we specify (i) what an *exceed*-type language is (1.1.), and (ii) what norm-relatedness is (1.2.). In the second section, we first introduce the main comparison constructions of Yorùbá (2.1.), since this has not yet been done in the literature. These data serve as the empirical basis for our research. Secondly, we show how these data could be analysed under a scalar approach (2.2.), and point out puzzles which we have not resolved yet. The last section is devoted to the distribution of norm-related readings. We first reflect on the main characteristics of the norm (3.1.). In (3.2.), we present and compare the distribution of norm-related readings in four languages (English, German, Russian, and Yorùbá). In (3.3.), we show how Rett 2008 and Krasikova 2009 predict this distribution and argue that norm-relatedness is not a binary phenomenon, but a graded one.

1.1. *Exceed-type languages*

The *exceed*-strategy is one of the major strategies used by natural languages to express comparison (Stassen 1985). It has two main characteristics. First, two predicates are combined: a gradable predicate expresses the dimension along which the comparison is carried out, and a predicate meaning *exceed* conveys the ordering relation. Secondly, the standard of comparison – e.g. *Isaac* in (1) – functions as the direct object of the *exceed*-predicate.

In this paper, we investigate aspects of the comparison in Yorùbá (Benue-Congo, Defoid, Nigeria). It exemplifies the *exceed*-strategy as

follows: the *exceed*-predicate *ju*, ‘exceed’, builds a serial verb construction with the gradable predicate – e.g. *ga*, ‘be tall’, in (1)¹.

- (1) Adé ga ju Isaac lɔ²
 Adé be.tall exceed Isaac SM
 ‘Adé is taller than Isaac.’

In a sample of 167 languages, Stassen 2008 classifies 33 languages as *exceed*-type languages, i.e. languages which use the *exceed*-strategy to express comparison. Most of them (24) are located in sub-Saharan Africa. This type is distributed across language families. There are *exceed*-type languages within the Niger-Congo, the Afroasiatic, and the Nilo-Saharan phyla. Only the Khoisan phylum does not have any representative of this type.

1.2. Norm-relatedness

The positive construction in (2) – like its English counterpart – is norm-related³, since the characterization of its truth-conditions involves the reference to some contextually given norm. Intuitively, (2) is true in a situation if Nadjib – the comparee – is taller than some standard size salient in the situation (but see Kennedy 2007a for additional details).

- (2) Nadjib ga
 Nadjib be.tall
 ‘Nadjib is tall.’

Before turning to the distribution of norm-related readings across comparison constructions in section (3), we explore – in section (2) – the main characteristics of these comparison constructions.

¹ The following abbreviations are used in the gloss: ‘NOM’ for nominative, ‘ACC’ for accusative, ‘FOC’ for focus, ‘GEN’ for genitive, ‘PROG’ for progressive, ‘PRF’ for perfect, ‘QM’ for question marker, ‘SM’ for standard marker, ‘TOP’ for topic. If no source is indicated, the Yorùbá data have been collected by the author using questionnaire-guided elicitation with four language assistants: Bùnmi Aina (BA), Akin Akinleye (AA), Isaiah Okere (IO), and Nadjib Sadikou (NS).

² *Ju* seems to have low tone only at clause boundary.

³ This term comes – as far as we know – from Bierwisch 1989. Rett 2008 uses the term ‘evaluativity’, Constantinescu et al. 2008 the term ‘relative reading’, but these essentially all refer to the same phenomenon.

2. *Yorùbá: an exceed-type language*

2.1. *Comparison constructions in Yorùbá: An overview*

Apart from the data in Stassen 1985 and very scarce mention in the literature, the *exceed*-strategy has not yet enjoyed – to our knowledge – an in-depth study. We therefore present in this section the data in some detail before considering how these data could be covered in the scalar approach to the semantics of comparison constructions (developed in Cresswell 1976, von Stechow 1984, a.o.).

Syntactically, we assume that the gradable predicate and the *exceed*-predicate build a serial verb construction. The diagnostics used to detect such a construction are: (i) (aspectual, modal) auxiliaries can only appear once in such a sequence, and (ii) the direct object of the second predicate can be extracted (e.g. because of focalization) (Déchaine 1993). As shown in (3) and (4), auxiliaries cannot appear twice in a comparative construction⁴. (5) shows that extraction of the direct object is possible, whereas such an extraction is not possible in a coordination (6). (7) shows that the ungrammatical status of (6) can be imputed to the extraction of the direct object.

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|-----|--------------------------------------|---------|---------|---------|--------|-----|--------|----|
| (3) | *Max | ń | ga | ń | ju | Bob | lọ | |
| | Max | PROG | be.tall | PROG | exceed | Bob | SM | |
| (4) | *Max | lè | ga | lè | ju | Bob | lọ | |
| | Max | can | be.tall | can | exceed | Bob | SM | |
| (5) | Bob | ni | John | ga | ju | lọ | | |
| | Bob | FOC | John | be.tall | exceed | SM | | |
| | 'It's Bob that John is taller than.' | | | | | | | |
| (6) | *Bob | ni | John | ga, | ó | si | ju | lọ |
| | Bob | FOC | John | be.tall | he | and | exceed | SM |
| (7) | John | ga, | ó | si | ju | Bob | lọ | |
| | John | be.tall | he | and | exceed | Bob | SM | |
| | 'John is tall and he exceeds Bob.' | | | | | | | |

The status and the exact distribution of *lọ* in comparison constructions remain unclear. *lọ* also means 'go' as in (8), where it functions as the main predicate of the clause. Nevertheless, we consider *lọ* in (1) and in (8) to be homonyms rather than one lexical item⁵. The absence of *lọ*

⁴ We distinguish between the terms 'comparison constructions' and 'comparative constructions'. The first refers to all constructions which deal with comparison, i.e. superlatives, equatives, excessives, comparatives, etc. The second refers specifically to the 'more than' relation.

⁵ Adesola no date, and Schleicher 2008 remain silent on the usage of *lọ* in comparatives. Rowlands (1969: 124), and Bámgbóšé (1966: 63) gloss *lọ* as 'go'. We consider

slightly degrades the grammaticality of comparatives (9)⁶. In excessives (10), its presence renders the clause ungrammatical, whereas its distribution in superlatives matches its distribution in comparatives (11). We assume that it functions as a standard marker in comparatives as *than* does in English (Kennedy 2007b). Like *than*, *lɔ* cannot be used in equatives, as shown in (12). It is furthermore interesting to note that cross-linguistically, the standard marker also often has a directional meaning (Kennedy 2007b).

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|------|----------------------------------|---------|-----------|--------------------|-------|
| (8) | Mámá | lɔ | sójà | | |
| | Mother | went | to.market | | |
| | 'The mother went to the market.' | | | | |
| (9) | John | ga | ju | Isaac | ?(lɔ) |
| | John | be.tall | exceed | Isaac | (SM) |
| (10) | Adé | ga | ju | (*lɔ) ⁷ | |
| | Adé | be.tall | exceed | (SM) | |
| | 'Adé is too tall.' | | | | |
| (11) | Adé | lɔ | ga | ju | ?(lɔ) |
| | Adé | FOC.he | be.tall | exceed | (SM) |
| | 'Adé is the tallest.' | | | | |
| (12) | ó | ga | tó | mi | (*lɔ) |
| | He | be.tall | reach | me | (SM) |
| | 'He is as tall as me.' | | | | |

We now turn to other comparison constructions. As seen in (12), equatives use the predicate *tó*, 'reach', instead of *ju*. As for the comparative, the standard of comparison is in the accusative case. It is visible in (12), since Yorùbá morphologically marks case on pronouns. Apart from the two predicates *ju* and *tó*, there is no morphology specialized for comparison constructions. Excessives (10) and *enough*-constructions (13) make use of these two predicates, respectively.

- | | | | | | | | | |
|------|---|---------|-------|------|------|------|------|-----|
| (13) | Adé | ga | tó | látí | şeré | nínú | ẹgbẹ | nàà |
| | Adé | be.tall | reach | to | play | in | team | the |
| | 'Adé is tall enough to play in the team.' | | | | | | | |

that these two *lɔ* are presently homonyms, and that a process of grammaticalization has taken place.

⁶ It should be noted that judgments are not consistent across speakers. The absence of *lɔ* causes the sentence to be ungrammatical for NS, whereas BA still accepts it.

⁷ An anonymous reviewer points out that it is common in African languages to use an excessive-like construction to express something other than the crossing of an upper bound. In the case of (10), we can nevertheless be sure that the crossing of an upper bound is meant, since (10) was elicited within a context which forces such a reading.

The positive construction is morphologically the simplest one (see (2)). *Ga* is syntactically a verb. It is sometimes called a ‘quality verb’, since it denotes a quality⁸.

The superlative is a combination of comparative morphology and overt focus marking (see (11)). The superlative is, cross-linguistically, often marked by comparative morphology and additional features from the focus or definiteness marking system. In Romance languages, for example, the superlative is expressed by the interaction of comparative morphology with definiteness, as in French (14).

- (14) Paul est le plus grand
 Paul is the more tall
 ‘Paul is the tallest.’

A further type of modification is through reference to measurements for dimensions which are associated with a measurement system, e.g. height, cost, etc. This is illustrated with the measure phrase construction in (15) and the differential construction in (16). This reference can also be asked for as shown in the degree question in (17). We consider (17) to be a degree question, since (15) is an adequate answer to it. Degree questions can typically be answered by using a measure phrase construction.

- (15) Kathy ga ní iwòn ẹ̀ṣẹ̀bàtà márùn àt’ ààbò
 Kathy be.tall at measure foot five and’half
 ‘Kathy is 5.5 feet tall.’
- (16) Naomi fi ẹ̀ṣẹ̀bàtà kan ga ju Sandra lọ
 Naomi use foot one be.tall exceed Sandra SM
 ‘Naomi is 1 foot taller than Sandra.’
- (17) Báwó ló ẹ̀ ga tó?
 How.QM FOC.she how be.tall reach
 ‘How tall is she?’

In this section, we have introduced the main comparison constructions in Yorùbá. We now turn to a scalar analysis of these data.

2.2. *Is a scalar analysis applicable to the Yorùbá data?*

In this section, we consider what has to be assumed in order to apply the scalar approach developed for English (Cresswell 1976, von Stechow 1984, a.m.o) to the Yorùbá data. The basic axioms of the scalar approach – also called degree-based approach – are summarized in (18). It should be noted that each of these axioms has been challenged in the literature⁹,

⁸ Used as a synonym for ‘property’ here.

⁹ See e.g. for the first axiom Klein 1980, and for the fifth Kennedy 1999.

$$(21) \quad \|-er_1\| = \lambda y. \lambda g. \lambda x. \text{MAX}\{d|g(d)(x)\} > \text{MAX}\{d'|g(d')(y)\}$$

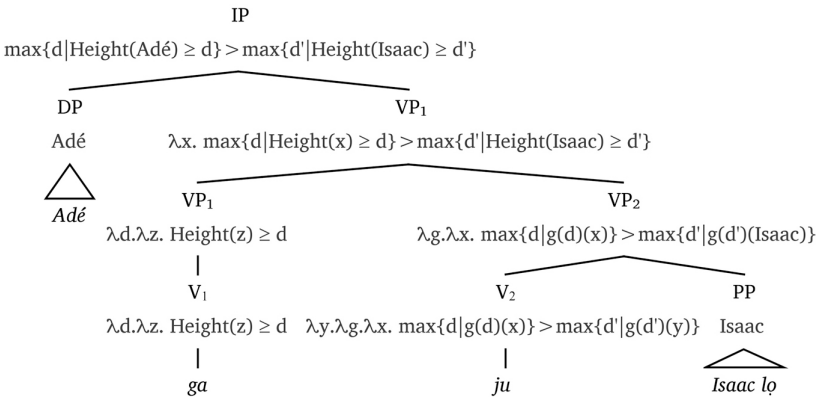
This approach derives the intuitively correct truth-conditions for the phrasal comparative:

$$(22) \quad \text{MAX}\{d|\text{Height}(\text{Adé}) \geq d\} > \text{MAX}\{d'|\text{Height}(\text{Isaac}) \geq d'\}$$

‘MAX’ is a function which picks the maximal degree from a set.

Application to the Yorùbá phrasal comparative is rather straightforward (see (23)). The syntax of the VP nodes follows Déchaine (1993: 803). The *exceed*-predicate is given the semantics of the English comparative morpheme (see (21)). As in English, an additional lexical entry like (24) is required for the comparative with degree (25).

(23)



$$(24) \quad \|-er_2\| = \lambda d. \lambda g. \lambda y. \text{MAX}\{d'|g(d')(y)\} > d$$

- (25) Kathy ga ju ẹsẹbàtà márùn àt' ààbò lọ
 Kathy be.tall exceed foot five and'half SM
 'Kathy is taller than 5.5 feet.'

This analysis can readily be extended to the equative if the ordering relation is properly adapted. Nevertheless, in the case of the superlative, the excessive, and the *enough*-construction, Yorùbá does not have any specialized morphology. To arrive at an English-like LF, one has to assume that *ju* and *tó* are lexically ambiguous. *ju* would therefore have at least three lexical entries: the comparative ones in (21) and (24), and one for the excessive¹³. We assume that the superlative uses a slightly modified version of (21) in which the standard of comparison is a set of

¹³ Kennedy (1999: 143) also assumes lexical ambiguity for the comparative morpheme.

salient alternatives – triggered by the focus on the comparee – instead of one individual.

$$(26) \quad \|\jmath_{\text{SUP}}\| = \lambda g. \lambda x_{[+F]}. \text{MAX}\{d' | g(d')(x)\} > \text{MAX}\{d | \exists y \in \text{Set}_{[+F]} [g(d)(y)]\}$$

In Yorùbá, degree-denoting expressions (of type $\langle d \rangle$), for an alternative see Schwarzschild 2005), like *esèbàtá márùn àt' ààbò* in (15), are accommodated by additional material, *ní iwòṅ* in (15). Whether this additional material is to be considered as semantically vacuous in order to keep the relational meaning for the gradable predicate (see (19)), or whether this indicates that gradable predicates in Yorùbá should be given a different lexical entry remains an open question.

We have assumed a direct analysis of phrasal comparatives and showed which puzzles need to be solved in order to apply an English-like semantics to the Yorùbá data.

What about clausal comparatives in Yorùbá? A clear case of a clausal comparative in English, the comparative subdeletion, is rendered in Yorùbá with a *bí...ṣe*-construction, see (27)¹⁴. For English, it is assumed within the scalar approach that the *than*-clause provides a set of degrees (of type $\langle d, t \rangle$, see Heim 2001) or a degree (Kennedy 1999: 143).

$$(27) \quad \text{tábìlì yìì gùn jù bí lẹ̀kùn yẹ̀n ṣe fẹ̀ lọ}$$

Table this be.long exceed how door that how be.wide SM
'This table is longer than that door is wide.'

The *bí...ṣe*-construction also appears in manner and degree *wh*-questions (see (28) and (17), respectively, *báwo* is decomposable into *bí* and *wo*), in embedded constructions about manner or degree ((29) is an embedded *wh*-question about degree). The syntactic status of the *bí...ṣe*-construction seems to be that of an NP, since two *bí...ṣe*-constructions are coordinated by *àti*, which is exclusively reserved to coordination of NPs (see (30))¹⁵.

$$(28) \quad \text{Báwo ní a ṣe ní se irẹ̀sì? [Schleicher 2008: 125]}$$

how.QM FOC we how PROG cook rice
'How do we cook rice?'

¹⁴ In Schleicher (2008: 125) the *bí...ṣe*-construction is considered to introduce an embedded expression of manner. Rowlands (1969: 179) takes *bí...ti*-constructions to introduce embedded expression of manner. We consider both constructions to be semantically equivalent, and the *bí...ti*-variant to be simply more archaic. We therefore gloss both *bí* and *ṣe* as 'how'.

¹⁵ Sentences are coordinated by *sì*:

$$(i) \quad \text{kò dúdú púpò, kò sì pupa púpò [Rowlands 1969: 203]}$$

NOT be.dark much, NOT and fair much
'She was not very dark, and she was not very light.'

- (29) Nwón fẹ̀ mọ̀ b'ó ti ga àti b'ó ti
 They want know how'tit PRF be.tall and how'tit PRF
 gùn tó [Rowlands 1969: 201]
 be.long reach
 'They want to know how tall and how long it is.'
- (30) tábilì yìì gùn jù bí lẹ̀kùn yẹ̀n ẹ̀ fẹ̀ lọ àti
 table this be.long exceed how door that how be.wide SM and
 bí ọ̀mọ̀dẹ̀ yẹ̀n ẹ̀ ga lọ
 how child that how be.tall SM
 'This table is longer than that door is wide and that child is tall.'

We leave this section with three puzzles for which more research is called for: (i) whether Yorùbá possesses clausal comparatives or not; (ii) how this *bí...ẹ̀*-construction is to be interpreted, and (iii) whether the similarity in morphosyntactic marking between degree reference and manner reference should be reflected in the semantics. Regarding (ii), it should be noted that Mooré (Gur, Burkina Faso) and Hausa (Chadic, Nigeria) – both *exceed*-type languages – require a relative clause introducer (*sě̀n* in Mooré, and *yáddà* in Hausa (Zimmermann 2009)) to build meaning equivalent to English clausal comparatives. This might suggest an analysis in the spirit of Beck et al. 2004 for (31) in Japanese, in which the standard of comparison – introduced by *yori* – is analysed as a (free) relative clause (see also Kennedy 2007b for discussion), i.e. as a set of individuals (to which a MAX operator is applied, see (32). The reader is referred to Beck et al. 2004 for details.)

- (31) Mary-wa [John-ga kaite yori] (motto) takusan-no ronbun-o kaita
 Mary-TOP John-NOM wrote YORI (more) many-GEN paper-ACC wrote
 'Mary wrote more papers than John did.'
- (32) MAX(λx .John wrote x)

In this section, we have shown which challenges a scalar approach applied to Yorùbá would have to overcome. But we have also left open many questions which should be further investigated before we can determine what kind of semantics the Yorùbá comparison constructions should be given. In section (3), we turn to the distribution of norm-relatedness.

3. Norm-relatedness

3.1. Characteristics of the contextually determined norm

In this section, we review the main characteristics of the norm which is referred to, for example, in the positive construction (see (2) repeated below).

- (2) Nadjib ga
 Nadjib be.tall
 'Nadjib is tall.'

We consider these characteristics to apply equally to both, the norm invoked in English and in Yorùbá.

(i) The norm can vary, and this variation affects the truth-conditions of the sentence.

The positive construction in (2) can thus receive a different truth-value even if the facts about Nadjib are not manipulated. The variation of the norm primarily depends on the variation of the comparison class, i.e. a set of individuals which forms a natural class. The norm corresponds to the average value to which the individuals of the comparison class possess the property in question (but see Kennedy 2007a for refinements). The comparison class is typically made explicit in English by a *for*-PP. In Yorùbá, the same strategy is used. Therefore, if we assume that Nadjib measures 1 meter 50, (2) is true with the PP *for a child*, but is considered false with the PP *for an adult*.

(ii) The norm is (usually) vague, i.e. it is not assigned to a definite degree.

The positive construction in (2) is vague (Kennedy 2007a, a.o.). It is possible to manipulate the context (by changing the comparison class) such that the truth value of (2) is not clearly determined, i.e. Nadjib would be in this context a borderline case for the application of *ga*, 'be tall'. We ascribe the vagueness of (2) to the vagueness of the norm. Note that for gradable predicates associated with a measurement system, it is possible to render the norm precise. Imagine e.g. that you are allowed to use in your CV the predicate *gifted* only if you have an IQ of 130 or more. In such a context, *gifted* and the norm on which its application is based are not vague.

(iii) Negative polar gradable predicates (like e.g. *short*) do not share the same norm as their positive polar counterparts (*tall*).

In a given context, the fact that the tree referred to in (33) is not tall (i.e. it does not satisfy the norm for applicability of the gradable predicate *tall*) is not sufficient to accept (33) as true, as is shown by the felicity of sentence (34).

- (33) This tree is short
 (34) This tree is neither tall, nor short

(iv) A contextually determined norm is only relevant for a subclass of gradable predicates.

The truth-conditions of some gradable predicates – called ‘absolute’ by Kennedy & McNally 2005 – do not depend on a contextually determined norm. For example, (35) is true even if the road is minimally wet, i.e. the norm does not vary, but is lexically fixed to a minimum.

(35) This road is wet

Predicates like *straight*, *closed*, etc. are true of an individual if that individual possesses the gradable property fully, i.e. in this case the norm is set to a maximum. In other words, a road is already wet if it is only partly wet, whereas it is not straight if it is only partly straight. Both adjective types – i.e. minimal and maximal ones – are absolute gradable predicates which do not depend on a contextually determined norm, but on one that is fixed lexically. It should be noted that reinterpretation is possible, i.e. an absolute gradable predicate can be used to sharpen what counts as the norm in a context with the consequence that subsequent uses of the same predicate in this context are based on the newly sharpened norm (see Barker 2002 for details). Imagine a situation in which Bob and Bill are discussing what can be considered as *straight*. Bob shows a road to Bill and say: “look at that road, that is straight”. Bob’s utterance specifies the range for the applicability of the gradable predicate *straight*. In this case, the predicate is thus used to sharpen the norm.

In this section, we have introduced the four main characteristics of the contextually determined norm. We now turn to the distribution of norm-related readings.

3.2. *Distribution of norm-related readings*

In this section, we first deal with the following two questions: (i) What is a norm-related reading?; (ii) How can it be diagnosed?

(i) We consider a construction to be norm-related if a contextually determined norm is invoked in its truth-conditions.

(ii) The basic test used in the literature (Bierwisch 1989, Rett 2008) to detect norm-relatedness is the *entailment test*.

The norm-relatedness of a construction can be detected through its entailments (Bierwisch 1989: 90). If a construction entails one of its corresponding positive constructions, it is norm-related¹⁶. We thus have to

¹⁶ This formulation – as already noted by Bierwisch 1989 and Rett 2008 – does not capture the fact that the negated positive (i) is also norm-related.

(i) Andrew is not tall

test whether e.g. (37) entails (38) in order to find out whether (37) is norm-related. We call (38) the *norm-related entailment* of (37).

- (37) Barbara is as short as Naomi
 (38) Naomi is short

Entailments cannot be cancelled. Such a cancellation results in contradiction (39).

- (39) If S_1 entails S_2 , then $S_1 \wedge \text{NOT } S_2$ is a contradiction.

To diagnose norm-relatedness, the construction to be tested is set in a context that is manipulated such that it entails the negated version of (38). If this results in contradiction, the construction is considered to be norm-related.

A remark is in order here. According to Matthewson (2004: 399) it is possible to reliably elicit two types of semantic judgments: judgments about truth values and judgments about felicity. We assume that it is also possible to reliably elicit contradiction judgments, since these can be considered as a subcategory of truth value judgments. Language assistants nevertheless do not judge sentences like (40) as contradictory, but rather as infelicitous. The test is, however, not invalidated, since we can interpret this infelicity as stemming from the norm-relatedness of the left conjunct.

- (40) #Barbara is as short as Naomi, but, actually, Naomi is not short¹⁷

We can next turn to the actual distribution of norm-relatedness. Chart 1 indicates for 12 different comparison constructions, whether they are norm-related (+) or not (-). The investigated constructions are the positive (POS), the comparative (COMP), the equative (EQ), degree questions (DQ), the excessive (EXC), and the *enough*-construction (ENOUGH). For each construction, both the positive polar (pos) and the negative polar (neg) gradable predicates have been considered. The data come from different sources: English (Rett 2008), German (Bierwisch 1989), Russian (Krasikova 2009); the Yorùbá data are based on elicitation done by the present author with four language assistants (see footnote 1). ('#₁' / '#₂') in the fifth column means that for #₁ language assistants the construction is norm-related, whereas it is not norm-related for #₂ language assistants. Thus e.g. the Yorùbá counterpart of the equative construction with a

¹⁷ In (40), we use '*but, actually*' instead of bare '*and*' to enhance the plausibility of the sentence without affecting the truth-conditions (Levinson 1983: 127). The sentence was elicited in English and the judgment was given by Paul Peterson.

negative polar gradable predicate in (41) is judged to be norm-related by four language assistants and not norm-related by none¹⁸.

Constructions	English	German	Russian	Yorùbá
[pos][POS]	+	+	+	+
[neg][POS]	+	+	+	+
[pos][COMP]	-	-	-	-(0 / 4)
[neg][COMP]	-	-	-	-(1 / 3)
[pos][EQ]	-	-	+	-(0 / 4)
[neg][EQ]	+	+	+	+(4 / 0)
[pos][DQ]	-	-	+	-(0 / 4)
[neg][DQ]	+	+	+	+(4 / 0)
[pos][EXC]	-	-	+	-(0 / 4)
[neg][EXC]	-	-	+	-(1 / 3)
[pos][ENOUGH]	-	-	+	-(0 / 4)
[neg][ENOUGH]	-	+	+	-(1 / 3)

Chart 1: Distribution of norm-relatedness across comparison constructions

As mentioned above, we use the entailment test to diagnose norm-relatedness in Yorùbá.

- (41) Adé kúrú tó Bùnmi
 Adé be.short reach Bùnmi
 ‘Adé is as short as Bùnmi.’

At least three facts can be learned from Chart 1.

First, regarding English, German, and Russian we can observe that:

- (i) English and German pattern quite similarly.

¹⁸ In Yorùbá, the constructions whose potential norm-relatedness were not tested empirically but established on the basis of our knowledge of the language are marked only with ‘+’ or ‘-’.

They only differ in the *enough*-construction with negative polar predicate. This difference might be the reflex of the absence of a unified elicitation technique for norm-relatedness. The fuzziness of the judgments might also indicate that some constructions are only weakly norm-related (see section (3.3.3.)).

(ii) English/German and Russian pattern very differently.

In Russian, norm-relatedness is present in almost all comparison constructions. The only construction that is not norm-related is the (synthetic)¹⁹ comparative construction, as in (42).

- (42) Germann byl sil'nee čem ego protivnik [Rett 2008: 109]
 Germann was stronger what his adversary
 'Germann was stronger than his adversary.'

(iii) Yorùbá patterns like the English/German group.

Although Yorùbá does not pattern morphosyntactically like English and German (see section (2.1.)), it shows a quite similar distribution of norm-related readings.

The same language assistant produced a judgment departing from the three others in the case of the negative COMP, EXC, and ENOUGH constructions. We can think of two possible interpretations for this variation. This variation might be due to hypercorrection, i.e. a case in which an language assistant – trying to help the researcher – deliver judgments which offers a neater pattern than it really is. A second possibility is that this variation might reflect speaker uncertainty. We consider the first possibility to be the more plausible one in this case. Nevertheless, it should be noted that the possibility of hypercorrection attests to the weakness of the effect.

We have not enough data from other *exceed*-type languages to be able to make any generalization extending to this category of languages. It should be the subject of further research to investigate whether or not *exceed*-type languages pattern alike with respect to the distribution of norm-related readings.

¹⁹ The analytic comparative construction (i) is norm-related in Russian.

(i) Germann byl rostom bol'she čem ego protivnik [Rett 2008: 109]
 Germann was more strong what his adversary
 'Germann was stronger than his adversary.'

3.3. *Predicting the distribution of norm-related readings*

In this section, we review which factors might be held responsible for the distribution of norm-relatedness. First, we exclude determination by individual factors. Second, we introduce Rett's 2008 account of the distribution of norm-relatedness in English and show its shortcomings. We then introduce Krasikova's 2009 attempt to unify in one account both the English and the Russian distribution of norm-relatedness. Finally, we consider what the Yorùbá data might yield for the theorizing about the distribution of norm-related readings.

Considering the distribution of norm-relatedness in English/German/Yorùbá in Chart 1, it is evident that it cannot be exclusively determined by one of the following three factors (i) to (iii):

(i) the gradable predicate used, since (44) is norm-related, whereas (45) is not;

- (44) John is tall²⁰
 (45) John is taller than Bob

(ii) the polarity of the gradable predicate, since (46) is norm-related, whereas (47) is not;

- (46) John is as small as Naomi
 (47) John is smaller than Naomi

(iii) the type of comparison construction involved, since (48)²¹ is norm-related, whereas (45) is not.

- (48) Jones is happier than Noam

3.3.1. *Rett's account (Rett 2008)*

On the basis of such observations, Rett 2008 proposes that the distribution of norm-relatedness in English results from the interplay of two (binary-valued) factors:

(i) the polarity, i.e. whether the gradable predicate is positive or negative polar;

²⁰ We choose English examples for ease of use, but (i), (ii), and (iii) equally apply to German and Yorùbá.

²¹ The gradable predicate *happy* – called an 'extreme adjective' by Paradis 2001 – belongs to a subclass of gradable predicates, which have norm-relatedness across-the-board. Cf. Rett (2008: 209) for the differing distributions of norm-relatedness depending on the subclass of the gradable predicate. In this paper, we consider only 'relative gradable predicates' (in the terminology of Kennedy 2007a).

(ii) the type of comparison construction involved. According to Rett, a comparison construction can be directional versus non-directional²².

A comparison construction is non-directional if the modification of the ordering relation which it encodes does not affect its truth-conditions. To modify the ordering relation of a comparison construction only means – on Cresswell’s (1976: 284) assumptions – choosing the gradable predicate of opposite polarity. Thus degree questions are e.g. non-directional, since truth-conditions are not affected by the modification of the ordering relation, see (49). The same is not true of the comparative whose truth-conditions are affected by such a modification, see (50). The comparative is therefore directional.

- (49) ‘How tall is Sam?’ is truth-conditionally equivalent to ‘How short is Sam?’
- (50) ‘John is taller than Sam’ is not truth-conditionally equivalent to ‘John is shorter than Sam’

The interplay of these two factors produces four possible combinations. From these only comparison constructions which feature a negative polar gradable predicate and are non-directional are norm-related:

DIRECTIONALITY	Directional	Non-directional
POLARITY		
Positive	–	–
Negative	–	+

Chart 2: Distribution of norm-related readings predicted by Rett’s 2008 account

Three additional ingredients effect the observed distribution of norm-relatedness in English in Rett’s 2008 system:

- (i) every comparison construction is potentially ambiguous between a norm-related, and a non-norm-related reading;
- (ii) negative polar gradable predicates are marked relative to their positive counterpart;
- (iii) truth-conditionally equivalent propositions enter a (semantic) competition whose outcome is to block the availability of the marked candidate.

²² We simplify her account slightly, but this does not harm the purpose of exposing the system.

As an illustration, we show how the norm-relatedness of the equative construction is derived in this account.

First, both the positive polar and the negative polar equatives are potentially ambiguous between a norm-related and a non-norm-related reading, see Chart 3. Only the non-norm-related readings are truth-conditionally equivalent (=)²³. Truth-conditionally equivalent propositions enter a competition, such that the marked candidate, i.e. in this case the candidate featuring a negative polar gradable predicate, is blocked, see Chart 4. The negative polar equative is thus not ambiguous, but can only receive a norm-related reading, whereas the positive polar equative remains ambiguous. Only those constructions which are unambiguously norm-related are considered norm-related. Thus the negative polar equative is norm-related, whereas the positive polar equative is not norm-related.

John is as tall as Sam		John is as short as Sam
+	≠	+
-	=	-

Chart 3: Potential ambiguity of both negative and positive polar equatives

John is as tall as Sam		John is as short as Sam
+	≠	+
-	=	BLOCKED

Chart 4: Outcome of the semantic competition

This account – if we accept that the comparative, the excessive, the *enough*-construction, and the superlative are directional, whereas the equative and degree questions are not – correctly derives the distribution of norm-relatedness in English²⁴ according to the pattern shown in Chart 1. We nevertheless point at two potential problems.

First, the notion of markedness should be refined. As it is, it derives that (51) and (52) (Rett 2008: 116) are both equally marked compared to

²³ Rett assumes an *exactly*-reading for the equative (Rett 2008: 94).

²⁴ The norm-relatedness of both the positive polar and the negative polar positive is derived by making an additional assumption (Rett 2008: 105).

each other. (52) uses *short* which is marked compared to *tall*, whereas (51) uses *less* which is marked compared to *more*. Intuitively, it nevertheless seems that (52) is more marked overall than (51).

(51) Adam is less tall than Doug

(52) Adam is more short than Doug

We therefore need a more fine-grained approach to the notion of markedness.

The Russian data pose an additional problem to Rett's account. The distribution of norm-relatedness is not correctly predicted by her system.

3.3.2. *Krasikova's account (Krasikova 2009)*

Krasikova's 2009 account attempts to predict both the distribution of norm-relatedness in English/German and in Russian. She suggests that gradable predicates are lexically ambiguous between two meanings: a vague meaning, and a scalar meaning. Norm-relatedness arises from the use of the vague meaning of a gradable predicate, i.e. the distribution of norm-relatedness is recast as the distribution of the vague meaning for the gradable predicate.

Krasikova assumes that different factors influence the distribution of vague meaning for gradable predicates in English and in Russian. In Russian, the scalar meaning needs to be licensed by degree morphology on the gradable predicates. Since it is only in the case of the (synthetic) comparative that degree morphology is visible on the gradable predicate, it is correctly predicted that only this construction is norm-related. In English, on the other hand, another factor drives the resolution of the ambiguity between vague meaning and scalar meaning: if two constructions are truth-conditionally equivalent (in one of their readings) and only differ in the polarity of their gradable predicate, it is assumed that this reading is blocked for the marked counterpart, and therefore not available anymore. For example, (53) and (54) are truth-conditionally equivalent if we consider the scalar meaning for their gradable predicates and under an *exactly*-reading for the equative. Since (54) is marked compared to (53), the scalar meaning is blocked for (54). As a result, (54) only retains its vague meaning and is therefore norm-related.

(53) Naomi is as tall as Jim

(54) Naomi is as short as Jim

Differing in the implementation, Krasikova's account nevertheless posits – as Rett's does – the relevance of polarity for English. It also assumes that negative polarity is marked compared to positive polarity.

3.3.3. *What does Yorùbá contribute to this picture?*

How can the empirical picture delivered by the Yorùbá data help refining or correcting the existing approaches to the distribution of norm-related readings?

The main import is the fact that surface morphosyntax cannot be held responsible for the distribution of norm-relatedness, since a language with a very different surface, Yorùbá, patterns like English/German. On the other hand Russian, which is morphosyntactically closer to English/German, shows a completely different distribution of norm-relatedness.

Secondly, we suggest that the minor judgment differences found in Yorùbá and between English and German (see Chart 1) might suggest that norm-relatedness is not always a clear-cut phenomenon. There is a decrease in ‘norm-relatedness strength’ between the positive construction and the *enough*-construction, i.e. norm-relatedness is a graded phenomenon. This is corroborated by the fact that judgments for the *enough*-construction are quite shaky (see Chart 1). This might be the reflex of the need for methodological refinements in the elicitation of norm-relatedness. We assume that it is also the reflex of the gradedness of the phenomenon. Moreover, language assistants do not always react to the *entailment test* (see (3.2.)) by judging a sentence whose norm-related reading is in contradiction with its context as contradictory. See the judgment elicited for (40) according to which the sentence is infelicitous. If we consider that language assistants can discriminate between contradictory sentences and infelicitous sentences, it indicates that norm-relatedness is not in all cases a truth-conditional phenomenon. We suggest that the gradation of the norm-relatedness has not been taken enough into account in Rett 2008 and Krasikova 2009. In both accounts the phenomenon is encoded as a binary phenomenon and not as a graded phenomenon.

4. *Conclusion*

In this paper, we have pursued three goals: introduce the main characteristics of the comparison constructions in Yorùbá (section (2.1.)), apply a scalar analysis to the Yorùbá data (section (2.2.)), and give an account of norm-relatedness in Yorùbá (section (3)).

Regarding the characteristics of comparison constructions in Yorùbá, we conclude that: (i) Yorùbá expresses comparison using a serial verb construction involving a predicate which encodes the dimension, and a predicate encoding the ordering relation. (ii) There is no specialized morphology to express comparison. The only lexical item which might be considered to be specialized is *lọ*. (iii) Yorùbá allows direct reference to

measurements, as shown e.g. in (15). It is nevertheless interesting to note that these references seem to be accommodated by additional materials *ní iwòṅ* in (15) and *fì* in (16). (iv) English clausal comparatives are expressed in Yorùbá through *bí ... ṣe*-constructions which display characteristics of nominals. It might therefore be the case that Yorùbá lacks a 'real' clausal comparative. It should be mentioned that characteristics (i) and (ii) are quite widespread among African languages and might therefore be areal phenomena (Leyew & Heine 2003).

We applied a scalar analysis to the Yorùbá data in a straightforward manner. We gave Yorùbá gradable predicates the same lexical entry as the one reserved for English gradable predicates, and we assigned the meaning of the English comparative morpheme *-er* to the predicate *ju*. We adopted the direct analysis of Heim 1985. Since we do not have evidence for the existence of clausal comparatives, we tentatively hypothesize that Yorùbá only requires the 3-place comparative morpheme type such as in (21) and its akin variants (e.g. (24)), i.e. no morpheme of the type $\langle\langle d, t \rangle, \langle\langle d, t \rangle, t \rangle\rangle$ is necessary for the compositional analysis of comparison in Yorùbá (see also Bhatt & Takahashi 2007). This step would predict that there is no scope interaction between the comparative morpheme and other operators (see footnote 12).

Our third goal was to explore the distribution of norm-relatedness in Yorùbá. We found that English, German, and Yorùbá pattern quite similarly in this respect, whereas Russian does not. Such a language grouping suggests a modelling of the phenomenon which does not refer to morphosyntax, since morphosyntactically distant languages such as English/German and Yorùbá can pattern alike with respect to the distribution of norm-related readings. We also suggested that norm-relatedness is a graded phenomenon instead of a binary phenomenon. It has a truth-conditional effect in most of its occurrences, but it is not always truth-conditional.

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