AAPG2022	SNAG	JCJC
Coordinated by :	Karen De Clercq	48 months
CES 28 Cognition, comportements, langage		

Sentential Negation Across the Globe

The fine-grained structure of a linguistic universal

I. Pre-proposal's context, positioning and objective(s)

The overall ambition of this project is to **map** the distribution of Sentential Negative markers Across the Globe (**SNAG**). The empirical focus and novelty of the project are sentential negative markers (SNs) conditioned by tense, aspect, or mood/modality (henceforth TAM). This type of SNs has never before been systematically investigated from a large-scale typological perspective and it is this gap that the project sets out to fill. The theoretical aim is to get a deeper understanding of the structure of the universal category of negation thanks to a study of how and why it interacts with TAM. The project thus fits in nicely with *AxeD4 (CES 28) Cognition, comportements, langage,* because the detailed typological approach of the language universal negation will inform theoretical work in *linguistics*, and ultimately also reflect on how negation is mentally represented in human *cognition*.

1.1. Context and positioning

In French, English or Dutch, sentential negation is expressed by means of the same marker regardless of the TAM expressed in the clause:

(1)	PRES	FUT	PF
	je (ne) pars **pas**	je (ne) partirai **pas**	je (n)' ai **pas** mangé

It is quite common, however, that languages have one or more sentential negative marker(s) that are dedicated to occurring with a particular TAM category. Alamblak (Papua New Guinnea) is such a language: it has two tense-sensitive sentential negative allomorphs (Bruce 1984:130, 138 cited in Miestamo 2005:98): (2a) illustrates the sentential negative marker (*fiñji*), which is used in all tenses except the future, and (2b) illustrates the negative marker for the future tense (*afë*). The form of the marker in (2b) is unrelated to the form in (2a), and can therefore be called **suppletive**.

(2a)	**fiñji**	yay-	kah-	r-	m	(2b)	**afë**	noh-	rhw-	a-	t-	r
	NEG	eat-	IRR.PRS-	3SG.M-	3PL		NEG.FUT	die-	FUT-	PRESUP	IRR-	3SG.M
	`He is not eating them/does not eat them' [Alamblak]						`He will not die'					

I call this phenomenon **A**llomorphy **I**n sentential **N**egation conditioned by **TAM** (or **AINT**, for short). Sometimes AINT is only **partially suppletive**, as in Bengali (Ramchand 2004), where the form of the standard negator **na**, (2a), is visibly related to the negative allomorph dedicated to perfective aspect, i.e. **ni**, (2c). The example in (2b) is the affirmative counterpart of the negated perfective in (2c).

(2a) Ami amṭa k^ha- cc^h- i **na**
I.NOM mango.CLF eat- PROG/PRS- 1SG NEG
'I am not eating the mango.' [Bengali]

(2b) Ami amṭa k^heye- c^h- i
I.NOM mango.CLF eat.PFV- PRS- 1SG
'I have eaten the mango.'

(2c) Ami amṭa k^ha- i **ni**
I.NOM mango.CLF eat- 1SG NEG.PFV
'I didn't eat the mango.'

Research carried out by Miestamo (2005) confirms that there indeed is an important interaction between the primitive category of negation and TAM. By means of a balanced typological study of 297 languages, Miestamo (2005) showed how the presence of negation in a clause can change the way TAM is expressed in comparison to affirmative clauses. In Haitian Creole for instance, the future tense particle *(av)a* cannot occur with the negator *pa*, and the progressive particle *ap* needs to be used instead. In the same way, the stem of the present perfect in the Bengali example in (2b), i.e. *kheye*, changes to *kha*, the root also used in the present tense, under the influence of negation. However, unlike in Haitian Creole, not only the verbal root changes in Bengali, but also the negator.

There is, in other words, **a two-way interaction between negation and TAM**: negation may affect the form of TAM markers (henceforth **Type 1**), and various TAM categories may affect the form of negation (henceforth **Type 2** or AINT). Miestamo's study was restricted to an investigation of the Type 1 interaction. The second type still awaits a systematic study (but see references to Type 2 in Payne 1985; Horn [1989] 2001: 367, 446-452; Dryer 2011; De Clercq 2020b).

Interestingly, Type 2 or AINT has received more systematic attention in the study of Sign Language. Zeshan (2004, 2013) studied negative allomorphy in 35 Sign Languages across the world, finding it to be a wide-spread phenomenon. Given the lack of systematic study of AINT/Type 2 allormorphy for spoken languages, a cross-modal comparison also needs to be further investigated.

1.2. Objectives

Phase 1: Typological data mining

Phase 1 of this project takes as its main objective to provide the first systematic typological overview of Type 2 allormorphy, i.e. the so-called AINT, where negative markers show different allomorphs in the presence of different TAM categories. This objective can be subdivided in three sub-components:

1. OBJECTIVE 1A: developing a typology of negative allomorphs across the languages of the world through typological data mining.
2. OBJECTIVE 1B: making an inventory of the precise TAM-categories that condition negative allomorphs.
3. OBJECTIVE 1C: comparing the output of the data mining for spoken languages with the results of Zeshan's typological work on Sign Language to get a cross-modal picture of the allomorphy of negative markers.

The **hypothesis** that will guide the typological data mining is presented in table 1: it presents 4 logically possible types for sentential negative markers which we get by cross-classifying the two types of interaction between negation and TAM referred to above:

Table 1 Typology of the interaction between negation and TAM

	Type 1	**No Type 1**
Type 2	Type A	Type B
No Type 2	Type C	Type D

Miestamo's (2005) sample of more than 297 genealogically and geographically balanced languages will be considered as a representative starting point for the typological data mining (Miestamo 2005: 27-39; Rijkhof et al 1993). Miestamo's (2005) book contains a detailed appendix listing all 297 languages he has investigated with a label identifying the type of TAM-allomorphy – if any – that each language displays under negation. All grammars and other sources he used are also carefully listed, which will help to identify languages with AINT, and classify the languages in the sample according to the typology in Table 1. The PI of this project will be doing this work supported by a postdoctoral researcher in the first year. For the Australian languages in the sample, Patrick Caudal (LLF, CNRS), an expert on Australian languages, will be consulted. In the second year the postdoc will compare the output of the typological data mining for spoken languages with Zeshan's work on Sign

Languages, to get a **cross-modal picture** of the interaction of negation with TAM across the world in pursuit of OBJECTIVE 1C. Caterina Donati (LLF, Université de Paris), an expert in Sign Language, will provide support for this subpart of the project. Crucially, the postdoc and the PI will make sure that the data are Findable, Accessible, Interoperable and Reusable. Beyond linking the database to a map that visualizes the distribution of Sentential Negation Across the Globe, the data will be made available in CVS format (Forkel et al. 2018), and will also be added to the existing online database, *Syntactic Structures of the World's Languages database* (SSWL), which is currently maintained by Hilda Koopman (UCLA).

Phase 2: In-depth crosslinguistic theoretical work

The main objectives of **Phase 2** are the following:

1. OBJECTIVE 2A: making an in-depth analysis of 16 languages belonging to the 4 logically available types (Table 1)
2. OBJECTIVE 2B: developing a fine-grained **morpho-syntactic analysis** that provides insight into the inner structure of the universal property of negation.

In order to attain OBJECTIVE 2A a *Middle Way* sample (Baker and McCloskey 2007:294) will be set up at the end of Phase 1. A Middle Way sample includes more languages than usual in theoretical work, but less than typical of typological work, thus allowing a combination of the best possible breadth and depth for theoretical analysis. The exact languages cannot be defined yet, since they will be determined at the end of year 1, i.e. when a substantial part of the languages in the sample will have been classified according to the typology of Table 1. A PhD student will tackle 4 of the 12 languages in the Middle Way sample. The division of labour with respect to these languages will depend on the linguistic background of the PhD student hired. The project coordinator will tackle the other 12 languages. Native speaker informants will be consulted during this phase to check the available readings for different tenses, aspects and moods/modalities under negation. This is relevant, because available readings in the affirmative clause, may disappear under negation, as illustrated in the Bengali example in (2), where the perfective reading (2b) disappears under negation (2c). Another empirical issue that will be checked with native speaker informants is the availability to stack standard negators on Type 2 allomorphs (for the theoretical relevance of stacking see De Clercq 2013, 2020a; De Clercq & Vanden Wyngaerd 2019).

The results of this fine-grained empirical work will also be made available in CVS format. This in-depth empirical work, together with the large-scale typological results obtained in Phase 1, will be used to inform fine-grained theoretical work on the internal feature structure of negation (OBJECTIVE 2B). Nanosyntax (NS) (Starke 2009; Caha 2009; Baunaz et al. 2018), a theory of syntax that aims at providing rich detailed maps of hierarchically structured syntactico-semantic features, will be used to capture the data. To illustrate this fine-grained approach informally, the Bengali data will be looked at a little closer. These data can be informally represented from a NS perspective by means of the lexicalisation tables in (3) and (4). In the affirmative, the form of the verb itself can realize perfective aspect, as shown in (3b): the idea is that the verbal root, i.e. √EAT, can realize a part of the TAM-superstructure. The suppletive form *kheye* lexicalizes at least two cells, i.e. two features or two heads in syntax. In the negative, (4), which, for concreteness, we assume intervenes between aspect and tense in Bengali, the negative marker itself can grow in size, and realize certain TAM-related features, like PF, as shown in (4b), thus pushing the verb back to its base form *kʰa-*.

	√EAT	PF	PRS
(3a)	kʰa-		ccʰ
(3b)	kʰeye-		cʰ

	√EAT	PF	NEG	PRS
(4a)	kʰa-		na	-ccʰ
(4b)	kʰa-	ni		

This type of empirically informed fine-grained morpho-syntactic work will allow us to understand better the trade-off between TAM and negation, and how one of the core universal linguistic properties, i.e. negation, is structured in the human mind.

II. Partnership (consortium or team)

The PI, Karen De Clercq, has been a CNRS *chargée de recherche* since 1 October 2020. Her work has focused on negation since her PhD, which she obtained in December 2013 at Ghent University (Belgium) under the supervison of Liliane Haegeman (U Ghent, em.). In her PhD and monograph De Clercq studied affixal, constituent and sentential negation in adjectival clauses from a typological perspective, using Nanosyntax as a tool to analyse the data. The current project with its innovative angle on NEG-TAM interactions in the verbal domain and with its large-scale typological approach builds on her earlier expertise, which makes her the perfect coordinator for this ambitious project. She will devote 80% of her time to the project, setting up a unique team that specializes in one of the most crucial linguistic universals of human language, i.e. negation.

Summary of **SNAG**	**Phase 1**	**Phase 2**
Timeline	Year 1-2	Year 2-4
Personnel	Postdoc in Typology/MorphoSyntax	Linguistics PhD student
Support from LLF	Caterina Donati (5%)	Patrick Caudal (5%)
Outcome: Articles	Ling Typ, Morphology, Jour of Ling	Ling Typ, Glossa, JoL
Outcome Resources	Typological data base 1	Middle Way data base 2
Events	Workshop on TAM and Negation	Workshop on Nanosyntax

III. Selected references related to the project

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The World Atlas of Language Structures Online. Leipzig: Max Planck Institute for Evolutionary Anthropology (http://wals.info/chapter/139, Accessed on 2021-10-13.)