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The negative existential cycle viewed through the lens of comparative data

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In this paper a family-based sample is used in order to test the model of evolution of standard negation markers from negative existentials suggested by Croft (1991) and known as the Negative Existential Cycle (NEC). The comparative data collected here were analyzed and classified following the definitions of type/stages suggested in the original model. The data collected here were also analyzed from a diachronic perspective and whenever possible also supplied with historical information. It is found that the stages with variation are dominant in the families under study. Consequently they are considered to be far more important for this cycle than the stages without variation. Furthermore, the stages with variation are not only synchronically frequent, they are also diachronically stable as they can be demonstrated to last for very long periods of time. The data collected here also suggest that the NEC is rarely completed within a time span for reasonable reconstruction. This is attributed to the importance of the distinction between negation of actions and negation of existence and its constant renewal in human languages.

1. Introduction

The Negative Existential Cycle (hereafter NEC)¹ was proposed by Croft (1991) as a way of modeling the evolution of standard negation markers (hereafter SN) from existential negators; cf. (1b) and (1d) below for introductory illustrations of these different kinds of negators. As illustrated in (1) below, in Turkish, SN is expressed by a suffix *-mA*² whereas the negation of existential sentences is expressed by the semi-verb *yok* which replaces its positive counterpart *var*. The NEC as laid out by Croft puts forth a

1. Kahrel (1996) dubbed this cycle as *The Croft Cycle*; the model is referred to under this name in other works as well, see for instance Mosegaard-Hansen (2011) for a relatively recent reference. Here I am keeping Croft's original denomination *The Negative Existential Cycle*.

2. The quality of the vowel is determined by vowel harmony.

hypothesis about the evolution of SN from special existential negators as they gradually expand their use into negating verbs.

- (1) Turkish (Turkic, Common Turkic, Oghuz-Uighur-Kipchak, Oghuz) [tur]³
- a. *Gel-ecek*
come-FUT
'(S)he will come.' (van Schaaik 1994: 38)
 - b. *Gel-me-yecek*
come-NEG-FUT
'(S)he will not come.' (van Schaaik 1994: 38)
 - c. *Su var-dı*
water exist-PST
'There was water.' (van Schaaik 1994: 44)
 - d. *Su yok-tu*
water NEG.EX-PST
'There was no water.' (van Schaaik 1994: 44)

Before we proceed with the presentation, a few definitions are in order. For the concept of SN, I follow Dahl (2010) and Miestamo (2005). As discussed in these works, SN refers to negation in simple declarative sentences with an overt verb predicate as in (1b) above. In my work, I use the terms SN and *verbal negation* interchangeably. Negation of all other kinds of predications is excluded from SN because in many languages they may be negated by strategies that differ from SN. For the notion of *construction*, I follow Croft (2001: 18), whereby constructions are defined as symbolic units of form and meaning linked by symbolic correspondence. Constructions can be *atomic*, that is consisting of a single lexical item, or they can cover collocational schemas such as *be going to* INF, which expresses future time reference for the verb in the infinitive slot. The term *existential predication/existential sentence* is used here to refer to *grammaticalized existential constructions*; the latter may show one or more of the following characteristics: non-referential subject, usually marked by a non-prototypical subject marking; word order that differs from dominant word orders in the language; special agreement or no agreement between subject and predicate (whenever agreement is relevant); a predicate (item) with a special morphology (see Givón (1979), Hengeveld (1992) Stassen (1997), (Dryer 2007) for further discussion). Finally, the NEC is an example of dynamicization of a typology, that is, a synchronic typology is given a dynamic interpretation. Therefore, I will be using the terms *type* and *stage* interchangeably.

3. All classifications given here follow Glottolog 2.3, (<http://glottolog.org>). The ISO-693 code of each language is cited as well.

Despite recent renewed interest in cyclical processes in language change and negative cycles in particular (van Gelderen 2008; 2009), the negative existential cycle has received relatively little attention. The NEC is based on cross-linguistic data. The study presented here is part of a larger project where the ultimate goal is to test the NEC on a family-based sample that covers all major macro-linguistic areas cf. Dryer (Dryer 1992). In this article data from Eurasia predominate; the families compared here include Slavic, Uralic, Turkic and Dravidian; two other areas are represented by one family each, North-West Africa by Berber and Oceania by Polynesiann. Testing the cycle involves (i) checking which of the language types/stages of change suggested in the NEC are actually instantiated in specific families, and (ii) outlining pathways of transition between different types. In other words, by testing this model, my goal is to outline the stages involved in the evolution of a negative existential into a standard negator as well as the processes which lead from one stage to another. These issues have already been discussed for Slavonic, Polynesian and Uralic, see Section 4 below for a more detailed summary of my recent work, (Veselinova 2014; Veselinova 2015).

The comparative data examined here allow for the following generalizations. A time dimension needs to be added to this diachronic model. In the literature on linguistic cycles, see (van Gelderen 2009; Willis et al. 2013:22), it is typically noted that the rate of change varies considerably from one language to another. Consequently, the duration of a cycle is hard to predict. However, the evolution of negative existentials into markers of standard negation appears to be consistently of a lengthier kind. In fact, the full completion of the NEC appears to occur very rarely within a period that allows for reasonable reconstruction. On the other hand, stages where the negative existential is used for specific sub-domains in the negation of verbs are very frequent and tend to last for very long periods of time. Finally, negative existentials are constantly recreated since they represent a basic functional domain, cf. (Veselinova 2013a). When the NEC turns full circle, the distinction between negation of action and negation of existence is obliterated. This is probably why the NEC is completed so seldom.

This article is organized as follows. In Section 2, I offer an overview of the NEC with pertinent examples. In Section 3, I present the application of the NEC on the language families examined here. In Section 4, I summarize the findings of my recently published work on the NEC. Section 5 is devoted to a diachronic analysis of the comparative data from Berber, Turkic and Dravidian languages. A summarizing discussion concludes the article in Section 6.

2. Overview of the negative existential cycle

As pointed out above, the NEC is based on cross-linguistic data and consists of six language types. Three of the types suggested in NEC are invariant in their expression

of negation in both verbal and existential predications. In the model they are referred to as *stable* types. They alternate with languages that exhibit variation in their negation strategies in either SN or existential negation; the latter are said to be *transitional* types. The terms *stable* and *transitional* are used in both Croft's work and here in a variationist sense. Thus they do not necessarily refer to diachronic stability or instability.

The stable types are labeled A, B, C; the transitional types A~B, B~C, C~A. In type A, there is no distinction between SN and existential negation; one and the same negator, the SN marker, is used for both, cf. (2).

(2) Niue (Austronesian, [...] Polynesian, Tongic) [niu]

Standard negation

- a. *Ne nākai fano kehe a ia*
 PST NEG go.SG away s 3SG

'He didn't go.' (Veselinova 2014: 1345 citing Polinskaja 1995: 71)

Existential negation (=SN)

- b. *Nākai hā hinei e tama*
 NEG EX here ART boy

'There are no boys here.'

(Veselinova 2014: 1345 citing Polinskaja 1995: 78)

In type A~B, there is a special existential negator but it is restricted to a specific context. For instance, in Zyryan Komi, cf. (3) below, existential predications in the present tense are negated by the special form *abu*-AGR, as illustrated by (3)a. In non-present tenses, the SN marker has to be used; in Zyryan Komi, as in many other Uralic languages, it is expressed by a negative auxiliary which is used with a special form of the main verb, labeled *connegative* in Uralic linguistics.⁴ In the case of negated existential predications with past and future time reference cited in (3)b. the negative auxiliary *o-/e-* agrees with the subject according to number; the main verb is 'be' and it appears in its connegative form *lo*. Both the negative auxiliary and the verb 'be' use suppletive stems for the past versus present/future forms.

(3) Zyryan Komi (Uralic, Permic) [kpv]

- a. *tatjn mort-jas abu-eś*
 there human.being-PL NEG.EX-PL
 'there are no people there'

(Veselinova 2015: 565 citing Hamari 2007: 90)

4. See Comrie (1981) and Miestamo (2005) for general overviews of negation in Uralic languages.

- b. *Mijan Mamant kod' mort-is vojvil-in*
1PL.GEN Mamant like person-POSS.3SG north-INE
e-z na vev i o-z lo
NEG.PST-3 yet be.PST.CNEG.SG and NEG.PRS-3 be.FUT.CNEG.SG
'So far, there was no person like our Mamant in the north and there
will not be, [-]' (Veselinova 2015: 565 citing Arja Hamari p.c.)

In type B, the special existential negator is the only possibility for the negation of existential predications. For instance, in Turkish the SN suffix *-mA* is completely ruled out for their negation, cf. (4b).

- (4) Turkish (Turkic, Common Turkic, Oghuz-Uighur-Kipchak, Oghuz) [tur]
a. *Su var/var-di*
water exist/exist-PST
'There is/was water.' (van Schaaik 1994: 44)
b. *Su yok/yok-tu*
water NEG.EX/NEG.EX-PST
'There is/was no water.' (van Schaaik 1994: 44)

In type B~C, the negative existential is used for the negation of some verbal predications. This is illustrated by data from Zyryan Komi. This language also demonstrates the overlap of two different, non-sequential types of the NEC, an issue to which I will return in 3.2. As demonstrated in (3) above, Zyryan Komi instantiates the transitional stage/type A~B since its negative existential *abu*-AGR is restricted to the present tense. However, the same word *abu* is also used for the negation of verbs in the perfect and pluperfect tenses, cf. (5) below. This in turn calls for classifying the language in type B~C of the cycle as well. When used as a verbal negator, the word *abu* does not take any agreement markers. The use of *abu* in (5) is a good example of a straightforward grammaticalization process: (i) the lexical sense of the item is no longer relevant or even gone, its finite markers are also discarded; (ii) it looks more like an invariable particle and it is used with a fairly abstract function. Within the NEC, type B~C typically represents the diachronic stage where the negative existential is expanding its domain of use; however, as shown by Bulgarian (20) and Old Church Slavonic (21) below, this is not always the case.

- (5) Zyryan Komi (Uralic, Permian) [kpv]
a. *mun-əm-a*
go-PRF-1SG
'I have gone' (Hamari 2011)
b. *Abu mun-əm-a*
NEG.PRF go-PRF-1SG
'I have not gone', (Hamari 2011)

- c. *me vel-i mun-a*
 1SG be-PST1 go-1SG
 'I was going' (Hamari 2011, citing Cypanov 2007:255)
- d. *me vel-i o-g mun*
 1SG be-PST1 NEG-1 go.CNEG.SG
 'I was not going' (Hamari 2011, citing Cypanov 2007:255)

In type C, the negative existential is used as SN but the constructions where it is used differ for the negation of verbs and for the negation of existential predications. The negative constructions may differ in terms of morphology or in terms of syntax, or both. The examples below show constructions which differ in terms of morphology from Kannada and in terms of syntactic structure from Māori.

In Spoken Kannada verbal predications are negated by a suffix *-illa* which is attached to a gerundial form of the verb, cf. (6a). The same form, *illa* is used for the negation of existential predications but there it is a free form, cf. (6b).

- (6) Spoken Kannada (Dravidian, South) [kan]
- a. *anil ka:le:jige ho:gu-vud-illa*
 name college.DAT go-NONPST.GER-NEG
 'Anil won't/doesn't go to college' (Sridhar 1990:111)
- b. *Khaja:neyalli haNa illa*
 Treasury.LOC money NEG.EX
 'There is no money in the treasury' (Sridhar 1990:112)

Māori is used to illustrate a language where the negation constructions for verbal predications and those for existential predications differ in terms of syntax but not in form. Similarly to many other Polynesian languages, negation in Māori is expressed by means of a complex clause, cf. (7b) where the negative verb *kāore* appears in sentence initial position (the position of the main predicate) and the order of the verb complex and the noun complex is reversed in the negated sentence.

- (7) Māori, (Austronesian, [...] Nuclear Polynesian, Eastern, Tahitic) [mri]
- a. *E tangi ana te tamaiti*
 GENR weep TA DET child
 'The child is/was crying' (Harlow 2007:161)
- b. *Kāore te tamaiti e tangi ana*
 NEG DET child TA weep TA
 'The child is/was not crying' (Harlow 2007:161)

The change of constituent order between (7a) and (7b) indicates subordination; the literal translation of the sentence in (7b) is 'There is no child [who] is crying'. Existential predications are strictly non-verbal in Māori, that is, they do not admit of any tense-aspect marking; the negative verb *kāore* appears sentence-initially but the constituent order remains unchanged in both the affirmative and the negated sentence, cf. (8ab).

- (8) Māori, (Austronesian, [...] Nuclear Polynesian, Eastern, Tahitic) [mri]
 a. *He whare wānanga kei Kirikiriroa*
 DET house learning PREP Hamilton
 ‘There is a university in Hamilton’ (Harlow 2007: 161)
 b. *Kāore he whare wānanga i Taihape*
 NEG DET house learning PREP Taihape
 ‘There’s no university in Taihape’ (Harlow 2007: 161)

Finally, type C~A of the NEC includes languages where the negative existential is observed not only in verbal predications but it has started to negate the affirmative existential as well. This is illustrated by data from East Futuna. Negation in this language is a very complex phenomenon with several different patterns of variation in both the verbal and the existential domain, cf. (Moyse-Faurie 1997; Moyse-Faurie 1999) and also (Veselinova 2014: 1359–1364). Because of these complex variation patterns, the language is classified in three different types of the cycle (B~C, C, and C~A). For the purposes of this overview, I focus only on the following facts: (i) there is a newly created negator *le’ese*. Cf. (9); it is a univerbation between a negative marker/negative existential *le’* and the indefinite article *se* cf. also (10)B where they appear orthographically as separate words; (ii) the form *le’ese* can be also used for the negation of the affirmative existential as shown in (10)A; however, it is by no means obligatory in this use as demonstrated by (10)B.

- (9) East Futuna (Austronesian [...] Polynesian, Nuclear, Samoic-Outlier, Futunic) [fud]
Na le’ese māsau a Kalada i le fakatasi
 PST NEG speak ABS Kalada OBL DEF meeting
 ‘Kalada did not speak during the meeting.’ (Moyse-Faurie 1999: 122)
- (10) East Futuna (Austronesian [...] Polynesian, Nuclear, Samoic-Outlier, Futunic) [fud]
 A: *E le’ese iai se lāisi* B: *E’ai, e le’ se lāisi*
 GENR NEG exist INDF rice No GENR NEG INDF rice
 ‘Isn’t there any rice?’ ‘No, there is no rice.’
 (Moyse-Faurie 1999: 117)

Languages like East Futuna represent the last stage before the completion of the NEC. When the erstwhile existential negator must be used for the negation of the affirmative existential, we are back at the stage where there is no distinction between verbal and existential negation, cf. (2) above. The cyclical process can then be seen as having turned full circle.

The cycle is schematically represented in Figure 1 below. Boxes with a solid outline represent stable types; boxes with a dashed outline represent transitional

types. In the original graphic representation of the cycle, only the stable types were shown.

Figure 1. *The Negative Existential Cycle*, adapted from Croft (1991:6)

When the NEC is cited, the general interpretation seems to be that the process evolves from a state where there is no distinction between negation of verbs and negation of existentials to a state where a newly created negative existential establishes a such distinction, and finally to a state where the negative existential ousts the original verbal negator/SN and the state of no distinction between verbal and existential negation is restored again, cf. (Dahl 2010), (Horn 1997), (Hovdaugen & Mosel 1999), (Kahrel & van den Berg 1994), (Mosegaard Hansen 2011), see also (Willis et al. 2013) and (Wilm-sen 2014). In other words, in all of the works just mentioned and also in many others, the emphasis lies on the general direction of the cyclical process whereby negative existentials may evolve into more general markers of negation.

The comparative data presented below highlight several aspects of the cycle which have been neglected so far. They include the following: the stages with variation; the sequence of stages in this cycle, and more importantly, the overlap of stages; the time it takes for the NEC to be completed; the nature of negative existentials. In the sections below, I start by presenting the comparative data first by showing how different families are classified in the NEC following the definitions given above. Datasets are presented in pertinent tables in the Appendix.

3. Application of the cycle on different kinds of samples

A major part of the work conducted here has been devoted to classifying the languages from the world-wide and the family-based samples into the types of the cycle introduced above. Hence I consider it important to present this classification in the graphic form of the cycle in 3.1; a summary and discussion of this classification follows in 3.2.

For the order of the graphs where the families are represented, I follow their geo-graphical location starting from the West and moving to the East. Thus I start with Berber, followed by the families investigated in Eurasia and conclude with Polynesian.

Languages from the family based sample are shown by their ISO-693 codes. For detailed listing of the classification of the world-wide sample, please consult Map 1 in Veselinova (2014: 1383). Languages with complex variation patterns which need to be placed into several types are indicated by a shaded background (such languages are shown by Zyryan Komi in (3) and (5) above, and also by Tamil in (43) below).

3.1 Graphic representation of the collected data

Figure 2. The world-wide sample classified according to the NEC following Veselinova (2014: 1330)

Figure 3. Berber languages classified in the NEC, adapted from (Mettouchi 2009)

Figure 4. Slavic languages classified in the NEC, adapted from Veselinova (2014: 1336, 1378)

Figure 5. Uralic languages classified in the NEC, adapted from Veselinova (2015: 573–4)

Figure 6. Turkic languages classified in the NEC

Figure 7. Dravidian languages classified in the Negative existential cycle

Figure 8. Polynesian languages classified in the NEC, adapted from Veselinova (2014: 1365, 1378–1380)

3.2 Summary and discussion of the types instantiated in the world-wide sample and in the families under study

The classifications presented above allow for the following observations. First, the cycle is instantiated in its entirety in the Polynesian family only and this instantiation is valid when we take into consideration languages with very complex variation patterns, cf. Figure 8. Without invalidating the cycle, this has implications for the length of time required for its completion, especially when the synchronic classifications above are supplied with diachronic information, cf. Section 4 and Section 5 below. Second, the sequence of types as suggested in the original model is not absolute. Croft (1991:22) does point this out but this is not the way his work is cited so this issue has to be emphasized. The types outlined in the NEC are variationist in nature; thus they tend to co-occur with each other. As shown in 3.2.2 below, there are several cases of overlap between different stages/types in one and the same language. Two of these overlaps appear to be very important as they are observed in several different families and geographical areas and are discussed in more detail in this section. Finally, as will be demonstrated by the counts in Table 1, it is the types with variation that appear to prevail in the families investigated here.

3.2.1 Cross-linguistic frequency of the NEC types

In Table 1, the raw count (RC) represents the number of languages in a specific type. As shown by the figures above, some languages need to be classified in several types of the NEC due to complex variation patterns. Consequently, the sum (*Sum*) of the raw

count shows the number of instantiations of this particular type. The per cent proportion shows the proportion of the RC from the *Sum*.

In the world-wide sample two languages had to be classified into several types (Babole and East Futuna). In the family-based sample, languages with complex variation patterns that had to be classified into several types of the NEC are observed in Uralic, Dravidian and Polynesian. The actual number of languages for these families is 26 Uralic, 12 Dravidian and 22 Polynesian. For Berber, Slavonic and Turkic the sum of the raw count reflects also the number of languages included.

Table 1. Distribution of the different samples across the NEC

	A RC	A %	A~B RC	A~B %	B RC	B %	B~C RC	B~C %	C RC	C %	C~A RC	C~A %	Sum of RC
World-wide	33	32.7	9	8.9	30	29.7	15	14.9	8	7.9	1	1.0	97
Berber	2	28.6	2	28.6	3	42.9	–	–	–	–	–	–	7
Slavonic	5	33.3	8	53.3	–	–	2	13.3	–	–	–	–	15
Uralic	11	36.7	5	16.7	6	20	8	26.7	–	–	–	–	30
Turkic	–	–	–	–	11	64.7	6	35.3	–	–	–	–	17
Dravidian	–	–	–	–	5	35.7	6	42.7	3	21.4	–	–	14
Polynesian	1	3.9	1	3.9	10	38.5	3	11.5	9	34.6	1	3.9	26

As shown in Table 1, in the sample of 95 genealogically and geographically diverse languages, the two most frequent types are type A and type B; on the other hand, type C appears to be rather minor. The frequency cline for the world-wide sample is summarized in (11) below.

- (11) Frequency cline for world-wide sample
A (32%) > B (29.7%) > B~C (14.9%)

Generally, this confirms Croft's statement (Croft 1991: 18) that "types A and B are far more common than type C" and that type C~A will be extremely rare. The transitional types are not very well presented in the world-wide sample. Even if type B~C is the third most frequent one cf. (11), it should be also noted that its frequency is substantially lower than those of type A and type B which appear to cover about one third of the sample each.

In the family based sample, type B is by far the most frequent one, followed by the transitional types B~C and A~B, cf. Table 1 above as well as in the graphic representation of the cycle in the different families in 3.1. The frequency cline for the family based sample is presented in (12) below to facilitate comparison with the most frequent types in the world-wide sample shown in (11).

(12) Frequency cline for the family-based sample

$$B > B \sim C > A \sim B$$

It has to be noted that the only similarity between the world-wide sample and the family-based sample, cf. most frequent types in (11) and (12), is the highly frequent type B, that is, languages with a negative existential which is primarily used for that function. The transitional types B~C and A~B are very frequent in most of the investigated families while these types appear to be rather insignificant in the world-wide sample. Conversely, the stable type A which is observed in one third of the languages in the world-wide sample is present in three families (Berber, Slavic and Uralic) and as good as absent in the other three (Turkic, Dravidian and Polynesian).

3.2.2 *Overlaps of types within the NEC*

As already pointed out, the comparative data from the family-based sample highlight a very important aspect of the NEC namely that the types/stages as outlined in the original model are not sequential but can co-occur within one and the same language. In Section 2 above, the overlap of two transitional types, A~B and B~C was shown using data from Zyryan Komi, cf. Examples (3) and (5) above. Examples of other kinds of overlaps are illustrated below by data from Estonian and Kapingamarangi.

In Estonian we observe an overlap between type A and type B. In this language, SN is expressed by a preverbal particle *ei*; the same particle can be used for the negation of existential predications, as shown in (13a) and (13b). This calls for classifying the language as belonging to type A. However, there is also another particle, *pole*, which can be also used for the negation of existential predications,⁵ cf. (13c). Consequently, Estonian can be classified as type B as well.

(13) Estonian (Uralic, Finnic) [ekk]

- a. *Maia ei laula*
 Maia NEG sing.CNG
 'Maia does not sing' (Miina Norvik, p.c.)
- b. *külmkapi-s ei ole õlu-t*
 fridge-INE NEG be.CNG beer-PART
 'There is no beer in the fridge' (Diana Krull, p.c.)

5. The special negator *pole* can be used for all kinds of stative predications, cf. Veselinova (2015); however, this is irrelevant for the NEC which is why I am not citing more data from Estonian.

- c. *Pole õlu-t külmkapi-s*
 NEG beer-PART fridge-INE
 'There is no beer in the fridge' (Diana Krull, p.c.)

As shown in (13) above, negation of existential predications in Estonian has two expressions: either the SN marker *ei* or the special negator *pole*. These expressions are in free variation for this function. Consequently, they are considered separate strategies and are classified in appropriate types of the NEC, A and B. Estonian is thus very different from Zyryan Komi, cf. (3) where the use of the special negator *abu*-AGR is restricted to the present tense; the SN strategy has to be used for the negation of existential predications in non-present tenses. The complementary distribution of the special negator and SN in Zyryan Komi motivates the classification of this language in the transitional type A~B.

Another kind of overlap, namely between types B and B~C/C, is shown by Examples (14) and (15) with data from Kapingamarangi, a Polynesian Outlier language from Micronesia. In this language, there are two negative existential *hakarē* and *tēai*, cf. (14b) and (14c). SN is expressed either by the particle *tē* or by the negative existential *hakarē*, cf. (15a–c). In the sources available to me (Elbert 1948) and (Lieber & Dikepa 1974), the SN marker *tē* and the negative existential *hakarē* appear to be in free variation. The same is also valid for *hakarē* and *tēai* when used as negative existentials and related functions.

- (14) Kapingamarangi (Polynesian, Samoic Outlier, Ellicean)⁶ [kpg]
- a. *Ti pāhi Ngeiha i ai ti ēitu*
 poss side northern in/at exist poss spirit
 'There is a spirit at the northern side.' (Elbert 1948: 17)
- b. *Hakarē e roko*
 NEG.EX TA many
 'There are not many.' (Elbert 1948: 30)
- c. *koe tēai tau mē e hai taiā*
 2SG NEG.EX 2SG.POSS thing LET'S do tomorrow
kitātou e hura ki wērua
 1PL.INCL TA go DIR werua
 'If you have nothing to do tomorrow, we'll go to Werua.' (Elbert 1948: 30)

6. It should be noted that existence and possession are expressed in one and the same way in Kapingamarangi, either by non-verbal predication with particle *ai* or with the particle *ikoro*. These predications are also negated in one and the same way, either by *tēai* or by *hākare*. Statements to this effect can be read throughout the descriptions available to me.

(15) Kapingamarangi (Polynesian, Samoic Outlier, Ellicean) [kpg]

- a. *Ko au ku iroa, ko Iete tē iroa*
 NOUN.A I PRS know ACT Iete NEG know
 'I know, Iete does not know.' (Elbert 1948:30)
- b. *Au tē hihai*
 1SG NEG like
 'I do not like it.' (Elbert 1948:30)
- c. *Au hakarē hihai*
 1SG NEG.EX like
 'I don't like it. I don't want any.' (Elbert 1948:30)

Given that one of the negative existentials, *tēai*, is dedicated to that function, the presence of type B is postulated in Kapingamarangi. The other negative existential, *hakarē*, is clearly used as an SN marker as well; this in turn requires the postulation of another NEC type for Kapingamarangi, either B~C or C. The uncertainty stems from the fact that it is not clear whether *hakarē* is (i) completely on a par with the particle *tē* the negation of verbal predications or (ii) conditioned by specific grammatical/discourse factors. If (i) is valid, then we would have type C; if (ii) is valid then, this strategy instantiates type B~C. Overall, two stages of the NEC are observed in Kapingamarangi, B and B~C/C. Similar overlaps are also observed in Tahitian and also in Tamil, cf. (41)–(43) below for similar data as well as for a discussion about the diachronic interpretation of these facts.

A comparison of overlapping NEC types brings to light the fact that certain overlaps are cross-linguistically more common than others, and that, in fact, it is possible to offer a typology of overlaps.

As pointed above in Section 3.2.1 and also in this section, the types with variation, B~C and A~B, are not only very frequent in the families examined here but they also co-occur with each other in several different families, cf. Table 2 above. This overlap refers to a situation where a contextually restricted negative existential is extended into the verbal domain; the stable stage of a fully established negative existential is skipped, cf. (3) and (5) from Zyryan Komi. This kind of situation is observed in Uralic, Slavic, Polynesian and Bantu. These families differ substantially in terms of structure and are located in three distinct geographical areas. So it is probably safe to say that it is cross-linguistically valid that a fully established negative existential as the sole negator of existential predication is not a necessary condition for its expansion into other functions.

3.3 Recapitulation of this section

In this section I presented an overview of the application of the NEC to the world-wide sample as well to the family-based sample. The main findings are as follows: (i) the stable types A and B are the most frequent ones in the world-wide sample; (ii) In

Table 2. Languages where overlapping NEC types are observed

LANGUAGES CLASSIFIED INTO SEVERAL TYPES	OVERLAPPING NEC TYPES
3 Uralic languages (Estonian [ekk], Veps [vep], Skolt Saami [sms])	A and B
3 Uralic (East Mari [mhr], Zyryan Komi [kpv], Permian Komi [koi]), 1 Polynesian (Hawai'ian[haw]), 1 Bantu (Babole [bvz])	A~B and B~C
1 Dravidian (Tamil [tam]), 1 Polynesian (Kapingamarangi [kpg])	B and B~C
1 Polynesian (Tahitian [tah])	B and C
1 Polynesian (East Futuna [fud])	B~C and C and C~A

the family-based sample, type B is by far the most common followed by the transitional types B~C and A~B. In non-technical terms, this means that in the family-based sample, languages with well established negative existential prevail; languages where the negative existential is used within a clearly defined domain of verbal negation (type B~C) are also very common; (iii) finally, it is also very common to observe overlaps of different, non-sequential type/stages of the NEC within one and the same language. Specifically, the most common overlap is that types A~B and B~C co-exist. This means that it is cross-linguistically very common that a contextually restricted special negator expands its domain of use into the verbal domain.

4. Summary of the findings on Slavonic, Polynesian and Uralic

In my recent work (Veselinova 2014; Veselinova 2015) I offer a critical examination of the NEC based on comparative data from Slavic, Polynesian and Uralic languages. I suggest that the full completion of the NEC appears to take about 2000 years and that it depends on language specific characteristics. In particular, negative existentials are most likely to fully take over the domain of SN in languages where SN is expressed by means of a complex clause, see (16) from Tongan below as well as (7) from Māori above.

- (16) Tongan (Austronesian [...] Polynesian, Tongic) [ton]
Standard negation
- a. *Na'e kei kata ((')a) e ongo ki'i ta'ahiné*
PST still laugh ABS ART DU CLF girl.DEF
'The two little girls were still laughing.'

(Broschart 1999:97)
- b. *Na'e 'ikai ke kata 'a Pita*
PST NEG SUB laugh ABS Pita
'Pita did not laugh.' ([It] was not that Pita laugh[ed])

(Broschart 1999: 104)

Based on the comparative and historical data from the families mentioned above, I was also able to outline several different pathways whereby negative existentials come to be used in the domain of verbal negation. They include (i) subordination processes; (ii) the reanalysis of an external negator into a negator external to the proposition; (iii) a direct inheritance of a construction; (iv) the use of negative existentials with nominalized verb forms. Among these pathways, only (iv) shows a great extent of cross-linguistic recurrence; it is illustrated in this section, by Selkup (22) and Hawai'ian (23) as well as in pertinent sections on Berber (5.1), Turkic (5.2) and Dravidian (5.3). The remaining three pathways are briefly presented in this section only as they appear to be cross-linguistically more restricted.

Subordination strategies as in (16) from Tongan above involve the concatenation of predicates in a complex clause structure where a verb with negative content becomes the predicate of the main clause while the negated proposition is in the subordinate clause. These strategies are especially productive in Polynesian languages. Their productivity has led to several renewals of the SN markers and also to at least one round of completion of the NEC. The developments observed in Polynesian lead to the hypothesis that the negative existentials are most likely to fully take over the domain of SN in languages where SN is expressed by a complex clause. This, however, remains to be tested on other languages with such SN strategies.

Negative existentials are commonly used as short answers 'No' and also as negators external to the proposition, cf. (Veselinova 2013a: 118). In fact, there are languages such as Russian where its negative existential *net* is used more often with this latter function as in (17b). than as a sentence predicate as in (17a), see also (ibid. 129–130).

- (17) Russian (Indo-European, East Slavonic) [rus] (Russian National Corpus)
- a. *Sil u neě net*
 strength.F.PL.GEN in her NEG.EX
 'She does not have any strength' lit. 'strengths in her there-is-not'
 Russian National Corpus, [Ordinamenti/"Screen and scene",
 2004.05.06] (Veselinova 2013a: 128)
- b. *Net, ja tak ne duma-l i tak ne mečta-l*
 No, I so NEG think-PST.SG.M and so NEG dream-PST.SG.M
 'No, I neither thought nor dreamed that way',
 Russian National Corpus (Veselinova 2013a: 128)

Following Croft (1991:21) who cites Schwegler (1988) on this issue, I have assumed that the high frequency of *net* as sentence external negator has led to its reinterpretation as a negator internal to the proposition. The authors just mentioned base their hypothesis on data from Spanish, they do not discuss Russian or related languages. In my study I interpret their idea as applicable on data from Russian and Sino-Russian,

a pidgin language spoken around Kyakhta, in the vicinity of the Russian-Mongolian border). In this language, we observe that a form clearly related to Russian *net*, *netu*, is used as a verbal negator, cf. (18).

- (18) Sino-Russian (Pidgin) Glottocode [kjac1234]
Naša ego ponimaj netu
 1PL 3SG understand NEG
 ‘We don’t understand him.’ (Veselinova 2014: 1337 citing Stern 2002: 23)

An evolutionary path from the function of negative existential to a more general SN marker is suggested in (19) below.

- (19) Negative existential > Negator external to the proposition > SN marker

It has to be emphasized that the pathway outlined in (19) only a hypothesis. The reasons for postulating it are as follows: (i) The form *net* in Russian has effectively become the default word for a short answer ‘No!’ (ii) In a contact situation, when speakers don’t know the language very well, if they hear *net* very often, they are likely to interpret it as the word to use when they negate other words. Thus the negator external to the proposition is interpreted as a negator internal to the proposition. Besides, it may be the case that the evolutionary path presented in (19) is valid for other languages as well. In my current dataset, the facts from Kapingamarangi [kpg], point to a similar development, see (Veselinova 2014: 1352–1356). However, as already stated, while highly probable, this pathway still requires proper documentation.

In Bulgarian and Macedonian, we observe that the negative existential *njama/nema* is used in an invariant form to negate verbal predications with future time reference, cf. (20).

- (20) Bulgarian (South Slavonic) [bul]
 a. *Maria ne pja snošti*
 Maria NEG sing.3SG.PST last.night
 ‘Maria did not sing last night’ (own data)
 b. *Maria njama da pee dovečera*
 Maria NEG.EX SUB sing.3SG.PRS tonight
 ‘Maria won’t sing tonight’ (own data)

Within the context of NEC languages like Bulgarian are interpreted as representing a stage where the negative existential is expanding into the domain of SN but has not taken over verbal negation completely. However, the Slavonic data show that one should be cautious with such conclusions as constructions may be simply inherited from previous stages of the language. This is exactly what took place in Bulgarian and Macedonian. An examination of the constructions that express future in Old Church

Slavonic reveals that in this language there were several possible constructions, cf. (21a) below. One of them involved the use of *imeti* ‘have’ as an auxiliary followed by the infinitive of the lexical verb.

- (21) Old Church Slavonic (South Slavonic)
- a. *iměti* ‘have’ + infinitive
xotěti ‘want’ + infinitive
nachati/vychati ‘begin’ + infinitive
bǫde ‘be.future’ + participle (Duridanov 1991:418)
- b. *ne imatŭ ostati sŭde kamenŭ na kamen-i*
 NEG have.3SG.PRS leave.INF here stone on stone-ACC.SG
 ‘There will not be left here one stone on another.’
 (Duridanov 1991:418)

Scholars of Old Church Slavonic such as (Xaralampiev 1981:117, 121), Duridanov (1991:418) and likewise Đorđić (1975:200–201) highlight the fact that the construction with *imeti* was much more frequent in negated sentences than in affirmative ones.⁷ So the construction with *njama* we see today in Modern Bulgarian in (20c) is directly inherited from Old Church Slavonic; it does not result from the expansion of the negative existential into a new domain of use.

As mentioned above, the use of negative existentials with nominalized verb forms is cross-linguistically the most widespread pathway whereby they can be shown to expand into the domain of verbal negation. This is illustrated briefly in (22) and (23) below. This use of negative existentials is observed in virtually all families studied so far; see further examples from Berber, Turkic and Dravidian languages in Section 5 as well as the summarizing discussion in Section 6.

- (22) Selkup, Taz dialect (Uralic, Samoyedic) [sel]
man ili-ptä-mi cääŋka
 1SG live-NMLZ-1SG be.absent.3SG.s
 ‘I didn’t live’ lit. ‘my living [is] absent’ (Laakso et al. 2011)
- (23) Hawai’ian (Austronesian [...] Polynesian, Nuclear, Eastern, Marquesic)
 [haw]
‘āohe ō’u ‘ike/lohe aku iā ia
 NEG.EX 1POSS see/hear DIR.AWAY.FROM.SPEAKER PART 3SG
 ‘I can’t hear him/her’ lit. ‘not-exist my seeing/hearing away from him/her’
 (Kahananui & Anthony 1970:346)

7. See also Birnbaum (1958) as well as Mirčev (1968) on future tense constructions in Old Church Slavonic.

Other results that emerged based on the Slavonic, Polynesian and Uralic data concern notions internal to the NEC such as the sequence of the stages (types) included in it and their cross-linguistic occurrence which were already discussed in 3.2 above. In particular, the stages of the cycle can be shown to be non-sequential; also the stages with variation are dominant in these families and are consequently considered far more important for this cycle than the stages without variation. They are not only synchronically frequent but also diachronically stable as they can be demonstrated to last for very long periods of time. These generalizations are further emphasized below by data from Berber, Turkic and Dravidian.

5. Diachronic analysis of the comparative data from Berber, Turkic and Dravidian

5.1 Berber

Proto-Berber is dated at about 4500 BCE. Berber cultures were and still are for the most part oral. In the classification used here four groups are distinguished: Kabyle-Atlas, Tuareg, Zenatic and Western Berber. The split of the Western, Tuareg and Zenatic groups is assumed to have occurred around 680-600 BCE. The formation of the modern varieties dated between 300 and 1100 CE, cf. (Kossmann forthcoming: 7).

As demonstrated by the data in Table 3, and also by the discussion in Mettouchi (2009:293–294), the expressions for SN are cognates so a common standard negator, **wəl/*wər/*wə* can be reconstructed for Proto-Berber. Mettouchi (ibid.) states that there is no consensus on the source of the standard negator. The current suggestions include several possible sources which include (i) a particle, (ii) a reduced form of a negative verb, (iii) the result of a univerbation of a negative element with an indefinite meaning ‘thing’, (iv) a delimiting preposition or a negative adverbial similar to ‘never’. In any case, within the limits of the current study, the origin of the standard negator in Berber cannot be traced further than the hypotheses mentioned above.

The negative existentials in Berber languages appear to be either univerbations between the negative particle and a form of the existential verb or a completely unsegmentable item which constitutes a separate lexical-grammatical morpheme, cf. (24).

(24) Negative existentials in Berber

- a. Taqbaylit [kab]

<i>ulaš</i>	<	ul +	y-əlli +	<i>ša</i>	
NEG.EX		NEG	3SG.M-be.N.PFV	thing	Mettouchi (2009:290)
- b. Tashlhit [shi] *lah* no information about origin
- c. Tuareg [thv] *aba/ba* no information about origin

The following can be said about the NEC in Berber. As shown in Figure 3 above, Berber languages are distributed among three consecutive stages of the cycle: languages where there is no distinction between verbal and existential negation, languages where such a distinction exists but the negative existential is restricted to the present tense, that is, there is variation in the negation of existence which is grammatically conditioned, and finally languages where verbal and existential predications are negated by well delimited strategies. Thus Berber languages follow the general direction of the NEC.

At present there is not enough data that would allow us to assess the diachronic age of the negative existentials or the duration of these stages. Based on what we have, we can suggest that negative existentials have been renewed in the modern history of Berber while the SN marker has remained the same. Such a hypothesis is motivated by the fact that negative existentials are expressed by very different, non-cognate forms in languages which are very closely related; at the same time the SN markers in all Berber languages examined here can be shown to have a common origin, even if the source itself is under debate.

Although there is no evidence that any of the negative existentials is currently expanding into the verbal domain, it is worth noting that they appear to follow the general cross-linguistic tendency to be used with nominalized verb forms, cf. (25).

- (25) Taqbaylit [kab] (Afro-Asiatic, Berber, Northern)
 ulaš *lbyi*
 ‘NEG.EX willingness’
 ‘There is/was/has (had) been no will (to help)’ (Mettouchi 2009: 293, 289)

As pointed out above, the use of negative existentials with nominalized verb forms is very common in Uralic languages and is likewise observed in Polynesian. It will be further illustrated below by Turkic and Dravidian data. In Veselinova (2013a), I argue that negative existentials state the absence of an entity rather than negating its presence. This semantic feature is prototypical of negative existentials cross-linguistically. Thus it appears that when the marker of absence is interpreted as a negator of an action, the action itself is perceived as an entity and appears with an appropriate encoding, cf. further discussion on this in 6.5.

5.2 Turkic

According to Golden (1998: 16) Proto-Turkic was formed between 3000–500 BCE. The main branches of this family are Bolgar and Common Turkic. Their split is dated around 400 CE, (Golden 1998: 18). Old Turkic is the earliest documented variety⁸ of

8. Erdal (2004: 10) states that Old Turkic is not to be confused with Proto-Turkic; nor is it to be considered the ancestor of Common Turkic in the sense (Vulgar) Latin is thought of for Romance languages.

Turkic languages, the runic inscriptions where it is reflected date from 720 CE (Erdal 2004: 4).

The comparative data in Table 7 of the Appendix indicate that the verbal negator can be safely reconstructed as the suffix **-mA-* cf. also Grønbech (1955) and Erdal (1979). Similarly, reflexes of the negative existential *yok* are found in all modern languages. Hence a lexeme *yo:k* can be reconstructed for Proto-Turkic as well. Marcel Erdal (p.c.) argues that in the proto-language, the word must have been a verbal noun related to the verb stem *yod-* ‘wipe out, obliterate’, cf. also cognates in (26) from Qarakhanid, a literary variety developed during the 10th–11th centuries during the Qarakhanid dynasty in Central Asia.

(26) Qarakhanid, LINGUIST List code [xqa]

- a. *yod-ug* ‘disaster’
- b. *yok yodun* ‘destruction’

Marcel Erdal (p.c.)

Again, Marcel Erdal (p.c.) maintains that at some prehistoric stage *yo:k* was not so much part of the grammar but rather a lexical item which must have had competitors for expressing non-existence and absolute absence. The reanalysis whereby it acquired the function of negative existential must have taken place at some prehistoric stage since all Turkic languages have made a distinction between verbal and existential negation and the expressions for both have apparent cognates in most Turkic languages.

The following can be said with regard to *yok* breaking into the domain of verbal negation. It is used with nominalized verb forms in virtually all modern Turkic languages. Such constructions show different degrees of conventionalization and pragmatic markedness. For instance in Modern Turkish, the neutral way to negate a verbal predication is with *-mA* as shown in (27). However, emphatic⁹ negation is expressed by *yok* in combination with participial/nominalized form of the verb and the subject marked by the genitive case, cf. (27b).

(27) Turkish (Turkic, Common Turkic, Oghuz-Kipchak-Uyghur) [tur]

- a. *Kadım Ali-ye bak-ma-di*
 Woman Ali-DAT look-NEG-PST
 ‘The woman didn’t look at Ali.’

(van Schaaik 1994: 46)

9. Marcel Erdal (p.c.) objects to the term *emphatic*. His motivation for this is that all meaning is entrenched in a particular situation and the utterances listed below are used in very specific situations. Consequently, they are not exactly in free variation but rather in complementary distribution. The reason I have chosen to keep the term *emphatic* here is that in terms of frequency, negation with the suffix *-mA* is the most common way for negating verbs in Turkish; in this sense it is less marked than the construction where *yok* is used.

- b. *Kadın-in Ali-y-e bak-tıǵ-ı yok-tu*
 woman-GEN Ali-DAT look-PTCP.PST-AGR NEG.EX-Past
 ‘The woman didn’t look at Ali at all.’/lit. ‘There was
 no woman’s-to-Ali-looking’ (van Schaaik 1994: 46)

Van Schaaik compares the sentence in (27b) with the Dutch sentence *Het bestaat niet dat de vrouw naar Ali keek* which is equally emphatic and involves an existential construction as well. The literal translation of the Dutch expression is ‘It doesn’t exist that the woman looked at Ali’.

A very similar situation is observed in Modern Uyghur. As shown by the data in (28), the most emphatic negation in this language is expressed by a participial/nominalized verb in combination with *yok*.

- (28) Modern Uyghur (Turkic, Common Turkic, Oghuz-Kipchak-Uyghur) [uig]
- a. *Emine Ali-ni kör-mi-gen*
 Emine Ali-ACC see-NEG-PST.PTCP
 ‘Emine didn’t see Ali’ Arienne Dwyer (p.c.)
- b. *Emine Ali-ni peqet kör-mi-gen*
 Emine Ali-ACC only see-NEG-PST.PTCP
 ‘Emine didn’t see Ali at all’ Arienne Dwyer (p.c.)
- c. *Emine Ali-ni kör-gen yoq*
 Emine Ali-ACC see-PST.PTCP NEGEX
 ‘Emine didn’t see Ali AT ALL, (not at all, not even a glimpse)!!’
 Arienne Dwyer (p.c.)

In other Turkic languages such as Gagauz the existential construction in both the affirmative and the negative domain has been extended to verbs for the expression of the habitual past. It should be noted though that the negator *-mA* is not in any way ousted; it is used for negating most finite verbal constructions in the language.

- (29) Gagauz (Turkic, Common Turkic, Oghuz-Kipchak-Uyghur) [gag]
- a. *var-dır gör-düüm*
 exist-PST see-NMLZ.POSS
 ‘I saw [everything]’ (in a general way) lit. ‘There is my vision’
 (Pokrovskaja 1964: 154)
- b. *yok-tur al-du*
 not.exist-PST take-NMLZ.POSS
 ‘He didn’t take [anything whatsoever]’ (in a general way) lit.
 ‘There is not his taking’ (Pokrovskaja 1964: 154)
- c. *yaz-mæ-ær-im*
 write-NEG-PROG-1SG
 ‘I am not writing’ (Pokrovskaja 1964: 160)

The use of *yok* with nominalized verb forms follows one and the same construction in all Turkic languages cited above. It is presented schematically in (30).

(30) Construction where *yok* is used as a verbal negator

- a. Verb-PTCP.POSS-PERSON + *yok*
- b. Verb-NMLZ.POSS-PERSON + *yok*

In both (30)a and (30)b above, we can see that *yok* is used with a non-finite form of the verb that receives possessive and person marking.

In addition to the constructions in (30), *yok* is also involved in a number of other univerbations, the most notable of which is probably the suffix *-QALAQ*; its vowels are subject to vowel harmony and the quality of its consonants assimilates to surrounding context, hence the indeterminate form. Its origin is described by Erdal (p.c.) as involving a participial suffix, a particle *ele* borrowed from Mongolic plus *yok* and pronominal marking.

(31) Origin of *-QALAQ*

-gAn-ele-yok-PERSONAL_PRONOUNS > *-QALAQ*
PTCP-PART-NEG.EX-PERSONAL_PRONOUNS

Marcel Erdal (p.c.)

The resulting morpheme *-QALAQ* is probably best described as a separate gram which indicates that an expected action or state have not yet occurred but are expected to do so soon, cf. (32) and (33).

(32) Khakas (Turkic, Siberian, South) [kjh]

al-yalax-pın

take-NOT.YET-1SG

'I haven't taken yet but I am about to take'

Marcel Erdal (p.c.)

(33) Altai (Turkic, Siberian, South) [alt]

kör-gölög-im

see-NOT.YET-1SG

'I haven't seen yet but I will'

Marcel Erdal (p.c.)

Marcel Erdal (p.c.) considers the constructions in (30) to have existed in Turkic languages for a long time. However, as demonstrated by the data above, they have reached different degrees of grammaticalization and conventionalization in different Turkic varieties. In some, they are still marked variants of the verbal negator; in others they have taken over the negation of a particular category but not the entire domain of SN. The negative existential *yok* used in other constructions related to verb negation as well, see (32) and (33) where it has become fused with the morphological marking of the verb to form a separate verbal category. Yet, although *yok* does interact with verbal negation to a great degree, it is in no way close to ousting the verbal negator in any modern Turkic language. The state of variation with *-mA* for some verbal categories

and the Verbal Noun + *yok* has evidently been maintained for a long time. This aspect of the cycle has to be brought to the fore since it has not been discussed at all. When citing the negative existential cycle, authors tend to emphasize the general possibility for a negative existential to take over the domain of standard negation. As the comparative data here suggest what is highly significant is that (i) the cycle is rarely fulfilled within the limits for reasonable reconstruction; (ii) stages of variation like the ones demonstrated with data from Turkic languages above can be maintained for very long periods of time.

5.3 Dravidian

Proto Dravidian is dated at 4000 BCE (Steever 1998: 11ff). Krishnamurti (2003) identifies three groups: Northern, Southern (I & II)¹⁰ and Central. The Northern group consists of two languages, Brahui and Malto. It is assumed to have split very soon after 4000 BCE. The split of the Southern group is set by Steever (*ibid.*) around 1500 BCE; Old Tamil, one of the major Southern languages, is considered to have been formed as a separate variety between 300 BCE and 700 CE. Four Dravidian languages, Tamil, Kannada, Malayalam and Telugu, have a long written tradition; the earliest Tamil inscription dates from 254 BCE (Steever 1998: 4). The rest of Dravidian languages represent oral cultures.

Negation in Dravidian languages is a complex phenomenon which deserves a separate article.¹¹ For the purposes of this overview, the most important facts to cite follow below. In the pertinent literature, cf. (Payne 1985), Dahl (2010), Miestamo (2005) (the list here is, of course, not exhaustive), Dravidian languages are commonly used as an example of neutralization of tense-aspect and likewise of finiteness distinctions under negation. These neutralizations are illustrated briefly by data from Tamil in (34). As demonstrated in (34a), in the affirmative, Tamil verbs inflect for tense; the person and number of the subject are also indexed on the verb form; for 3rd person subjects, even the gender of the subject is indexed, cf. (34b). When negated, verbs lose their tense distinctions and the finiteness distinctions of person, number and gender, cf. (34c); the person-number-gender marker *ai* in that example belongs to the suffixed auxiliary *ill-ai*; it does not reflect the person-number-gender of the subject, see (36) and ensuing discussion.

10. The group identified by Krishnamurti as Southern II appears as South-Central in other classifications.

11. Some general comparative works on Dravidian languages include Andronov (2003), Krishnamurti (1990), Krishnamurti (2003), Steever (1998).

- (34) Modern Tamil (Dravidian, Southern) [tam]
- a. *naaḷai-kku matraasu-kku-p poo-kir-eeṇ*
 tomorrow-DAT Madras-DAT go-PRS/FUT-1SG
 'I am going to Madras tomorrow' (Lehmann 1993:67)
 - b. *raja kumaar-ukku-k katav-ai-t tiṛa-ntu koṭu-tt-aan*
 Raja Kumar-DAT door-ACC open-PPL give-PST-3SG.M
 'Raja opened the door for Kumar' (Lehmann 1993:227)
 - c. *ravi neerrul/ ippootu/ naaḷai var-a-v-ill-ai*
 Ravi yesterday/ now/ tomorrow come-INF-be.not-3PL.N
 'Ravi didn't come yesterday'/'Ravi doesn't come now'/
 'Ravi won't come tomorrow' (Lehmann 1993:231)

As indicated by Figure 7 and Table 8, in Dravidian languages there is a distinction between SN and negation of existence. Most Dravidian languages have one negative existential; Tamil has two. In this section only the one which is cognate with the negative existentials in the rest of the family is shown in (35b).

- (35) Modern Tamil (Dravidian, South) [tam]
- a. *peey un-ṭu*
 ghost exist-3SG.N
 'Ghosts exist' (Lehmann 1993:230)
 - b. *peey ill-ai*
 ghost not.exist-3PL.N
 'Ghosts do not exist' (Lehmann 1993:230)

The comparative data in Table 8 demonstrate that SN in Dravidian languages is expressed by several strategies which have different effects on the negated verbs. One is a suffix *-ā/- (v)u-* (Southern & Northern/Central group); when this suffix is used, verbs keep their finite marking and all tense distinctions are lost, cf. (38) below with pertinent discussion. The other SN strategy is the suffix *-(i)llai/-illai* or the auxiliary *illa*; its exact shape or the degree of its morphological bondedness will vary from one language to another. The forms *-(i)lle/illa* are used only with non-finite forms of the negated verb, that is, with infinitives or with other nominalized forms; they are obviously related to the negative existential *illai* cited in (35)b above. When used with different nominalized forms of the negated verbs, the resulting constructions have different temporal reference, cf. (41b), (42), (44), (46).

Krishnamurti (2003:353) suggests the reconstruction of the negative suffix **-ā-* for Proto-Dravidian. Two negative verbs **alla* 'to be not so and so' and **cila*, 'not be', are also reconstructed for the proto-language. One reflex of **alla* is found as a negative existential in modern Brahui, cf. Table 8. Since this particular verb is not transferred

to the domain of SN, it will not concern us further here.¹² Just like the Turkic **yo:k*, **cila* is said to have had another, more specific lexical meaning in some, non-specified, proto-stage. Burrow and Emeneau (1984:222–223) cite the sense ‘death, want, non-existence’. Some reflexes of **cila* in the modern languages are shown in (36) below.

(36) Cognates of **cila* in the modern Dravidian lgs

a.	Parji (Central) [pci]	<i>cila</i>
b.	Gondi (Southern II) [ggo]	<i>sil</i>
c.	Kuvi (Southern II) [kxv]	<i>hil</i> -PERSON.NUMBER.GENDER
d.	Kannada (Southern I) [kan]	<i>illa</i>
e.	Tamil (Southern I) [tam]	<i>illai/ille</i>

The cognates of **cilla* cited in (36) are most often invariable forms in their respective languages, with the obvious exception of *hil-* in Kuvi where a full paradigm is said to exist for this verb. In Tamil *illai* appears with several orthographic variants when transliterated into English; there are also authors such as Lehmann (1993) who choose to indicate its root morpheme *ill-* and the suffix *-ai* ‘3PL.N’. However, despite its morphological transparency, the form *illai* is the only form of the erstwhile verb **cila* in Tamil and just as invariable as the negative existentials in the other Dravidian languages. Krishnamurti (2003:356) states that a full paradigm can be reconstructed for the verb **cila* in Proto-Dravidian. According to this author, this verb was used as a main verb but also as a negative auxiliary early on in Dravidian languages, cf. data from Old Tamil in (39) below.

Essentially, the data on the verb **cila* illustrate a typical grammaticalization cline which can be summarized in (37).

(37) Grammaticalization of **cila*

- (i) lexical item **cila* ‘death, want, non-existence’ with a full paradigm >
- (ii) verb with a more abstract sense ‘not be, not exist’ >
- (iii) fossilized forms with transparent morphology, ‘not exist, SN’ >
- (iv) invariant forms, no transparent morphology ‘not exist, SN’ >
- (v) semi-bound or bound SN suffix

However, what is important for this study, is the fact that even when the reflexes of **cila* have become expressions of SN, the distinction between negation of action and negation of existence is still maintained. It has apparently existed in the Dravidian family for several millennia. Moreover, reflexes of **cila* appear to have been used for

12. The reflexes of *alla* are used for negation of attributive predications in several modern Dravidian languages, cf. for instance Tamil *Kumaar vakkiil alla* ‘Kumar is not a lawyer’, (Lehmann 1993:230).

the negation of verbs for a very long time as well, cf. data from Old Tamil in (39) below.

Dravidian languages allow for several important generalizations with regard to the NEC. First, we observe that stages of variation in the expressions of negation of SN last for extended periods of time. Second, negative existentials represent a very basic functional domain and expressions for it are recreated all the time. Third, when a word expands its function into a new domain, this does not necessarily imply loss of function in its previous domain;¹³ I will come back to this issue when I compare Jespersen Cycle with NEC and generally the idea of a completed cycle, cf. 6.5. Data from Tamil and Kannada will be used to highlight these generalizations.

5.3.1 Tamil

In Old Tamil, negative suffix *-ā-* assimilates to the markers of person, number and gender thus yielding portmanteau morphs, cf. (38) for the paradigm of the verb *viṭu* ‘leave’.

(38) Old Tamil (Dravidian, South) [oty]

<i>viṭ-ēen</i>	leave-NEG.1SG
<i>viṭ-aay</i>	leave-NEG.2SG
<i>viṭ-aan</i>	leave-NEG.3SG.M
<i>viṭ-aal</i>	leave-NEG.3SG.F
<i>viṭ-aa-tu</i>	leave-NEG.3SG.N
<i>viṭ-oom</i>	leave-NEG.1PL
<i>viṭ-iir</i>	leave-NEG.2PL
<i>viṭ-aar</i>	leave-NEG.3PL.M/F
<i>viṭ-aa</i>	leave-NEG.3PL.N

(Lehmann 1993: 69)

The negative forms in (38) are not marked for tense. They can be interpreted as referring to past, present or future, depending on context. Evidence from Old Tamil shows that negative statements with past time reference were formed using a reflex of **cila*, cf. (39) below. It is unclear whether the two negation strategies were in free variation or in complementary distribution.

(39) Old Tamil (Dravidian, Southern) [oty]

- a. *kuṭux-t-il-e:n* > *kuṭuttilē:n*
 give-PST-NEG-I
 ‘I didn’t give’ (Agesthalingom & Shanmugam 1970: 66)
- b. *kuṭux-t-il-an* > *kuṭuttilan*
 give-PST-NEG-he
 ‘he didn’t give’ (Agesthalingom & Shanmugam 1970: 66)

13. Cf. Veselinova (2014: 1357–1358) for very similar data and observations based on Tahitian [tah] and Kapingamarangi [kpg] and likewise data from Turkic in the preceding section.

the affix no longer has the subject indexing function. The other is the form *kiṭai'y-aa-tu*, cf. (43c). Both *illai* and *kiṭai'y-aa-tu* replace the positive existential *untu*.

(43) Tamil (Dravidian, South) [tam]

- a. *peey un-ṭu*
ghost exist-3SG.N
'Ghosts exist' (Lehmann 1993:230)
- b. *peey ill-ai*
ghost not.exist-3PL.N
'Ghosts do not exist' (Lehmann 1993:230)
- c. *peey kiṭai'y-aa-tu*
ghost exist-NEG-3SG.N
'There are no ghosts' (Lehmann 1993:81)

In diachronic terms, the form *kiṭai'y-aa-tu* is obviously younger than the form *illai* since it (*kiṭai'y-aa-tu*) is formally transparent and its meaning appears to be compositional. However, verb *kiṭai'y* occurs only under negation, and only with this combination of affixes, cf. (Lehmann 1993:81). So it is, in fact, an invariant form, despite its transparent morphology. What seems to be happening in Tamil is that while the older negative existential *illai* has expanded into the verbal domain, a new negative existential dedicated to non-existence only is being developed. A very similar situation is observed in Kapingamarangi, cf. (14) and (15) above. Of course, there does not have to exist any causal connection between one negative existential that expanded its function and the creation of a new one. However, it is important to point out that a new expression for negated existence has effectively emerged. Consequently, the distinction between SN and existential negation is "re-affirmed"; the cycle having reached stage B~C or C on *illai* is back at stage B with *kiṭai'y-aa-tu*.

5.3.2 Kannada

The durability of the distinction between SN and existential negation is likewise illustrated by data from Kannada. The facts from this language also bring further confirmation to the generalization that when a form expands its functions into one domain, it does not necessarily lose its older functions.

Kannada is a good example of diglossia as there are substantive differences between the literary and the spoken language on many levels. With regard to negation, it has to be said that one and the same strategy seems to be used to negate verbs with past time reference in both Literary and Spoken Kannada. Clear differences for the expressions of SN are observed for verbs/simple verbal sentences with present/future time reference.

The construction used to negate verbs with past time reference involves the *-(a)l* infinitive of the negated verb and an invariant form of the negative existential *illa*, cf. (44).

(44) Literary & Spoken Kannada (Dravidian, South) [kan]

Avn ninne nan maneeḡ bar-l-illa

He yesterday my house come-INF-NEG

'He didn't come to my house yesterday'

(Schiffman 1983: 114)

Negation of verbs with present/future time reference is done by means of two different strategies in Literary Kannada. One is by means of finite verb forms whereby the verb stem is directly followed by portmanteau suffixes that combine senses such as 'NEG' as well as information on tense, person, number and gender, cf. (45). The other negation strategy for verbs with present/future time reference is a construction where the negated verb appears as a nominalized form followed by the negative existential *illa* as an auxiliary cf. (46a). In Spoken Kannada we observe both this latter strategy or negation by a portmanteau suffix, cf. (46b–c).

(45) Negation by suffixation in Literary and Spoken Kannada

Literary Kannada

a. *naanu maaD-enu*

I do-NEG.PRS.FUT.1SG

'I do not do it'/'I will not do it'

(Schiffman 1983: 113)

b. *avanu maaD-anu*

he do-NEG.PRS.FUT.3SG.M

'he does not do it'/he will not do it'

(Schiffman 1983: 113)

c. *avaLu maaD-aLu*

she do-NEG.PRS.FUT.3SG.F

'She will not do it'

(Schiffman 1983: 113)

Spoken Kannada

d. *naanu maaD-e*

I do-NEG.PRS.FUT.1SG

'I do not do it'/'I will not do it'

(Schiffman 1983: 113)

(46) Negation by *illa* (or related forms)

Literary Kannada

a. *maaDu-vu-du*

do-PRS.ADJ.PART-NMLZ NEG.EX

doesn't do/won't do

(Schiffman 1983: 114)

illa

Spoken Kannada

b. *maaD-ood*

do-PRS/FUT.NMLZ NEG.EX

'doesn't go/won't go'

(Schiffman 1983: 114)

illa

c. *maaD-olla*

do-NEG.PRS/FUT

'doesn't go/won't go'

(Schiffman 1983: 114)

Among the three possible forms cited for Literary Kannada in (45a–b), only one is used in spoken Kannada. This is the first person singular, and that in a highly reduced

form, see (45d). The construction with *illa* used with a nominalized verb form shown in (46a) in Literary Kannada is observed in two variants in Spoken Kannada, cf. (46b–c) where we observe different degrees of fusion and obliteration of morphological transparency. In (46b) the participial and the nominalizing suffix are fused while *illa* is still a free form. In (46c), the suffix *-ood* ‘PRS/FUT.NMLZ’ is fused with *illa* to yield a new portmanteau morph *-olla* ‘NEG.PRS/FUT’.

The data cited above show that the negative existential *illa* in Kannada is used for verbal negation in a variety of constructions, which presumably also have different diachronic age. Yet, the function of *illa* as a negative existential is completely retained, cf. (47).

- (47) Kannada (Dravidian, South), [kan]
- a. *Khaja:ney-alli haNa ide*
treasury-LOC money is
‘There is money in the treasury’ Madhuri Doss (p.c.)
 - b. *Khaja:ney-alli haNa illa*
treasury-LOC money NEG
‘There is no money in the treasury’ (Sridhar 1990: 111)

So with Kannada we have yet another example of a form expanding from one domain into another but also keeping its older functions. Whether we should view the forms of *-illa* cited as SN markers and *illa* as a negative existential as instantiations of one and the same word or an example of a lexical split is of course a matter of definition and further discussion.

6. Summary and concluding discussion

In this paper I used comparative data from six unrelated language families in order to test the model of evolution of SN markers from negative existentials, cf. Croft (1991). The comparative data collected here show that the model needs to be elaborated in several respects.

First, the stages with variation in either the expression of SN or in the expression of negative existence are cross-linguistically more common than the stages without variation. This synchronic dominance is also matched by diachronic stability in that such stages of variation can be maintained for extended periods of time. Furthermore, the stages are non-sequential; co-occurrence of stages is observed in several unrelated languages. It is also possible to outline a typology of overlaps so they do show cross-linguistic validity.

Second, the data collected here also enable us to outline several pathways whereby negative existentials break into the domain of SN. They include subordination strategies, reanalysis of external negators into negator internal to the

proposition, direct inheritance of constructions and finally, the use of negative existentials with nominalized forms of lexical verbs. The latter is by far the most common one cross-linguistically.

Third, that lexical items with a negative content appear to participate into processes very similar to those for negative existentials entering the NEC. Consequently, the model should be probably extended to cover those as well.

Fourth, the family-based sample shows that the NEC is instantiated completely in the Polynesian family only; the remaining five families show only partial instantiations of the cycle. While it does not invalidate it per se, it does have implications for its duration. The diachronic analysis and historical data suggest that the cycle is rarely completed within the time span of observable reconstruction. This is attributed to the constant renewal of expressions for negative existentials.

Each of these issues is allotted its own subsection. Finally, a brief comparison between the Jespersen Cycle and the NEC concludes this section and also the article.

6.1 The dominance and also frequent overlap of types with variation

As shown in 3.2, two types with variation in either the expression of SN (B~C) or in the expression of negated existence (A~B) are most frequent in virtually all of the families investigated here. As we recall, see Section 2, these two types cover languages where there is grammatically conditioned variation in the expression of standard/verbal negation (type B~C) or in the negation of existence (type A~B). To put it in non-technical terms: we can observe that is very frequent that a language has a negative existential which is used for some clearly delimited part of the SN domain; it is also common for a language to have a negative existential that is restricted to a specific context, typically the present tense. Moreover, it is also very common that a contextually restricted negative existential to extend to the verbal domain. The synchronic frequency of stages of variation and their overlap is also matched by diachronic durability as such stages can be shown to last for very long periods of time, cf. data on Turkic in 5.2 and from Dravidian in 5.3.

6.2 The use of negative existentials in nominalized constructions

As already pointed out, there are several ways whereby negative existentials can be extended into the domain of verbal negation but only one is attested in a nearly all investigated families and can consequently be described as cross-linguistically frequent. This is the use of negative with nominalized forms of the verbs which are negated. Such use is present in all families except Slavonic, cf. (22) from Selkup (Uralic), (23) Hawaiian (Polynesian), (25) from Kabyl (Berber), (27) through (29) for various Turkic languages and (41), (42), (44) and (46) for data from Dravidian

languages. Nominalizations are common in Central and Eastern Asia, cf. (Yap et al. 2011) so there may be some areality effect here. However, since the use of negative existentials stretches beyond Asian languages, the motivation for this use is most probably grounded in more general factors. In Veselinova (2013a), I argue that negative existentials represent a separate function domain. One of their striking cross-linguistic characteristics is that they tend to require special constructions where their pivot appears in generic form. The negative existential construction enjoys different degrees of productivity in different languages, just like the affirmative existential construction, cf. (Koptjevskaja-Tamm & Wälchli 2001) for Circum-Baltic languages. In some languages these constructions are very productive, in others they are restricted to the negative existential domain. In languages where negative existentials are carried over to the domain of SN via their use with nominalized verbs, such constructions are obviously productive. Nominalized verb constructions have been treated at length in the literature, cf. (Alexiadou & Rathert 2010; Chung 1973; Comrie & Thompson 1985; Gerner 2012; Koptjevskaja-Tamm 1993; Nikolaeva 2007). It is not possible to present here a full treatment of the various tense-aspect-modal interpretations a nominalized construction may receive. In fact, quite opposite interpretations are possible in different areas and regions cf. Koptjevskaja-Tamm (1993). The important point here is that when negative existentials are used to negate an action, it is encoded as an entity. The interpretation of the construction as a whole in terms of tense-aspect values depends on the specific language.

6.3 Other lexicalizations of negation into the NEC

As indicated by data from Tamil in (41a), lexicalizations of other negative senses may take over specific parts of the domain of SN. Croft (1991: 14–15) comments on the issue of the role of negative lexicalizations and their use to negate imperatives. In this study, I focused on negative existentials and only briefly mentioned other lexicalizations of negation such as ‘will.not’. However, in many languages we observe other special negative expressions such as ‘not.be of identity’, ‘not-yet’, ‘not-know’ to name a few, see Veselinova (2013b) for a preliminary list. These expressions are also observed to take over some sub-domains of SN, cf. data from Kanuri, a Nilo-Saharan language where the negative existential *bâ* is used to negate verbs in the imperfective cf. (48c) while the attributive negator *gànyi* has been grammaticalized as the SN negator for verbs with future and near-past time reference, cf. (48d–e).

(48) Kanuri (Nilo-Saharan, Saharan, Western, Kanuri)

- a. *cídà bâ*
 work not exist
 ‘there is no work’

(Hutchison 1981:170)

- b. *káremá kúlolan cidajîn-bâ*
 Now farm.LOC work.3SG.IPFV.NEG
 ‘now she is not working on the farm’
 (Miestamo 2005:296–7 citing Cyffer 1998:39)
- c. *Álì bàrèrà gènyi*
 Ali farmer not.be
 ‘Ali is not a farmer’
 (Hutchison 1981:178)
- d. *wanée mûsa kû silemân cúru-nyí*
 maybe Musa today film see.3SG-FUT.NEG
 ‘Maybe Musa will not see a film today’
 (Miestamo 2005:296–7 citing Cyffer 1998:40)
- e. *bíska mûsa kánoro lezô-nyi*
 yesterday Musa Kano.DIR go.NEAR_PST.3SG-NEG
 ‘Yesterday Musa did not travel to Kano’
 (Miestamo 2005:296–7 citing Cyffer 1998:287)

The whole issue of incorporating other lexicalizations of negation into the NEC should receive more attention. Negative existentials will always be dominant in this cycle since they are by far the most common lexicalizations of negation. But in the long run, it would probably be appropriate to find a more general name for the cycle, like for instance, the Negative Lexical Cycle.

6.4 The constant renewal of the negative existentials

Several of the languages investigated here have two negative existentials, one of which is diachronically younger than the other, cf. (14) from Kapingamarangi and (43) from Tamil. The comparative data from the Uralic family also shows that negative existentials have been created and re-created throughout the history of the family, cf. Table 6 as well as Veselinova (2015). If we see negative existentials as a basic functional domain, then we can say that there is a functional pressure for their creation. As Zeshan (2004:51) points out “events and states such as not liking, not knowing, not having are all identifiable human experiences”. This is why these concepts are often expressed by lexicalized expressions cross-linguistically in both spoken and signed languages. However, the constant renewal of expressions for negative existentials has also implications for the cyclical processes where they participate. Specifically, when a new negative existential is created alongside an older one, we can say that the negative existential cycle starts anew. However, it is typically also the case that the older negative existential acquires newer functions as a verbal negator while keeping its special one for the negation of existence, cf. data from Tamil (5.3.1) and Kannada (5.3.2) above. Thus for the older negative existential, cycle has never really been completed. Another way to interpret this is to say that the distinction between negation of actions and negation of availability is so important in human languages that it is constantly maintained. This brings us to the last point of this discussion and that is the comparison between Jespersen Cycle and the NEC.

6.5 Jespersen Cycle vs. the NEC

The cyclical process dubbed Jespersen Cycle, cf. (Dahl 1979 and also Devos & van der Auwera 2010; van der Auwera 2010) for relatively recent references, refers to processes whereby a lexical item, say French *pas* ‘step’, which has little or nothing to do with negation, is gradually incorporated into the SN construction and eventually comes to oust the older SN negator. This is the case of *pas* ‘step’ which has come to replace *ne* ‘NEG’ in Spoken French. However, the word *pas* still exists with its older sense ‘step’ in French; so yet again, we see that expansion in one domain does not necessarily mean loss of function in the older domain. In fact, that particular development in French should rightfully be described as a lexical split. In Spoken French there are effectively two homonymous forms, the negator *pas* and the lexical item *pas*. One important aspect of Jespersen cycle is that when it is “completed”, a new form ousts an older form for the function of a general negator but in essence, a very basic category such as SN receives a new expression. Whether the source, in the French case *pas* ‘step’, keeps its older sense is in a way immaterial since it does not really belong to the negative domain.

With the NEC, an item that does belong to the negative domain, although not to SN, is gradually incorporated into verbal negation. However, the distinction between negation of actions and negation of availability/existence appears to be a very basic one in human languages. When the NEC is “completed”, this important distinction is obliterated. In the data examined here we have seen evidence that stages of NEC where negation of actions and negation of existence are kept apart can be maintained for a long time even when the existential negator is partially used in the domain of SN. We have also seen that expressions for negative existentials are also constantly renewed. At the end, whether we say that the NEC is rarely completed or constantly re-started becomes a matter of perspective. But unlike the Jespersen Cycle where typically categories from different semantic domains meet and the cycle renews expressions for the more abstract one, with the NEC, the meeting is between categories that belong to one and the same general domain. As such the distinction between them is important which is why is it also maintained and the NEC rarely comes to full completion.

Abbreviations

A	agent	DEF	definite
ABS	absolute	DET	determiner
ACC	accusative	DIR	directional
ACT	active	DU	dual
AGR	agreement	EX	existential
ART	article	F	feminine
CLF	classifier	FUT	future
CNEG	connegative	G	gender
DAT	dative	GEN	genitive

GENR	generic TA	PERS	person
GER	gerund	PFV	perfective
INCL	inclusive	PL	plural
INDF	indefinite	POSS	possessive
INE	inessive	PREP	preposition
INF	infinitive	PRF	perfect
IPFV	imperfective	PROG	progressive
LOC	locative	PRS	present
M	masculine	PST	past
N	neuter	PTCP	participle
NEC	Negative Existential Cycle	S	subject
NEG	negation/negative	SG	singular
NMLZ	nominalization	SN	Standard negation
NONPST	non-past	SUB	subordinator
NUM	number	TA	tense-aspect
OBL	oblique	TNS	tense

Appendix

Table 3. Data from Berber languages, adapted from (Mettouchi 2009: 288–289)

GROUP	LANGUAGE NAME [ISO CODE]	SN	NEGATIVE EXISTENTIAL	TYPE IN NEC
Kabyle-Atlas	Taqbaylit (West) [kab] ¹⁵	<i>u(r)</i>	<i>ulaš</i>	B
	Taqbaylit (East) [kab]	<i>u(r)</i>	<i>ulaš</i>	B
	Tashelhit [shi]	<i>ur</i>	<i>lah</i>	B
	Tamazight [tzm]	<i>ur</i>	<i>ur- əlla</i> <i>ur -EXIST</i>	A
Tuareg	Tuareg [thv]	<i>ur</i>	<i>aba/ba</i>	B
Zenatic	Tarifit [rif]	<i>ur</i>	<i>u(r) ... (ša)/ ulaš</i>	A~B
	Tashawit ¹⁶ [shy]	<i>u(r/d)</i>	<i>ud-illi/ ulliš</i>	A~B
Western Berber	Ghadamsi [zen]	<i>wəl</i>	<i>wəl d</i>	A

15. There are no separate codes for West and East Taqbaylit (Kabyle) in either the Ethnologue or the Glottolog. However, since Mettouchi makes a distinction between these two varieties, I am listing them separately as well. They do not show any differences as regards their expressions of standard negation and their expression of negative existentials.

16. The language name is spelled *Tachawit* in most online language catalogue systems. However, since I am citing Mettouchi's work here, I chose to follow the spelling used by this author.

Table 4. Overview of the standard and existential negators in the Slavonic dataset adapted from Veselinova (2014: 1378). Unless otherwise indicated, the forms of the ascriptive and existential negators are 3SG.PRS *Type* type from the Negative Existential Cycle assigned to a particular language

Group	Language Name	SN	Existential negator	Type
East	Byelorussian [ruw]	<i>ne</i>	<i>njama</i> ‘not.have’	A~B
	Russian [rus]	<i>ne</i>	<i>net</i> ‘not.exist, not.have’	A~B
	Ukrainian [ukr]	<i>ne</i>	<i>nema/nemae</i> , ‘not.have’	A~B
South	Bulgarian [bul]	<i>ne</i>	<i>njama</i> , ‘not.have’	B~C
	Macedonian [mkd]	<i>ne</i>	<i>nema</i> , ‘not.have’	B~C
	Serbian/Croatian [srp/hrv]	<i>ne</i>	<i>nema</i> , ‘not.have’	A~B
	Slovene [slv]	<i>ne</i>	<i>ne obstaja</i> ‘NEG exist’	A~B
	Czech [ces]	<i>ne-</i>	<i>ne-existujou</i> ‘NEG-exist.PL.PRES’	A
West	Slovak [slk]	<i>ne-</i>	<i>ne-jestvujú/existujú</i> ‘NEG-exist.PL.PRS’ (<i>nieto</i>)	?A~B →A
	Kashubian [csb]	<i>nie</i>	<i>ni ma</i> , ‘not.have’	A~B
	Polish [pol]	<i>nie</i>	<i>nie ma</i> , ‘NEG have’	A~B
	Upper Sorbian [hsb]	<i>nie-</i>	<i>nie-dawa</i> ‘NEG-give’ <i>nie-eksistuja</i> ‘NEG-exist.PL.PRES’	A
	Lower Sorbian [dsb]	<i>nie-</i>	<i>nje-dajo</i> ‘NEG-give’ <i>nje-eksistěruju</i> ‘NEG-exist.PL.PRES’	A

Table 5. Overview of the standard and existential negators in the Polynesian dataset adapted from Veselinova (2014: 1378–80)

Group	Sub-group I	Sub-group II	Language Name [ISO-693]	SN		Negative existential	Type
				<i>Form</i>	<i>Part of speech</i>		
Tongic			Tongan [ton]	<i>’ikai</i>	higher verb	<i>’ikai</i>	C
			Niue [niu]	<i>nakai</i> <i>ai</i> <i>fakaai</i> <i>tē</i>	higher verb > particle	<i>nakai hā</i> ‘EX’ <i>ai fai</i> ‘be/do/have’	A
	East	Rapa Nui	Rapa Nui [rap]	<i>kai</i> (R) <i>eko</i> (R) <i>’ina</i>	particle particle particle	<i>’ina</i>	B~C
Nuclear Polynesian	East Central	Marquesic	Hawai’ian [haw]	<i>’a’ole</i> <i>a’ohe</i>	higher verb > particle	<i>’a’ole</i> <i>a’ohe</i>	A~B & B~C
			Mangareva [mrv]	<i>e kore</i> <i>kakkore</i>	higher verb higher verb	<i>kore</i>	C

(Continued)

Table 5. (Continued)

Group	Sub-group I	Sub-group II	Language Name [ISO-693]	SN		Negative existential	Type
				<i>Form</i>	<i>Part of speech</i>		
			Marquesan, North [mrq]	<i>ʼaòè</i> <i>ʼàè</i> <i>tē</i>	Particle particle particle	<i>ʼaòè</i> <i>ʼàè</i>	C
		Tahitic	Maori [mri]	<i>kaōre</i>	higher verb	<i>kaōre</i>	C
			Tahitian [tah]	<i>ʼaʼita/ʼaʼore,</i> <i>èʼita/èʼore</i>	higher verb > particle	<i>ʼaʼita, ʼaʼore</i>	B & C
			Rarotongan [rar]	<i>kāre</i>	unclear	<i>kāre</i>	C
	Samoic Outliers	Samoan	Samoan [smo]	<i>lē</i>	Particle	<i>leai</i>	B~C
		Tokelauan	Tokelauan [tkl]	<i>hē</i>	Particle	<i>heai</i>	B
		Ellicean	Tuvaluan [tv]	<i>hē</i>	Particle	<i>heai</i>	B
			Kapingamarangi [kpg]	<i>tē</i> <i>hakarē</i>	Particle Particle	<i>tēai</i> <i>hakarē</i>	B & B~C
			Nukuoro [nkr]	<i>de</i>	Particle	<i>deai</i>	B
		Futunic	Emae [mmw]	<i>sē</i>	Particle	<i>ikai</i>	B
			Futuna, East [fud]	<i>leeʼse</i> <i>se</i> <i>leʼaise</i>	higher verb particle higher verb	<i>leʼe leʼai</i> <i>se POSS</i> PREDICATION	B~C & C & C~A
			Futuna, West [fut]	<i>se...ma</i>	Particle	<i>fikai</i> <i>jikai</i>	B
			Mele-Fila [mxe]	<i>(se-)...kē</i>	(prefix-)... Particle	<i>saai</i>	B
			Rennell-Bellona [mnv]	<i>heʼe</i>	Particle	<i>siʼai</i>	B
			Vaeakau-Taumako [piv]	<i>sikiai</i> <i>hiai</i>	Higher verb > particle	<i>siai</i> <i>hiekhiloa</i> <i>khiloa</i>	C
			Uvean, West [uve]	<i>hē</i>	Particle	<i>siai</i>	B
		East Uvean Niuafōʻou	Wallician [wls]	<i>mole</i>	Higher verb	<i>mole</i>	C

Table 6. Overview of the standard and existential negators in the Uralic dataset adapted from Veselinova (2015:385–6)

GROUP	LANGUAGE NAME [ISO-CODE]	SN	Neg Ex	TYPE
Finnic	Estonian [ekk]	<i>ei</i> + VERB.FINITE.FORM	<i>ei/pole</i>	A, B
	Finnish [fin]	<i>e-TNS.PERS.NUM + VERB.</i> CNEG	<i>e-TNS.PERS.NUM + VERB.</i> CNEG	A

(Continued)

Table 6. (Continued)

GROUP	LANGUAGE NAME [ISO-CODE]	SN	Neg Ex	TYPE
Saami	Meänkieli [fit]	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	A
	Votic [vot]	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	A
	Karelian [krl]	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	A
	Ingrian [izh]	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	<i>e</i> -TNS.PERS.NUM + VERB. CNEG	A
	Veps [vep]	<i>ei</i> + VERB.FINITE.FORM	<i>ei/pole</i>	A, B
	Ume Saami [sju]	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	A
	North Saami [sme]	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	A
	South Saami [sma]	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	<i>i</i> -TNS.PERS.NUM + VERB. CNEG	A
Mari	Skolt Saami [sms]	<i>ij</i> 'be.CNEG'/i'lla etc.	<i>ij</i> 'be.CNEG'/i'lla etc.	A, B
	Western Mari [mrj]	<i>a</i> -TNS.PERS.NUM + VERB. CNEG	<i>uke</i>	A>B
	Eastern Mari [mhr]	<i>o</i> -TNS.PERS.NUM + VERB. CNEG <i>uke</i> in PROG constructions	<i>uke</i>	A>B, B>C
Mordvin	Erzya [myv]	<i>a</i> , <i>ež</i> -/eš- + <i>ul'ems</i> 'be' (PST)	<i>aras</i> , (<i>a</i>) <i>ež</i> -/eš- + <i>ul'ems</i> 'be' (PST)	B
	Moksha [mdf]	<i>aš</i> , <i>apak</i> - <i>əž</i> -/iž <i>ul'ems</i> (PST)	<i>aš</i> , <i>ajaš</i> <i>əž</i> -/iž <i>ul'ems</i> (PST)	B
Permic	Udmurt [udm]	<i>ö</i> -TNS.PERS.NUM + VERB. CNEG	<i>övöl</i>	A>B
	Komi-Zyryan [kpv]	<i>o</i> -/e-.PERS.NUM + VERB. CNEG <i>abu</i> + VERB.2nd PST (PRF)	<i>abu</i> -AGR	A>B, B>C
	Komi-Permyak [koi]	<i>o</i> -/e-.PERS.NUM + VERB. CNEG	<i>abu</i> -AGR	unclear
Ugric	Hungarian [hun]	<i>nem</i> + VERB.FINITE.FORM	<i>nincs</i>	A>B
	Mansi [mns]	<i>at</i> , <i>ät'im</i> [PST]	<i>ät'i</i> , <i>ät'im</i>	B>C
	Northern Khanty [kca]	<i>at</i> , ? <i>äntom</i>	<i>äntom</i>	B>C
Samoyedic	Nganasan [nio]	<i>rii</i>	<i>ďaŋku</i>	B
	Tundra Nenets [yrk]	<i>rii</i> -, <i>rii</i> - V-CNEG; V-IPFV.PTCP <i>jan̄ku</i> -	<i>jan̄ku</i> -TNS-AGR, <i>jun̄ku</i> -TNS-AGR	B>C
	Forest Enets [enf]	<i>rii</i> -	<i>ďago</i>	B>C
	Selkup [sel]	<i>ašša</i> // <i>čään̄ka</i> [PST, PRF]	<i>čään̄ka</i>	B>C
	Kamas [xas]	<i>ej</i> /e-[FUT]	<i>naga</i>	unclear

Table 7. Data from Turkic languages

GROUP I	GROUP II	LANGUAGE [ISO-693 CODE ¹⁷]	SN	EXISTENCE	TYPE IN NEC	SOURCE ¹⁸
Common Turkic	Oghuz- Kipchak- Uyghur, Oghuz	Turkish [tur]	VERB- <i>mA</i> -TNS-PERS.NUM	<i>yök</i>	B	Eyüp Bacanlı (p.c.)
		Azerbaijani [azj]	- <i>mA</i> / <i>-mAr</i>	<i>yox-TENSE</i>	B	(Öztopçu 2000.; in passim)
		Gagauz [gag]	- <i>mA</i> <i>yök+VERB-NMLZ-POSS</i>	<i>yök</i>	B>C	(Pokrovskaja 1964.; in passim)
	Salar [slr]	Uzbek [uzb]	- <i>maz-</i>	<i>yo'k</i> <i>namevcut</i> <i>namavjud</i>	B	Eyüp Bacanlı (p.c.)
			<i>verb-NMLZ-yohtur/yoxtar</i> - <i>mA</i>	<i>yök/youkhtur</i>	B>C	(Qualin et al. 1993; Tenishev 1976)
		Turkmen [tuk]	- <i>mA</i>	<i>ýök</i>	B	ASKED FOR A NAME
	Oghuz- Kipchak- Uyghur, Uyghur	Modern Uyghur [uig]	- <i>mA</i>	<i>yoq</i>	B	(Engesaeth et al. 2009)

(Continued)

17. Current language code systems such as ISO-693, *World Atlas of Language Structures* (WALS), LINGUIST List and Glottolog differ in their coverage. For instance, unique codes for dead language are found in the LINGUIST List only; consequently, the codes used for the Turkic languages investigated here may come from several systems; this is indicated in table attributes or pertinent footnotes.

18. The Source cited here is a source for the data on negation. The classification according to types in the NEC is my own.

Table 7. (Continued)

GROUP I	GROUP II	LANGUAGE [ISO-639 CODE ¹⁷]	SN	EXISTENCE	TYPE IN NEC	SOURCE ¹⁸
Oghuz- Kipchak- Uyghur, Kipchak		Karachaj-Balkar [krc]	-mA VERB-PTCP + <i>tül/tüyül</i>	<i>jok</i>	B ¹⁹	(Abaev 1993)
		Kumyk [kum]	-mA	<i>yok</i>	B	Eyüp Bacanlı (p.c.)
		Karaim [kdr]	-mA	<i>yoktur²⁰/yokt/ yok/yo</i>	B	(Csató 2001; Musaev 1964; Musaev 2003)
		Kazakh [kaz]	-mA	<i>zhok</i>	B	ASKED FOR A NAME
		Kirghiz [kir]	-bA -PERF.PTCP-PERSON.POSS + <i>žok</i>	<i>žok</i>	B>C	ASKED FOR A NAME
Siberian Turkic, South		Altai [alt]	-MA ²¹	<i>dök</i>	B	Eyüp Bacanlı (p.c.)
		Tuva [tyv]	-BA	<i>čok</i>	B	(Cypanov 2007)
		Khakas [kjh]	-MA <i>čoyil</i> in PERFECT, HAB.PRS, with some verbs	<i>čoyil</i>	B>C	(Baskakov & Inkizhekova-Grekul 1953: 366. In passim), (Anderson 1998: 46–47, in passim)
Siberian Turkic, North		Sakha/Yakut [sah]	-BA <i>-bAt</i> 'neg aor' prs,prog: prs,part.3poss + <i>suokh</i> 'non-existing'	<i>suokh</i> -NUM 'NEG. EX'-NUMBER	B>C	(Petrova 2011), Eyüp Bacanlı (p.c.)
		Chuvash [chv]	-mA(s) <i>s'uk</i> ? VERB.FUT (mostly in the spoken register)	<i>s'uk</i>	B>C	(Andreev 1992), (Krueger 1961)

19. The data are just bare bones for Kumyk.

20. Unlike *bart* 'exist, be', *yokt(ur)* does not take person-number suffixes. It is frequently used as a sentence tag and as the general word 'No'.

21. Even the consonant of the negation suffix is subject to numerous assimilations, cf. Baskalov (1972:62).

Table 8. Data from Dravidian languages, see also (Lindblom 2014) for additional data

Subgroup	Language name	SN	Negative existential			Source
			pst	NEG by suffix has no temporal value, except where indicated	Type in NEC	
North	Brahui [brh]	VERB- <i>t(a)-</i> PERS.NUM.G	VERB- <i>f(a)-</i> PERS.NUM.G	<i>alla-v-</i> PERS.NUM <i>aff-per.NUM.G</i> ²²	B	(Andronov 1980: 70–79)
Central	Pariji [pci]	VERB- <i>-e/-o</i> PERS.NUM.G	VERB- <i>-a-</i> PERS.NUM.G	<i>cila/cila-</i>	B	(Burrow & Bhattacharya 1953: 64, 67)
Southern II	Chenchu [cde]	VERB-INF + <i>lêdu/lê</i>	verb- <i>-a/-o-</i> PERS.NUM.G VERB-NMLZ + <i>lêdu</i> 'negative progressive'	<i>lê-</i> PERS.NUM.G	B~C	(Trivedi 1978: 58, 74, 80)
	Gondi [ggo]	VERB-PRET + <i>sil</i>	VERB- <i>-ô/-</i> PERS.NUM.G	<i>sil</i>	B~C	(Lincoln 1969: 162, 111, 134)
	Konda [kfc]	VERB- <i>-t-</i> PERS.NUM.G	VERB- <i>-t-</i> PERS.NUM.G	<i>sil-</i> PERS.NUM.G	B	(Krishnamurti 1969: 283, 289)
	Koya [kff]	VERB-INF- <i>ill-</i> PERS.NUM	VERB- <i>-o/-ô/-û/-v/-vô-</i> <i>/-yû/-</i> PERS.NUM.G	<i>ill-</i> PERS.NUM.G	B~C	(Tyler 1969: 99, 83, 96–97)
	Kuvi [kxv]	VERB- <i>-ta-</i> PERS.NUM.G VERB-NEG.PST.PTCP + <i>hil-tasi</i>	VERB- <i>-to/-t/-</i> PERS. NUM.G	<i>hil-ta-</i> PERS.NUM <i>hil-to-</i> PERS.NUM.G	B~C	(Israel 1979: 62–63, 135–136, 166)
	Telugu [tel]	VERB-INF + <i>lêdu</i> 'not. exist.3SG'	VERB- <i>-a-</i> PERS.NUM.G	<i>lê-</i> PERS.NUM	B~C	(Krishnamurti & Gwynn 1985: 218, 159, 142)
Southern I	Literary Kannada [kan]	VERB-INF- <i>illa</i>	VERB- <i>-a-</i> PERS.NUM.G VERB-NMLZ + <i>illa</i>	<i>illa</i>	B~C	(Schiffman 1983: 113–114)

(Continued)

22. Andronov (1980: 79) states that the stem *a-* takes the negative suffix *f* and subsequent person-number marking. This is certainly the historical situation but synchronically the negative forms of the verb 'be' are unanalyzable units so any further morphological analysis is superfluous.

Table 8. (Continued)

Subgroup	Language name	SN	Negative existential		Type in NEC	Source
		pst	NEG by suffix has no temporal value, except where indicated			
	Spoken Kannada [kan]	VERB-INF-illa	VERB- <i>e</i> VERB-NMLZ.INFORMAL + <i>illa</i> VERB-NMLZ- <i>Vlla</i>	<i>illa</i>	C	(Schiffman 1983: 113–114)
	Kodava=Kodagu [kfa]	VERB.NMLZ- <i>le/-ille</i>	VERB.NMLZ- <i>le</i>	<i>ille</i>	C	(Ebert 1996: 22)
	Alu Kurumba [xua]	VERB-NMLZ- <i>le</i>	VERB- <i>ar/yi</i> -PERS.NUM.G	<i>ille</i>	B~C	(Kapp 1982: 141, 151, 52)
	Malayalam [mal]	VERB.PST- <i>illa</i>	VERB.PRS- <i>illa</i> VERB.FUT1- <i>illa</i> VERB.NEG.FUT2- <i>illa</i>	<i>illa</i>	C	(George 1971: 53, 30)
	Tamil [tam]	- <i>il/-</i>	VERB- <i>ā</i> -PER.NUM.G	<i>illa</i>	B~C	(Lehmann 1993: 209)

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