The landscape of n-words: On the cross-linguistic variation of negatively marked expressions

1.   Topic, objectives and justification of the project

In many languages sentences containing a negation and a negatively marked nominal expression are interpreted as containing a single negative element, and the same may hold for sentences containing multiple negatively marked nominal expressions. This is illustrated in (1) and (2) for Italian: although both sentences contain two negative expressions, the negative marker *non* 'not' and the negatively marked nominal expression *nessuno* 'nobody', (1-2) are interpreted as containing a single negative element. These sentences convey the meanings 'Nobody called' and 'Nobody called anybody', respectively, rather than the meanings 'Nobody did not call' and 'Nobody called nobody'. This phenomenon of multiple negative expressions contributing a single negation is known as *negative concord* and languages exhibiting the phenomenon, such as Italian, as *negative concord languages.*

(1)   *Non ha telefonato* a *nesssuno*

    Not has called to n-body   'He called nobody'

(2)   *Nessuno ha telefonato nessuno*

    N-body has called n-body   'Nobody called anybody'

Negative concord behaviour exhibited in (1-2) becomes particularly puzzling when coupled with the observation that, to the extent that the negatively marked nominal expressions may occur on their own, they contribute a negative meaning. This is illustrated in (3) (we discuss the cross-linguistic variation in the acceptability of constructions like (3) in section 2 below). Accordingly, one would expect (1-2) to convey doubly negated meanings, contrary to fact.

(3)   *Nessuno ha telefonato*

    N-body has called   'Nobody called'

It is commonly agreed that this puzzling semantic behaviour has to do with the underlying properties of negatively marked nominal expressions in negative concord languages (we refer to such expressions henceforth as *n-words* after Laka 1990). Various theories have been proposed to explain this remarkable behaviour of n-words. According to some proposals (e.g., Zanuttini 1991, Haegeman 1995, Haegeman & Zanuttini 1996, De Swart & Sag 2002, Watanabe 2004, De Swart 2010), n-words are negative quantifiers (e.g., *nessuno* means something akin to 'no person'), and some kind of semantic absorption mechanism accounts for why the n-word and negation in (1) and the two n-words in (2) are interpreted as contributing a single negation. On these proposals, the two n-words 'fuse' together at the level of interpretation. Such approaches, however, face the challenge of explaining why in (1) the presence of the negative marker is

obligatory, as demonstrated again for Italian in (4) (whereas omitting negation is perfectly fine in a non-negative-concord language like English). Hence, without adopting further assumptions, n-words cannot be treated as negative quantifiers that 'fuse' together at the level of interpretation with another expression.

(4) *Ha telefonato nessuno*

Has called n-body   'Nobody called'

In light of this, other scholars (e.g., Ladusaw 1992, Brown 1999, Giannakidou 2000, Weiss 2002, Zeijlstra 2004, Penka 2010) have argued that n-words are semantically non-negative elements that for some reason always appear in the scope of a negation. In this sense, they resemble so-called Negative Polarity Items (NPIs) like English *anybody* and *in weeks*, whose distribution is also restricted (see e.g. Fauconnier 1976, Ladusaw 1979, Giannakidou 1999, Gajewski 2011, Chierchia 2013, Crnič 2014a, among many others; some authors argue that n-words are, in fact, a kind of NPIs, e.g., Giannakidou 2000, Chierchia 2013):

(5) a.   *He has*(n't) called anybody*

     b.   *He has*(n't) called in weeks*

The problem, though, is that, as shown above, if an n-word does not appear in the scope of negation, it may become negative itself, as illustrated in (2) and (3), where *nessuno* in the subject position means 'nobody'. The behaviour of NPIs like *anybody* and *in weeks* is distinct: NPIs are ungrammatical unless they are embedded in the scope of an appropriate operator, say, negation, at surface structure. Moreover, the class of operators in the scope of which NPIs may felicitously occur include operators other than negation, say, the quantificational determiner *every*.

(6) a.   **Anybody has called anybody*

     b.   ** In weeks she has called*

(7)   *Every student who called anybody was suspended*

Hence, the distribution of n-words is distinct both from negative quantifiers and from NPIs, though it also shares some properties with both categories of expressions. Now, there are several ways of capturing these similarities and differences within a formal framework, and of explaining whether, to what extent, or how the distribution of n-words could be explained in terms of NPI-hood and/or in terms of (negative) quantifier theory. These different formal explanations, however, make different predictions with respect to the range of variation in terms of the semantic behaviour and syntactic distribution of n-words across languages. Accordingly, exploring the range of cross-linguistic variation forms a necessary ingredient for the evaluation of different theories of n-words and negative concord, and is thus bound to provide a better understanding of the ways in which negation is expressed in natural language. To a significant extent, a full exploration of this range of variation has not been pursued before (though see Giannakidou 2006, Shimoyama 2011, Zeijlstra 2013b). The preliminary results that we have obtained, and that are partially

described below, however, already suggest that the range of variation that n-words exhibit with respect to their semantic and syntactic behaviour is more substantial than usually considered. Therefore, this inquiry may be extremely fruitful for advancing our understanding of the nature of n-words and our understanding of the nature of the syntax-semantics interface. The main objectives of the project are:

O1. To explore the variation in the distribution of n-words across languages, which involves discovering and properly characterizing the parameters of variation.

O2. To provide a formal account of this variation, which involves a detailed evaluation of the different approaches to n-words.

O3. To situate this account within a more general theory of expressions whose distribution is sensitive to the 'polarity' of the clause in which they occur (positive polarity items; NPIs; negative markers, expletive negation; etc).

2. Current state of the art in an international perspective

There are six domains of variation in the distribution of n-words that will form the starting point of our investigation. Several of these domains have previously not received detailed attention in the literature and have been investigated within a limited sample of languages only. As outlined in O1-3, the main purpose of this project is to fully describe and analyse the way n-words can vary along these dimensions and to construct a unified theory of n-words on the basis thereof.

2.1 Dimension of variation #1: Strict vs Non-strict negative concord

Languages differ with respect to whether n-words must obligatorily be accompanied by a negative marker (a word meaning something like 'not' in English) or not. In Czech, a so-called Strict negative concord language, n-words always need to be accompanied by a negative marker (also known as Negative Doubling after Den Besten 1986, 1989), as shown in (8), regardless of whether these n-words are in preverbal or postverbal position. In a Non-strict negative concord language such as Italian, however, preverbal n-words must occur without the negative marker (9).

(8) a. *Dnes nikdo *(ne-)volá*
      Today n-body not-calls   'Today nobody calls'

    b. *Dnes *(ne-)volá nikdo*
      Today not-calls n-body   'Today nobody calls'

(9) a. *Ieri nessuno (*non) ha telefonato*
      Yesterday n-body not has called   'Yesterday nobody called'

    b. *Ieri *(non) ha telefonato nessuno*
      Yesterday not has called n-body   'Yesterday nobody called'

Q1. Why do certain languages not allow n-words in preverbal position in the presence of a negative marker, whereas other languages require the presence of a negative marker?

2.2 Dimension of variation #2: Optionality

Another domain of variation in the distribution of n-words concerns optionality with respect to the presence of the negative marker. In the negative concord languages discussed above, negative concord is obligatory. The negative markers in Czech and Italian, when present, may not simply be removed. In other languages this is, however, not the case. Negative concord in West Flemish, for instance, is always optional (cf. Haegeman 1995, Haegeman & Zanuttini 1996).

(10) … *da Valère niemand (nie) ken*

… that Valère n-body not knows   '… that Valère doesn't know anybody'

This introduces the second, equally important, question:

Q2. How can the cross-linguistic variation that is attested with respect to the obligatoriness or optionality of negative concord be explained?

2.3 Dimension of variation #3: Locality

A third domain of variation concerns the required proximity of negation and n-words. In many languages, n-words must be accompanied by a clausemate negative marker, or by a higher negation if the clause containing the n-word is in the subjunctive mood: as illustrated for Catalan by Giannakidou 1998, n-words in an indicative clause cannot be 'licensed' by a negation in a higher clause (we say that an n-word is 'licensed' by an occurrence of negation if deleting the occurrence of negation would result in an ungrammatical sentence, following the terminology of Ladusaw 1979 and others):

(11) a.   *No ha vist ningú*

Neg has seen n-body   'He saw nobody'

b.   **No vindra perquè ha fet res amb ningú*

Neg come.fut because he has.ind done n-thing with n-body

'He won't come because he has done anything with anybody'

c.   *No vindra perquè hagi fet res amb ningú*

Neg come.fut because he has.subj done n-thing with n-body

'He won't come because he has done anything with anybody'

However, in Hebrew, n-words in a finite indicative clause may be licensed by negation in a higher clause (we say of such configurations that they involve 'long-distance licensing' of n-words). This is true for n-words in finite indicative complements of so-called Neg-Raising (NR) predicates such as 'think/want' in (12), and even for indicative complements of non-NR predicates such as 'say' (13). But n-words in

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indicative complements of other predicates are generally unacceptable, as illustrated in (14), where the n-word is in the complement of a factive predicate meaning 'know'.

(12) a. *Lo nisiti/raciti/tixnanti ledaber im af exad*

Not tried/wanted/planned talk with n-body

'I didn't try/want/plan to talk to anybody.'

b. *Lo xaSavti/raciti Se-hi tedaber im af exad Sam*

Not thought/wanted that-she would.talk with n-body there

'I didn't think/want that she would talk with anybody.'

c. *Lo xaSavti Se-hi tirce/tenase ledaber im af exad Sam*

Not thought that-she would.want/would.try talk with n-body there

'I didn't think that she would want / try to talk to anybody there.'

(13) a. *Lo amarti Se-ata yoce im af axat*

Not said that-you going with n-body

'I didn't say that you are going out with anyone.'

b. *Lo amarti Se-af exad nixSal*

Not said that-n-body failed

'I didn't say that anyone failed'

(14) a. **Lo yadati Se-hi dibra im af exad*

Not knew that-she talked with n-body

'I didn't know that she talked with anybody.'

b. *Yadati Se-hi lo dibra im af exad*

Knew that-she not talked with n-body

'I knew that she didn't talk with anybody.'

To the extent that n-words can be licensed long-distance, across an indicative boundary, they seem to resemble NPIs, which need not be clausemates of their licenser, as is illustrated for English in (15).

(15) *John didn't say that Mary was going out with anyone*

However, the resemblance is only partial since NPIs, unlike Hebrew or other n-words, tend to be licensed not only in indicative complements of negated NR predicates and *say* but also in indicative complements of negated factive predicates, as illustrated for English *any* in (16).

(16) *John didn't know that Mary was going out with anyone*

Given this and the fact that Hebrew and other n-words pass the standard tests for n-word status (they may occur in isolation, for instance, in fragment answers, while conveying a negative meaning), we cannot simply re-assign them to the category of NPIs. The variation in the distribution of n-words with respect to

locality and the differences with respect to the locality of licensing between n-words and different kinds of NPIs raises several questions:

Q3a. What is the cross-linguistic distribution of long-distance licensing of n-words?

Q3b. What are the precise structural locality parameters relative to which the differences in long-distance licensing can be described?

Q3c. What is the explanation of the variation among n-words that we observe in this domain?

Q3d. To what extent does long-distance licensing of n-words mirror the long-distance licensing of NPIs across languages?

2.4   Dimension of variation #4: Licensing

Another domain of variation concerns the type of licensers. In addition to negation, n-words in Romance languages can be licensed by certain other elements that share some logical properties with negation, such as verbs expressing *doubts* or prepositions like *before* and *without*. Even though the precise characterization of the logical properties shared by these expressions and negation needs to be determined, they share the property of downward-entailingness, which roughly means that they license inferences from 'supersets' to 'subsets' for example, 'I left *without* eating a sandwich' entails that 'I left *without* eating a cheese sandwich'. The following examples from Herburger (2001) show this for Spanish:

(17) *Pedro compró el terreno sin contarselo a nadie*

   Pedro bought the land without telling to n-body

   'Peter bought the land without telling anybody'

However, in most Slavic languages, such patterns are ungrammatical, as the following Slovenian examples illustrate:

(18) **Peter je kupil zemljo, brez da bi to povedal nikomur*

   Peter has bought land without that would this tell n-body

This variation with respect to licensers raises the following questions:

Q4a. What is the class of licensers of n-words in different languages? (Or, equivalently, in what classes of environments are n-words acceptable)?

Q4b. How can this variation in licensers be explained (in a formal framework)?

2.5   Dimension of variation #5: Morpho-syntactic make-up

Another difference between n-words in various languages concerns their morphological make-up. For instance, in many languages, n-words have a clear negative prefix. In Slavic languages, every n-word starts with the prefix *ni-*, followed by a *wh*-term. The paradigm in Serbian is as follows:

(19) a. *ni-ko* ni-who   d. *ni-kad*   ni-when   e. *ni-gde* ni-where

   b. *ni-šta* ni-what   e. *ni-kako* ni-how

The same applies, for instance, for a language like Japanese, where n-words are elements that consist of a *wh*-term, followed by the suffix *–mo*. This marker *mo*, however, is not negation-specific; it is a general focus marker (Watanabe 2004; Shimoyama 2011). The same applies to *to* in Korean n-words (Sells 2006; Giannakidou and Yoon 2011). Other languages lack *wh*-morphology in their n-words, but doshow focus effects. A particular example is Greek. Greek n-words are homophonous with plain NPIs, with the exception that in Greek n-words are obligatorily focused/stressed. The following examples from Giannakidou (1998) illustrate that:

(20) *Dhen idhe {kanenan/KANENAN} o Janis*

    Not saw n-person the John   'John didn't see anybody'

(21) *An dhis tin Eléna {puthená/*PUTHENA}, na tis milísis*

    If you see Eléna anywhere/n-where, talk to her

    'If you see Elena, talk to her'

(22) (*Who did you see?*) *KANENAN/*kanenan*   'No one/*anyone'

Yet other languages lack both *wh-* and negative morphology in n-words. French and Hebrew are examples of such languages. The expression *personne* in French lacks both *wh-* and negative morphology and can mean both 'person' and 'nobody'; similarly, the expression *af exad* in Hebrew lacks both *wh-* and negative morphology and consists of the words 'even one'. In Italian, the n-word does contain a negative element (*n-*), but this arguably is no longer a real prefix. Moreover, it lacks any clear *wh-* or focus part, but it does contain a minimal element (*uno* 'one'). These aspects of variation can be summarized along two dimensions (see also Watanabe 2004): (i) morphological complexity: French and Hebrew n-words are morphologically simplex and Serbian, Japanese, Korean n-words are complex; (ii) when morphologically complex, the presence of a particular kind of marker can be: (iia) a focus marker (Greek, Japanese, Korean) or (iib) a negative prefix (Serbian and other Slavic language). In light of this, the following questions arise:

Q5a. What (other) morphological signatures of n-words can be identified?

Q5b. Which of these, if at all, are theoretically significant? In other words, are there any dimensions of morphological variation which correlate systematically with other dimensions of variation listed in this section (locality, strict/non-strict, quantificational force, etc.)?

2.6   Dimension of variation #6: Quantificational nature

The final point of comparison concerns the quantification status of n-words: Are n-words universal or existential quantifiers? After all, a universal quantifier taking wide scope over negation ('every (…) not') is logically equivalent to an existential quantifier taking narrow scope over negation ('not (…) a/an'). In most Slavic languages, n-words are arguably existential quantifiers. Take for instance Serbian (23):

(23) *Niko ne mora da ode*

N-body not must that leave

'It is not required that someone (or other) leaves'

*"There is no person x such that it is required for x to leave'

*'For every person x, it is not required that x leaves'

The fact that the only reading of (23) contains an existential that scopes below the modal, which in turn is outscoped by the negation, suggests that Serbian *nikdo* is an existential quantifier. But this is not necessarily the case for n-words in other languages. Giannakidou (2000) argues that Greek n-words are universal quantifiers that take scope above negation. She draws evidence for her conclusion, for instance, from predicate nominals. A predicate nominal (as shown for English in (24)) cannot be modified by a universal quantifier, and Greek *KANENAS* ('no …') cannot modify predicate nominal either (25).

(24) **Frank is not every student*

(25) **Dhen ine KANENAS jatros*

Not is n- doctor

Further arguments for universal treatment of what can be characterized as n-words have been provided by Shimoyama (2011) for Japanese. Shimoyama (2011) argues for a universal semantics of what can be treated as n-words in Japanese by pointing out readings of the pertinent expressions that are unexpected under an analysis that takes these expressions to be existential quantifiers. Specifically, the sentence in (26) has a reading where *tatei* ('mostly') may intervene between the *mo*-containing n-word and negation, and the reading is only compatible with the n-word being analysed as a universal quantifier that takes scope over *tatei*, which in turn outscopes negation. Similar conclusions have been reached by Sells and Kim (2006) and Yoon (2008) for *to*-containing n-words in Korean.

(26) *Kokyaku-no dare-kara-mo gozentyuu-wa taitei denwa-ga nakat-ta*

Client-gen n-body morning mostly call not-exist-past

'For every client, it was mostly the case that there was no call from him or her in the mornings'

Although further inquiry into the distribution of Greek and Japanese n-words is clearly mandated, their current description already raises the following questions:

Q6a. Are n-words existential or universal quantifiers?

Q6b. Is there a systematic cross-linguistic variation in this respect and, if so, what is its extent?

Q6c. What is the source of the potential variation in this respect?

2.7 Summary

To sum up, we see that the distribution of n-words may vary along at least six different dimensions. This means that the landscape of n-words appears to be much richer than what different traditional theories assume and predict. Only if this landscape is better explored in all its richness can different theories of

negation and n-words be properly evaluated. Exploring the variation along these six dimensions will thus constitute an important step towards achieving the objectives O1-3 introduced in Section 1.

3.   Research approach, methods and hypotheses

O1 above (p. 3) is descriptive in nature and will involve theory-driven fieldwork investigation, whereas O2 and O3 are more explanatory and will involve linguistic theorizing. At the same time, these objectives are naturally related: our advances towards O2-3 will inform our fieldwork investigation in O1.

The proposed project aims at establishing a typology of n-word variation spanning the six dimensions introduced above by seeking out correlations between these dimensions. Our criterion for typological categorization will be the existence of systematic correlations among all or some of these dimensions. If, for example, the properties listed under Dimension #1, strict negative concord, can be positively correlated with properties listed under Dimension #5, morphological make-up, or Dimension #4, locality restrictions, we will have identified a 'sub-category' of n-words which is characterized by particular strict/non-strict, morphological, and locality properties. The contours of such a typology will inform our work towards O2, since discovering correlations should bring us closer to understanding the source of variation; in the correlation hypothesized above, it could then be argued that morphological make-up determines strictness and/or locality properties. A typology of n-word variation will also inform our work towards O3, since a firmer understanding of the extent of n-word variation is necessary in order to situate it in the broader domain of idiosyncratically distributed expressions.

As the data needed for this project are subtle and may not be easily accessible by means of existing grammar books, but require questionnaires with specific theoretically informed questions and elicitation tasks and/or trained language consultants, the primary empirical focus of this research project is on languages that (i) are known to exhibit some form of negative concord; and (ii) have already been studies or can be studied by means of approaching available language consultants. Therefore, we initially focus on Romance (Italian, Spanish, Catalan, Portuguese, French and Romanian), Germanic (Yiddish, Afrikaans, Bavarian), Slavic (Slovenian, Croatian, Serbian, Polish, Czech, Russian), Semitic (Hebrew, Arabic) and East-Asian (Korean, Japanese) languages, as well a series of creole languages, of which one of the above languages forms the superstrate (e.g. Haitian French, Cape Dutch). We either already have access or are confident that we can obtain access to the speakers of all the languages listed above.

For each language, we will first investigate the behaviour of its n-words with respect to Dimensions #1-6. This investigation will be based on the relevant literature and fieldwork by project team members. Second, we will be investigate the possible correlations underlying the attested variation and how this range of variation fits with different theoretical frameworks. We will draw new predictions from the appropriately

modified theoretical frameworks which will be tested both by looking at the existing body of data and, more importantly, by work with consultants. In this stage, also other languages may be investigated.

4.   Detailed work program including time schedule

As described above, we divide the task of establishing a typology of n-word variation into two components, as defined by the dimensions to be studied and the location of the PIs. The first component, primarily located in Jerusalem will involve Dimensions #1 and Dimensions #3-5. The second component, primarily carried out in Göttingen, focuses on Dimensions #1 and #6. Since results pertaining to either of the components will inform the work in the other component, intensive interaction is envisioned.

Within each component, we envisage two parts. In Part-1 the focus is on the preparation of a theoretically informed cross-linguistic survey, and in Part-2 the work will be of a more analytical nature, involving more theoretical tools, with a focus on in-depth analysis of particular dimensions, to be determined by the results of Part-1. Note, however, that our division into Part-1 and Part-2 is not intended in a strictly chronologically linear sense, with all the work in Part-1 preceding all the work in Part-2; while our survey will inform the choice of dimensions to focus on in Part-2, the theoretical work done in Part-2 will also inform the choice of empirical questions and issues underlining the characterization in Part-1. The division into parts is better characterized in terms of the division of labour we propose in section 5 below, with PhD students working primarily within Part-1, and a post-doc working primarily within Part-2. See section 5 further below for a mapping of sub-modules to personnel, and see also the separately attached work and time plan.

4.1. Morphological Make-up, Strict/Non-Strict, Locality, Intervention (The Jerusalem component)

The Jerusalem-based group of the study starts out from the relatively liberal locality restrictions observed for Hebrew above and seeks to establish whether similar restrictions can also be identified in other languages in which n-words pass positive n-word diagnostics (such as occurrence in fragment answers). In Part-1 we propose to sample languages from the language sample described in section 3. Once we have a clearer picture of the landscape of locality restrictions for our language sample, we will proceed to identify correlations between locality restrictions and the strict/non-strict negative concord division and also with respect to morphological make-up, and the two morphological parameters sketched above: (a) morphological complexity (b) the presence of focus marking.

In Part-2 we will work towards a theory of long-distance licensing of n-words, and will consider the kind of theoretical tools needed to capture the empirical observations derived in Part-1. In particular, we consider the role of quantifier raising and feature-movement (Pesetsky 2000, Guerzoni 2006) in deriving the distribution of long-distance licensing observed, and whether any other mechanisms are needed (Collins & Postal 2014). We expect that consideration of these issues will lead to more fine-grained

questions in Part-1. If it turns out that long-distance licensing is derived by quantifier raising, this module may also bear significant consequences for the syntax of quantifier raising and the locality restrictions it is subject to. The studies in this module may also bear consequences for theories of language contact. If we find similarities between Hebrew and languages within the Slavic family we will consider the impact of language contact on the fine-grained syntax-semantics of negative DP expressions. Following Keren (2013), Modern Hebrew n-word syntax is most probably due to a significant extent to contact with Russian/Polish, the native languages of many of the earliest speakers of Modern Hebrew. Our 6 dimensions will allow us to study in greater depth which properties of n-words were transferred in the course of language contact.

4.2. Type of licenser, quantificational nature, optionality (The Göttingen component)

In parallel, we will also begin our work on the dimensions defined by licensor type, quantificational nature, and optionality. As in the first component, described in section 4.1, Part-1 will be devoted to establishing a cross-linguistic survey spanning our sample languages, and Part-2 to more in depth analysis of particular dimensions and the development of theoretical tools required to account for the correlations discovered. As a final phase, we will bring the results obtained in the second component, described in this subsection, to bear upon the results obtained in the first component.

In Part-2 the languages described in section 3 will be classified with respect to obligatoriness and/or optionality of negative concord. In particular it will be investigated what the syntactic circumstances are under which n-words may appear in isolation. Following ideas going back to Haegeman (1995), Acquaviva (1997) and Penka (2010), n-words without accompanying negative markers must necessarily appear outside the so-called Verb Phrase (VP). If this is the case, the occurrence of n–words outside this VP forms a necessary condition for optional negative concord. But if n-words may indeed raise out of such positions, this has significant consequences for their scopal behaviour in the sentence: in the end the syntactic position of a particular element determines the position where it can be semantically interpreted. This means that the presence or absence of the optionality of negative concord will make precise and testable predictions for the quantificational and scopal behaviour of n-words. Naturally, these effects must be tested and therefore in Part-2, first these exact theoretical predictions (and the analyses they are based on) must be exactly formulated, and subsequently tested for the languages that are part of the language sample.

Naturally, the two components interact. If it turns out that, for instance, the specific analyses for the distinction between Strict and Non-strict negative concord languages have strong repercussions for the scopal behaviour of n-words, these predictions formulated in the first component will be evaluated for the relevant languages in the second component. This again underlines the necessity of intensive research exchanges and joined supervision.

For a detailed time-schedule, we refer to the separately attached work- and time-plan.

5.   Type and extent of the cooperation and division of tasks between the partners

The breadth and depth of our proposed study requires the combination of somewhat different types of expertise. First, we need an expert in the field of negation in natural language, encompassing morphology, syntax, semantics, and pragmatics, with familiarity of how negation and negative expressions work in a variety of languages. We also need an expert on the similarities and differences between n-words and NPIs, and an expert on the similarities and differences between n-words and other negative indefinites. **Hedde Zeijlstra**, **Luka Crnič**, and **Ivy Sichel** qualify as experts in these respective fields: Zeijlstra, for his extensive work on varieties of the way sentential negation is expressed across languages; Crnič, for his ongoing work on the syntax, semantics and pragmatics of NPIs, and Sichel, for her work on negative indefinites and negative concord.

In addition to the PIs, there will be **two PhD students** and **one post-doctoral research associate**. Each PhD student will have a primary assignment within one of the components described in sections 4.1 and 4.2, and the post-doc will work on theoretical aspects within both modules. Joint meetings for thesis supervision will take place online and during intensive research stays of the students and supervisors at the partner institutions. Since all these aspects are needed to supervise two PhD students that are based in the two involved universities, these dissertations will be jointly supervised by the three PIs. This will enhance high research quality and will yield superior results. The post-doc, being part of the Jerusalem group, will also assist and guide the local PhD student team. In order to facilitate maximal cross-fertilization between the two groups, the PhD students will spend one term at the other university towards the end of the 2nd year.

A major component of the project will be extended research visits of the members of the project at their partner institution (this includes students and the post-doctoral researcher) that takes place twice a year, as well as the exchanges by the students and the post-doctoral researcher. The research visits will also include organizing intensive workshop (with invitees from other institutions). There will also be bi-monthly online meetings on the topics of the research project, in which the PIs as well as students and other team members will present their ongoing research within the project and discuss potential issues that they have encountered. These meetings will rely on video-conference technology already available at the institutions.

Apart from that, the team will also include four (independently funded) PhD students already engaged in research projects in these areas at the two institutions:

Jovana Gajič, PhD student at Göttingen University. Gajic is currently working on a PhD project that looks at the quantificational and scopal properties of n-words, and is a specialist in Slavic negation. Gaji**č** will particularly contribute and advice in the component described in section 4.2.

Einat Keren, PhD student at Hebrew University. Keren is currently completing a dissertation on the development of NC in Modern Hebrew and its origins, considering the role of contact with Yiddish, Polish, and Russian, the primary native languages of its first speakers, as well as the similarity of the negative concord profile in Hebrew to the profile observed in Creole languages. Her knowledge of NC in Creole language is likely to contribute to the component described in section 4.1.

Tamar Lan, an MA student at the LLCC (Language, Logic, and Cognition Center) of the Hebrew University. Lan is currently working on n-words in fragment answers as a research project, and her expertise in this area is likely to contribute to the development of components 4.1-4.2.

Yair Yitzhaki, an MA student in Linguistics at Hebrew University. Yitzhaki is currently working on n-words in ellipsis as a research project, and his expertise in this area is likely to contribute to the development of the components described in sections 4.1-4.2.

Furthermore, two additional postdoctoral student will act as project collaborators: **Olga Kellert** (Göttingen), who works extensively on the role of expletive negation and NPIs in relation to speech acts in Romance varieties; and **Aynat Rubinstein** (Jerusalem) who works on expletive negation and related language change in Hebrew and Slavic languages. Both may contribute to components 4.1-4.2

6.   Anticipated results

We expect to yield a cross-linguistic overview that captures the range of variation with resect to the semantic behaviour and syntactic distribution of n-words along Dimensions #1-6. This overview will be based on in-depth studies of already well-investigated languages, but also languages that as of yet have been less investigated with respect to negative concord, such as Hebrew and the mentioned Creole languages. The collected results will form the basis of an evaluation of existing theories of negation and negative concord (as well as negative dependencies and the syntax-semantics interface in general). Hence, once carried out, the project will yield better understanding of the way natural language expresses negation and negative dependencies and connects (negative) form to (negative) meaning.

7.   Relevant preceding work of the applicants

Hedde Zeijlstra has worked intensively on negation and negative polarity. His PhD thesis (Zeijlstra 2004) involves a cross-linguistic and diachronic investigation of sentential negation and negative concord, and among other things, investigates the syntactic position where negation can take scope from. After his thesis he continued working on negation, negative polarity and related topics. He has published on the internal structure of negative quantifiers (Zeijlstra 2011), the relation between negation and other speech acts (Zeijlstra 2013a), and the relation of grammatical agreement relations, including negative agreement, but also agreement in the modal and quantificational domain (Zeijlstra 2008, 2012, Koeneman & Zeijlstra 2014). His expertise in the domain of negation and negative and positive polarity is evidenced by a number

of overview and handbook articles, such as Zeijlstra (2007, 2013b). Zeijlstra has also worked on modality (e.g. in Zeijlstra 2008), which investigates constructions involving multiple modal elements. Currently Zeijlstra is working on the interface between negation, modality and polarity. Together with Fred Weerman (University of Amsterdam) Zeijlstra supervises a project on the language acquisition of NPIs (carried out by Jing Lin, University of Amsterdam. In addition, Zeijlstra is currently supervising a PhD-project on the cross-linguistic semantics and distribution of negative indefinites (Jovana Gajić, Göttingen).

Ivy Sichel has been collaborating with Sabine Iatridou in research on Negative Indefinites in English and related languages (Iatridou & Sichel 2008, 2011, 2015). She has lectured on these topics in the St. Petersburg summer school in Linguistics and at the Central and Eastern European summer school in Generative Grammar in 2011. She has also collaborated with Aynat Rubinstein and Avigail Tsirkin-Sadan in work on superfluous negation in Modern Hebrew (Rubinstein, Sichel, and Tsirkin-Sadan to appear). She has supervised an MA thesis on the genesis of negative concord in Modern Hebrew (Keren, 2013) and is currently supervising a PhD thesis and an MA thesis, both on topics related to negative expressions (Einat Keren, Yair Yitzhaki). In February 2015 she co-organized (with Luka Crnič) a workshop on the syntax and semantics of negation and polarity.

Luka Crnič has received his PhD in linguistics from MIT in 2011 for his thesis on scalar additive particles and Negative Polarity Items. Since obtaining his PhD, he has continued to work extensively on the syntax and semantics of Negative Polarity Items (Crnič 2013, Crnič 2014a, Crnič 2014b) and has lectured on the topic at, among other places, European School of Language, Logic and Information in Tübingen in 2014. His work will be particularly relevant to appropriately situating n-words with respect to other idiosyncratically distributed expressions. He is currently supervising an MA thesis related to Negative Polarity Items (Itai Bassi) and holds a grant from the Israel Science Foundation for investigating Negative Polarity Items as well as from the German-Israeli Foundation for Scientific Research and Development for investigating the processing of alternatives.

8. Brief details of the type and the extent of previous cooperation between applicants

Luka Crnič and Ivy Sichel have co-taught a class on the topic of n-words and negation (Fall 2014) as well as co-organized a workshop on Negation and Alternatives (February 2015), at which Hedde Zeijlstra was one of the invited speakers. Luka Crnič will visit Göttingen in the Fall 2015, as part of his research stay in Germany (funded by German-Israeli Foundation for Scientific Research and Development). Ivy Sichel has also taught lectures on negation at the 2011 Central and Eastern European Summerschool in generative Grammar, organized by Hedde Zeijlstra. At various occasions the PIs have discussed and explored their findings in the study of negation and negative dependencies, preparing for intensive collaboration.

9. Perspectives with respect to possible follow-up projects between the partners with funding from other sources

To the extent that the results of our project suggest that the there are no categorical boundaries between NPIs and n-words in negative concord languages (or at least that the distinction is more fuzzy than may seem at first sight) a possible follow up project will re-examine those environments which up until now have been taken to positively diagnose n-words in NC: occurrence in fragment answers and modification by 'almost'. The goal of this follow-up project would be to seek an alternative characterization of the restrictions on the use of a negative DP expression in a fragment answer and in modification structures.

10. Funding of the project including own contribution

Budget item	Year 1	Year 2	Year 3	TOTAL
Post-doctoral researcher (200% fellowship) (HUJI - Israel)	18.676	18.676	30.952	**68.304**
PhD student (65% TLV 13) (Göttingen - Germany)	35.062	38.912	38.912	**112.886**
Doctoral fellowship (150%) (HUJI - Israel)	11.597	11.597	13.296	**36.490**
Travel expenses of project members (short research stay in Göttingen)	6.000	6.000	6.000	**18.000**
Travel expenses of project members (short research stay in Jerusalem)	3.000	3.000	3.000	**9.000**
Full-semester stays at the partner universities (PhD students, postdoc)	0	15.000	0	**15.000**
Computer (3 laptops)	4.500	0	0	**4.500**
Other travel expenses	3.000	3.000	3.000	**9.000**
Payment of consultants	1.000	1.000	1.000	**3.000**
Materials, supplies	2.000	2.000	2.000	**6.000**
Workshop	15.000	0	0	**15.000**
SUM	**99.835**	**99.185**	**98.160**	**297.180**

For a detailed discussion of the funding, including a description of additionally funded parts of this project, we refer to the separately attached justification of the budget.