Overriding negative concord[1]

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Negative concord languages require the presence of a sentence negator in clauses containing a negative quantifier. Chechen is a negative concord language, but overrides negative concord in certain question types: those with a polar question marker and those with an argument wh word. This paper describes Chechen's behaviour using a context-sensitive markedness constraint derived from harmonically aligning an existing context-free one to a newly proposed question type hierarchy. This solution predicts that there may be other languages where different question types override negative concord.

1   Introduction

Negative concord normally requires the presence of a sentence negator when a negative quantifier is used (van der Wouden & Zwarts 1993). This rule applies in affirmative as well as interrogative mood.

Example (1) illustrates this behaviour for Russian. The negative expression *nichego* 'nothing' requires the presence of a sentence negator *ne* 'not' in declarative mood (1a), for a subject question (1b) and for a polar question (1c). The question-answer pair in (1d) shows that the word *nichego* 'nothing' behaves as a negative quantifier in isolation. It has an inherent negative meaning, for which reason it can be regarded as an "n-word" (Laka 1990).

(1)   a. On   nichego   *(ne) znajet.
          he   nothing   not   knows
          'He doesn't know anything.'

      b. Kto   nichego   *(ne) znajet?
          who   nothing   not   knows
          'Who doesn't know anything?'

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    c. On   nichego *(ne) znajet   li?
       he   nothing not   knows   QM
       'Doesn't he know anything?'

    d. Chto vy   znajete? Nichego.
       what you know   nothing
       'What do you know? Nothing.'

The Northeast Caucasian language Chechen is a negative concord language too, as illustrated by example (2).[2] The appearance of the negative expression *cwa a*, 'no one', requires the presence of a sentence negator *ca* 'not'.[3] Example (2b) shows that Chechen expressions like *cwa a*, just like the Russian *nichego,* behave as negative quantifiers in isolation, having an inherent negative meaning, so that it too can be regarded as an n-word.

(2) a. Cwa a   vist   *(ca) xilla.
       no one   speak   not   happened
       'No one started to speak.'   (Noxchalla 2007)

    b. Vist mila xilla?   Cwa a.
       speak who   happened   no one
       'Who started to speak? No one.'

The data in the following sections of this paper show that Chechen negative concord can be overridden in certain situations, which requires the standard analyses of negative concord to be revised.

2   Negative concord

2.1 *Describing negative concord*

Negative concord can be described in a bidirectional OT approach as proposed by de Swart (2004), in turn building on the work of OT pioneers Prince and Smolensky (1993/2004) as well as Blutner (2000). Bidirectional OT requires additional constraints to express faithfulness, which now has to be two-ways:

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[2] Data from Chechen are based on grammaticality judgments from native speakers.
[3] Chechen *cwa a* consists of the number *cwa* 'one' and a clitic *a* which in other contexts serves purposes such as intensification and conjunction. Chechen transcription follows the practical orthography introduced by Nichols for the related Ingush language (Nichols 2007). The letter ***y*** is the rounded high vowel, ***hw*** is the voiceless fricative, and ***w*** is a voiced epiglottal stop on its own, while indicating pharyngealisation of the following vowel when it comes after a consonant. The apostrophe after consonants denotes ejectivisation, as in ***p'***, ***t'***, while it stands for a glottal stop when it is word-final, as in ***cwa'***.

from form to meaning and from meaning to form.[4] These constraints, the FAITH constraints, build on the traditional MAX and DEP constraints, which in turn are a further development of PARSE and FILL (McCarthy & Prince 1995; Prince & Smolensky 1993/2004).[5] The DEP family of constraints assign a violation mark to an element appearing in the surface form that does not have a corresponding underlying form, while the MAX constraints assign a violation mark to an element in the underlying form that does not have an associated surface form element. Instead of referring to the phonological mapping between underlying form and surface form, faithfulness constraints are equally defined for a mapping between (semantic) meaning and (syntactic surface) form.

Constraints FAITH(Neg) and *NEGATION apply to production and comprehension. The constraints INTERPRET-NEGATIVE is used for comprehension only (mapping a form onto a meaning), since it is concerned with the question whether the presence of a negator, a syntactic form, in a clause leads to the semantic negation of the proposition expressed by that clause. The constraint EXPLICATE-NEGATIVE only applies to production processes, where a meaning is mapped onto a linguistic form, since it is concerned with the question whether the inherently negative meaning of a negative variable leads to the presence of a negator in the syntactic form.

(3) **FAITH**(Neg)
Assign one violation mark to every negation in the input (meaning or form) that is not expressed in the output (form or meaning).

(4) *NEGATION
Assign one violation mark to every negation in the output (form or meaning).

(5) **INTERPRET-NEGATIVE** (Comprehension)
Assign one violation mark to every negation in the form that does not contribute to a semantic negation at the first-order level of the meaning.

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[4] I use the notion "meaning" here to refer to semantic meaning, while "form" refers to the surface syntactic form.

[5] Thanks to an anonymous reviewer pointing me to improvements in the Optimality Theory account presented here.

(6) **EXPLICATE-NEGATIVE**   (Production)
     Assign one violation mark to every negative variable ($\neg\exists x$) in the meaning
     that does not have a corresponding negative quantifier in the form.[6]

Languages all express an intended negation (meaning) using a negator (form), as
illustrated by example (7). Such behaviour is captured by adopting a universal
ranking hierarchy of FAITH(Neg) >> *NEGATION.

(7) a. Tom sees Mary. $\leftarrow\rightarrow$ see(t, m)

     b. Tom doesn't see Mary. $\leftarrow\rightarrow$ $\neg$see(t, m)

De Swart argues that languages with negative concord have a constraint
hierarchy such as shown in (8).

(8)   FAITH(Neg) >> EXPLICATE-NEGATIVE >> *NEGATION >> INTERPRET-
      NEGATIVE

I will now show that this hierarchy holds for Chechen. Consider the problem of
producing a sentence where the meaning contains a negative variable $\neg\exists x$ as
well as an affirmative proposition *p*. Tableau (9) compares the winning
candidate, which uses the n-word *cwa a* 'no one' in the output, with the losing
candidate, which uses the indefinite *cwa'* 'someone'.[7] (The abbreviation SN is
used to indicate the presence of the sentence negator *ca* in the form.) The losing
candidate violates EXPLICATE-NEGATIVE, since the negative variable $\neg\exists x$ in the
input does not have a corresponding n-word in the output. The constraint
INTERPRET-NEGATIVE is ranked lower than EXPLICATE-NEGATIVE, because if it
would have been ranked highest, then (9b) would become the winner, which is
incorrect. The constraint *NEGATION likewise has to be ranked lower than
EXPLICATE-NEGATIVE. If it were ranked as the highest, then (9b) would become
the winner, which is incorrect. The relative ranking of INTERPRET-NEGATIVE and
*NEGATION will be decided later on.

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[6] The constraints introduced here are all derived from the work of de Swart (2004). The
EXPLICATE-NEGATIVE constraint is the same as de Swart's MAXNEG, but has been renamed
in order to avoid a mix-up with the traditionally known family of MAX constraints. De Swart
finds a functional motivation for this constraint in work from Haspelmath, who claims that n-
words are used to mark the participants affected by a negation (Haspelmath 1997).
[7] The tableaux used are *combination* tableaus, which consist of violation marks, as well as the
letters W and L in loser lines, indicating whether a loser wins (W) or loses (L) compared for
one constraint (McCarthy 2008). The tableaux presented here are bidirectional OT tableaux,
where each line provides a meaning-form pair (Blutner 2000).

(9) EXPLNEG >> *NEGATION; INTERPRET-NEGATIVE

		Meaning	Form	FAITH(Neg)	EXPLNEG	*NEG	INTNEG
a.	☞	¬∃x[p(x)]	n-word + SN: *cwa a ciga ca vyedu* 'No one goes there'			**	*
b.		¬∃x[p(x)]	indef: *cwa' ciga vyedu* 'Someone goes there'		*W	*L	

The losing candidate in (10) does have an n-word in the output, but no sentence negator, which violates the FAITH(Neg) constraint. This means that FAITH(Neg) must also dominate *NEGATION.

(10) FAITH(Neg) >> *NEGATION

		Meaning	Form	FAITH(Neg)	EXPLNEG	*NEG	INTNEG
a.		¬∃x[p(x)]	n-word: *cwa a ciga vyedu* '*No one goes there'	*W		*L	
b.	☞	¬∃x[p(x)]	n-word + SN: *cwa a ciga ca vyedu* 'No one goes there'			**	*

Tableau (11) illustrates the interpretation problem of example (2), which contains the n-word *cwa a* 'no one'. Leaving aside candidates with an indefinite instead of a n-word for the moment, the winning candidate, which has an affirmative proposition *p*, is compared with the losing candidate, which has a negated proposition ¬*p*. The winning candidate violates INTERPRET-NEGATIVE, since the sentence negator *ca* 'not' in the input form does not lead to a negated proposition ¬*p* in the output meaning. The winning candidate only has one negation in the output meaning, which violates *NEGATION only once, whereas the losing candidate has two violations of *NEGATION. For the winning interpretation, which has an affirmative proposition, to be more harmonic, the constraint *NEGATION must dominate INTERPRET-NEGATIVE.

(11) *NEGATION >> INTERPRET-NEGATIVE

		Meaning	Form	FAITH(Neg)	EXPLNEG	*NEG	INTNEG
a.	☞	¬∃x[p(x)]	n-word+SN: see (2) *cwa a vist ca xilla* 'No one spoke'			**	*
b.		¬∃x[¬p(x)]	n-word+SN: see (2) *cwa a vist ca xilla* 'No one spoke'			***W	L

The relative ranking of FAITH(Neg) and EXPLICATE-NEGATION cannot be determined by the data considered in this paper, which is why these constraints are separated by a dotted line.

2.2   Chechen "only" as an n-word?

This paper describes the behaviour of Chechen negative concord in questions by considering examples using a Chechen equivalent for "only", the word *bien*, since negative questions containing negative quantifiers are hard to process, and grammaticality judgments of them should therefore be regarded with great care.[8] Chechen *bien* can at least be used as a Negative Polarity Item (which I will from now on refer to as an "NPI"), in that it normally only occurs in a negative context. Specifically, when Chechen *bien* occurs in a sentence, a negator that does not contribute to the negation of the proposition normally is present. Such behaviour is very much like that of negative concord, but we should consider the nature of *bien* a bit more carefully.

The data in (12) show that Chechen *bien* fails a major test for n-words (Giannakidou 2000). Example (12a) contains an overt n-word *cwa a* 'no one', which requires the presence of a sentence negator. Example (12b) shows that replacing the n-word with an only-expression still requires the presence of a sentence negator. These observations could indicate that the Chechen form *bien* "only" has a negative component in its meaning, which is licensed by the presence of a sentence negator. Example (12c) seems to show that *bien*, contrary to *cwa a* illustrated in (2b), cannot have an inherent negative meaning without the presence of a negator to license it.

(12) a. Cwa a   *(ca) vyedu ciga.
        no one   not   goes there
        'No one goes there.'

     b. So bien   *(ca) vyedu ciga.
        I except   /not   goes there
        'Only I go there.'

     c. Ghaala   mila vyedu? So bien   *(ca vyedu).
        city.to   who   goes   I except   /not go
        'Who goes to town? Only I.'

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[8] An example would the following sentence: "When is everybody not going to town?" Speakers might not feel competent to judge the grammaticality of such a question, since an appropriate context for such a question is difficult to imagine.

There may be other reasons why the reply to the question in (12c) is illicit, so I would like to take an observation into account that does seem to indicate that Chechen *bien* is inherently negative. This observation has to do with the negatability of "only". Some languages allow "not only" to be expressed as a combination of a negation and "only", while others do not. Russian sides with languages like English, German and Dutch in allowing the quantifier "not only" to be expressed as a combination of a negator and the quantifier "only" (e.g. "not only", "nicht nur", "niet alleen", "ne tol'ko"). French allows for two ways to express "only" and "not only". The first approach, using *seulement* and *non seulement*, allows "not only" to be expressed as a combination of a negator and "only". The second approach, using the particle *que*, triggers the presence of a sentence negator *ne*. The meaning "not only" can be expressed in this situation using the particles *pas que*, which again triggers the appearance of the sentence negator *ne*.

   Chechen differs from the two systems mentioned above. It comes close to French, since it uses a particle *bien* 'except' to modify the NP in the scope of "only", which triggers the appearance of a sentence negator, as shown in (13a). Chechen differs from the languages discussed so far by its inability to express the quantifier "not only" by means of the particle that is normally used to express "only". Instead, the particle *hwovxa* 'not only' can be used, as illustrated in (13b). This particle does not require the presence of a sentence negator. The fact that the meaning "not only" cannot be derived from the combination of a sentence negator and Chechen *bien* is understandable if we assume *bien* to contain an inherent negation. The sentence negator can only be used for one purpose: either to license *bien* or to express "not only".

(13) a. K'illuochynga bien   dalur   daac iza.
        coward-LOC   except   can.do   not it
        'Only a coward can do this.'

     b. Shina t'amuo beerash hwovxa, diinna xalq' a   ghieldina.
        two   war-ERG children besides whole   nation too weakened
        'Two wars did not only weaken the children, but the whole nation.'

To sum up, Chechen *bien* can by some measure be regarded as an n-word, but its nature is not completely clear. This paper continues under the assumption that *bien* is in fact an n-word, so that the OT negative concord analysis provided by De Swart applies. However, where applicable I will show that the analysis does not crucially stand or fall on this assumption.

2.3   *Negative concord in interrogative mood*

Chechen data show that negative concord is not obligatory in the context of certain question types. The statement in example (14a) requires the presence of a sentence negator in the context of the n-word *bien*, while the polar question in example (14b) does not.

(14) a. So bien   vyedush *vu/vaac ciga.
          I   except   going   am/am.not   there
          'Only I am going there.'

     b. So bien   vyedush vuj/vaacii   ciga?
          I   except   going   am/am.not   there
          'Am I the only one going/not-going there?'

The data also show that Chechen distinguishes between question types. Example (14b) illustrated that negative concord *disappears* within a question using an overt polar question marker suffix—the negator in this kind of polar question is only used to negate the proposition, not to license a negative quantifier. Example (15b) shows that an argument *wh* question does not show negative concord either, unlike the same sentence in declarative mood, witness (15a).

   The usage of n-words within other question types does lead to negative concord. Example (15c) illustrates this for a time adjunct question, and (15d) for a *why* question. While a polar question *with* question marking suffix, as in (14b), does not show negative concord, example (15e) shows that a polar question *without* question marking suffix does.

(15) a. Muusas taxana   bien ghaalahw   buolx *(ca) bina
          Musa   today   only in.the.city   work not   did
          'Musa worked in the city only today.'

     b. Taxana   bien ghaalahw   buolx hwaan   (ca)   bina?
          today   only in.the.city   work who   not   did
          'Who worked/did-not-work in the city only today?'

     c. Muusa   c'ahw   bien   buolx maca *(ca) bina?
          Musa   at.home   except   work when not   did
          'When did Musa work only at home?'

     d. So bien   hunda *(ca) vyedu ciga?
          I   except   why   not   go   there
          'Why do only I go there?'

e. So bien   vyedush *vu/vaac   ciga?
I   except   going   am/am.not   there
'Am only I going there?'

Since Chechen distinguishes question types, the next section explores the idea that languages in general consider question types in a hierarchy.

3   Question types

There is empirical data from different sources supporting the idea of a hierarchy between questions. We will have a brief look at these data, and I will present one possible theoretical justification for the hierarchy.

Several researchers have, first of all, noted a difference between arguments and adjuncts in the area of *referentiality* and *long-distance extractability* (Cinque 1990; Huang 1982; Rizzi 1990). Arguments seem to be more referential and more extractable than are adjuncts, and Chinese data show that within different kinds of adjuncts a distinction can be made too (Legendre, Wilson, Smolensky, Homer & Raymond 1995).

More specific data come from Spanish. Bakovič investigated Spanish dialects and finds that certain dialects allow only particular types of *wh*-phrases to be fronted (Bakovič 1995). The types of frontable *wh*-phrases he finds are: (a) none, (b) argument *wh*-phrases, (c) argument and location (where/when) questions, (d) argument, location and manner (how) questions, (e) all *wh*-phrases, including reason (why).

Additional data can be found by comparing for instance English and Russian. These languages differ with respect to the derivations they allow to be made from question words. The English suffix *–ever* can be attached to almost all question words, in order to create indefinites. It is only the reason question word *why* that leads to a reading that is not readily acceptable by native speakers of English.[9] Russian, on the other hand, allows the indefinite derivational suffix *-nibud'* to be attached to all question words, as illustrated in (16).

(16) Derivations from question words

Question type		Indefinite	
		English	**Russian**
argument	who	whoever	kto-nibud'
argument	what	whatever	chto-nibud'
location	where	wherever	gde-nibud'
time	when	whenever	kogda-nibud'
manner	how	however	kak-nibud'
reason	why	#whyever	pochemu-nibud'

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[9] This observation would benefit from more cross-linguistic comparison.

A confirmation for a question type hierarchy comes from child language acquisition too. Stromswold (1990) finds this hierarchy at work in how native English children acquire auxiliary inversion, which is obligatory for *wh*-questions. She noted the following stages in the development of the childrens' language: (a) no inversion, (b) inversion with argument questions (who, what), (c) inversion includes location (where, when) and manner (how) questions, and (d) inversion also includes the reason (why) question.

The data above suffice to motivate a question type hierarchy like *argument > location > time > manner > reason*. I would like to proceed by suggesting a slightly more theoretical motivation for this hierarchy, in the hope that others will improve upon this attempt. Subject and object NP questions like *who* and *what* refer to arguments of the finite verb, which forms the core of a clause, and are therefore on one end of a natural scale. The polar question marker (realized as a verbal suffix in Chechen) comes, as I argue, next, since it concerns the affirmation or negation of the verb phrase as a whole. Locative and temporal questions like *where* and *when* are still one level higher, since they involve non-arguments, and therefore are more loosely connected to the core. Finally, a *why* question concerns the whole clause, including all of the previously mentioned elements.

The rationale given above does not crucially depend on any particular syntactic theory, but for the sake of concreteness I would like to suggest a link between the proposed question type hierarchy and a generative framework, as illustrated in figure (17). Argument subject questions *who* and argument object questions *what* involve NPs that are governed by the VP (which possibly includes a *v*P). That is to say, argument questions originate in the VP, and then, depending on the language, they move further up in the syntactic tree, possibly reaching the specifier of the CP. A negation phrase, the NegP, projects above the VP, and it is this phrase that is most closely connected with polar questions. Locative questions like *where* involve adjuncts, which are realized as PPs in a language like English. Temporal questions like *when* also originate in adjuncts, but these must be closely related to the TP, the element of the inflectional phrase that has to do with time and tense. The CP finds itself hierarchically above the TP, and the specifier of the CP forms the natural place where global question words like *why* are generated.

The question type hierarchy does *not* include intonation-only questions, which usually are one way of forming polar questions. The intonation-only questions behave the same as declarative mood sentences in Chechen with respect to negative concord.

(17) Question type hierarchy in relation to a generative framework.

CP   >   TP   >   PP   >   NegP   >   VP

why?   *when?*   *where?*   QM   *who?*
                                                       what?
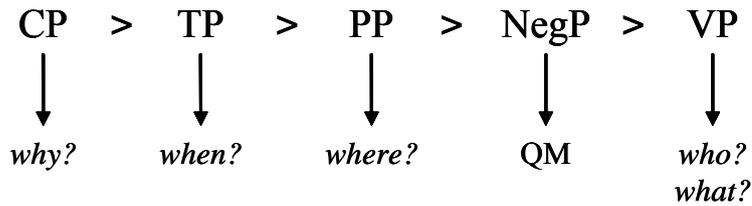
Based on the theoretical motivation and the observations made above, I propose a question type hierarchy as in (18).

(18) **Question type hierarchy**

Argument-question (who? what?)   <
Polar-question (Question Marker)   <
Locative-question (where? when?) <
Manner-question (how?)   <
Reason-question (why?)

The application of the proposed question type hierarchy to negative concord leads me to predict that there will be languages in which the regular negative concord is overridden in the context of different subsets of the question type hierarchy. The facts presented here provide us with two points on the scale. A language like Russian is on one end, as it does not allow negative concord to be overridden in the context of any question. Chechen takes a position somewhere in the middle on the scale, in that it overrides negative concord in the context of question markers and argument who/what questions, but not in the context of other question types.

Taking the question type hierarchy postulated in (18) into account, I propose a context sensitive INTERPRET-NEGATIVE constraint, which is aligned to this hierarchy. The constraint is called INTERPRET-NEGATIVE/QM-ARGWH, and is defined in (21).

(21) **INTERPRET-NEGATIVE/QM-ARGWH**   (Comprehension)
   Assign one violation mark to every negation in a question proposition with a polar question marker or an argument *wh*-question word that does not contribute to a semantic negation at the first-order level of the output meaning.

Section 4 continues by exploring whether the proposed new constraint is enough to account for the Chechen data.

4   Overriding negative concord

This section considers crucial negative concord situations in declarative and interrogative mood, in order to verify whether the addition of the constraint defined in (21) allows us to explain the behaviour observed in Chechen. That negative concord is overridden in the context of certain question types can only be explained in terms of bidirectional OT, which is why section 4.1 presents an analysis of negative concord in these terms, paving the way for section 4.2 to show what happens in the context of the polar and *wh* question types.

4.1   Analysing negative concord in declarative mood

Let us consider the problem of expressing an affirmative and a negative sentence containing a n-word in declarative mood. The bidirectional OT analysis we are going to pursue requires us to give a set of surface forms and intended meanings. The set of surface forms is given in (22). The first example (22a) contains a n-word but no sentence negator, and is ungrammatical. Example (22b) contains a n-word and a sentence negator, but expresses an affirmative meaning. The last example, (22c), expresses a negative meaning, and does so by using a cleft construction.[10]

(22) a. *So   bien   vyedush vu   ciga.   → n-word
         I   except   going   am   there
         'Only I am going there.'

      b. So bien   vyedush vaac   ciga.   → n-word +SN
         I   except   going   am.not   there
         'Only I am going there.'

      c. So bien   vaac   ciga   ca   vyedurg. → n-word +SN+SN
         I   except   am.not   there   not   going.one
         'Only I am not going there.'

The addition of example (22c) forces us to take one more constraint into account in order to justify the fact that a cleft construction is a marked one. The reason a cleft construction is marked is the fact that it adds structure—a syntactic analysis would regard the sentence as having at least two IPs (inflectional phrases). While several different constraints have been proposed promoting economy in the literature, the analysis here suffices with the simple one defined in (23). The

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[10] Chechen only has pseudo-clefts. In this case the pseudo-cleft consists of the subject *so bien* 'only I', the auxiliary *vaac* 'am not' and the complement NP *ciga ca vyedurg* 'the one who does not go there'. This complement NP is a free relative—a relative clause without a nominal head.

syntactic analysis of any sentence at least contains one IP. The constraint *IP militates against using more than one IP to express a proposition, since monoclausal constructions receive one violation mark, but biclausal ones two.

(23) ***IP**
   Assign one violation mark to every IP that is used in the form.

The bidirectional OT analysis is illustrated in tableau (24), where the surface forms are summarized using the labels in (22). Each line contains one of the possible form-meaning pairs. Lines a-c contain all three forms from (22), attributing an affirmative meaning to them, while lines d-e consider these same forms, while contributing a negative meaning to them. The overall winner is the one that has the least violations.[11] In tableau (24) this is the form from (22b) with the affirmative meaning of the proposition. Note that it is the constraint defined in (23) that breaks the tie between the candidates in line *b* and *c*, which otherwise fare equally well. The overall winning form-meaning pair is to be regarded as a combination of the unmarked form with the unmarked meaning.

   That candidate *b* is the winner does not crucially hinge on the nature of *bien* "only" as n-word (see section 2.2 for a discussion on this matter). If *bien* were not regarded as having an inherent negation, then constraint EXPLNEG could not be used, and all violation marks for constraint *NEG would have to be reduced with one. Neither change influences the overall outcome of the tableau.

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[11] The constraints FAITHNEG, *IP and EXPNEG are indicated without ranking, since no evidence in favour of a ranking between them was found. It is possible that future research will provide data to determine a ranking between them, but for the moment I am assuming that their violation marks need to be added up, as is for instance done in the EDCD algorithm (Tesar 1995).

(24) Negative concord in declarative mood – unmarked winner

	Meaning	Form	INTNQ	FAITH(Neg)	*IP	EXPLNEG	*NEG	INTNEG
a.	$(\neg\exists x[p(x)])!$	n-word		*	*		*	
b. ✌	$(\neg\exists x[p(x)])!$	n-word+SN			*		**	*
c.	$(\neg\exists x[p(x)])!$	n-w+SN+SN			**		***	*
d.	$(\neg\exists x[\neg p(x)])!$	n-word		**	*		**	
e.	$(\neg\exists x[\neg p(x)])!$	n-word+SN		*	*		***	
f.	$(\neg\exists x[\neg p(x)])!$	n-w+SN+SN			**		****	

Bidirectional OT seeks other (more marked) winners by looking at form-meaning pairs that have both a different form as well as a different meaning from the overall winner. Lines *a* and *b* have candidates with a different form but the same meaning as the winner, which means that they cannot contain a second winner. Line *e* has a candidate with a different meaning but the same form as the winner, so that it cannot contain a second winner either. The remaining competition is between lines *d* and *f*, as illustrated in (25). The competition is won by the candidate in line *f*, which fares better with respect to the constraint FAITH(Neg). The losing candidate in line *d* has two negation signs in the meaning, but no matching negators in the form. The winning candidate in line *f* has two negation signs in the meaning and two sentence negators in the form, so that it is the most harmonic one in the proposed constraint hierarchy.

(25) Negative concord in declarative mood – marked winner

	Meaning	Form	INTNQ	FAITH(Neg)	*IP	EXPLNEG	*NEG	INTNEG
d.	$(\neg\exists x[\neg p(x)])!$	n-word		**	*		**	
f. ✌	$(\neg\exists x[\neg p(x)])!$	n-w+SN+SN			**		****	

This section shows that the bidirectional OT analysis proposed for Chechen correctly selects a negative quantifier in an affirmative proposition to be

expressed by one sentence negator, while a negative quantifier in a negative proposition can best be expressed by a cleft with one sentence negator in each of its two clauses.

4.2   Analysing negative concord in interrogative mood

Negative concord works differently in the context of interrogative mood sentences, which is why this section considers whether the bidirectional OT analysis selects the correct form-meaning pairs in such a context. The three different forms given in (22) are transformed into interrogative mood forms in (26). All three forms are grammatical, although the last form would probably be used more in the context of focus, which is outside the scope of this current paper. We will again consider two possible meanings: one with an affirmative proposition and one with a negative proposition.

(26) a. So bien   vyedush vuj   ciga?   → n-word+QM
     I   except going   am   there
     'Am only I going there?'

    b. So bien   vyedush vaacii   ciga?   → n-word+QM+SN
     I   except going   am.not   there
     'Am only I not going there?'

    c. So bien   vaacii   ciga ca   vyedurg? → n-word+QM +SN+SN
     I   except am.not   there not   going.one
     'Am only I not going there?'

Tableau (27) illustrates the bidirectional OT analysis of the possible form-meaning pairs. The candidate in line *a* is the overall winner due to the fact that the INTERPRET-NEGATIVE/QM-ARGWH constraint (abbreviated as INTNQ in the tableau) is ranked above the FAITH(Neg) one. This constraint, as well as its lower ranked context-free counterpart INTNEG, is violated whenever a sentence negator (part of the form) does not lead to a negated proposition in the meaning. Form-meaning pairs *b* and *c* have violations, since these have a sentence negator in the form, but they do not have a corresponding ¬p(x)—instead they have an affirmative p(x). Form-meaning pair *f* also has a violation of this constraint, since the main clause *So bien vaacii...* 'Am only I…?' has a sentence negator form (the negative suffix in the copula *vaacii*) which does not lead to a negation of the main clause's meaning. The winning candidate *a* has a negative variable within an affirmative proposition, which violates the FAITH(Neg) constraint, which would prefer a form having at least one negator to match the negative variable. The candidate in line *a* beats the otherwise more harmonic variant *b*

due to the higher ranking of INTERPRET-NEGATIVE/QM-ARGWH, which would require a sentence negator to match up with a negated proposition. Variants *e* and *f* are rejected mainly because they contain too many violations of *NEG.

(27) Negative concord in interrogative mood – unmarked winner

	Meaning	Form	INTNQ	FAITH(Neg)	*IP	EXPLNEG	*NEG	INTNEG
a. ✌	$(\neg\exists x[p(x)])?$	n-word+QM		*	*		*	
b.	$(\neg\exists x[p(x)])?$	n-word+SN+QM	*		*		**	*
c.	$(\neg\exists x[p(x)])?$	n-w+SN+SN+QM	*		**		***	*
d.	$(\neg\exists x[\neg p(x)])?$	n-word+QM		**	*		**	
e.	$(\neg\exists x[\neg p(x)])?$	n-word+SN+QM		*	*		***	
f.	$(\neg\exists x[\neg p(x)])?$	n-w+SN+SN+QM	*		**		****	*

When we look for a possible second winner, lines *b-d* have to be disregarded, since they either have the same form or the same meaning as the winning candidate in line *a*. This leaves the competition to lines *e* and *f*. The winning candidate is the form-meaning pair in *e*, since candidate *f* has a crucial violation of the INTERPRET-NEGATIVE constraint: the main copula clause's negator does not lead to a negation of the main clause. Further research should be done to find out whether candidate *e* becomes the winner when focus on the subject has to be expressed.[12]

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[12] Focus in Chechen is expressed through word order (Komen 2007). Variant *f* seems to provide the subject *so* 'I' with a position closer to the finite verb (the copula *vaacii*) than variant *e*. But further research would be needed to see how focus in Chechen fits in an OT framework.

(28) Negative concord in interrogative mood – marked winners

	Meaning	Form	INTNQ	FAITH(Neg)	*IP	EXPLNEG	*NEG	INTNEG
e. ☞	$(\neg\exists x[\neg p(x)])$?	n-word+SN+QM		*	*		***	
f.	$(\neg\exists x[\neg p(x)])$?	n-w+SN+SN+QM	*		**		****	*

This section on negative quantifiers in the context of negative propositions has shown that the proposed bidirectional OT analysis correctly selects the form-meaning pairs found in Chechen.

4.3 Implications

The previous sections show that negative concord in Chechen can be described by using a constraint hierarchy as given in (29).

(1) INTERPRET-NEGATIVE/QM-ARGWH >> FAITH(Neg), *IP, EXPLICATE-NEGATIVE >> *NEGATION >> INTERPRET-NEGATIVE

Other negative concord languages, like for instance Russian, do not allow negative concord to be overridden in any situation. This shows that for such a language the context-sensitive markedness constraint INTERPRET-NEGATIVE/QM-ARGWH is ranked as low as the context-free one.

Adopting a harmonic alignment solution in which the INTERPRET-NEGATIVE constraint is linked up with a question type hierarchy leads to typological predictions. There may be other negative concord languages that do not show negative concord effects in the context of certain questions, but only certain possibilities support the solution offered in this paper. Languages are only expected to override negative concord in the context of the following groups of question types:
- Type 0: (no question type, e.g. English);
- Type 1: overt polar question markers;
- Type 2: question markers + argument *wh* questions (e.g. Chechen);
- Type 3: like type 2 + non-argument *wh* questions;
- Type 4: like type 3 + *why* questions;

5   Conclusions

Negative concord languages generally require the presence of a sentence negator in the context of a negative quantifier. Chechen is a negative concord language, but does not require a sentence negator when a negative variable is used in questions involving a polar question marking suffix or an argument *wh* question

word. This present study has considered the nature of the constraint allowing negative concord to be overridden.

A language needs to choose between two possible roles of a sentence negator: whether it negates a proposition or expresses the inherent negativeness of a negative quantifier. In OT terms this choice has been expressed as a ranking choice between INTERPRET-NEGATIVE, which would have negators contribute to the negation of a proposition, and FAITH(Neg), which promotes every negation—including that of a negative quantifier—to be accompanied by a negator. Negative concord languages are characterized by the ranking of FAITH(Neg) >> INTERPRET-NEGATIVE, which results in negators being interpreted as belonging to negative quantifiers, which means that they can no longer signal the negation of a proposition.

Chechen too is a negative concord language, characterized by FAITH(Neg) >> INTERPRET-NEGATIVE, but, in addition to the context-free INTERPRET-NEGATIVE markedness constraint, the proposed analysis argues that it also has a context-sensitive version. This constraint is sensitive to the presence of the polar question marker or the argument *wh* question words. It ranks higher than the faithfulness constraint FAITH(Neg), so that negative concord is overridden whenever a polar question marker or an argument *wh* word is present.

The rationale behind the context-sensitive nature of the INTERPRET-NEGATIVE/QM-ARGWH constraint comes from a proposed Question type hierarchy. Questions form a natural scale with respect to a measure of the distance of the question word to the core of the clause.

The analysis proposed in this paper predicts that there might well be other negative concord languages with slightly different behaviour in the context of questions. Neutralization of negative concord can occur in the following contexts, depending on the language: (1) with question markers, (2) also with argument *wh* words, (3) also with adjunct *wh* words, (4) also with *why* question words.

Another prediction is related to first language acquisition. Children are expected to first use argument *wh* words, later learn non-argument *wh* words, and only in a final stage use polar question morphemes (if these exist in their mother tongue).

The data for this research come from native speakers' grammaticality judgments, making use of the fact that Chechen regards *only* as a n-word. The special properties of *only* might also be used to test the operation of negative concord in other languages whose behaviour resembles that of Chechen.

6   References

Bakovič, E. J. (1995). A markedness subhierarchy in syntax: optimality and inversion in Spanish [Electronic Version]. *Rutgers Optimality Archive #80* from http://roa.rutgers.edu/view.php3?roa=80.

Blutner, R. (2000). Some aspects of optimality in natural language interpretation. *Journal of Semantics, 17*, 189-216.

Cinque, G. (1990). *Types of A'-Dependencies* (Vol. 17). Cambridge, MA: MIT-Press.

Giannakidou, A. (2000). Negative ... concord. *Natural Language and Linguistic Theory, 18*, 457-523.

Haspelmath, M. (1997). *Indefinite pronouns*. Oxford: Clarendon press.

Huang, C. T. J. (1982). *Logical relations in Chinese and the theory of grammar.* Unpublished PhD dissertation, MIT.

Komen, E. R. (2007). *Focus in Chechen.* Unpublished Master's Thesis, Leiden University, Leiden.

Laka, I. M. (1990). *Negation in Syntax: On the Nature of Functional Categories and Projections.* Unpublished Ph.D. dissertation, MIT.

Legendre, G., Wilson, C., Smolensky, P., Homer, K., & Raymond, W. (1995). Optimality and Wh-Extraction. In J. Beckman, S. Urbanczyck & L. Walsh (Eds.), *Papers in Optimality Theory* (Vol. 18, pp. 607-636): UMOP.

McCarthy, J. J., & Prince, A. (1995). *Extensions of faithfulness: Rotuman revisited.* Unpublished manuscript, Amherst.

Nichols, J. (2007). An all-ASCII Latin practical orthography for Ingush.   Retrieved January 2007, from http://linguistics.berkeley.edu/~ingush/orthography.html#Practical

Noxchalla. (2007). Tyyranash: Lulaxuoj (Publication. Retrieved 8/Jun/2009, from Noxchalla: http://nohchalla.com/index.php?option=com_content&task=view&id=39&Itemid=60

Prince, A., & Smolensky, P. (1993/2004). *Optimality theory: constraint interaction ingenerative grammar*. Malden, MA & Oxford: Blackwell [Revision of 1993 technical report, Rutgers University Center for Cognitive Science. Available on Rutgers Optimality Archive, ROA-537].

Rizzi, L. (1990). *Relativized minimality* (Vol. 16). Cambridge, MA: MIT-Press.

Stromswold, K. (1990). *Learnability and the acquisition of auxiliaries.* Unpublished PhD dissertation, Massachusetts Institute of Technology, Massachusetts.

Swart, H. d. (2004). Marking and interpretation of negation: a bi-directional OT approach. In Zanuttini, Raffaella, H. Campos, E. Herburger & P. Portner (Eds.), *Comparative and Cross-linguistic Research in Syntax, Semantics and Computational Linguistics, GURT 2004* (pp. 199-218): Georgetown University Press.

Wouden, T. v. d., & Zwarts, F. (1993). A semantic analysis of negative concord. In U. Lahiri & A. Z. Wyner (Eds.), *SALT III: Proceedings of the third conference on semantics and linguistic theory*: Cornell University Department of Modern Languages and Linguistics.

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