Syntactic Variation in the Expression of Sentential Negation

1. Introduction

It cannot be denied that negation in natural language is a universal phenomenon. Indeed, "negation is a *sine qua non* of every human language but is absent from otherwise complex systems of animal communication […and] is what makes us human, imbuing us with the capacity to deny, to contradict, to misrepresent, to lie and to convey irony" (Horn, 2010: 1). In propositional logic, negation is an operator that reverses the truth value of a proposition *p* to ¬*p* (Miestamo, 2005: 3). However, in natural languages, negation is most usually indicated by means of morphosyntactic changes within a linguistic unit, whether this be lexical, of a constituent or sentential.

The aim of this paper is to provide an overview of cross-linguistic parametric variation in the expression of negation with the focus on sentential negation. The sample of languages I explore come from diverse language families as a basis to illustrate variation in negation across the languages of the world. Most of the languages I have chosen to include come from well-known typological studies such as Dahl (1979) who surveyed some 240 languages, although, to add originality to this study, and I have attempted to include examples from languages that have received less attention in the literature.

I also need to point out that I do not propose to provide a theoretical overview of the syntax of negation as such (although at times, a theoretical explanation will be warranted); instead, I attempt to merely illustrate the cross-linguistic variety in the expression of negation and work towards a typology of negation mechanisms used in the world's languages.

This paper is organised as follows. Section 2 provides a brief overview of some preliminary concepts and definitions related to sentential negation, together with a very brief insight into how negation is commonly analysed syntactically, predominantly from a Minimalist perspective. The purpose of this section is to make terminological references made in later sections more accessible to the reader. Section 3 provides a typological overview of the most common types of sentential negation patterns illustrated with a rich array of cross-linguistic examples. Finally, section 4 addresses possible parameters in negation and a proposal for parameter hierarchy of negation. Section 5 is the conclusion.

2. Preliminaries

The following subsections provide a brief introduction to some common terminology and concepts found in the literature on negation.

2.1 Syntactic variation in sentential negation

Linguistically, negation can take many surface forms (Mazzon, 2004: 1). The most familiar is sentential negation (SN), i.e. the negation of main clause declaratives, in which the "scope of negation is thought to be the whole sentence" (Miestamo, 2005: 3-4). An important distinction should be made between SN and constituent negation which only targets part of a sentence.

The term *standard negation* is also found in the literature and appears to have first been used by Payne (1985: 198). He defined it as '[a] type of negation that can apply to the most minimal and basic sentences […] characteristically main clauses, and consist of a single predicate […]'. I take this to mean the negation of a verbal predicate as part of a declarative matrix clause and so is interchangeable with the term SN. Other terms present in the literature, which refer to the same thing include: *predicate denial* (Aristotle, 1967 / Horn, 2001) and *nexal negation* (Jespersen, 1917). In terms of syntactic classification, SN is achieved with T^{neg}-markers as opposed to Foc^{neg}-markers, $Class^{neg}$-markers and Q^{neg}-markers which target constituent negation (De Clercq, 2020).

In addition to SN and constituent negation, van der Auwera and Krasnoukhova (2020: 91) list other types including, but not limited to, interrogative negation, imperative negation, existential negation, subordinate negation, and lexical negation. In fact, lexical negation is a means by which the notion of negation may occur in an affirmative clause such as with verbs like *disallow.*

SN is a morphosyntactic means of negating declarative clauses (Miestamo, 2005). There is a widely-held view that negation is the marked form of its affirmative counterpart, that is, the negative clause is derived from the affirmative. This is because, semantically, any negative expression presupposes an affirmative one, and for full semantic interpretation, negatives do not tend to introduce new referents, but instead refer to ones already established (Givón. 1979).

SN as a formal property of language is expressed using a variety of linguistic devices. According to Newmeyer (2009), there are no examples of languages that can express negation by prosaic means, and as such, it is the primary domain of morphosyntax that permits the expression of SN cross-linguistically.

To illustrate what exactly is meant by SN, I provide a few examples here from a variety of languages. Then, in the sections that follow, I will develop this to include a wider variety of languages that express sentential negation by different syntactic means.

(1) ENGLISH (constructed examples)

a. The dog has eaten the bone. b. The dog hasn't eaten the bone.

(2) FINNISH (Uralic, Finnic) (Miestamo, 2005: 3)

a. nuku-n	b. e-n nuku
sleep-1SG	NEG-1SG sleep.CNG
'I am sleeping.'	'I am not sleeping.'

(3) NOOTKA (Wakashan) (Rose, 1981: 103 in Mithun, 1999: 189; gloss slightly adapted)

wik-ʔi·š ta-ʔił
NEG-IND drift-in.house
'She's not sick.'

(4) WARLPIRI (Pama–Nyungan, Ngarrkic) (Hale, 1968; gloss slightly adapted)

lawa kula-ka-na pula-mi (natʸu)
negative NEG-AUX-1SG shout-NONPAST (I)
'I am not shouting. It is negative (i.e., not so) that I am shouting.'

(5) CAIRENE EGYPTIAN ARABIC (Afro-Asiatic, Semitic) (Soltan, 2014)

maa-saafir-t-i-š
NEG-travel-1SG-EV-NEG
'I did not travel.'

What is immediately evident from this very small selection of examples is that totally unrelated languages exhibit similar constructions. English and Finnish both involve an

auxiliary verb carrying negative meaning. In the case of English (1) the negative marker (*n't* or *not*) is placed post-verbally on an auxiliary verb, while Finnish (2) has a negative auxiliary (*e-*) which inflects using a suffix to express person and number. In both languages, the negative auxiliary in the case of Finnish, and the (what I call here) 'negativised' auxiliary in the case of English, are followed by a non-finite lexical verb. Furthermore, Nootka (3) exhibits a similar construction whereby a negative predicate precedes a lexical verb.

The Warlpiri example (4) illustrates a rather different approach to SN. Although there is a negative auxiliary (*kula-ka*) before the lexical verb, there is also a further negative element (*lawa*) before this, and what seems to be happening here, if we give any credit to the translation, is the sentence is being negated by a negative matrix verb. Hale (1968) does, in fact, suggest that this initial element is a negative matrix verb which selects for a negative auxiliary (*kula-ka*). He provides evidence that *lawa* is indeed not a constituent of the rest of the sentence by showing how *lawa* cannot intervene between the conjugated auxiliary and the lexical verb (6), i.e. it must be higher in the structure. This is despite Warlpiri famously exhibiting non-configurational constituent order.

(6) *kulaka-na lawa pula-mi (nat^{y}u)

Hale goes on to explain that SN in this case is made possible because the auxiliary is able to obtain the negative morpheme when the clause takes the subject position of the verb *lawa,* i.e., *lawa* licences a negativised auxiliary.

Finally, example (5) from Cairene Egyptian Arabic illustrates what initially appears to be SN expressed by means of a circumfix around the verbal element. However, this example is discussed in more detail in section 3.7 where I provide evidence to suggest that the second NEG element in the chain may only appear in certain environments.

2.2 Tests for sentential negation

Klima (1964) established four syntactic tests for sentential negation that work for English (constructed examples):

i. the *either/too* test

(7) a. Pete plays football, and Mike does **either / too.*

b. Pete doesn't play football, and Mike doesn't *either / *too.*

ii. the *not even* test

(8) a. *I will help you, *not even* if you pay me.

b. I won't help you, *not even* if you pay me.

iii. the question tag test

(9) a. It's really cold today, *is it / isn't it?

b. It's not that cold today, is it / *isn't it?

iv. the neither test

(10) a. John will be attending, and *neither will David.

b. John won't be attending, and neither will David.

Of these pairs of sentences (7)-(10) the b-examples illustrate sentence negation confirmed by the grammaticality of the inclusion of *(n)either*, *not even*, or positive question tags; whereas the a-examples are ungrammatical when the negator is present along with the inclusion of the above elements.

Klima's tests do not go unchallenged however. For instance, Jackendoff (1969: 218) provides examples of SN that fail Klima's tests where he claims that for real SN, negation must take scope over the subject; however, some of Klima's tests allow sentences to pass which only contain constituent negation, or as he refers to it, VP-negation (See Jackendoff, 1969 for a detailed discussion of this). Instead, Jackendoff offers an alternative definition of SN:

(11) A sentence [$_S$ X-neg-Y] is an instance of sentence negation if there exists a paraphrase *It is not so that* [$_S$ X-Y].

To illustrate this, consider the following constructed example:

(12) a. The student didn't pass the module.

b. It is not so that the student passed the module.

Despite this, De Clercq (2020) and De Haan (1997) agree that the two types of tests have different goals: semantic versus syntactic testing of SN, and claim that the Jackendoff test may overgeneralise in what is detected as SN. De Haan lends support to Klima's test in that they extend to languages other than English and cites examples from other studies on Indo-European languages (Spanish: Ibañez (1972), French: Attal (1971), German: Stickel (1970),

Dutch: Seuren (1967), Kraak (1966)) as well as his own examples of some non-Indo-European languages (e.g., Yoruba).

2.3 NegP

It is a common assumption that English SN is expressed with its own functional projection (NegP) that sits between TP and vP and that the negator *not* is in the specifier position of NegP (Poole, 2011). Evidence for this can be found in sententially-negative sentences with a series of auxiliaries. In each case, the negator consistently follows the first auxiliary:

(13) a. Billy will **not** be attending school tomorrow.
b. Billy has **not** been attending school recently.
c. Billy would **not** have attended school unless he was forced.
d. Billy might **not** have been wanting to attend school.

Schematically, sentence (13a) would be as follows:

(14)

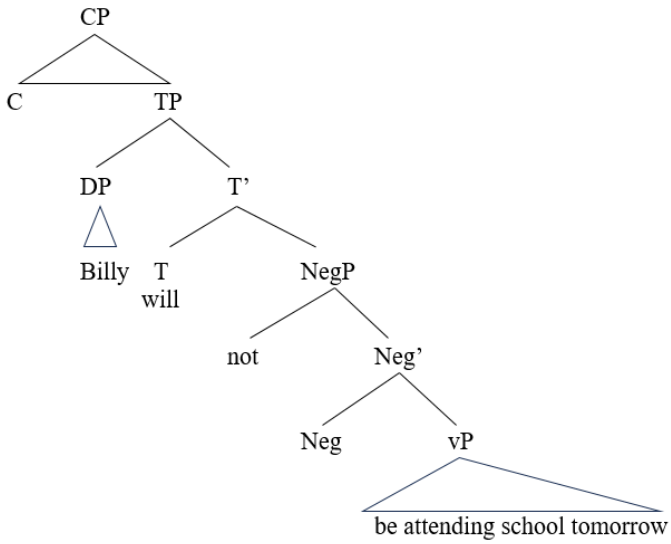

Figure 1: a syntax tree illustrating the position of NegP in relation to TP and vP

It is a matter of debate whether *not* sits in the specifier of NegP or as its head. Brown (1999), in an analysis of Russian, proposes the negator *ne* to be in the head position of NegP, with the specifier position being reserved for a non-overt negative operator (Neg-Op), claiming this is needed to "block antecedent-government of the WH-trace in [an] embedded clause" when there is a raised wh-word:

(15) RUSSIAN (Indo-European, Slavic) (Brown, 1999: 25)

***Gde**$_i$ ty [$_{NegP}$ **Neg-Op** [$_{Neg}$ **ne**]] skazal, čto Ivan ukral den'gi t_i

where$_i$ you NEG said that Ivan stole money t_i

'*Where didn't you say that Ivan stole the money?'

In Russian, as in English, (15) would be grammatical if the sentence did not contain NegP, thus allowing the raising of the interrogative to Spec of CP.

From a Minimalist perspective, however, where there is no Spec position, Neg-Op would not be included and instead, as Brown argues, NegP just contains the overt head negator with an abstract [NEG] feature.

2.4 Negative Concord and Negative Polarity Items

A common phenomenon across languages is that of Negative Concord (NC), also referred to as double negation or multiple negation (Anderwald, 2005), whereby two negative morphemes co-occur in a single clause, not cancelling each other out, but creating an overall negative reading. Modern English, like other modern Western Germanic languages, does not permit NC (except in a number of non-standard dialects). This was not always the case, however, as Old English required NC:

(16) OLD ENGLISH (Masayuki, 2005: 40) [the highlighting is my own]

Ne worhte he þeah **nane** wundra openlice

not wrought he though no miracles openly

'He did not openly make any miracles.'

[Lit.: '*He did not openly make no miracles.']

An example of a language with NC is Russian, which requires the negator *ne* to co-occur with negativised wh-words (or k-words in the case of Russian, following Brown, 1999) in a clause. The following example is also from Brown (1999: 19)

(17) Ivan **nigde** **ni** s **kem** *(**ne**) tancuet

Ivan no-where no with who NEG dances

'Ivan doesn't dance anywhere with anyone.'

[Lit.: '*Ivan doesn't dance nowhere with no one.']

Zeijlstra (2004; 2008) and Biberauer & Zeijlstra (2012a; 2012b) explain negative concord from the perspective of Agree, whereby a negative constituent carries an uninterpretable feature [uNEG] while the clausal negator bears an interpretable feature [iNEG]. In the case of Russian, the *ne* carries [iNeg] and the negative k-word carries [uNeg], which must be checked by the [iNEG] feature of the clausal negator to permit the derivation to converge. This explains why sentences with negative k-words are ungrammatical when the clausal negator *ne* is omitted as in example (15).

Modern Standard English does not tolerate NC and instead makes use of Negative Polarity Items (NPIs) in sentences with SN. An example of an NPI in English is *anyone* as in (18a) below; the version with NC (18b) is not permitted and leads to a double negative with a positive reading, i.e. 'John does like someone.'

(18) a. John doesn't like anyone.
b. *John doesn't like no one.

In English, the Neg head is non-overt and contains a [uNeg] feature. This position requires overt content in S-structure, and this must be satisfied either by the negator *not / n't* or a n-pronoun (e.g. *no one, nothing* etc.) (both of which carry an [iNeg] feature) being merged into the Spec of NegP. (Brown, 1999: 42). Since both *not* and n-pronouns carry [iNeg] in English, only one is required in a clause and explains why English selects NPIs (such as *anyone, anything*) when the clausal negator is present, and why an n-pronoun is required in patterns where there is a no negator, but a negative reading is intended.

This section has outlined some basic terms and concepts found in the literature on SN as well as very briefly touching upon a syntactic analysis of negation from a feature-based framework. Since the goal of this paper is more typological, I will not focus further on negation from a theoretical perspective. Refer to Laka (1994), Mazzon (2004) and Iyeiri (2005) for a fuller discussion of the syntax of English negation. The next section outlines a typology of negation patterns found cross-linguistically.

3. A Typology of Negation

This section takes the reader through some of the most salient typological work on SN. I start by outlining the various types of negation found across languages (subsections 3.1-3.7). Next, I consider negator positioning with respect to various word order typologies (3.8), before finally addressing symmetry and asymmetry in negation patterns (3.9).

3.1 Types of Negation

Dahl (1979) identifies a three-way typology of sentential negation:

i. morphologically;
ii. by means of an auxiliary;
iii. by the addition of an adverb-like negative particle.

In addition to these three main types, Dahl (1979) and Payne (1985) list some additional means of SN including reduplication, word order change, tone, and even negation without an overt negative marker, whereby the marking of tense is omitted (i.e., in Dravidian: see Pilot-Raichoor, 2010) but these are particularly rare cross-linguistically and so I will not address these in this paper.

Taking Dryer's 2013 sample of 1157 languages as a means to ascertain the frequency of the three main types of negators list above, we see the most common means of SN expression is adverb-like particles, which were found in 502 languages (or 43% of the sample). Next, is morphological negation, found in 395 languages (accounting for 34%) of the sample. Negative auxiliaries occurred in only 47 languages (or 4%), indicating this type of negation is much less common cross-linguistically. Interestingly, there are 71 cases in the sample where the status of the negative word is unclear – either a negative auxiliary or a particle. Additionally, there are 21 languages which exhibit variation between negative word and affix and 119 languages that demonstrate double negation.

In the following subsections, I illustrate each of the types of negation in turn.

3.2 Morphological negation

A common way of indicating SN is by morphological affixation (with a prefix, suffix or circumfix) or stem modification. Languages of this employ this type of negation include Turkish, Japanese, Czech, Lezgian, Chukchi and Korean. The Korean sentence (19)

exemplifies a negative prefix, while the Chukchi example (20) illustrates a negation by means of a circumfix:

(19) KOREAN (Koreanic) (Kim, 2000: 1)

John-un ppang-ul **an**-mek-ess-ta
John-TOP bread-ACC NEG-eat-PST-DECL
'John didn't eat the bread.'

(20) CHUKCHI (Chukotko-Kamchatkan) (Kämpfe & Volodin 1995: 69)

a-nto-**ka** (itə-rkən)
NEG-go.out-NEG be-DUR
'(S)he does not go out.'

3.3 Negation with an auxiliary

Languages of this type employ either a special negative auxiliary or by means of an auxiliary with a NEG affix. A prototypical example is Finnish (recall example (2)), but some other lesser-known languages such as Evenki (21), Tongan and Forest Enets (22) express negation by the same means.

(21) EVENKI (Tungusic) (Payne, 1985: 213)

bi dukuwūn-ma **ə-cə̄-w** duku-ra
I letter-ACC NEG-PAST-1SG write-PART
'I didn't write a letter'

(22) FOREST ENETS (Uralic, Samoyedic) (Siegl 2015: 47)

mud' Dudinka-xan **ńi-đʔ** d'iri-ʔ
1SG Dudinka-LOC.SG NEG-1SG live-CNG
'I do not live in Dudinka.'

In both these examples, the negation is expressed on a finite auxiliary which takes the lexical verb as a complement.

3.4 Negation with an adverb-like particle

Some languages and language groupings, including English, French, Nordic and Indonesian, express SN by means of a particle which exhibits adverb-like behaviour in its positioning around the verb (Kim, 2000).

(23) SWEDISH (Indo-European, North Germanic) (Holmberg and Platzack, 1988)

Jan köpte **inte** boken.
Jan bought NEG books.
'Jan didn't buy books.'

(24) INDONESIAN (Austronesian, Sundic) (Sneddon, 1996: 195)

mereka **tidak** menolong kami
they NEG help us.EXCL
'They didn't help us.'

3.5 Negation with a negative clitic

In addition to the three types listed by Dahl, Kim (2000: 163) distinguishes the adverb-like particle from a clitic-like element as found in Italian and Spanish.

(25) ITALIAN (Indo-European, Romance) (Zanuttini, 1991)

Gianni **non** legge articoli di sintassi.
Gianni NEG reads articles of syntax.
'Gianni doesn't read syntax articles.'

In languages of this type, e.g. Italian or Spanish, the negator precedes the verb whether it is an auxiliary or a main verb, and this happens whether the verb is finite or non-finite, or in embedded or constituent negation.

Kim proceeds to explain how syntactically the clitics *non* (Italian) and *no* (Spanish) mirror the behaviour of pronominal clitics in that (i) they must precede the auxiliary where one is present, or (ii) occur with a past participle in either participle clauses or passive clauses.

3.6 Languages with more than one type of negation

As mentioned in reference to Dryer's sample, 21 languages exhibit an alternation between a negative particle and an affix. One such example is Rama (spoken in Nicaragua) which uses both a preverbal negative particle and a negative suffix.

(26) RAMA (Chibchan) (Grinevald, 1988: 183, 185)

a. nkiikna-lut uut **aa** kain-i
man-PL dory NEG make-TNS
'The men don't make a dory.'

b. i-sik-**taama**
3-arrive-NEG
'He did not arrive.'

3.7 Languages with more than one negator

According to samples taken by Dryer (2013), Van Alsenoy (2014) and Vossen (2016), SN is most commonly expressed with only one negator (occurring 83%, 86%, 83% respectively in the samples). However, there remains a number of languages that use more than one negator to express SN (usually two, but there are cases of languages exhibiting triple and quadruple negators – see van der Auwera and Krasnoukhova (2020: 94) for examples), although this may not always be obligatorily. In this section, I explore two cases: from French and Egyptian Arabic.

Beginning with Standard French, consider the following constructed example:

(27) Les enfants *ne* mangent *pas* les pommes.
the children NEG eat NEG the apples.
'The children don't eat (the) apples.'

In colloquial French, however, the first NEG is omitted. The question centres around which of the two negators actually results in SN. To answer this, we need to turn to the so-called Jespersen Cycle (sometimes called the Negative Cycle). The *ne* negator was passed down from Latin; the *pas* negator originated in Old French as a minimiser, literally meaning 'step' used for pragmatic effects. Over time, this minimising effect become less transparent but

remained as part of the construction and in Standard French even became obligatory and causing a double negation. Jespersen (1917) provides an illustration of this diachronic process (cited from Larrivée (2011) with slightly adapted glosses for consistency):

(28) Stage 1: EARLY FRENCH
Jeo ne dis
1SG NEG say.PRES.1SG
'I don't say.'

(29) Stage 2: MIDDLE FRENCH (and remaining in MODERN STANDARD FRENCH)
Je ne dis pas
1SG NEG say.PRES.1SG NEG

(30) Stage 3: CONTEMPORARY INFORMAL FRENCH
Je dis pas
1SG say.PRES.1SG NEG

For a more in-depth discussion of this historical change and explanations as to why it happened, see Larrivée (2011). For a more Minimalist interpretation of how these two negators work together, see Biberauer & Roberts (2011) and Labelle & Espinal (2014).

Turning to Egyptian Arabic, recall example (5), reproduced here as (31):

(31) CAIRENE EGYPTIAN ARABIC (Afro-Asiatic, Semitic) (Soltan, 2014)
maa-saafir-t-i-š
NEG-travel-1SG-EV-NEG
'I did not travel.'

Soltan (2014) addresses the issue of the apparent double negation in Egyptian Arabic. He outlines the assumption in the literature that this double negation is due to head movement. Briefly, *maa-* is lower than T *-š* is in Spec of NegP or, perhaps, part of a discontinuous Neg head. However, Soltan (along with Diesing and Jelinek, 1995) proposes a new interpretation: namely this pattern is the result of morphological head movement: *maa-* is higher than

T whereas -*š* is a distinct "'formally negative' head that can be deleted under certain conditions."

Evidence for the fact -*š* is not part of a circumfixal negator comes from sentences containing the NPI *ʕumr* ('ever') which in the presence of -*š* renders the sentence ungrammatical when the NPI is in pre-Neg position:

(32) CAIRENE EGYPTIAN ARABIC (Afro-Asiatic, Semitic) (Soltan, 2014)

a. ʕumr-ii maa-saafir-t(*š) Masr
ever-my NEG-travelled-1SG-(*NEG) Egypt

b. maa-saafir-t*(š) Masr ʕumr-ii
NEG-travelled-1SG-*(NEG) Egypt ever-my
Both: 'I have never travelled to Egypt.'

Soltan explains this by proposing a split-Neg analysis in which *maa* and -*š* are distinct heads: Pol(arity) and Neg(ation), respectively and that "Neg and Pol are located higher than T, but only *maa* is specified for semantic negation, while -*š* is only formally negative, a property it probably acquired diachronically, and which requires licensing by *maa* in the syntax." Additionally, unlike other NPIs, *ʕumr* is nonnegative and as thus -*š* "is not spelled-out in the presence of an NPI that is formally nonnegative; [elsewhere,] it is phonologically realized."

(33)

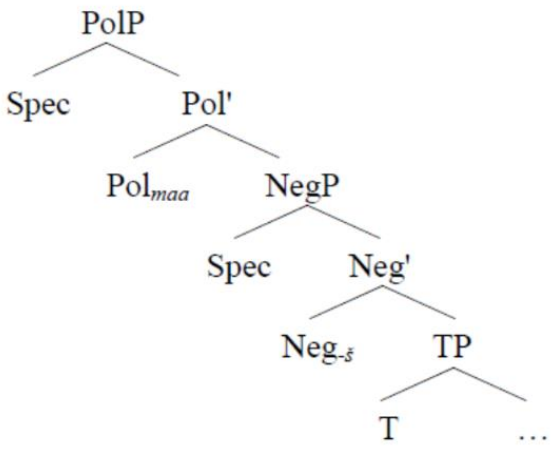

Figure 2: a syntax tree showing the hierarchical position of PolP and NegP with respect to TP

In Moroccan Arabic, -*š* deletion in the presence of an NPI is even more widespread (see Benmamoun, 2006).

3.8 Word order typology of negators

Dahl (1979) notes that negators tend to be positioned as close to the finite verb as possible. Jespersen (1917) first observed that there is tendency for negators to precede the verb (or indeed any word that is negativised). This led Horn (1989, revised 2001) to propose the Neg-First Principle, which is supported by data from typological surveys (e.g. Dahl, 1979 and Dryer, 2013) particularly with particle-type negators and that with such type of negation canonical constituent order has little relevance. The following three examples illustrate a Neg-First order in languages with differing constituent orders.

(34) OKLAHOMA CHEROKEE (Iroquoian) (Montgomery-Anderson, 2008: 297):
context-dependent free constituent order
thla yi-aki-anvhtha
NEG IRR-1B-know:PRC
'I don't know.'

(35) MAUNG (Australian, Iwaidjan) (Capell and Hinch 1970: 67)
SVO
marig ni-udba-ji
NEG 1SG>3-put-IRR.NPST
'I do not [/cannot] put.'

(36) MAORI (Austronesia, Polynesian) (Bauer 1993: 140)
VSO
kaahore tatou e haere ana aapoopoo
NEG 1PL.INCL T/A move T/A tomorrow
'We are not going tomorrow.'

Of course, I did mention that the Neg-First Principle is only a tendency, and the Chadic language of Musgu provides such evidence:

(37) MUSGU (Afro-Asiatic, Chadic) (Meyer-Bahlburg 1972: 186)

à sədə̂ cécébè **pày**

3SG.M know jackal NEG

'He didn't see the jackal.'

With morphological negation, although Dryer's sample contains a higher number of languages with suffixal negators, the margin between suffixes and prefixes is narrow: 162 prefixes to 202 suffixes.

3.9 Symmetry and asymmetry in negation patterns

Miestamo (2005, 2017) addresses (a)symmetry in SN. In symmetric negatives, a negative sentence will show no structural variation with that of an affirmative sentence, whereas in an asymmetric negative, structural changes do occur. Miestamo (2017: 9) provides the following examples from Swedish (symmetric negative) and Finnish (asymmetric negative):

(38) SWEDISH (Indo-European, Germanic)

a. hund-ar-na skäll-er ute
dog-PL-DEF bark-PRES outside
'The dogs are barking outside.'

b. hund-ar-na skäll-er inte ute
dog-PL-DEF bark-PRES NEG outside
'The dogs are not barking outside.'

(39) FINNISH (Uralic, Finnic)

a. koira-t haukku-vat ulkona
dog-PL bark-3PL outside
'The dogs are barking outside.'

b. koira-t ei-vät hauku ulkona
dog-PL NEG-3PL bark.CNG outside
'The dogs are not barking outside.'

As can be observed from the Swedish example, no structural changes have occurred despite the addition of the negator *inte*; however, in the Finnish example, we can see number and person marking has shifted from the lexical verb *hauku* to the auxiliary *ei* rendering the lexical verb non-finite (here in the connegative form).

In fact, the asymmetry present in Finnish is exactly what happens in English:

(40) a. Ben likes pizza. b. Ben doesn't like pizza.

The 3SG -*s* inflection on the lexical verb has shifted to the auxiliary in the negative sentence leaving the lexical verb non-finite.

This section has presented typological data to illustrate the rich variety of SN patterns cross-linguistically. I next attempt to bring some of this data together in the form of a hierarchy.

4. Parametric variation and towards a hierarchy of negation

In this section, I present data for parametric variation in NC patterns and attempt to create a parameter hierarchy based on this evidence.

As I showed above, languages like Russian exhibit NC. I now develop this to say that such a language actually exhibits strict-NC as opposed to non-strict NC. In strict-NC languages, 'double negation' is obligatory in all constituent order configurations, i.e. whether the negative constituent precedes or follows the clausal negator (Zeijlstra, 2022). However, there is a second type of language where constituent order determines whether a clausal negator is required or not. One such oft-cited language is Italian. In Italian, negative constituents can appear without a clausal negator if they follow the verbal chain, whereas if they appear in subject position, the clausal negator is obligatory.

(41) ITALIAN (Roberts, 2019: 555-556)

a. Gianni **non** telefona a **nessuno**.
   Gianni NEG telephone.3SG.PRES to nobody
   'Gianni doesn't telephone anybody.'
   [$_{TP}$ Gianni [$_{NegP}$ non$_{[iNEG]}$ telefona [$_{vP}$ a nessuno$_{[uNEG]}$]]]

b. **Nessuno** è venuto.
   Nobody be.3SG.PRES come.PPT
   'Nobody has come'

Roberts (2019: 566) explains that in such languages, "Op¬ licenses n-words [negative words] in subject position…". Preverbal n-words cannot co-occur with an overt head of NegP, whereas postverbal n-words require the presence of the head of NegP.

So far, we have met three types of languages: strict-NC languages like Russian, non-strict-NC languages like Italian, and languages without NC such as Standard English (see section 2.4).

A further type appears to exhibit something between strict-NC and non-strict-NC and a good example of this is Catalan. Recall that a Russian-type language requires NC in all configurations, i.e. when the n-word is preverbal or postverbal, and that in an Italian-type language, NC is only obligatory with postverbal n-words; with preverbal n-words, NC is prohibited. In Catalan, according to Brown (1999: 37), NC is obligatory with postverbal n-words, but with preverbal n-words, there is competition between two types of negation: either the clausal negator can be inserted – in the same way it has to be in Russian – or it can be omitted – like it has to be in Italian.

Certain languages require a specific syntactic configuration for expressing SN. In West Flemish, another language with NC, the n-word must appear in a Spec-Head configuration at S-structure. This configuration leads to a NC reading. However, West Flemish also allows for the same sentence to occur without the Spec-Head configuration of the negator and n-word, but this then renders a double negative meaning, which semantically results in an affirmative meaning.

(42) WEST FLEMISH (Indo-European, W. Germanic) (Brown, 1999: 38-39)

a. da Valère **vanniemand nie** ketent (en)-was
that Valère of.no.one NEG content en-was
'that Valère was not pleased with anyone'
> NC reading due to Spec-Head configuration of n-word and clausal negator

b. da Valère **nie** ketent **vanniemand** (en)-was
that Valère NEG content of.no.one en-was
'that Valère was not pleased with no one'
> double negative reading because of non-Spec-Head configuration of n-word and clausal negator. Lit. 'Valère was pleased with someone.'

In terms of parametric variation of the languages I have considered, we have those that either require negative concord (e.g. Russian) or prohibit it (e.g. English) and of those that require it

are those that have strict NC (e.g. Russian) or non-strict NC (e.g. Italian). Furthermore, we have seen languages that allow some optionality in NC under certain configurations (e.g. Catalan), and some that require a certain syntactic configuration to establish NC, but allow for double negative readings without this syntactic configuration (e.g. West Flemish).

Based on this evidence presented in this section, I propose the following parameter hierarchy:

(43)

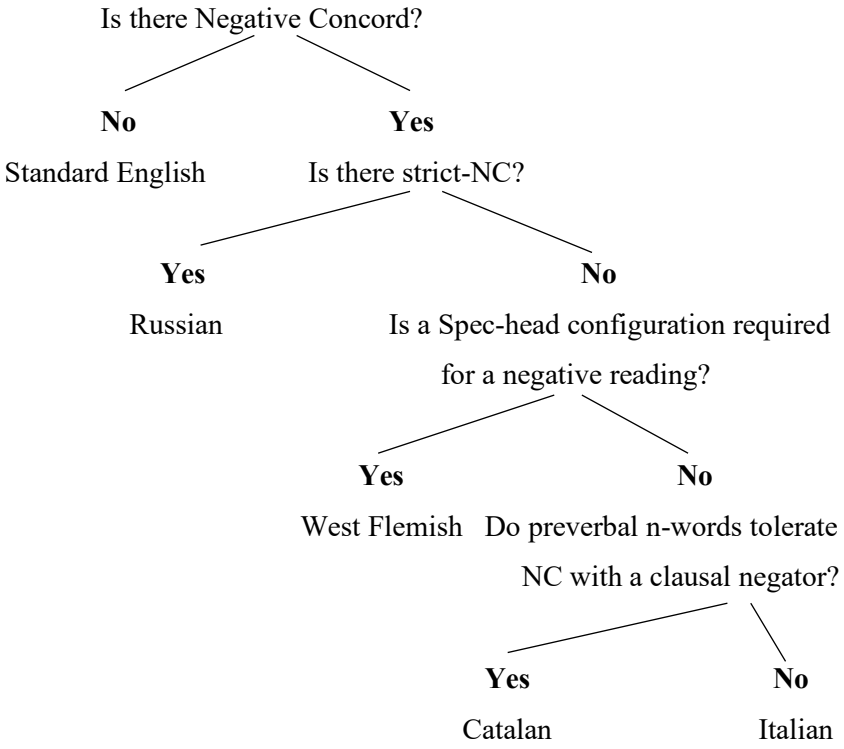

Figure 3. A proposed parameter hierarchy for NC negation.

It is without doubt that my proposed hierarchy has many limitations as a Negative Hierarchy. Most significantly, it only considers languages from the perspective of NC. It does not consider other negation types discussed in section 3, e.g. languages with morphological negation. Therefore, a revised or separate hierarchy would be required to account for such typologies.

Biberauer (2016: 26) offers a different type of Negative Hierarchy based more around Neg features, which I have copied here for reference (NB: the version shown here is from Roberts, 2019: 599 showing his additions):

(44)

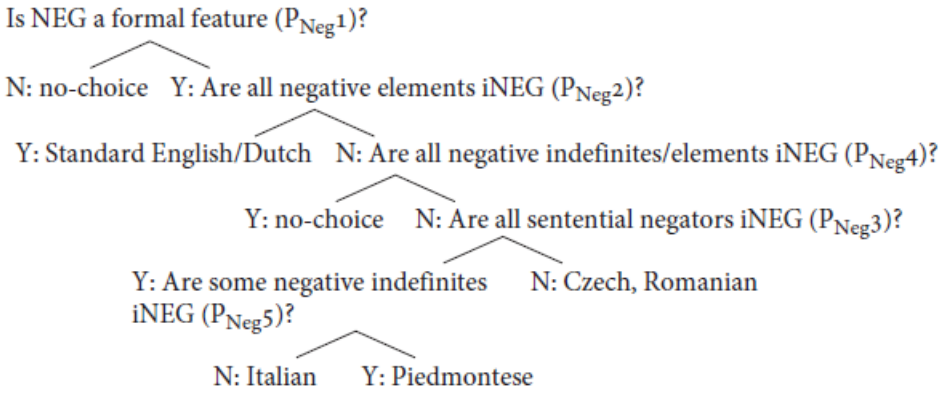

Figure 4. Biberauer's (2016) / Robert's (2019) Negative Hierarchy

This section has considered variation from the perspective of negative concord and attempted to propose a parameter hierarchy for this type of negation.

5. Conclusion

This paper has attempted to survey the various types of negation occurring cross-linguistically and worked towards a possible parameter hierarchy for negative concord. I hope that I have clearly shown the various morphosyntactic mechanisms languages can select from to express sentential negation. We saw examples of negation with a particle, which turns out to be the most common way to negate clauses cross-linguistically; the next most common way is with verbal morphology, and less common being with a negativised auxiliary. I touched briefly on some other types of negation strategies such as languages with more than one negator. I also showed how (a)symmetry plays a role in the syntax of the position of the negative element.

Due to the very limited scope of this paper, I have often had to brush over certain points. However, I have attempted, where possible, to suggest sources where the reader can find fuller discussions of the issues touched upon.

There are two directions in which any further work in this area could take: first, from a typological perspective, more languages could be analysed to increase the sample sizes of those already established to ascertain whether the picture we currently have about negation constructions is accurate; second, from a theoretical standpoint, any development in parameter hierarchies should account for *any* and *every* language, even those with less

common ways of expressing negation, such as by prosaic means. Furthermore, any theoretical discussion could go further in attempting to explain the underlying representations of the syntactic mechanisms involved in the expression of negation.

(5379 words)

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