Polarity-reversing Affirmative Particles

A Feature of Standard Average European (SAE)

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Abstract

Polarity-reversing affirmative particles are a phenomenon that has largely been overlooked in previous research. A polarity-reversing affirmative particle is used to express disagreement with the polarity of a preceding negative statement. It is a typical answer strategy in Swedish, German, Dutch as well as in French. In fact, findings from previous cross-linguistic studies suggest, though without further detail, that polarity-reversing affirmative particles are a phenomenon predominantly found in European and more specifically in Germanic languages (Da Milano 2004; Roelofsen & Farkas 2015; Moser 2018). The aim of this study is to examine the hypotheses presented in Moser (2018). The goals are to investigate the distribution of polarity-reversing affirmative particles in Europe on the one hand, and to examine the phenomenon in Swedish, German, Dutch and French from a diachronic perspective on the other hand. On the basis of these endeavors, this study is embedded in the framework of areal typology. This study brings forth highly interesting findings in view of the discussion of Standard Average European and the Charlemagne Sprachbund.

Keywords: polarity-reversing affirmative particle, linguistic area, European languages

Polaritetsomvändande Affirmativa Partiklar

Ett Kännetecken av Standard Average European (SAE)

Sammanfattning

Polarity-reversing affirmative particles (sv. polaritetsomvändande affirmativa partiklar) är ett fenomen som har förbisetts i tidigare forskning. En *polarity-reversing affirmative particle* används för att uttrycka oenighet med ett negativt påstående. Det är en vanlig strategi i svenska, tyska, nederländska samt franska. Tidigare resultat från tvärspråkliga studier visar att *polarity-reversing affirmative particles* oftast förekommer i europeiska, mer specifikt germanska språk (Da Milano 2004; Roelofsen & Farkas 2015; Moser 2018). Denna studie ämnar undersöka resultaten från de ovannämnda studierna. Målet är således att undersöka distributionen av *polarity-reversing affirmative particles* i Europa samt att undersöka fenomenet i svenska, tyska, nederländska och franska från ett diakroniskt perspektiv. Denna studie anknyter till ett arealtypologiskt perspektiv. Resultaten påvisar intressanta rön med direkt relevans för Standard Average European och i den så kallade Charlemagne-arean.

Nyckelord: polartitetspartikel, lingvistik område, europeiska språk

Presentation Conventions

Tables All tables are placed after their first reference in the main text. Tables that did not fit in the continuous text are placed in the appendices. A list of tables is given on page iii.

Language examples Examples created for illustrative purposes are labelled as *own data*. Examples from the data collection are denoted with the respective data source, i.e bibliographical reference or the label *query response 2019*, *questionnaire 2018* or *questionnaire 2019* (see section 4).

For practical purposes, the orthography offered in the source is kept. When the source is using a writing system that is not based on the latin script, the closest transliteration is used. Except for English, all language examples are provided with a translation as well as interlinear morpheme by morpheme glossing. For the interlinear glossing, the *Leipzig Glossing Rules* are followed as closely as possible.[1]

In the layout of the examples, *Q* stands for 'question' and *A* for 'answer'. The indented lines (/) separate possible answer alternatives. An abbreviation list is provided on page ii.

Language ISO code To facilitate language identification, all languages discussed in this study are provided with the ISO 639-3 code in square brackets ([]).[2] A list of the languages cited in this study is given in appendix C.

Country ISO code Countries are referred to by the Alpha 3 Code.[3]

Online map A map illustrating the language data from this study can be accessed online at https://arcg.is/0jOP8S.

[1] The Leipzig Glossing Rules can be accessed at https://www.eva.mpg.de/lingua/resources/glossing-rules.php, accessed on 2018-06-04.

[2] The ISO 639-3 code is taken from Hammarström *et al.* (n.d.) and Eberhard *et al.* (2019).

[3] The country codes are taken from https://www.nationsonline.org/oneworld/country_code_list.htm, accessed on 2019-04-30.

Abbreviations

*	deducted/reconstructed form
**	ungrammatical, uncommon
#	unknown morpheme
1	1 person
2	2 person
3	3 person
ACC	accusative case
AFF	affirmative
ALIEN	alienable possession
ASP	aspect
AUG	augmentative (see Næss 2017: 10)
AUX	auxiliary verb
CONNEG	connegative
COP	copula
DEF	definite
DEM	demonstrative
DEP	dependent
DET	determiner
EMP	emphatic
FUT	future
ILL	illative case
IND	indicative
INDEP	independent
INF	infinitive
INTER	interrogative mood
IPFV	imperfective aspect
M	masculine
MIN	minimal (see Næss 2017: 10)
NEG	negation, negative
NOM	nominative case
PL	plural
POL	polite register
PREP	preposition
PRF	perfect
PRS	present
PST	past
PTCL	particle
PTCP	participle
Q	question particle/marker
REL	relative
REV	polarity-reversing particle
SG	singular
TOP	topic marker
V	verb

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1 Introduction

This study addresses a phenomenon that has been dubbed *polarity-reversing affirmative particles* (examples are given in section 2.1.1). This type of particle has been largely neglected in previous research. Polarity-reversing affirmative particles are special in that they exhibit a distinctive function, namely expressing disagreement with the polarity of a preceding negative statement. They typically appear in answers to negative polarity questions. Previous studies suggest that polarity-reversing affirmative particles are a phenomenon predominantly found in European languages.

In my Magister project (Moser 2018), for which I conducted a study on cross-linguistic answer strategies, I make some intriguing observations about polarity-reversing affirmative particles. On the one hand, I observe that a majority of the languages examined having a polarity-reversing affirmative particle belong to the Germanic language family. This finding leads me to hypothesize that the languages, which do not belong to the Germanic family but nevertheless show a polarity-reversing affirmative particle, are influenced by a neighbouring Germanic language. One the other hand, I note that the polarity-reversing affirmative particles found in Germanic languages do not suggest to be cognates. This observation leads me to hypothesize that the function of these forms is a more recent innovation.

The goal of this study is to explore the results and hypotheses suggested in previous research. Specifically, I investigate the distribution of polarity-reversing affirmative particles in European languages. For this purpose, I conduct an investigation of answers to negative questions. Further, I examine etymological dictionaries and historical grammars, in order to provide insight into the origin and development of the polarity-reversing affirmative forms found in Swedish, German, Dutch and French.

My primary endeavor with this study is to contribute to the research of cross-linguistic answer strategies in general and polarity-reversing affirmative particles in specific. This study also has potential importance for the discussion of linguistics areas in Europe.

In section 2, I introduce polarity-reversing affirmative particles as a phenomenon and offer an overview of the existing literature. Morevover, I disclose the theoretical framework and the working definitions for this study. In section 3, I discuss the aims set for this study in terms of research questions. In section 4, I explain the methods and data used for this investigation. In section 5, I present the results from the data analysis. In section 6, I discuss the findings with reference to previous research. In section 7, I offer specific answers to the research questions formulated in 3 together with a recapitulation of the main findings. Finally, I provide some suggestions for future research.

2 Background

The following section introduces the phenomenon dubbed polarity-reversing affirmative particle. Section 2.1 provides a discussion on polarity-reversing affirmative particles with regard to other cross-linguistic answer strategies. Section 2.2 offers an overview of the existing literature on polarity-reversing affirmative particles. In section 2.3, I outline the theoretical framework. In section 2.4, I clarify the working definition of polarity-reversing affirmative particles.

2.1 Polarity-reversing Affirmative Particles

The term *polarity-reversing affirmative particle* was introduced by Holmberg (2016: 6). It designates a type of minimal answer typically occurring in responses to negative questions. A polarity-reversing affirmative particle expresses a positive answer and thereby reverses the polarity of the question. This answer particle is distinct from the English particles *yes* and *no* in that it specifically expresses disagreement with the question it responds to. Examples (12)–(4) illustrate the phenomenon in Swedish [swe], German [deu] and French [fra]. Note that in the examples below the polarity-reversing particles are highlighted with bold print and, following Holmberg (2016: 6), marked with the gloss 'yes.REV'.

(1) Swedish [swe] (own data)

Q. *Är det inte varmt idag?*
is it not warm today

'Isn't it hot today?'

A.1. ***Jo*** / ***Ja*
yes.REV yes

'Yes, it is.'

A.2. *Nej*
no

'No, it isn't.'

(2) German [deu] (own data)

Q. *Ist es nicht heiss heute?*
is it not hot today

'Isn't it hot today?'

A.1. ***Doch*** / **Ja*
yes.REV yes

'Yes, it is.'

A.2. *Nein.*
no

'No, it isn't.'

(3) Dutch [nld] (own data)

Q. *Is het niet warm vandaag?*
is it not hot today

'Isn't it hot today?'

A.1. ***Jawel*** / **Ja*
yes.REV yes

'Yes (it is).'

A.2. *Nee.*
no

'No (it isn't).'

(4) French [fra] (own data)

Q. *Ne fait-il pas chaud aujourd'hui?*
NEG do.PRS.3SG-3SG NEG hot today

'Is it hot today?'

A.a. ***Si*** / **Oui*
yes.REV yes

'Yes, it is.'

A.b. *Non.*
no

'No, it isn't.'

Answer particles are invariable forms which do not inflect. In the literature, answer particles are often classified as interjections or adverbs (Ameka 1992: 9–10). In the following sections, I introduce the phenomenon in more detail. Section 2.1.1 treats polarity-reversing particles in view of cross-linguistic answer strategies. Section 2.1.2 introduces a framework for describing the polarity properties expressed by answer particles.

2.1.1 Answer Strategies

A polarity-reversing particle is an answer strategy. Previous cross-linguistic studies brought forth that minimal answer strategies follow certain patterns. Traditionally, these patterns are framed in terms of Sadock & Zwicky's typology of *answer systems*; i.e. the *echo system*, the *agree-disagree system* and the *yes-no system* (1985: 189–191). This typology of "answer systems" is generally adopted in the literature.[4] In some studies, the authors use a different terminology and/or a somewhat modified delimitation (cf. Pope 1976; Sadock & Zwicky 1985; Jones 1999; Holmberg 2016). The classification is, however, essentially the same. In the following, the reader finds a discussion of the three systems.

An echo system is characterized by responses, which repeat (i.e. "echo") one or more constituents of the question. Echo answers do not involve particles. The polarity of the answer depends on whether the echo response is affirmative or marked with negation. This answer strategy is typical for Celtic languages (Moser 2018: 30). Examples (5) and (6) from Scottish Gaelic [gla] illustrate echo responses to positive and negative questions respectively.[5]

(5) Scottish Gaelic [gla] (questionnaire 2018)

Q. *A'=bheil e blath an diugh?*
Q=be.DEP 3SG.M warm today

'Is it hot today?'

A.1. *Tha.*
be.INDEP

'Yes (lit. is)'

A.2. *Cha'n eil*
NEG be.DEP

'No (lit. is not).'

[4]It was pointed out to me by Bernhard Wälchli that the designation *system* is a rather infelicitous term for describing the patterns of cross-linguistic (minimal) answer strategies. The term *system* suggest that the minimal answers form an entity and are somehow interdependent. It can be disputed whether minimal answers actually from an entity. The fact that they can also be used in other functions rather speaks against it (cf. Jones 1999: 20f). Further, minimal answers are dependent on the type of question they respond to rather than on their positive/negative counterparts (see section 2.1.2). In the following, I report the analysis of answer strategies as it is presented in the literature.

[5]Note that Scottish Gaelic verbs exhibit independent and dependent verb forms: The dependent form is used together with pre-verbs and class-markers such as for instance question marker or negation. The independent form occurs in absence of such markers Lamb (2002: 51).

(6) Scottish Gaelic [gla] (questionnaire 2018)

Q. *Nach eil e blath an diugh?*
Q.NEG be.DEP 3SG.M warm today

'Is it not hot today?'

A.1. *Tha gu dearbh.*
be.DEP indeed

'Yes indeed.'

A.2. *Cha'n eil idir*
NEG be.DEP at

'No, not at all (lit. is not at all).'

Unlike the echo system, the agree-disagree system and the yes-no system involve answer particles or polarity particles, i.e. particles that express polarity properties (see section 2.1.2 below). The difference between the yes-no system and the agree-disagree system lies in the polarity features expressed by the answer particles. In a yes-no system, the particles reflect the polarity of the statement in the response. This is illustrated with English in examples (7) and (8) below. The particles *yes* and *no* reflect a positive or negative answer respectively.

In an agree-disagree system, the answer particles express agreement or disagreement with the statement in the question. This answer system is typical for Japanese. In examples (9) and (10), the Japanese particle *hai* is used when the answer agrees with the question; *iie* is used when the answer disagrees with the question (Sadock & Zwicky 1985: 189–190).

(7) English (own data)

Q. Is it hot today?

A.a. Yes (it is).

A.b. No (it's not).

(8) English (own data)

Q. Is it not hot today?

A.a. Yes (it is).

A.b. No (it's not).

(9) Japanese [jpn] (questionnaire 2018)

Q. *Kyō-wa atsui desu-ka?*
today-TOP hot COP-Q

'Is it hot today?'

A.a. *Hai (atsui desu)*
yes hot COP

'Yes (it is hot today).'

A.b. *Iie (atsuku-nai desu)*
no hot-NEG COP

'No (it isn't hot today).'

(10) Japanese [jpn] (questionnaire 2018)

Q. *Kyō-wa atsuku-nai desu-ka?*
today-TOP hot-NEG COP-Q

'Isn't it hot today?'

A.a. *Hai (atsuku-nai desu)*
yes hot-NEG COP

'Yes, it isn't hot today.'

A.b. *Iie (atsui desu)*
no hot COP

'No, it is hot today.'

In their discussion of answer systems, Sadock & Zwicky note that yes-no answers to negative questions can be ambiguous. Note that the question in example (8) does, in fact, not inquire whether *it is not hot* but rather indicates the speaker's assumption that *it is hot*. The answer *yes* in this case could be interpreted in two ways, i.e. either as *Yes, it is not hot today* or as *Yes, it is hot*. To avoid ambiguity, answers to negative questions are commonly followed by a complement such as *it is* or *it isn't* in English (Sadock & Zwicky 1985: 190).

In Swedish, the ambiguity is circumvented with the polarity-reversing affirmative particle *jo*. In contrast to *ja* 'yes' and *nej* 'no', *jo* 'yes.REV' only has one function, namely expressing disagreement with the negative polarity of the question. This is illustrated in examples (11) and (12) (repeated below).

(11) Swedish [swe] (questionnaire 2018)

Q. *Är det varmt idag?*
is it warm today

'Is it hot today?'

A.a. *Ja (det är det)*
yes it is it

'Yes, it is.'

A.b. *Nej (det är det inte)*
no it is it not

'No, it isn't.'

(12) Swedish [swe] (questionnaire 2018)

Q. *Är det inte varmt idag?*
is it not warm today

'Isn't it hot today?'

A.1. ***Jo*** *(det är det)*
yes.REV it is it

'Yes (it is).'

A.2. *Nej (det är det inte)*
no it is it not

'No (it isn't).'

Although Sadock & Zwicky's typology is generally accepted, it is not flawless. In several studies, it has been observed that a number of languages exhibit more than one of the answer systems identified in Sadock & Zwicky (1985) (i.a. Hakulinen 2001: 3; Da Milano 2004: 28; Holmberg 2016: 68; Moser 2018: 15). Furthermore, Sadock & Zwicky's typology does not provide a framework for answer strategies with a polarity-reversing affirmative particle. According to Sadock & Zwicky's typology, English and Swedish both exhibit a yes-no system. However, Swedish rather shows a *ja-jo-nej system* (to put it in Sadock & Zwicky's terminology). In section 2.1.2, an alternative framework is presented.

2.1.2 Polarity Properties

Answer particles can express polarity in two ways: First, they express either agreement or disagreement with the statement in the question. Second, answer particles reflect the polarity of the statement in the response. In Roelofsen & Farkas (2015), these two polarity manifestations are differentiated and denoted by the terms *relative* and *absolute* polarity.

The relative polarity feature are indicated by the values [AGREE] or [REVERSE], which denote whether the answer expresses agreement or disagreement with the proposition in the question. The absolute polarity feature is marked by the values [+] or [-], which denote whether

the statement of the answer is positive or negative respectively. Four possible combinations ensue from this: an answer particle might express agreement and indicate a positive statement, express agreement but indicate a negative statement, express disagreement but indicate a positive statement, or express disagreement and indicate a negative statement (Roelofsen & Farkas 2015: 383–386). The possible combinations of polarity manifestations in question-answer interaction are arranged in table 1.[6]

Table 1: Possible polarity manifestations in question-answer interaction

Combinations	RELATIVE	ABSOLUTE
AGREE, +	AGREE	+
AGREE, -	AGREE	-
REVERSE, +	REVERSE	+
REVERSE, -	REVERSE	-

Table 2: Manifestation of polarity features in cross-linguistic answer strategies

Polarity features	Scottish Gaelic	Japanese	English	Swedish
AGREE, +	V	*hai*	*yes*	*ja*
AGREE, -	V.NEG	*hai*	*no*	*nej*
REVERSE, +	V	*ie*	*yes*	*jo*
REVERSE, -	V.NEG	*ie*	*no*	*nej*

The"morphological realization" or formal manifestations that express the two polarity features vary cross-linguistically and are language dependent (Roelofsen & Farkas 2015: 384). This is illustrated in table 2 with the language data from section 2.1.1. As mentioned, Sottish Gaelic exhibits an echo system. Japanese has an agree-disagree system, while English and Swedish both show a yes-no system. Additionally, Swedish exhibits also a polarity-reversing particle, which denotes a positive statement ([+]) but is used to express disagreement ([REVERSE]) with the negative proposition in the polarity question.

According to Roelofsen & Farkas's (2015) interpretation, some particles such as Swedish *jo* 'yes.REV' fulfil one function only, namely [REVERSE, +]. The same holds for the answer *ja* 'yes.REV' which is exclusively used for [AGREE, +] in Swedish. Other particles such as Swedish *nej* 'no' however perform a "double duty" and function as [AGREE, -] and [REVERSE, -]. The same holds for the particles of English and Japanese.

In English, [AGREE, +] and [REVERSE, +] is realized by *yes*, while [AGREE, -] and [REVERSE, -] is realized by *no*. According to Roelofsen & Farkas (2015: 383-384), the polarity particles in English are demarcated by the absolute polarity features. In Japanese the opposite is observed: [AGREE, +] and [AGREE, -] is realized by *hai* 'AFF', while *iie* 'NEG' expresses [REVERSE, +] and [REVERSE, -]. The Japanese particles are, thus, demarcated by the relative polarity.

In languages exhibiting an echo-based response strategy such as Scottish Gaelic, the echo response most likely denotes the absolute polarity. In Scottish Gaelic, [AGREE, +] and [REVERSE, +] is expressed by the verb in the affirmative, while [AGREE, -] and [REVERSE, -] is expressed by the negation of the verb echoed from the question.

[6]Table 1 is based on the illustration in Roelofsen & Farkas (2015: 384).

Table 3 illustrates the different polarity manifestations between minimal answers and polarity questions.[7] The choice of answers is not dependent on the inherent polarity properties but is triggered by the polarity of the question (i.a. Roelofsen & Farkas 2015: 390–391). Polarity questions "inquire about the truth or falsity of the proposition they express" (König & Siemund 2007: 291). Thus, they reflect the polarity of the statement that they inquire.[8] Positive polarity questions trigger an answer expressing either [AGREE, +] or [REVERSE, -]. Negative polarity questions trigger an answer expressing either [REVERSE, +] or [AGREE, -].

Table 4 illustrates the question-answer polarity relations with regard to the answer strategies observed in Swedish. A positive polarity question triggers either a *ja* or *nej* response. A negative polarity question triggers either a *jo* or a *nej* response. What follows from this representation is that *ja* – due to its inherent polarity properties – is not used in answers to a negative question. In the same line, *jo* is not a fitting affirmative response to a positive question.

Table 3: Polarity relations between polarity questions and answers

Polarity relations	
Question	Answer
p?	[AGREE, +]
p?	[REVERSE, -]
¬ p?	[REVERSE, +]
¬ p?	[AGREE, -]

Table 4: Polarity relations between polarity questions and answers in Swedish

Polarity relations		
Question	Answer	cf. Swedish
p?	[AGREE, +]	*ja*
p?	[REVERSE, -]	*nej*
¬ p?	[REVERSE, +]	*jo*
¬ p?	[AGREE, -]	*nej*

The next section covers previous studies addressing this phenomenon.

[7] See Gaszewski (2008: 404).

[8] For a discussion of the polarity expression of polarity questions, see Moser (2018: 3–4, 13–14).

2.2 Previous Research

Polarity-reversing affirmative particles have been widely overlooked in the literature. There have been sporadic studies that focus on polarity-reversing affirmative particles in individual languages. In the following literature review, I offer a discussion of existing literature on the Swedish particle *jo* 'yes.REV' in section 2.2.1, the German particle *doch* 'yes.REV' in section 2.2.2, and finally the French particle *si* 'yes.REV' in section 2.2.4. In section 2.2.5, I discuss four studies, which address the phenomenon from a cross-linguistic point of view. They also lay the groundwork for the present study.

2.2.1 Studies on Swedish *jo*

There are very few studies on the answer particle *jo* in Swedish. In the study by Allwood (1988), the Swedish particles is marginally mentioned. Hansen (1934) brings forth that a polarity-reversing answer strategy *jo* is found throughout North Germanic languages. That is, in addition to Swedish, Danish and Norwegian also exhibit a similar particle. Further, Icelandic has a particle *jú* with the same function. In Norwegian research, the particle *jo* has been subject of corpus studies (see Askedal 2001; Svennevig 2001). In Danish research, the polarity-reversing particle *jo* has also been largely overlooked. For Icelandic, the contributions by Lindén (1886) and Kock (1895) are often mentioned. In the following, I present the studies in chronological order.

Lindén (1886) offers an etymological discussion of Icelandic *já* 'yes'. He notes that the Icelandic affirmative particle as well as the counterpart in Swedish did not develop according to common sound change laws. He also addresses the origin of the Icelandic particle *jú* 'yes.REV' (1886: 237).

Kock (1895) examines the Old Icelandic particle *iúr* in view of Old Norse *iaur* and Old Danish *ior*. He writes that *iúr* as well as *iaur* exhibit a similar function as (Modern) Swedish *jo* 'yes.REV' (1895: 345). Kock connects to the discussion in Lindén (1886) and provides an alternative view about the origin and development of the particle *jú* in Icelandic and *jo* in Swedish (see section 5.2.1).

Hansen (1934) covers the diachronic sound changes of the particles *ja* 'yes' and *nej* 'no'. Following Lindén (1886) and Kock (1895), he proposes some explanations for their irregular development (1934: 235). Parallely, he also discusses the form *jo*, which appears across North Germanic languages (i.e. Danish, Norwegian, Swedish with the counterpart *jú* in Icelandic). He compares the North Germanic particles to forms found in Germanic varieties at different time periods. He shows that a variation of the form is found in West-Germanic languages [9] as well, where it is used as an alternative of the affirmative *ja* 'yes'. He notes that, in North-Germanic, this form fulfils a special function not observed in West-Germanic, namely to express disagreement with a negative polarity question (Hansen 1934: 230–233).

Allwood (1988) describes feedback (*språklig återkoppling*) strategies in Swedish. He is not interested in the answer strategy *jo* per se; nevertheless, he makes some interesting observations. Allwood writes that the particle "[...] samtidigt tillåter negation av den i frågan och erbjudandet uttryckta implicita negativa propositionen och bejakande av de presupponerade

[9] West-Germanic encompasses, among other varieties, Dutch, English and German.

förväntan" (1988: 102). That is, *jo* in Swedish negates the negative proposition expressed in the question while also affirming a presupposed expectation.

Further, Allwood notes that *jo* is found in responses not only to negative questions but also to negative declaratives and imperative sentences (1988: 101–102). Allwood observes that *jo* can also be used to agree with a preceding positive utterance. He does, however, not provide any examples to illustrate this use (1988: 103). Generally, we can note the scarcity of examples in this study as well as the lack of a clear explication of the methodology used.

Askedal (2001) examines the use of the Norwegian particles *ja*, *nei* and *jo* by comparing the 19th century novel *Mysterier* with its German translation *Mysterien*.[10] According to Askedal, the register used in this book is "typical of modern colloquial speech" (2001: 122).

With regard to *jo*, Askedal notes that this form fulfils different functions depending on its position in the sentence (2001: 144). In sentence initial position, he observes that the particle involves a turntaking (i.e. a new speaker) and is used to object to a preceding negative proposition, which might either be a question or an assertion (2001: 123, 138). According to Askedal, *jo* also turns up in context without apparent negation, which makes its use somewhat obscure (2001: 140). In sentence internal or final position, *jo* functions as a sentence adverb.[11]

Interestingly though, Askedal notes that the particle in Norwegian behaves differently than in Nynorsk or Swedish. Nynorsk, a variety of Norwegian, exhibits two individual forms for the functions covered by *jo* in the corpus: The Nynorsk answer particle is expressed by *jau*, whereas the sentence internal adverb takes the form *jo*. In Swedish, *jo* is used in the function of a polarity-reversing particle, while the sentence internal particle takes the form *ju*. Askedal illustrates this with examples (13) and (14) below.[12]

(13) Nynorsk [nno] (Askedal cf. 2001: 140)

A. *Er han inte rik?*
is he not rich

'Isn't he rich?'

B. ***Jau**, han er sers rik.*
yes.REV he is very rich

'Yes, he is very rich.'

A. *Han er **jo** sers rik.*
he is PTCL very rich

'He is after all very rich.'

[10] Askedal (2001) chose the edition by Hamsun (1996).

[11] The denotation *sentence adverb* might be confusing with regards to the discussion of answer particles (cf. *sentence answer* in Jones 1999: 1–4). On the basis of the discussion around German *doch*, I think a less ambiguous term for Askedal's wording is *discourse particle*.

[12] The interlinear glossing provided in the example is my own.

(14) Swedish [swe] (cf Askedal 2001: 141)

A. *Är han inte rik?*
is he not rich

'Isn't he rich?'

B. ***Jo**, han är mycket rik.*
yes.REV he is very rich

'Yes, he is very rich.'

A. *Han är **ju** mycket rik.*
he is PTCL very rich

'He is after all very rich.'

Svennevig (2001) investigates the use of *ja*, *jo* and *nei*, in contexts, in which they do not serve as answers to polarity questions by means of corpus of spoken Norwegian. He argues that in such contexts, *ja*, *jo* and *nei* function as pragmatic particles. In the data examined, *jo* is found significantly less frequently than *nei* and *ja* (Svennevig 2001: 5–6). According to Svennevig, *jo* "gives the speaker the opportunity of avoiding silence and instead projecting that a preferred turn is under way" (Svennevig 2001: 14). This study shows that, besides being used as an answer particle, *jo* in some contexts can function as a filler word.

2.2.2 Studies on German *doch*

In German research, a number of studies have been devoted to the particle *doch*. It has been observed in the literature that *doch* exercises many different functions (i.a. Hentschel 1986: 124–143). Many studies on *doch* deal with its use as a discourse particle (i.a. Weydt 1969; Borst 1985; Lindner 1991; Graefen 2000; Bárány 2009). Its other uses – particularly its use as an answer particle – have been somewhat neglected. In the following, I present three selected studies that shed light on *doch* with regard to its use as response strategy: van Valin (1975), Hentschel (1986), Karagjosova (2001).

van Valin (1975) examines the use of the particle *doch* in German. In his analysis, van Valin differentiates two forms of *doch*, i.e. an unstressed form and a stressed form.[13] The unstressed *doch* appears sentence internally. Its function is complex and quite different from the stressed *doch* (1975: 14–18, 36–54).

According to van Valin, the stressed form is found sentence initially as well as internally. When it occurs sentence initially, stressed *doch* has the function of a response particle that negates a preceding negative statement or question by asserting the opposite polarity. In this function, van Valin remarks, *doch* reflects an entire utterance, similar to the answer particles *ja* 'yes' and *nein* 'no' (1975: 4). Further, van Valin demonstrates that the use of the response particle *doch* is triggered by a preceding utterance, which is overtly negative or involves an

[13]Note that by *stressed/unstressed* van Valin does not necessarily refer to phonetical stress but rather denotes that the forms are semantically more/less prominent (see van Valin 1975: 89–90, FN6, FN7).

underlying semantic negation. Example (15) illustrates a context with overt negation; example (16) shows a context with underlying semantic negation (cf. *unmöglich* 'impossible').[14]

(15) Deutsch [deu] (cf. van Valin 1975: 3)

A. *Geht das nicht?*
go.3SG that not

'Doesn't that work?'

B. *Doch, das geht.*
yes.REV that go.3SG

'Yes, it works.'

(16) Deutsch [deu] (cf. van Valin 1975: 7)

A. *Das ist unmöglich.*
that is impossible

'That is impossible.'

B. *Doch, das ist möglich.*
yes.REV that is possible

'On the contrary, it is possible'

(17) Deutsch [deu] (cf. van Valin 1975: 16)
Context: A and B are sitting in a car.

A. *Warum bist du bei rot durchgefahren?*
why be.2SG you.2SG with red drive.through

'Why did you run the red light?'

B. *Ich habe es doch nicht gesehen.*
I have it PTCL not see

'I didn't see it, you know.'

When the stressed *doch* occurs sentence internally, it has a similar function as sentence initial *doch* but occurs in somewhat different contexts. According to van Valin, the main difference between sentence initial and sentence internal stressed *doch* is that the former can only contradict a proposition of negative polarity while the latter is used in more situations (1975: 18). Examples (15) and (17) illustrate that, in contrary to sentence initial *doch*, the sentence internal particle can occur in responses that contradict a positive proposition.

In his examination of the uses of stressed and unstressed *doch*, van Valin argues that these forms, although exhibiting different functions, share a common ground: "[…] both relate conflicting propositions of the opposite polarity" (1975: 86). These findings are premised on van

[14]Note that I have slightly adapted the examples from van Valin (1975) for the present purposes and complemented them with interlinear glossings.

Valin's analysis of a collection of examples from spoken German (van Valin 1975: 2). The sources used for his study remain unexplained.

Hentschel (1986) treats the German particles *doch*, *ja*, *halt* and *eben*.[15] She is interested in their use as discourse particles.[16] By means of different methods, she investigates their historical development, meaning and function in German (Hentschel 1986: 11).

Similar to van Valin (1975), Hentschel differentiates the uses of *doch* in terms of a stressed and an unstressed form. According to Hentschel, when the particle is unstressed, it functions as a discourse particle (1986: 124–143). When the particle is stressed, it functions either as an answer particle, a conjunction or an adverb (Hentschel 1986: 123–128). Notwithstanding the stressed/unstressed differentiation, Hentschel assumes a general meaning of *doch*: "Doch drückt einen Widerspruch zwischen zwei Bezugspunkten aus. Zumindest einer von beiden wird dabei als dem Hörer bekannt vorausgesetzt [sic]" (Hentschel 1986: 148). According to this definition, *doch* expresses a contradiction between to points of reference, of which at least one should be known to the interlocutor.

In her historical investigation, Hentschel demonstrates that the form of the particle *doch* goes back to a Proto-Indo-European form **to-u-h* 'DEM-EMP-EMP', made of a deixis (**to*) that is complemented with two enclitics expressing emphasis (**-u* and **-h*). She remarks that the function as an answer particle has only surfaced in the 18th century (Hentschel 1986: 41–46, 119).

Karagjosova (2001) examines the different syntactic applications of *doch* in German, in order to establish the core uses of this particle. Her study is framed in the taxonomy of discourse relations (2001: 4–6). In her analysis, she shows that *doch*, in its function as answer particle, can affirm positive questions but can never negate them. This limitation, she argues, traces back to the pragmatical implications of positive and negative polarity questions in German (2001: 9–10). Karagjosova concludes that *doch*, in all its uses, indicates "the relation of denied expectation" between two discourse entities (2001: 4, 10). As response particle, *doch* expresses a relation between a proposition and the respondent's attitude towards that proposition (2001: 4).

2.2.3 Studies on Dutch *(ja)wel*

In the literature on particles, German and Dutch are repeatedly compared with each other. German *doch* is often discussed together with the Dutch forms *toch* and *wel*. Likewise, the Dutch particle *wel* is treated in light of the German *doch* and *wohl* (see i.a. Abraham 1984; Sassen 1985; Westheide 1985; Zeevat & Karagjosova 2009; Hogeweg 2009; Hogeweg *et al.* 2011; Sudhoff 2012; Foolen 2013). I simply cannot do justice to the numerous contributions to the research of German and Dutch particles.[17] In the following, I present the studies by Hogeweg *et al.* (2011), Hogeweg (2009) and Sudhoff (2012), which seem most relevant to the discussion of polarity-reversing particles. For additional information, I refer to the literature overviews

[15]Providing a translation for these particles is challenging because their meaning is strongly depend on the context.

[16]Hentschel (1986) uses the term *Abtönungspartikel* to refer to the particles' use as discourse markers. In the German literature, discourse marker have been referred as *Abtönungspartikel* 'shading particle', *epistemische Partikel* 'epistemic particles' and *Modalpartikel* 'modal particles' (Bárány 2009: 1).

[17]In particular, I will unfortunately have to leave out a discussion of the Dutch studies Abraham (1984) and Sassen (1985) due to the language barrier.

within the works mentioned here (i.e. Hogeweg 2009: 520–521; Hogeweg *et al.* 2011: 50–51; Sudhoff 2012: 106–112; Foolen 2013: 85–86).

Hogeweg *et al.* (2011) treat German *doch*, Dutch *toch* and *wel* together. In this study, the authors aim to describe the differences between the three particles, assuming, however, a function common to all three particles. Their assumption is that German *doch*, Dutch *toch* and *wel*, all three indicate a disagreement in the presumed, shared knowledge between the conversation participants. They do this in terms of a discourse model based on semantics (Hogeweg *et al.* 2011: 51–52).

Hogeweg *et al.* show that German *doch* corresponds to Dutch *toch* in many of its uses. In three specific cases however, *wel* instead of *toch* is used in Dutch, namely to indicate that a statement is unexpected based on a preceding information, to denote controversy between two statements against a background information (Hogeweg *et al.* 2011: 54–55), or reacting to a negative statement (Hogeweg *et al.* 2011: 52–53). Concerning the function as polarity-reversing particle, Hogeweg *et al.* (2011) refer to a previous examination of *wel* undertaken by Hogeweg (2009).

Hogeweg (2009) deals with the meaning and interpretation of Dutch *wel*. By means of a corpus of spoken contemporary Dutch, she examines the different contexts, in which *wel* occurs. She demonstrates that the particle, in all its uses, functions as a reaction to a negation in the context, i.e. corrects a statement expressed in a previous utterance. She specifies that the "[…] negation in context might be explicitly stated, inferable from the linguistic or non-linguistic context, indicated by world knowledge or it can be a possibility taken into consideration" (Hogeweg 2009: 538). That is the negative context triggering *wel* can be somehow implicit.

Moreover, Hogeweg observes that *wel*, in its different uses, also exhibits different prosodic markings. She notes that there seems to be a relation between the uses of *wel* and its prosodic production: The particle appears with more prominent prosodic cues, the stronger the negation it expresses in an utterance. In order to account for its interpretation in discourse, she anaylzes the findings on the uses of *wel* in terms of Optimality Theory (Hogeweg 2009: 536–538).

The form *jawel*, which has been noted to function as polarity-reversing particle in Dutch, is only marginally discussed. She notes: "*Ja* 'yes' is a confirmative answering particle. Together with *wel* it can be used as a affirmative answer to a negative question (similar to for example *si* in French)" (Hogeweg 2009: 523). She shows with example (18) that *wel* and *jawel* can cooccur. In this case, the disagreement expressed by *wel* is emphasized with *jawel*.

(18) Dutch [nld] (Hogeweg 2009: 523)

A. *Ik kijk niet neer op studenten helemaal niet nee.*
I look not down on students totally not no

'I don't look down on students, not at all, no'

B. *Ja wij kijken wel neer jawel.*
yes we look wel down jawel

'Yes we do look down, yes we do.'

Sudhoff (2012) connects to the discussion of *wel* in Hogeweg (2009). He finds fault with her analysis, because she only looks into the pragmatic properties of the particle's different uses

(see Sudhoff 2012: 112). With his study, Sudhoff aims to develop Hogeweg's approach. For this, he looks into the functions of *wel* and works out the particle's grammatical properties. In order to explain his observations, Sudhoff proposes a syntactic analysis of *wel* based on the theoretical framework of previous studies (2012: 128–132).

Similar to previous studies, Sudhoff discusses *wel* in comparison to German. He notes that Dutch *wel* and German *doch* behave differently. Unlike the German particle, *wel* cannot fulfill the function of an answer particle: "Im Gegensatz zu *doch* […] kann *wel* im Niederländischen – anders als die abgeleiteten Formen *jawel* und *welles* – nicht als Satzäquivalent verwendet werden […]" (Sudhoff 2012: 114). That is, *wel* cannot stand for an entire sentence answer. Sudhoff remarks that only the derived forms *jawel* and *welles* can fulfill this function. This is illustrated in examples (19) and (20).[18] Note that *wel* has been observed to function as answer particles in Hogeweg (2009) (cf. also section 6.1.2).

(19) Dutch [nld] (cf. Sudhoff 2012: 114)

A. *Je hebt het boek vast niet gelezen.*
you.2SG have.2SG the book sure not read

'You haven't read the book for sure.'

B. *Jawel / Welles / **Wel.*
yes.REV yes.REV yes.REV

'Yes, I have!.'

(20) German [deu] (cf. Sudhoff 2012: 114)

A. *Du hast das Buch sicher nicht gelesen.*
you.2SG have.2SG the book sure not read

'You haven't read the book for sure.'

B. *Doch.*
yes.REV

'Yes, I have!.'

2.2.4 Studies on French *si*

In previous studies, the French answer particle *si* 'yes.REV' is treated in light of its counterparts *oui* and *non*. The work by Diller (1984) provides a useful overview of the answer paradigm *oui-non-si* in French. In the literature, there has been a strong interest in investigating the uses of the answer particles. The studies by Wilmet (1976), Platin (1978), Kerbrat-Orecchioni (2001) and Takagaki (2014) focus on the different uses of the answer particles in French. While Wilmet (1976) and Platin (1978) base there research on literary and constructed examples, Kerbrat-Orecchioni (2001) and Takagaki (2014) build their studies on corpora of spoken French. In the following, I present the studies by Diller (1984), Kerbrat-Orecchioni (2001) and Takagaki (2014).

[18]Note that I have slightly adapted the examples from Sudhoff (2012) for the present purposes and complemented them with interlinear glossings.

Diller (1984) deals with the pragmatics of questions and answers in French. She examines, among other things, the illocutionary force of questions in light of the three answer particles found in French: *oui* 'yes', *non* 'no' and *si* 'yes.REV'. According to Diller, *oui* marks agreement and is typically used as an affirmative answer to a positive question. The answer particle *non* 'no' can mark agreement or disagreement depending on the polarity of the questions. Specifically, it expresses disagreement with a positive question and agreement with a negative question. Diller demonstrates that, compared to *oui* and *non*, the answer particle *si* is more restricted in its use (Diller: 76–80). She shows that *si* marks disagreement and is used to negate the proposition of a negative question. In contrast to this, she observes that in French speaking communities of the South of France and North Africa, *si* takes the function of *oui* and, thus, functions as affirmative particle altogether. Diller speculates that this is an influence from surrounding language such as Italian, Catalan and Spanish (1984: 75).

Kerbrat-Orecchioni (2001) investigates the use of *oui*, *si* and *non* by means of data from a corpus of spoken French. She observes that the three particles occur after questions as well as after declaratives. Further, she notes that the distribution of the particles is not as categorical as generally described (2001: 100, 112–114). In examples (21) and (22), *si* expresses disagreement with the proposition in the preceding utterance. Kerbrat-Orecchioni argues that, in responses to questions, the distribution of *si* is highly dependent on the question type (2001: 108–112). She shows that, in particular environments, the particle competes with *oui* and *non*. Although the question in examples (23) and (24) involve negative polarity, it does not trigger *si*.

(21) French [fra] (cf. Kerbrat-Orecchioni 2001: 108)

A. *Est-ce qu'il ne fait pas beau?*
Q=3SG NEG do.3SG NEG nice

'Isn't it (the weather) nice?'

B. *Si, il fait beau.*
yes.REV, 3SG do.3SG nice

'Yes, it is.'

(22) French [fra] (cf. Kerbrat-Orecchioni 2001: 102)

A. *Il ne fait pas beau.*
3SG NEG do.3SG NEG nice

'It (the weather) is not nice.'

B. *Si, il fait beau.*
yes.REV, 3SG do.3SG nice

'Yes, it is.'

(23) French [fra] (cf. Kerbrat-Orecchioni 2001: 111)

A. *Quelle pointure vous faites madame? 38 non?*
Q shoe size you.2SG.POL do.2SG.POL Madam 38 NEG

'What is your shoe size Madam? 38 isn't it?'

B. *Oui / **Si.*
yes yes.REV

'Yes, it is.'

(24) French [fra] (cf. Kerbrat-Orecchioni 2001: 112)

A. *Vous ne retournez jamais en Russie alors?*
you.2PL NEG return.2PL never in Russia then

'You never go back to Russia in that case?'

B. *Oh non non assez souvent.*
oh no no fairly often

'Fairly often actually.'

Takagaki (2014) is a reaction to Kerbrat-Orecchioni (2001). In this paper, Takagaki critizes Kerbrat-Orecchioni (2001) for ignoring the marginal uses of the particle *oui*, *si* and *non*; her aim is to fill this gap. By means of a corpus, Takagaki investigates the non-canonical uses of the three particle (2014: 2918). Her study is framed in the theory of text linguistics (see 2014: 2920). Concerning *si*, she writes that its prevailing function is expressing "[…] une réaction qui va à l'encontre de l'attente (supposée) de l'interlocuteur" (2014: 2919, 2930). That it, the answer particle *si* is a response which goes against the expectation of the discussion partner.

The results from her corpus study reveal that *oui* where *si* should occur is frequent; *non* instead of *si* is also common; *si* instead of *oui* or *non* is however rare (Takagaki 2014: 2919). The particle *si* is substituted by *oui* in contexts, where the question triggers a confirmation rather than an information (2014: 2922–2927). According to Takagaki, *si* can be substituted by *non* in contexts, where the respondent refutes the interlocutor's opinion (2014: 2929). Takagaki notes that a three-way answer paradigm combines yes-no and agree-disagree strategies, the polarity-reversing particle expressing essentially disagreement and only marginally exhibiting a negative/positive polarity value (2014: 2926).

2.2.5 Cross-linguistic Studies

In the literature, polarity-reversing affirmative particles are often discussed along with other common answer strategies. As mentioned in section 2.1, the designation *polarity-reversing affirmative particle* was proposed in Holmberg (2016). In this cross-linguistic study on answer strategies, Holmberg investigates the origin of the differences between answer systems found across languages. His study is framed within formal syntactic theory. Although Holmberg addresses polarity-reversing affirmative particles and even offers some descriptive devices for this answer strategy, he only marginally mentions the phenomenon in relation to Swedish.

To my knowledge, only three additional studies address polarity-reversing affirmative particles from a cross-linguistic perspective: Da Milano (2004), Roelofsen & Farkas (2015) and Moser (2018). In the following, I discuss them in order of appearance.

Da Milano (2004) In this study, Da Milano examines polarity questions as well as answer strategies in languages spoken within the Mediterranean area. Her study is framed in areal typology. Concerning polarity-reversing affirmative answers, she notes that this answer strategy is rare among the languages in the Mediterranean. She observes that French, Provençal and Slovene appear to be the only languages in her sample making use of a polarity-reversing affirmative particle (2004: 30–31, 34). The sample used in Da Milano's study is not specified.

Roelofsen & Farkas (2015) In this paper, Floris Roelofsen and Donka Farkas advance a refined framework to account for the distribution and interpretation of polarity particle responses across languages. Following previous literature, the authors assume that polarity particles encode two types of polarity features, namely absolute and relative polarity (see section 2.1.2). Their framework is embedded in the theoretical background of inquisitive semantics, dynamic semantics and commitment-based models of discourse. According to Roelofsen & Farkas (2015), the particular strength of their framework is that it justifies the use of answer particles in response to interrogative as well as declarative sentences.

By means of their framework, they analyze the answer patterns in English and work out a series of hypotheses about the typology of cross-linguistic answer strategies. The two markedness scales in (25) cover the patterns observed. The absolute markedness scale expresses that the polarity feature [-] is more marked than [+]. In the same line, the relative markedness scale denotes that the polarity feature [REVERSE] is more marked than [AGREE]. According to Roelofsen & Farkas, the marked features are more likely to be expressed by a distinctive form.

The overall markedness scale in (26) conflates the tendencies in (25). Particles expressing the polarity features [AGREE, +] are the least marked. According to Roelofsen & Farkas (2015: 387), [AGREE, +] and [REVERSE, -] form a "natural class". This is why the combinations [REVERSE, -] is not as marked as [AGREE, -]. The polarity features [REVERSE, +] form the most marked combination and, thus, are very likely to be expressed by means of a special form. According to Roelofsen & Farkas's argumentation, "[…] [REVERSE, +] responses involve two sources of markedness: [REVERSE] is marked relative to [AGREE], and [+] is marked because it is contrastive in the presence of [REVERSE]" (Roelofsen & Farkas 2015: 388). This is how Roelofsen & Farkas account for the special status of polarity-reversing particles.

(25) Absolute and relative markedness scales (Roelofsen & Farkas 2015: 387)

a. Absolute polarity: [+] < [-]

b. Relative polarity: [AGREE] < [REVERSE]

(26) Overall markedness scale (Roelofsen & Farkas 2015: 388)
[AGREE, +] < [REVERSE, -] < [AGREE, -] < [REVERSE, +]

Roelofsen & Farkas verify their hypotheses against data from Romanian, Hungarian, French and German.[19] For Romanian, Roelofsen & Farkas specify three particle: a positive particle *da*

[19]Their account builds on two previous studies of the polarity particles *igen* 'yes', *nem* 'no' and *de* 'but, REV' in Hungarian and *da* 'yes', *nu* 'no' and *ba* 'REV' Romanian (Farkas 2009; Farkas 2011).

([+]) of Slavic origin, a negative particle *nu* ([-]) of Latin origin and the particle *ba* of South Slavic origin, which encodes the polarity feature [REVERSE] (2015: 395). The use of *ba* in Romanian depends on wether it responds to a question or an assertion. The particle can express positive as well as negative polarity features, if it is followed by *da* or *nu* respectively. In responses of positive reversal to a question, the bare answer *ba* is used in Romanian (2015: 397).

(27) Romanian [ron] (Roelofsen & Farkas 2015: 397)

A. *Paul nu a telefonat. / Nu a telefonat Paul?*
P NEG did call NEG did call P

'Paul did not call. / Did Paul not call?'

B. *Ba (da) / **Da / **Nu (a telefonat).*
REV yes yes no did call

'Yes, he did.'

(28) Romanian [ron] (Roelofsen & Farkas 2015: 397)

A. *Paul a telefonat.*
P did call

'Paul called.'

B. *(Ba) nu (nu a telefonat).*
REV no NEG did call

'No, he didn't.'

(29) Romanian [ron] (Roelofsen & Farkas 2015: 397)

A. *A Paul telefonat?*
did P call

'Did Paul call?'

B. ***Ba nu / Nu (nu a telefonat).*
REV no NEG did call

'No, he didn't.'

For Hungarian, Roelofsen & Farkas discuss the particle *igen* 'yes', *no* 'no' and *de*, which encodes the polarity feature [REVERSE]. Roelofsen & Farkas note that Hungarian show similar patterns as in Romanian. In [REVERSE, +] responses, *de* can appear alone or can optionally be followed by the positive particle *igen* (2015: 398).

(30) Hungarian [hun] (Roelofsen & Farkas 2015: 398)

A. *Palí telefonált.*
P called

'Paul called.'

B. *De nem / De nem telefonált / **De.*
REV no REV NEG called REV

'No, he didn't.'

(31) Hungarian [hun] (Roelofsen & Farkas 2015: 398)

A. *Palí nem telefonált.*
P NEG called

'Paul did not call.'

B. *De igen / De (igen), telefonált / De.*
REV yes REV yes called REV

'Yes, he did.'

Roelofsen & Farkas observe that, unlike in Romanian and Hungarian, the particles *si* in French and *doch* in German specifically encode the polarity features [REVERSE, +].

Note that, in order to test their presumption about the typology of cross-linguistic answer strategies, Roelofsen & Farkas (2015) examine a sample of only four languages. This is, obviously, insufficient for significant results. Thus, Roelofsen & Farkas's hypotheses needs further testing with a more balanced and representative language sample.

Moser (2018) As mentioned in section 1, for my Magister project at the Department of Linguistics at Stockholm University, I conducted a study on cross-linguistic answer strategies. The goal was to test the validity of the typology proposed in Sadock & Zwicky (1985) and establish some estimates about the frequency and distribution of the types identified. In addition to discussing the typology of cross-linguistic answer strategies, the study revealed some interesting findings with regard to the distribution of polarity-reversing affirmative particles. Specifically, Moser (2018) brought forth that a majority of the languages making use of polarity-reversing affirmative particles belong to the Germanic family. Table 5 shows a list of the languages with polarity-reversing affirmative particle from the data collected in Moser (2018: 23). Table 6 provides a list of the languages with polarity-reversing affirmative particle mentioned in previous studies (Moser 2018: 29).

In Moser (2018), I point out that the Germanic polartiy-reversing forms in table 5 do not suggest to be cognates of some common etymological origin. On the basis of these observations, I speculate that the polarity-reversing function of the particles in the languages examined is a more recent innovation. I also put forth the hypothesis that the non-Germanic languages exhibiting a polarity-reversing particle do so as a result of contact with a neighbouring Germanic language (Moser 2018: 27–29). These assumption are further discussed in section 4.

Table 5: Languages with yes.REV

Affiliation	ISO	Language	REV
Indo-European, Germanic	nld	Dutch	*jawel*
Indo-European, Germanic	deu	German	*doch*
Indo-European, Germanic	swe	Swedish	*jo*
Indo-European, Iranian	fas	Persian	*cerā*
Indo-European, Italic	fra	French	*si*
Uralic, Ugric	hun	Hungarian	*de*

Table 6: Languages with yes.REV according to previous studies

Affiliation	ISO	Language	Source
Indo-European, Slavic,	slv	Slovene	Da Milano 2004: 34
Indo-European, Germanic	dan	Danish	Jones 1999: 37
Indo-European, Germanic	deu	German	i.a. Sadock & Zwicky 1985: 190
Indo-European, Germanic	isl	Icelandic	Sadock & Zwicky 1985: 190
Indo-European, Germanic	nld	Dutch	Jones 1999: 37
Indo-European, Germanic	nor	Norwegian	Jones 1999: 37
Indo-European, Germanic	swe	Swedish	Jones 1999: 37
Indo-European, Italic	fra	French	i.a. Da Milano 2004: 34
Indo-European, Italic	prv	Provençal	Da Milano 2004: 34

2.3 Theoretical Framework

The goal of this study is a synchronic and diachronic investigation of polarity-reversing affirmative particles in languages of Europe (see section 3). For the analysis of cross-linguistic results, I follow principles of general linguistic typology (Croft 2002). Furthermore, this study is framed in areal typology and embedded into the discussion of linguistic areas within Europe (van der Auwera 1998; Dahl 2001; Heine & Kuteva 2006). Areal typology offers a theoretical background for the investigation of linguistic features from a synchronic and diachronic perspective. Dahl defines areal typology as "[...] the study of patterns in the areal distribution of typologically relevant features of languages" (2001: 1457). It thus provides a framework for describing and explaining the distribution of selected features.

A linguistic area is defined as "[...] a number of geographically contiguous languages [that] share structural features which cannot be due to retention from a common proto-language and which give these languages a profile that makes them stand out among the surrounding languages" (Haspelmath 2001: 1492). Traditionally, linguistic areas are referred by the German term *Sprachbund* (Trubetzkoy 1928). One of the linguistic area that has received much attention in the literature is the *Balkan Sprachbund*, which comprises "Greek, Romanian, Albanian, Bulgarian, Macedonian, southeastern dialects of Serbocroatian" (Thomason & Kaufman 1988: 95). In Northern Europe, the Circum-Baltic languages were observed to share a number of distinguishing features (Koptjevskaja-Tamm & Wälchli 2001).

Within Europe, two further linguistic areas are commonly discussed: the *Charlemagne Sprachbund* and the European linguistic area, which is traditionally referred to as *Standard Average European* (Whorf 1941, 1956). According to Haspelmath (2001), Standard Average European comprises the Romance and Germanic languages as well as the Balto-Slavic, Balkan and Finno-Ungrian languages. Beside the designation Standard Average European, Haspel-

math also uses the term "core European languages", which designates a nucleus consisting of West Germanic (i.e. German, Dutch) and Gallo-Romance languages (i.e. French, Occitan) (2001: 1493). The linguistic area in the heart of Central Western continental Europe (including German and French as well as Dutch and Italian in the periphery) is referred as the Charlemagne Sprachbund.

The languages of Standard Average European have been shown to share a dozen of characteristic features, which Haspelmath calls *Europeanisms* (2001: 1493–1504). Most of these Europeanisms are morphosyntactic. Characteristically, they cannot be traced back to a common (Indo-European) origin; they are rather common innovations. According to Haspelmath (2001: 1493), a feature validates as an Europeanism, when the three criteria are met: First, a predominant majority of the core European languages possess the feature. Second, languages, which are adjacent to the core Standard Average European, lack the feature. Further, Eastern Indo-European languages do not exhibit the feature. Finally, the feature is infrequent on a worldwide scale.

An areal typological investigation of a feature might bring forth evidence for one or more linguistic areas. The data presented in this study yield new findings concerning the shared features of Standard Average European. This study is embedded into the discussion of linguistic areas within Europe. Note, however, that the study of linguistic areas is not an endeavor of areal typology. Dahl, in fact, discusses the notion of linguistic area critically (2001: 1457-1458; see also Haspelmath 2001: 1492–1493). The discussion is resumed in section 6.4.

The examination of diachronic language data from this study is framed within comparative linguistics (Beekes 2011) as well as in the framework of contact-induced language change (Thomason & Kaufman 1988; Matras 2007). Language change is understood either as a consequence of internal language processes or as a result of language contact. Language contact leads to contact-induced language change, where one recipient language borrows elements from a donor language. When discussing the effects of language contact, the *borrowability* of categories is often addressed. Matras defines borrowability as "[…] the likelihood of a category to be affected by contact-induced language change of some kind or other" (2007: 31). In other words, some categories are more vulnerable to be borrowed compared to others. This is often reflected in borrowability hierarchies. According to Matras (2007: 57–58), positive answer particles are more likely to be borrowed than negative particles. Contact-induced language change as well as borrowability of answer particles or rather of polarity-reversing affirmative particles is addressed in sections 6.1.2 and 6.2.

2.4 Working Definition

The part of speech examined in this study is referred to a *particle*. According to *The Concise Oxford Dictionary of Linguistics*, the term *particle* is used for "[…] diverse classes of uninflected words in diverse languages. Usually of words that are short, sometimes though not always clitic, and generally not falling easily under any of the traditional parts of speech" (Matthews 2014). Adverbs, adpositions, conjunctions and interjections, which typically do not inflect, are also denoted as particles. In the literature, answer particles are often classified as interjections (Ameka 1992: 9–10).

As mentioned in section 2, Holmberg describes the Swedish particle *jo* as *polarity-reversing affirmative particle* (2016: 6). An example of Swedish *jo* is given in (32). Polarity-reversing affirmative particles typically follow a negative question. They express a positive answer and thereby reverse the polarity of the question. Polarity-reversing affirmative particles disagree with the question which they respond to. According to Roelofsen & Farkas's terminology,

polarity-reversing affirmative particles denote the features [REVERSE, +].

Roelofsen & Farkas have put forth that the polarity particles *ba* in Romanian and *de* in Hungarian primarily express the polarity feature [REVERSE]. In contrast to the polarity-reversing affirmative particle such as *jo* in Swedish, they can be used in negative as well as in positive responses (see section 31). Note, however, that Roelofsen & Farkas have shown that in negative responses the polarity-reversing particles are obligatorily followed by a negative polarity particle (i.e. *ba nu* 'REV no' in Romanian; *de nem* 'REV no' in Hungarian). Further, they discuss this use only in responses to declarative sentences, which will not be addressed in this study (see section 4.4). Example 33 show the polarity-reversing particle in response to a negative question in Romanian.

(32) Swedish [swe] (questionnaire 2018)

A. *Pratar de inte engelska?*
talk.PRS they not English

'Do they not speak English?'

B. *Jo då!*
yes.REV EMP

'Yes, they do!'

(33) Romanian [ron] (cf. Roelofsen & Farkas 2015: 397)

A. *Nu a telefonat Paul?*
NEG did call P

'Did Paul not call?'

B. *Ba (da).*
REV yes

'Yes, he did.'

Note that a polarity-reversing affirmative particle has a counterpart, which equals to a *polarity-reversing negative particle*. Accordingly, such a particle expresses a negative answer and thereby reverses the polarity of the question. Unlike polarity-reversing affirmative particles, polarity-reversing negative particles follow positive questions. Similar to polarity-reversing affirmative particles, they also disagree with the question they respond to. In terms of Roelofsen & Farkas's framework, polarity-reversing negative particles denote the features [REVERSE, -]. This function is usually expresses by particles that are derived from verbal negation and/or that express the feature [-] in general (i.e. *no* in English, *nej* in Swedish, *nu* in Romanian, *nem* in Hungarian). Examples (34) and (35) illustrate – what could be called – polarity-reversing negative particles in German and Romanian.

(34) Swedish [swe] (questionnaire 2018)

A. *Är Anna din syster?*
be.PRS A your.2SG sister

'Is Anna your sister?'

B. *Nej (det är hon inte)*
no it be.PRS she NEG

'No, she isn't'

(35) Romanian [ron] (cf. Roelofsen & Farkas 2015: 397)

A. *A Paul telefonat?*
did P call

'Did Paul call?'

B. *Nu (nu a telefonat).*
no NEG did call

'No, he didn't.'

In this study, I am investigating languages exhibiting a special particle that expresses dissent in responses to negative polarity questions (i.e. [REVERSE, +]). Therefore, I am interested in polarity-reversing affirmative particles, which, for simplicity's sake, I henceforth refer as polarity-reversing particle. This study is, thus, not concerned with polarity-reversing negative particle as described above.

2.5 Summary

Polarity-reversing affirmative particles are a type of answer strategy in Swedish, German, Dutch and French. In Swedish, the polarity-reversing affirmative particle *jo* 'yes.REV' contrasts with *ja* 'yes' and *nej* 'no'. In German, the polarity-reversing affirmative particle *doch* 'yes.REV' contrasts with *ja* 'yes' and *nein* 'no'. In Dutch, the particles *jawel*, *wel* as well as *welles* function as polarity-reversing affirmative answer strategies. They contrast with *ja* 'yes' and *nee* 'no'. In French, the polarity-reversing affirmative particle *si* 'yes.REV' contrasts with *oui* 'yes' and *non* 'no'. Polarity-reversing affirmative particles have a specific function, namely expressing disagreement with a preceding negative question. In Roelofsen & Farkas's framework, this function is described by the polarity features [REVERSE, +].

Previous studies indicate that polarity-reversing affirmative particles are most exclusively a feature of spoken language. Previous literature on Swedish *jo* 'yes.REV' has brought forth that a variant of this polarity-reversing affirmative particle is found across North Germanic languages (i.e. Danish, Norwegian, Icelandic). Studies on German *doch* 'yes.REV' have brought forth that this answer particle is homophonous with a discourse marker. Studies on French *si* 'yes.REV' have examined its non-canonical uses. Previous cross-linguistic studies have, among others, brought forth the hypothesis that polarity-reversing particles are a phenomenon predominantly found in Germanic languages (cf. Moser 2018).

3 Aims and Research Questions

Based on the findings in Moser (2018), Da Milano (2004) and Roelofsen & Farkas (2015), I make the following assumptions on the distribution of polarity-reversing particles: (I) Polarity-reversing particles are a phenomenon predominantly found in Germanic languages. (II) Languages, which do not belong to the Germanic family but nevertheless exhibit a polarity-reversing particle, have been in close contact with one or more Germanic language(s) and taken over the feature from them.

In this study, I investigate the validity of these assumptions. The main goal is to explore the distribution of polarity-reversing affirmative particles, specifically in a European context. The second goal is to collect as much diachronic information as possible about polarity-reversing affirmative particles and offer some initial hypothesis about their evolution. In terms of specific research aims, I seek to explore the following questions:

1. What is the distribution of polarity-reversing affirmative particles within the languages of Europe?
2. Are there languages exhibiting polarity-reversing affirmative particles outside of Europe?
3. What polarity-reversing affirmative particles are there? How similar in form are they?
4. What is the origin and development of the polarity-reversing affirmative forms found in closely related languages in Europe? Specifically, what is the origin and development of Swedish *jo* 'yes.REV', German *doch* 'yes.REV', Dutch *(ja)wel* 'yes.REV' and *si* 'yes.REV' found in French?
5. Do any of the identified forms trace back to a common origin?
6. When did the polarity-reversing affirmative function appear?

In section 4, I go into how I proceed to investigate these research questions.

4 Method and Data

In order to investigate the hypotheses and research questions outlined in section 3, I compiled two datasets: The first dataset consists of synchronic, cross-linguistic language data. By means of this dataset, I investigate the distribution of polarity-reversing affirmative particles and explore research questions 1–3. The second dataset is diachronic in nature and consists of etymological information on polarity-reversing affirmative particles found in Swedish, German, Dutch and French. With this dataset, I wish to gain insight into the diachronic development of the polarity-reversing affirmative forms and explore research questions 4–6.

In this section, I outline the method used to collect the data for this study. In section 4.1, I discuss the language sample compiled for the purposes of this study. In section 4.2, I go into the methods applied to compile the synchronic dataset. In section 4.3, I go into the data sources consulted for the diachronic investigation. In section 4.4, I delineate the scope of this study.

4.1 Language Sample

During the data collection, I aimed at compiling as much cross-linguistic data as possible but focused primarily on language varieties that are spoken within Europe. With my research questions and hypotheses in mind, I specifically concentrated on data from Germanic languages as well as on language families that are geographically adjacent to the Germanic language area or genealogically related to this language group. Due to insufficient or inconclusive material, I excluded certain languages from the final sample (e.g. Luxembourgisch [ltz], Canadian French[20], Kapalo [kui]). The data collection resulted in a convenience sample comprising a total of 101 languages from across the world. A list of all languages in the language sample is given in table 21 (see appendix C).

Following Dryer (1989) and Miestamo (2005), I organize the world-wide language sample into marco-areas. However, due to my specific research goals, I have chosen to divide Eurasia into Europe and Asia. My resulting seven (instead of Dryer's and Mietamo's six) macro-areas are: *Europe*, *Asia*, *Africa*, *Southeast Asia & Oceania*, *Australia-Papua New Guinea*, *North America* and *South America*. In this study, the designation *Europe* denotes western Eurasia, including Iceland and the British Isles. To the east, the Ural Mountains, the Caucasus Mountains, the Black and Caspian sea are typically considered to be the boundary between Europe and Asia. To the south, the Mediterranean sea constitutes the boarder. Table 7 shows the total sample arranged according to the seven areas.

The European sample, which is used to answer research questions 1–2, is based on the definition of *Europe* given above as well as the criteria in van der Auwera (1998: 11), Haspelmath (2001) and Heine & Kuteva (2006: 3). Table 9 shows the European sample with regard to language families. Turkey is usually counted as part of Europe; note that in this study Turkish [tur], Azerbaijani [azj] and Lezgian [lez] are included in the European sample. Malta is also considered to be part of Europe; the Semitic language Maltese [mlt] is included in the European sample (cf. Haspelmath 2001). Creole languages are categorized with respect to the geographical location of the speech community. That is Afrikaans [afr], Bislama [bis] and Haitian Creole [hat] are not included in the European sample. The same applies to Brazilian Portuguese [por-BRA].

[20] The designation *Canadian French* is used here as an umbrella term for the French varieties spoken in Canada, including Franco-Ontarien [fran1263] and Québécois [queb1247].

Table 7: Total synchronic dataset arranged according to seven macro-areas

Area	**Number of languages**
Europe	51
Africa	11
Asia	10
Southeast Asia & Oceania	10
North America	7
Australia-Papua New Guinea	6
South America	6
Total	**101**

The European sample comprises a total of fifty-one languages. The language families included are Afro-Asiatic (i.e. Maltese [mlt]), Indo-European, Kartvelian, Nakh-Daghestanian, Turkic, Uralic and isolate languages (i.e. Basque [eus]). Note that the sample is not stratified. The organization of the synchronic data is given in table 22 (see appendix D).

Table 8: European language sample arranged according to language families

Affiliation		**Number of languages**
Afro-Asiatic	Semitic	1
Indo-European	Albanian	1
	Celtic	4
	Eastern Baltic	2
	Germanic	13
	Graeco-Phrygian	1
	Italic	11
	Slavic	8
Isolate		1
Kartvelian		1
Nakh-Daghestanian	Lezgic	1
Turkic	Oghuz	2
Uralic	Finnic	2
	Permian	1
	Saami	1
	Ungric	1
Total		**51**

4.2 Synchronic Data Collection

The synchronic dataset was collected through different stages and by means of different methods. In the following sections, I go through the stages of the data collection and discuss the methods used in this study.

4.2.1 Reference Grammars

One part of the data was collected through consultation of reference grammars. Among typologists, reference grammars constitute a popular data source for cross-linguistic studies. They are fairly easily accessible and economical sources of language data. However, answer strategies to polarity questions, let alone polarity-reversing affirmative particles, are rarely discussed in grammars. The lack of language data on polarity-reversing affirmative particles constitute a challenge for this study. For this reason, I also turned to additional methods of data collection.

4.2.2 Linguistic Mailing Lists

Another part of the data was obtained through a query about polarity-reversing affirmative particles sent out through three linguistic mailing lists: *LingTyp*, *Funknet* and *LINGUIST List*.[21] This method allowed me to get in contact with language experts working within the field of linguistics and obtain first hand language data. Table 20 gives insight into the answers obtained through the query post (see appendix A). In addition to language examples, I also received literature suggestions. For completeness sake, the language data from the query responses was subsequently complemented with at least a second source.

4.2.3 Translation Questionnaire (2018)

Part of the data for this study was taken over from a previous study. In Moser (2018), I investigated the cross-linguistic answer strategies to polarity questions, for which I used a translation questionnaire. This method allowed a systematic and time-effective data collection. The data from this questionnaire (2018) comprises information on answer strategies to positive and negative questions. Since part of the data covers polarity-reversing affirmative answer strategies, it is also useful for this study. The questionnaire (2018) yielded data for twenty-eight languages.

4.2.4 Translation Questionnaire (2019)

Since the translation questionnaire (2018) had been an effective method in Moser (2018), it was also used in this study. The layout of the questionnaire (2019) is based on the questionnaire (2018): The questionnaire (2019) also contains a section for participants' information and a clause stating how the personal data is managed. Along with the elicitation part, it includes instructions and a section for comments.

For the purposes of this study, the questionnaire (2019) was however adapted in several ways with regard to the questionnaire (2018). First, the questionnaire (2019) is designed with the focus on the elicitation of polarity-reversing particles in specific. For the most part, the form of the questions in the questionnaire (2019) is premised on examples in Roelofsen & Farkas (2015). Each question is introduced with a context. Further, the questionnaire is made deliberately shorter. Instead of 11 questions (cf. questionnaire 2018), it contains 6 questions. In an attempt to make the task clearer, the instructions are supplemented with an example. In this regard, potentially confusing symbols are also replaced.[22] Lastly, for a more transparent assessment of participants' language knowledge, a section for the specification of the linguistic background is added.

[21]For more information, visit LINGUIST List at https://linguistlist.org/lists/, accessed 2019-05-01.

[22]Bernhard Wälchli brought to my attention that a checkmark symbol is ambiguous, because it expresses distinct concepts in different cultures (cf. questionnaire 2018).

I distributed the questionnaire via e-mail to selected institutions and approached language experts with different linguistic backgrounds at Stockholm University. The process of getting in touch with language consultants and eliciting data by means of the translation questionnaire required a high level of self-initiative. The advantage of this methods, which was a crucial issue for this study, is that it allowed for a specified elicitation of language material. The questionnaire (2019) yielded data material for nineteen languages.

4.3 Diachronic Data Collection

For the collection of the diachronic data on polarity-reversing affirmative particles, I consulted etymological dictionaries along with historical grammars. For North Germanic, my main sources are Hellquist (1980), Jakobsen (1921), Jóhannesson (1956) and Vries (1961). For the sake of completeness, I also consult Lindén (1886) and Kock (1895). Concerning West Germanic, my main sources for German are Grimm (1860), Seebold (2011) and Pfeifer (1989a). For Dutch, I additionally consult the etymological dictionaries by Philippa *et al.* (2009), Vries (1992) and Franck & van Wijk (1912). For French, my main sources are Bloch & Wartburg (1950), Dauzat *et al.* (1969), Godefroy (1892) and Rey (1995). These sources are further complemented by Ernout & Meillet (1951) and van der Voort (2004) for Latin forms. For Proto-Indo-European froms, I consult Pokorny (1959) and Beekes (2011).

Etymological dictionaries and historical grammars are valuable sources of information about the origin and development of specific linguistic forms. A difficulty faced during the examination of the historical data was the rather confusing abbreviations used as well as the obscure forms provided in certain sources. For the consultation of Dutch etymologies, the language was a challenge. To overcome these challenges, I consulted supplementary sources.

4.4 Scope of the Study

In this section, I delineate the scope of this study by specifying the type and extent of the analysis. The synchronic dataset compiled for this study is a convenience sample. Due to my research goals, it is biased towards languages spoken within Europe, in particularly towards the Germanic language family. Moreover, it is also influenced by the specific search for languages with polarity-reversing affirmative particles. In this study, collecting as much data as possible on the phenomenon under study is judged more valuable than constructing a stratified sample. Nevertheless phylum diversity was taken into account during data collection. In this sense, it is important to make clear that I do not aim to provide any statistical claims about the cross-linguistic or areal frequency of polarity-reversing particles. My goal is to explore the distribution of polarity-reversing particles within Europe, in order to shed light on the validity of the hypotheses (see section 3).

Furthermore, I contrain this study to the investigation of polarity-reversing affirmative particles used in response to negative polarity questions. I do not investigate the use of the particle in the individual languages discussed in this study. These are research topics for future research.

The historical data analysis is delimited to four polarity-reversing forms: Within the North Germanic branch, I look into the origin and development of the particle *jo* found in Swedish [swe]. Within the West Germanic, I examine the etymology of German *doch* and Dutch *(ja)wel*. Outside of Germanic, I look into the origin and development of the polarity-reversing form *si* in French.

5 Results

The material collected for this study consist of two different sets: The first dataset contains synchronic language data, while the second dataset comprises diachronic language information. They were compiled to answer the research questions in section 3.

In this section, I present the results from the analysis of the data contained in appendix E. Section 5.1 covers the results from the synchronic investigation. For a visual representation of the results presented below see the online map. In section 5.2, I present the results from the diachronic investigation. In section 5.3, I offer a summary of the findings from this study.

5.1 Synchronic Investigation

The language sample examined in this section comprises data from a total of 101 languages from across the world. For the purposes of this study, a subset of the data is organized into a European sample (see section 4.1; cf. also table 22 in appendix D). In section 5.1.1, I present the analysis of the data in the European sample. In section 5.1.2, I delineate the results gained from examining the entire language sample. Section 5.1.3 treats the polarity-reversing forms documented in this study.

5.1.1 Distribution within Europe

Table 9: European sample (number of languages per family)

Affiliation		**Number of languages**		**Total**
		with REV	**without REV**	
Afro-Asiatic	Semitic		1	1
Indo-European	Albanian	1		1
	Celtic	1	3	4
	Eastern Baltic		2	2
	Germanic	12	1	13
	Graeco-Phrygian		1	1
	Italic	5	6	11
	Slavic	1	7	8
Isolate			1	1
Kartvelian		1		1
Nakh-Daghestanian	Lezgic		1	1
Turkic	Oghuz		2	2
Uralic	Finnic		2	2
	Permian		1	1
	Saami	1		1
	Ungric	1		1
Total		**23**	**28**	**51**

Table 9 illustrates the European language sample. The languages are arranged with regard to language families represented in the sample. In order to show the distribution of polarity-reversing particles, the languages are arranged with regard to whether they exhibit a polarity-reversing particle (third column from the right) or not (second column from the right). The

Table 10: European sample (languages per language family)

Affiliation		**Languages with REV**	**Languages without REV**
Afro-Asiatic	Semitic		[mlt]
Indo-European	Albanian	[sqi]	
	Eastern Baltic		[lav], [lit]
	Celtic	[bre]	[cym], [gla], [gle]
	Germanic	[dan], [nld], [ovd], [fao], [frr], [deu], [isl], [nob], [nno], [swe], [gsw], [wae]	[eng]
	Graeco-Phrygian		[ell]
	Italic	[ron], [roh], [fra], [oci], [prv]	[ita], [cos], [cat], [glg], [por-PRT], [spa]
	Slavic	[slv]	[bos], [bul], [hrv], [ces], [mkd], [pol], [srp]
Isolate			[eus]
Kartvelian		[kat]	
Nakh-Daghestanian	Lezgic		[lez]
Turkic	Oghuz		[azj], [tur]
Uralic	Finnic		[ekk], [fin]
	Permian		[udm]
	Saami	[sma]	
	Ungric	[hun]	
Total		**23**	**28**

rightmost column gives the total amount of languages per language family. The European sample comprises a total of fifty-one languages. Table 9 shows that twenty-three languages exhibit a polarity-reversing particle, while a total of twenty-eight languages show no evidence for this type of answer strategy.

Table 10 reflects the information from table 9 but gives further insight into the languages within each family. The data indicate that a proportionally high number of languages with polarity-reversing particle belong to the Germanic and Italic group. Table 10 shows that only one out of thirteen Germanic languages does not have a polarity-reversing particle. Put differently, English [eng] is the only language in the Germanic family, which does not have a polarity-reversing particle.

In the Italic group, five out of eleven languages exhibit a polarity-reversing particle (cf. tables 9 and 10). Table 11 provides a list of all Italic languages in the sample that make use of a special polarity-reversing form. Compared to French [fra], Occitan [oci] and Provençal [prv], Romanian [ron] and Romansh [roh] stand out with respect to the form of the polarity-reversing particle. Unlike French, Occitan and Provençal, Romanian and Romansh are spoken within the border of France. Further, Romanian is the only language in the group not belonging to the Italo-Western Romance branch.

Table 12 provides a list of the Italic languages that lack a special polarity-reversing form. For more geographical information, the second column from the left in table 12 provides the country code in addition to the language code (cf. online map). Comparing tables 11 and 12,

Table 11: Italic languages with yes.REV

Affiliation	Country-ISO code	Language	yes.REV form
Eastern Romance	ROU - ron	Romanian	ba
Italo-Western Romance	CHE - roh	Romansh	bagn
	FRA - fra	French	si
	FRA - oci	Occitan	si
	FRA - prv	Provençal	si

Table 12: Italic languages without yes.REV

Affiliation	Country-ISO code	Language
Italo-Western Romance	ESP - cat	Catalan
	ESP - glg	Galician
	ESP - spa	Spanish
	ITA - ita	Italian
	PRT - por	Portuguese
Southern Romance	FRA - cos	Corsican

the data suggest that four out of nine languages belonging to the Italo-Western Romance family exhibit a polarity-reversing particle. The Southern Romance group is represented by one language only (i.e. Corsican [cos]).

Within the Italic language family, the data is indicative of a North-South distribution: Compared with the Italo-Western Romance languages spoken in France and Switzerland, the Italic languages of southern Europe (i.e. Italy, Spain, Portugal) show no evidence for polarity-reversing affirmative particles. Note that the Isolate Basque [eus], which is spoken in France [FRA] and Spain [ESP] (Hammarström *et al.* n.d.), does not make use of a special polarity-reversing form either.

Considering tables 9 and 10, the data furthermore expose an interesting pattern in Western Europe. Within the Celtic family, Breton [bre] is the only language exhibiting a polarity-reversing affirmative particle. In fact, Breton exhibits several forms that have this function: *geo*, *eo*, *neo* and *deo* (cf. table 23 in appendix E). Example (36) illustrates the particle *eo* in Breton.

(36) Breton [bre] (Goyat 2012: 284)

Q. *Ne teufint ket ?*
NEG come.3PL NEG

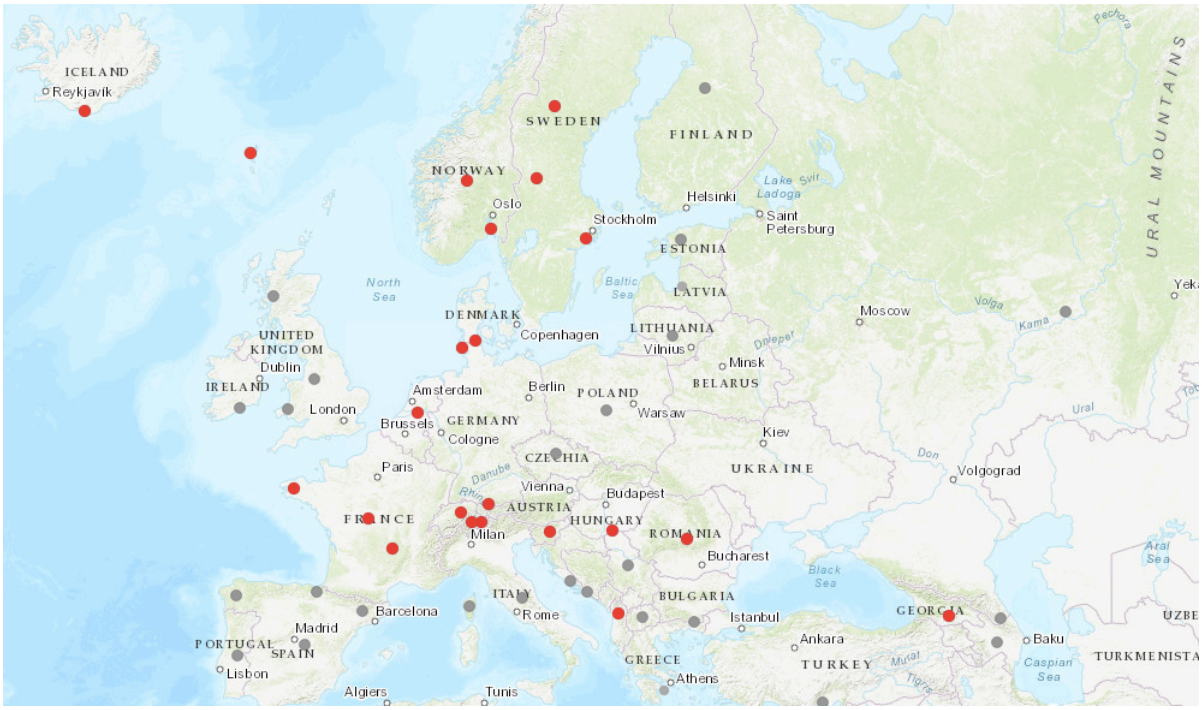
'Will they not come?'

A. *Eo.*
yes.REV

'Yes, they will.'

Note that Breton is geographically separated from the other Celtic languages. While Welsh [cym], Scottish Gaelic [gla] and Irish [gle] are spoken on the British Isles off the North Western coast of continental Europe, Breton is spoken in Brittany in North Western France (i.e. continental Europe). Note further that the converse is observed with English [eng] spoken on the

British Isles. Table 10 indicates that it is the only language within Germanic, which does not exhibit a polarity-reversing particle. Breton [bre] and English [eng] are both geographically separated from their closest relatives; they also both behave differently than their relatives with regard to the use of polarity-reversing particles.



red = yes.REV, grey = no yes.REV

Figure 1: Distribution of polarity-reversing affirmative particles in Europe

Figure 1 illustrates the distribution of polarity-reversing particles in Europe (cf. tables 9 and 10). The results from the synchronic investigation suggest that polarity-reversing particles are not as prominent in languages of Eastern Europe as they are in Western Europe. There is no manifestation of polarity-reversing particles in languages belonging to the Eastern Baltic (i.e. Latvian [lav] and Lithuanian [lit]), Graeco-Phrygian (i.e. Greek [ell]), Nakh-Daghetanian (i.e. Lezgian [lez]) nor Turkic family (i.e. Azerbaijani [azj] and Turkish [tur]). Within the Slavic group only Slovene [slv] exhibits a polarity-reversing particle. Bosnian [bos], Bulgarian [bul], Croatian [hrv], Czech [ces], Macedonian [mkd], Polish [pol] and Serbian [srp] do not manifest polarity-reversing particles.

The data in table 10 is indicative of an East-West distribution: the farther to the East, the fewer languages exhibit a polarity-reversing particle. While South Saami [sma] and Hungarian [hun] exhibit a polarity-reversing particle, Estonian [ekk], Finnish [fin] and Udmurt [udm] do not make use of such a particle. Two languages that stand out in Eastern Europe in this regard are Albanian [sqi] and Georgian [kat]. Both of these languages show evidence for answer particles with a polarity-reversing function.

Summarizing, the data in the European sample indicate some clear areal patterns. Most strikingly, polarity-reversing particles appear to be more prominent in Western than in Eastern Europe. A recapitulation of the findings presented in this section is given in section 5.3. A discussion of the results is found in section 6.1.1. In the next section, the analysis of the data from languages spoken outside Europe is presented.

5.1.2 Distribution across the World

Table 13 provides an overview of the data on polarity-reversing affirmative particles collected for this study. The data is arranged with regard to the number of languages exhibiting polarity-reversing particles (third column from the right). The rightmost column in table 13 gives the total number of languages per area. Note that the figures in table 13 do not show estimation for cross-linguistic preferences. These figures merely give the reader an idea of the distribution of the data investigated in this study. Table 13 shows that in the data collected for this study a total of thirty languages have a polarity-reversing affirmative particle, whereof twenty-three languages are spoken in Europe. Outside of Europe, a total of seven languages show a polarity-reversing affirmative particle.

Table 13: Total synchronic data (number of languages per area)

Area	**Number of languages**		**Total**
	with REV	**without REV**	
Africa	3	8	11
Australia-Papua New Guinea	2	4	6
Asia	1	9	10
Europe	23	28	51
North America	1	6	7
South America		6	6
Southeast Asia & Oceania		10	10
Total	**30**	**71**	**101**

Table 14 provides a list of the seven languages that exhibit a polarity-reversing particle outside Europe. Two of them belong to the Afro-Asiatic language family, namely Arabic [arb] and Tigrinya [tir]. The polarity-reversing forms in these two languages do neither show a striking similarity with one another, nor with other forms attested in the European languages. Example (37) illustrate the polarity-reversing particles found in Tigrinya.

(37) Tigrinya [tir] (Leslau 1962: 148)[23]

Q. *səbaḥ* *aytəmäṣṣə'ən* *dixa?*
tomorrow come.NEG #

'Will you not come tomorrow?'

A. *əmäṣṣə'* *'əbba.*
come yes.REV

'Yes (lit. I will come on the contrary)'

According to Samia Naïm (p.c. 2019-01-24), the Arabic [arb] form *bala* is used as polarity-reversing response in Eastern varieties such as "Lebanese, Syrian and Palestinian". Note that *bala* does not appear in Iraqi Arabic [acm], where there is no evidence for such a particle in

[23] Leslau (1962) does not provide interlinear glossed examples. I have added interlinear glossings as far as the information was available to me.

Table 14: Languages with yes.REV outside Europe

Affiliation	Code	Language	REV form	Source
Afro-Asiatic	arb	Arabic	*bala*	query response (2019)
Afro-Asiatic	tir	Tigrinya	*ʔɔbba*	Leslau 1962; questionnaire (2018)
Austronesian	nfl	Aïwoo	*bä*	query response (2019); Næss 2017
Eskimo-Aleut	kal	West Greenlandic	*naagga*, *naaggaluunniit*, *ila(ana)*	Fortescue 1984: 21–22
Indo-European	afr	Afrikaans	*wel*	Donaldson 1993: 417
Indo-European	bis	Bislama	*si*	Crowley 2004: 147–150; query response (2019)
Indo-European	fas	Persian	*cerā*	Mace 2003: 145f; query response (2019)

the data collected.[24] Example (38) shows the answer strategy *bala* in a response to a negative question. Example (39) illustrates an answer to a negative question in Iraqi Arabic.

(38) Arabic [arb] (query response 2019)

Q. *Baʕd-ak mā tɣaddajt?*
still-you NEG have.lunch.2SG.M.PRF

'Haven't you eaten yet?'

A. *Bala.*
yes.REV

'Yes, I have.'

(39) Arabic [acm] (questionnaire 2019)

Q. *Ma dafe´ al-fatoreh?*
NEG pay.SG.M.PRF DEF-bill

'Have you not paid the bill?'

A. *La dafe´-he!*
no pay.SG.M.PRF-it

'Yes, I have!'

In the Austronesian language Aïwoo, the form *bä* functions as polarity-reversing particle in responses to positive as well as negative questions. This is illustrated in examples (40) and

[24]The data stem from one native speaker of Iraqi Arabic and was collected through the questionnaire (2019).

(41).[25] According to Åshild Næss, *bä* constrast with the negative particle *ba* 'no, NEG' (Åshild Næss, p.c. 2019-01-07).[26] In his dictionary of Aïwoo, Næss notes three forms corresponding to English 'yes': *ee*, *bä* and *ngââ* (Næss 2017: 203). The latter appears to be the affirmative particle corresponding to 'yes' (see Næss 2017: 92).

(40) Aïwoo [nfl] (query response 2019)

Q. *Mu-waamou?*
2MIN-quarrel

'Did you argue?'

A. *Bä, ba me-waamou=gu*
REV NEG 1AUG-quarrel=NEG

'No, we didn't argue.'

(41) Aïwoo [nfl] (query response 2019)

Q. *Ba-ngä mi-ku-wä ngä stoa?*
NEG-yet 2MIN-IPFV-go to store

'Haven't you gone to the store yet?'

A. *Bä, i-wä=to*
REV 1MIN-go=ASP

'Yes, I've gone.'

West Greenlandic exhibits two forms that function as polarity-reversing particle in responses to polarity questions. Fortescue (1984) notes that *naagga* and the more emphatic form *naaggaluunniit* reverse the polarity of the question they respond to. Thus, in West Greendlandic, *naagga* and *naaggaluunniit* function as a negative answer to a positive question, and vice versa, as a positive answer to a negative question. Example (42) shows *naagga* in a response to a negative question. Unfortunately, Fortescue does not provide examples to illustrate *naagga* in response to a positive question, nor to demonstrate the use of *naaggaluunniit* (1984: 21).

Besides the forms *naagga* and *naaggaluunniit*, Fortescue further mentions the form *ila(ana)*, which functions as "special construction for strong affirmation" (1984: 22). This is illustrated in example (43), where it is used as an answer to a positive question. This form can occur together with a complement or as a stand-alone answer. It appears in responses to polarity questions as well as declarative statements. From the description given by Fortescue, it is unclear whether this form can also be used in answers to negative questions.

[25]The terminology *minimal* (MIN) and *augmented* (AUG) denote a specific pattern found in Aïwoo's pronoun system, which cannot be described adequately by means of the categories singular/plural (see Næss 2017: 10).

[26]See also Næss 2017: 20, 21.

(42) West Greenlandic [kal] (Fortescue 1984: 21)

Q. *aningaasa-ati-ga-nngil-atit?*
money-ALIEN-have-NEG-2SG.INTER

'Don't you have any money?'

A. *naagga (pigar-punga).*
no have-1SG.IND

'Yes (I do).'

(43) West Greenlandic [kal] (Fortescue 1984: 22)

Q. *taku-iuk?*
see-2SG.3SG.INTER

'Did you see it?'

A. *ila(ana)r-piuk / ilaana*
ila(ana)r-2SG.3SG.INTER AFF.EMP

'You bet I did.'

Persian is the only language in Eurasia outside of Europe exhibiting a polarity-reversing particle (cf. tables 13 and 14). Example (44) illustrates the use of the particle *cerā* in Persian.

(44) Persian [fas] (query response 2019)

Q. *Na-raf-t-i?*
NEG-go-PST-2SG

' Didn't you go (there)?'

A. *Cerā.*
yes.REV

'Yes, I did.'

Afrikaans and Bislama show a polarity-reversing particle. These creole languages have a somewhat special status since they are spoken outside of Europe but are closely related to Indo-European languages.

Summarizing, the data reveals that seven languages have been recorded to exhibit polarity-reversing affirmative forms outside of Europe. A discussion of the data presented in this section is found in section 6.1.2. The next section goes into the data on polarity-reversing affirmative particles documented in the language sample (cf. table 23 in appendix E).

5.1.3 Polarity-reversing Affirmative Forms

Table 15 contains the thirty polarity-reversing forms documented in the synchronic dataset (see table 13, appendix E). The data in table 15 is arranged alphabetically with respect to the polarity-reversing form(s) (cf. rightmost column). This layout brings forth interesting patterns, which are highlighted with bold print.

A striking pattern is found in the North Germanic group. The data in table 15 shows that the polarity-reversing affirmative particles found in Danish [dan], Norwegian [nob], Nynorsk [nno], Swedish [swe], Elfdalian [ovd], Faroese [fao] and Icelandic [isl] show a high degree of affinity. Furthermore, the particles *juo, joo, jaa* 'yes.REV' in South Saami [sma] (Uralic) also show great similarity to the forms found in North Germanic languages.

Two further interesting patterns are observed in the West Germanic group. The data suggest that Walser German [wae], Frisian [frr] and German [deu] all exhibit a polarity-reversing form *doch* 'yes.REV'. The languages Dutch [nld] and Afrikaans [afr] both make use of *wel* 'yes.REV'.

Note also the similarity in form in the Western Romance languages. French [fra], Occitan [oci] and Provençal [prv] all exhibit a polarity-reversing form *si*. Furthermore, the polarity-reversing particle documented for the creole Bislama [bis] is formally identical.

Table 15: Polarity-reversing affirmative forms from dataset

Affiliation	Language	Code	Form(s)
Aïwoo	nfl	Oceanic	*bä*
West Greenlandic	kal	Greenlandic	*naagga, naaggaluunniit, ila(ana)*
Romanian	ron	Italic, Eastern Romance	*ba*
Romansh	roh	Italic, Western Romance	*bagn*
Arabic	arb	Semitic	*bala*
Persian	fas	Iranian	*cerā*
Hungarian	hun	Ungric	*de*
Walser	wae	**West Germanic**	***doch, mol***
Frisian	frr	**West Germanic**	***doch***
German	deu	**West Germanic**	***doch***
Breton	bre	Celtic	*geo, eo, neo, deo*
Nynorsk	nno	**North Germanic**	***jau***
Danish	dan	**North Germanic**	***jo***
Norwegian	nob	**North Germanic**	***jo***
Swedish	swe	**North Germanic**	***jo***
Faroese	fao	**North Germanic**	***jú(s)***
Elfdalian	ovd	**North Germanic**	***ju(u)***
Icelandic	isl	**North Germanic**	***jú***
South Sami	sma	Saami	*juo, joo, jaa*
Georgian	kat	Kartvelian	*k'i*
Swiss German	gsw	West Germanic	*mou*
Slovene	slv	Slavic	*pàč*
Albanian	sqi	Albanian	*posi*
Bislama	bis	West Germanic	*si*
French	fra	**Italic, Western Romance**	***si***
Occitan	oci	**Italic, Western Romance**	***si***
Provençal	prv	**Italic, Western Romance**	***si***
Dutch	nld	**West Germanic**	***wel, jawel, welles***
Afrikaans	afr	**West Germanic**	***wel***
Tigrinya	tir	Semitic	*ʔəbba*

The analysis of the polarity-reversing affirmative particles indicates that certain languages and language groups share a similar form. In the next section, the results from the diachronic investigation of the polarity-reversing forms found in North Germanic, West Germanic and Western Romance are reported. The findings about the polarity-reversing affirmative forms are discussed in section 6.3.

5.2 Diachronic Investigation

In section 5.1.3, it was noted that within three language groups the polarity-reversing forms show a high degree of similarity (cf. table 15). Especially within the North Germanic data, the polarity-reversing particles seem to be cognates. In West Germanic, German [deu], Frisian [frr] and Walser [wae] are found to exhibit the polarity-reversing form *doch*. Further, Afrikaans [afr] and Dutch [nld] both show the form *wel*. In Western Romance, French [fra], Occitan [oci], Provençal [prv] all exhibit the polarity-reversing form *si*.

In this section, I present the results from the diachronic investigation of selected polarity-reversing forms highlighted in section 5.1.3. Specifically, section 5.2.1 covers the analysis of Swedish *jo*. The analysis of German *doch* and Dutch *(ja)wel* is presented in section 5.2.2. Section 5.2.3 treats the origin and development of French *si*. The etymological data collected for the diachronic investigation is included in appendix E.[27]

5.2.1 North Germanic: Swedish *jo*

Table 24 contains the etymological data collected for the polarity-reversing particles found in North Germanic (see appendix E). The data from the diachronic investigation suggest that the Swedish [swe] polarity-reversing form *jo* as well as its cognates developed from or along with the affirmative particle *ja*, which is found throughout the Germanic language family (Lindén 1886: 237). Vries indicates that the Breton form *ya* also appears to be related to the Germanic *ja* (1961: 291).

According to Hellquist (1980: 419), the origin of the Swedish particle *jo* is controversial. He presents three alternative developments: One hypothesis is that *jo* derived from an unstressed variation of Early Modern Swedish *jå* 'yes'. Another hypothesis is that *jo* developed from an apophony of the affirmative particle *ja* 'yes'. More unlikely, he notes, is that *jo* is a loan from Middle Low German *io*. Table 16 contains the forms related to Swedish *ja* and *jo*. Note that for Old Swedish, Hellquist mentions the forms *ia, iā* 'yes' (1980: 416).

Table 17 illustrate the development of Old Norse *jaur* 'yes, surely' according to Vries (1961: 291). The data show that Swedish *jo* might trace back to the Old Norse particle. In Vries (1961), in addition to *jaur* 'yes, surely', Old Norse is shown to exhibit the forms *ja* 'yes' and *júr* 'yes.EMP'. Vries suggests that both *jaur* and *júr* have a somewhat more emphatic meaning compared to *ja* (1961: 289, 291, 294).

Vries further specifies that *jaur* consists of *jau* 'yes' plus a suffixed element *-r* with emphatic meaning (1961: 291). Two potential origins for *-r* are mentioned in Vries (1961): One hypothesis is that the suffix *-r* is a derivation related to Ancient Greek *ara, ar, ra* 'surely'. This hypothesis is suggested by Lindén (1886: 237). Another view is that this suffix actually

[27]Note that the sources consulted for the diachronic study follow different writing conventions, which are often not properly introduced or explicitly discussed. The historical forms found below are reported as they are given in the sources.

Table 16: Forms related to *ja* and *jo* according to Hellquist (1980)

Affiliation	Language	Attested Form(s)	Source
East Germanic	Gothic	*ja, jai*	Hellquist 1980: 416
North Germanic	Old Swedish	*ia, iā,*	Hellquist 1980: 416
	Early Modern Swedish	*jå*	Hellquist 1980: 416
	Swedish	*ja*	Hellquist 1980: 416
	Swedish	*jo*	Hellquist 1980: 419
	Danish	*ja*	Hellquist 1980: 416
	Icelandic	*já*	Hellquist 1980: 416
West Germanic	Old English	*geá*	Hellquist 1980: 416
	English	*yea*	Hellquist 1980: 416
	Old Saxon	*jâ*	Hellquist 1980: 416
	Middle Low German	*io*	Hellquist 1980: 419
	Old High German	*jâ*	Hellquist 1980: 416
	German	*ja*	Hellquist 1980: 416

Table 17: Development of Old Norse *jaur* 'yes, surely' according to Vries (1961: 291)

Language	Form
Old Norse	*jaur* 'yes, surely'
Swedish	*já*, *jo*, *jauv*, *jöuv*
Danish	*jo*
Nynorsk	*jau*, *jaug*, *jo*

traces back to the form *(-)er* 'is', i.e. the third person singular of Old Norse *vera* 'to be'. This hypothesis is suggested by Kock (1895: 346).

Lindén speculates that the Proto-Germanic form **jă* is derived from the neuter form of the Proto-Germanic pronoun **jas*, **jô*, **ja* (1886: 236). He specifies that these forms are related to Proto-Indo-European **jos*, **jâ*, **jod* 'REL' (cf. Pokorny 1959: 283; Beekes 2011: 231). A similar origin is also proposed for Icelandic *já* in Jóhannesson (1956: 97). In the German literature, Grimm also assume a pronominal origin of German *ja* (1877: 2187).

The findings about the origin of the polarity-reversing affirmative particles found in North Germanic languages are discussed in section 6.3 below.

5.2.2 West Germanic: German *doch* and Dutch *wel*

The following section covers the findings from the diachronic investigation of the polarity-reversing particles found in German and Dutch.

German *doch* Table 25 illustrates the etymological data collected for German *doch* as well as related cognates within the North and East Germanic language group. The etymological sources generally agree that the particle *doch* developed from Old High German *doh*, *thoh*, *thō*, which derives from a Germanic form **þauh* (Seebold 2011: 208; Pfeifer 1989a: 294–295; Grimm 1860: 1200). Note the cognates *þáu, þauh* in Gothic and *þō* in Old Norse in table 25.

Pfeifer argues that the form **þauh* consist of two elements *þau-h* (1989a: 294–295). Seebold propose a similar segmentation (2011: 208). In Pfeifer (1989a: 294–295), two hypothesis

about the origin of the first element *þau-* are presented: One hypothesis states that *þau-* traces back to the Proto-Indo-European pronominal root **tu̯-* 'you.2SG' (cf. Pokorny 1959: 1097-1098). This development is rather unlikely, according to Pfeifer (cf. also Seebold 2011: 208). Another hypothesis states that *þau-* derives from the Proto-Indo-European pronominal root **to-* 'this, that' (cf. Pokorny 1959: 1086–1087; see also Jóhannesson 1956: 448).

Concerning the second part *-h*, Pfeifer writes that this form is related to the emphatic suffix *-(u)h* 'and' attested in Gothic (1989a: 294–295). Additional related forms outside the Germanic branch are Latin *que* and Ancient Greek *te* (cf. Seebold 2011: 208; Jóhannesson 1956: 448). Furthermore, Pfeifer elaborates that these cognates trace back to Proto-Indo-European *k^we- 'and', which has also been attested in combination with certain pronouns to highlight the meaning of indefiniteness (1989a: 294–295). This is observed, for instance, in Latin *quisque* 'who ever' (cf. Pokorny 1959: 635–636; Beekes 2011: 227–230).

Grimm (1860) provide a slightly different interpretation of the development of the form *þauh*: They propose a segmentation in three elements, i.e. *þa-u-h*. They elaborate: "[…] seinem ursprung nach scheint es ein pronominaladv. zu sein und þa für þô, den acc. sing. fem. des demonstrativen pronomens zu stehn, dem das fragende u und das suffix h angefügt ward [sic]" (1860: 1200). That is, Grimm assume that *þa* derived from the accusative singular feminine form of the demonstrative pronoun. Although not specified, they probably refer to the Proto-Indo-European pronominal form **to-* 'this, that' (cf. Pokorny 1959: 1086–1087). According to Grimm (1860: 1200), this form is then complemented with the suffixes *-u* and *-h*. Grimm state that *-u* has an inquiring meaning; they do, however, not further elucidate the meaning or origin of these two suffixes.

According to Grimm, the polarity-reversing function of *doch* is not attested before the 18th century. Grimm write "wie es scheint, hat man erst im 18ten jahrhundert angefangen doch […] als einfache bejahung zu verwenden" (1860: 1205). Seebold (2011) and Pfeifer (1989a) do not offer any insight on that matter.

Dutch *(ja)wel* Table 26 contains the etymological data collected for the particle *wel* in Dutch (see appendix E). The data indicate that the form *wel* traces back to Middle Dutch *wale, wēle, wel* and Old Frankish *wala* (Philippa *et al.* 2009: 608; Vries 1992: 826; Franck & van Wijk 1912: 785). The data further suggest that Dutch *wel* is cognate with Norwegian *vel*, Swedish *väl*, English *well*, Frisian *wol* as well as German *wohl*.

Concerning the origin of *wel*, Philippa *et al.* specify that this form developed from Proto-Germanic **welō-*, which is a derivation of the Proto-Indo-European form **uelh*$_1$- or **uolh*$_1$- 'choose' (cf. Pokorny 1959: 1137–1138). Note that a similar development is also suggested for the German cognate *wohl* in Seebold (2011: 994), Pfeifer (1989b: 1987) and Grimm (1960: 1024–1071). Franck & van Wijk (1912: 785) and Vries (1961: 826) do not offer any insight on the origin of *wel*.

Note also that in the sources consulted, I could not find an entry dedicated to the form *jawel*. In Philippa *et al.* (2009: 608), the form *welles* 'yes, it is/does'[28] is addressed under the entry for *wel*. According to this source, the form *welles* was first attested in a document from the year 1857 in combination with the verb *to be*. For Old Norse, Jakobsen quotes the form *ja ja vel vel* 'yes indeed' (1921: 359). He does not go into further explanations.

The findings about the origin and development of the polarity-reversing forms *doch* and *wel* is discussed in section 6.3.

[28]English translation according to Martin & Tops (1998: 1469).

5.2.3 Western Romance: French *si*

Table 18 illustrates the diachronic data collected for the polarity-reversing particle found in French. According to etymological dictionaries consulted for this investigation, the polarity-reversing particle is of Latin origin and developed from the adverb *sic* 'thus, so' (cf. Vaan 2008: 561).

Ernout & Meillet (1951) and Rey (1995) state that the form *sic* derives from *seic*. Ernout & Meillet (1951) further indicate that the form *seic* consists of the elements **sei* + *ce* (1951: 1099). Neither of the above sources specify the meaning nor the timeframe for **sei* + *ce*. In the Latin dictionary by Vaan (2008), the element **sei* is described as the Proto-Italic locative singular form. It is stated that it derives from the Proto-Indo-European demonstrative **so-* 'this' (Vaan 2008: 561). Ernout & Meillet also refer to a similar form with regard to Latin *sic* (1951: 1099, 1113).

According to some sources, the form *sic* is used for affirmation already in vulgar Latin (Ernout & Meillet 1951: 1099; Rey 1995: 1939; see also Bloch & Wartburg 1950: 561; Jensen 1994: 282). For Old French, Godefroy note that *si*, among other uses, functions as "particule affirmative détruisant une négation précédente" (1892: 413). This suggests that the particle had already incorporated a polarity-reversing affirmative function by the end of the 15th century. Rey specifies that *si* was attested as a stand-alone affirmation particle in the year 1490 and, as an emphatic expression *que si*, it was attested before 1650. He further writes that the expression *si oui*, when the answer is positive, is not attested before the 20th century (1995: 1939). According to this, the polarity-reversing function of *si* came about between the 15th and 20th century.

Table 18: Development of polarity-reversing particle *si*

Language stage	**Attested form(s)**	**Use**	**Source**
Latin	*sei + ce > seic		Ernout & Meillet 1951: 1099; Rey 1995: 1939
	sic	'thus'	Bloch & Wartburg 1950: 561; Dauzat *et al.* 1969: 690;Rey 1995: 1939
French	si, si fait	i.a. 'yes.REV'	Godefroy 1892: 413; Bloch & Wartburg 1950: 561

The findings about the origin and development of the polarity-reversing forms *si* is discussed in section 6.3 below.

5.3 Summary

The synchronic investigation has brought forth a number of interesting patterns. To recapitulate the results presented in sections 5.1.1 and 5.1.2 (cf. tables 9 and 10): A total of thirty languages out of a sample comprising 101 languages from across the world are found to make use of special forms in polarity-reversing affirmative responses. The data show that the great majority of the languages with a polarity-reversing affirmative particle are spoken within Europe (cf. table 13). The data from the European sample are indicative of an East-West distribution: the farther to the East, the less languages are observed having a polarity-reversing affirmative particles. Within the Italic family, the data suggest that farther south of Europe, the less languages show a special polarity-reversing affirmative answer strategy. Further, the analysis reveal that the languages spoken on the British Isles behave differently than their

relatives of continental Europe and tend not to exhibit a polarity-reversing affirmative particle. In summary, the analysis of the data show that polarity-reversing affirmative particles are most prominent in continental, Central Western Europe. Table 19 summarizes the languages from the sample that are spoken within this area and exhibit a polarity-reversing affirmative particle.

Table 19: Continental Central Western Europe

Affiliation	**Language**	**ISO**	**Form**
North Germanic	Danish	dan	*jo*
	Elfdalian	ovd	*ju(u)*
	Faroese	fao	*jú(s)?*
	Icelandic	isl	*jú*
	Norwegian	nob	*jo*
	Nynorsk	nno	*jau*
	Swedish	swe	*jo*
West Germanic	Dutch	nld	*jawel, wel(les)*
	Frisian	frr	*doch*
	German	deu	*doch*
	Swiss German	gsw	*mou*
	Walser	wae	*doch, mol*
Eastern Romance	Romanian	ron	*ba*
Italo-Western Romance	French	fra	*si*
	Occitan	oci	*si*
	Provençal	prv	*si*
	Romansh	roh	*bagn*

In section 5.2, I present the results from the diachronic investigation, which covers the historical origin and development of some polarity-reversing forms listed in the rightmost column of table 19. The diachronic study revealed that the polarity-reversing forms in Swedish, German, Dutch and French do not share a common origin. To recapitulate the results from the diachronic investigation:

Swedish *jo* likely derived from an older form of the Germanic affirmative particle, which might trace back to a Proto-Indo-European pronominal root.

German *doch* developed from an adversative conjunction and is suspected to trace back to a Proto-Indo-European pronominal root.

Dutch *wel* is assumed to have developed from a Proto-Indo-European verbal root.

French *si* is assumed to derive from the Latin adverbial *sic* ‘thus, so’.

In the next section, I discuss the findings of the synchronic and diachronic investigation in light of relevant literature.

6 Discussion

In the following, I go into a discussion of the results presented in section 5. In section 6.1, I discuss the findings on the distribution of polarity-reversing affirmative particles. In section 6.2, I provide a closer examination of the polarity-reversing affirmative forms documented in the synchronic data. The findings about the origin and development of the polarity-reversing affirmative particles found in Swedish, German, Dutch and French are resumed in section 6.3. In section 6.4, I discuss the implications of this study's findings with regard to Standard Average European. In section 6.5, I reflect on the design of this study.

6.1 Distribution of Polarity-reversing Affirmative Particles

This section covers the findings presented in section 5.1. Specifically, the distribution of polarity-reversing affirmative particles in Europe is discussed in section 6.1.1. The findings concerning the world-wide dispersion of polarity-reversing affirmative particles are addressed in section 6.1.2.

6.1.1 Phenomenon of Europe?

The findings of the study reflect the tendencies observed in Moser (2018: 27–29) and Da Milano (2004: 30–31, 34). The analysis of the synchronic data shows that polarity-reversing affirmative particles are indeed a phenomenon predominantly found in Germanic languages. More generally, this study puts forth that polarity-reversing affirmative particles are more prominent in languages of Western Europe than in Eastern European languages.

Concerning Western Europe, the data from this study indicate a relatively high number of polarity-reversing particles within the Germanic family. Out of the thirteen Germanic languages included in the sample, only English is found not to make use of a special polarity-reversing affirmative form. Within the Italic group, five out of eleven languages exhibit a polarity-reversing affirmative particle. Out of these five languages, only one is from the Eastern Romance branch, while the remaining four languages belong to the Italo-Western Romance group.

In Western Europe, the findings suggest that the farther away from a center consisting of Germanic and Western Romance, the less instances of polarity-reversing particles are noted. The findings further indicate that the farther south of this Germanic-Western Romance center, the fewer manifestation of polarity-reversing particles are observed. Catalan, Galician, Italian, Spanish and Portuguese do not seem to make use of such a particle. In Northern Europe, polarity-reversing affirmative particles are documented across North Germanic.

To the West of Europe, the findings of this study indicate an isogloss: on the British Isles no manifestation of polarity-reversing affirmative particles are documented in the data. As mentioned English does not exhibit such a particle neither do the Celtic languages Welsh, Scottish Gaelic and Irish. Interestingly, the Celtic language Breton, which is spoken in France and stands in close contact with continental European languages, does make use of special polarity-reversing affirmative forms.

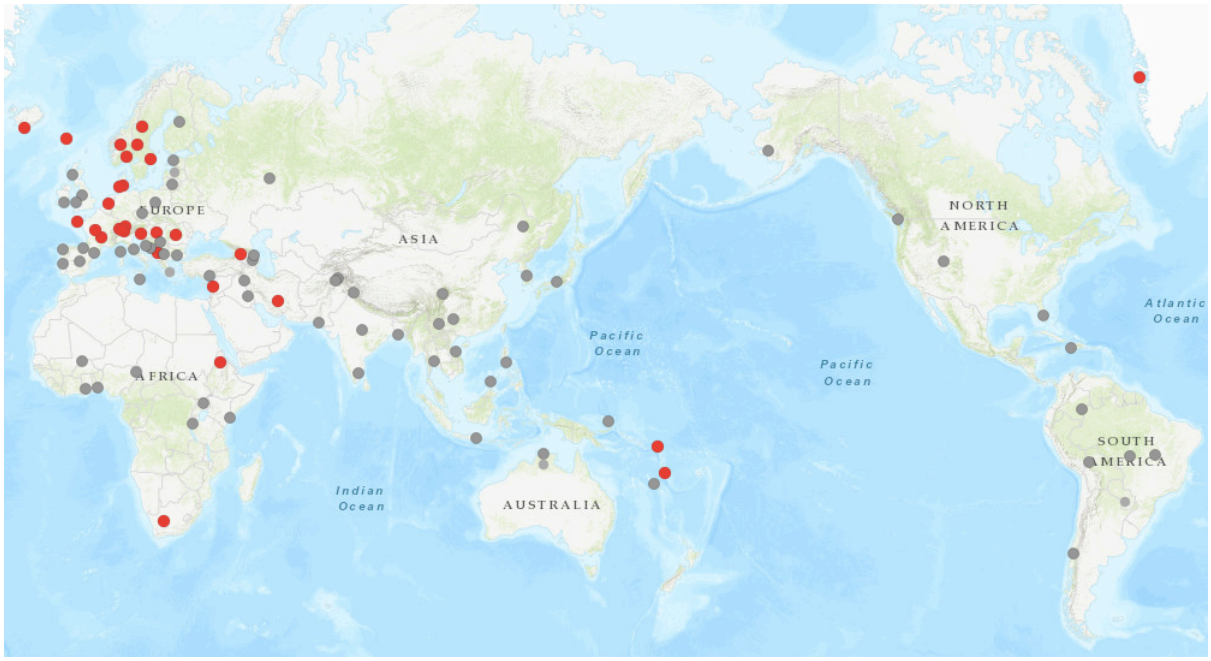
In Eastern Europe, no languages were found to exhibit a special polarity-reversing affirmative form in answers to negative questions in the Eastern Baltic, Graeco-Phrygian, Nakh-Daghestanian and Turkic language family. Within the Slavic family only one language, i.e. Slovene, was found to exhibit a polarity-reversing particle. Within the Uralic group, the data

indicate that the farther to the East of Europe, the less instances of polarity-reversing particles are documented. While South Saami and Hungarian exhibit a polarity-reversing particle, Estonian, Finnish and Udmurt do not make use of such an answer strategy.

To sum up, the results from this study do not only reflect the tendencies observed in Da Milano (2004) and Moser (2018) but furthermore indicate a linguistic area: The analysis shows that polarity-reversing affirmative particles are most prominent in an area stretching from Northern Europe to Central Western continental Europe. At the heart of this area, we find languages belonging to the Germanic and Western Romance language family. These findings are further discussed in section 6.4.

6.1.2 Phenomenon of Europe only?

The results from this study suggest that polarity-reversing particles rarely appear in languages spoken outside of Europe. Figure 2 illustrates the world-wide distribution of polarity-reversing affirmative particles documented in this study. Only seven languages in the dataset are found to exhibit polarity-reversing particles: Arabic, Tigrinya, Aïwoo, West Greenlandic, Persian as well as the two creole languages Afrikaans and Bislama.



red = yes.REV, grey = no yes.REV

Figure 2: World-wide distribution of polarity-reversing affirmative particles

Compared to Arabic, Tigrinya, Aïwoo, West Greenlandic and Persian, the creole languages Afrikaans and Bislama have a special status: Geographically speaking, these two languages are spoken outside of Europe. Afrikaans is mainly spoken in South Africa, while Bislama is spoken on the South Pacific island country Vanuatu. Linguistically speaking however, they are related to Indo-European languages. Afrikaans evolved from Dutch, while the Oceanic Creole language Bislama is heavily influenced by English as well as French. The use of a polarity-reversing affirmative particle in Afrikaans and Bislama is likely due to intensive language contact. This explanation is supported by the high degree of similarity between the polarity-reversing affirmative forms. This is illustrated in examples (45) and (46) for Afrikaans and Dutch. Examples (47) and (48) illustrate Bislama and French.

(45) Afrikaans [afr] (Donaldson 1993: 417)

Q. *Jy gaan sekerlik nie vandag vertrek nie?*
you.2SG go surely NEG today leave NEG

'Surely you are not going to leave today?'

A. *Ek gaan wel vandag vertrek.*
I go yes.REV today leave

'Yes, I am leaving today.'

(46) Dutch [nld] (query response 2019)

Q. *Heb je je huiswerk niet gemaakt?*
have you.2SG your.2SG homework not done

'Have you not done your homework?'

A. *Wel!*
yes.REV

'Yes (I have)!'

(47) Bislama [bis] (Crowley 2004: 149)

Q. *Bae yu no kam long lafet?*
FUT you.2SG NEG come PREP party

'Won't you come to the party?'

A. *Si (bae mi kam long lafet).*
yes.REV FUT I come PREP party

'Yes (I will come to the party).'

(48) French [fra] (questionnaire 2018)

Q. *Ils ne parlent pas anglais?*
they.M NEG speak.PRS.3PL NEG English

'They don't speak English?'

A. *Si!*
yes.REV

'Yes, they do!'

Language contact could also be an explanation for the occurrence of polarity-reversing forms in West Greenlandic. This Eskimo-Aleut language is native to Greenland, where the Danish language also plays an important part in the linguistic community (Fortescue 1984).[29]

[29]This information is taken from Fortescue's introduction, which does not contain page numbering.

The occurrence of polarity-reversing affirmative forms in West Greenlandic might be an influence from Danish, which exhibits the polarity-reversing affirmative particle *jo* 'yes.REV' as illustrated in example (49).

(49) Danish [dan] (Allan *et al.* 1995: 446)

Q. *Har du ikke læst 'Den grimme ælling'?*
have you.2SG NEG read.PST The Ugly Duckling

'Have you not read "The Ugly Duckling"?'

A. *Jo, det har jeg.*
yes.REV that have I

'Yes, I have.'

This explanation might seem a bit farfetched at first sight, since the West Greenlandic polarity-reversing affirmative forms *naagga*, *naaggaluunniit* and *ila(ana)* show no formal similarity whatsoever with the Danish particle. Fortescue (1984) notes that the proportion of Danish loans in West Greenlandic have never been overwhelming. He traces this back to the difficulty of integrating words into the complex Greenlandic morphology. Further, he also writes that "[…] the long history of translation from Danish has doubtless affected its [West Greenlandic] development". Therefore, it might well be that only the function of the polarity-reversing affirmative particle was borrowed from Danish.

An explanation for the occurrence of polarity-reversing affirmative particles in Persian, Arabic, Tigrinya and Aïwoo is not apparent. The data from this study is not enlightening in this regard. Further research will lead to more insight on the origin and function of these particles.

To sum up, the data collected in this study suggest that polarity-reversing affirmative particles is a rare phenomenon in languages outside Europe. Further research with an extended and carefully stratified world-wide dataset can corroborate this finding.

6.2 Forms of Polarity-reversing Affirmative Particles

In this study I collected a total of thirty polarity-reversing affirmative particles (cf. table 13). In section 6.1.2, I demonstrate that language contact plays an important factor in the cross-linguistic spread of polarity-reversing affirmative particles. Another example of this is observed in languages of Northern Europe. The findings from this study show that polarity-reversing affirmative forms observed in North Germanic languages exhibit a high degree of similarity. This is illustrated in examples (50)–(52).

(50) Icelandic [isl] (questionnaire 2019)

Q. *Ertu ekki búinn að borga reikninginn?*
be.2SG.NOM not do.PTCP to pay.INF bill.ACC.DET

'Have you not paid the bill?'

A. *Jú!*
yes.REV

'Yes, I have!'

(51) Elfdalian [ovd] (Åkerberg & Nyström 2012: 496)

Q. *Ar it puästn kumið enn?*
has the mail come yet

'Hasn't the mail arrived yet?'

A. *Ju, an ar kumið.*
yes.REV it has come

'Yes, it has.'

(52) Norwegian [nor] (Rysst & Slyvester 2007: 97)

Q. *Drikker du ikke kaffe?*
drink.PRS you.2SG not coffee

'You don't drink coffee?'

A. *Jo.*
yes.REV

'Yes, I do.'

In South Saami, the forms *joo*, *juo* and *jaa* are used in polarity-reversing affirmative responses. This is illustrated in example (53).[30] Note that these forms show a high degree of similarity with the forms found in North Germanic.

[30] One strategy to express negation in South Saami is by means of a negative auxiliary, which inflects for person, number and tense. In combination with the negative auxiliary, the main verb takes a special form, which is called the *connegative* (see CONNEG, p.c. Richard Kowalik, 2019-02-11).

(53) South Saami [sma] (questionnaire 2019)

Q. *Idtji* *Pööle* *ringkh* *dutnjien?*
NEG.AUX.PST.3SG Paul call.CONNEG 2SG.ILL

'Did Paul not call you?'

A. *juo / joo / jaa,* *dihte* *ringki.*
yes.REV 3SG call.PST.3SG

'Yes, he did.'

In fact, the use of polarity-reversing affirmative particles in South Saami might be a result of the close language contact with Swedish. On the basis of the finding that Uralic languages tend not to exhibit this answer strategy, language contact seems a plausible explanation. Richard Kowalik, who is working on South Saami for his doctoral thesis, notes that his language consultants show variation in the use of the forms *joo*, *juo* and *jaa* (p.c. 2019-02-11). The particles are used to express dissent as in example (53), they appear however also in simple affirmative answers. These observations are in favor of a borrowing scenario.

Language contact might furthermore be the root cause for the use of polarity-reversing affirmative particles in Breton, Hungarian, Romanian, Romansh and Slovene. These languages have either been in close contact with German and/or French for an extended time period. Note that Breton, Hungarian, Romanian, Romansh and Slovene did not borrow the German or French polarity-reversing affirmative form but rather took over the function and integrated the conversational practice into the language.[31] According to Matras (2007: 67), whether a category is borrowed into a recipient language depends primarily on the functionality and the extent of the speakers' need to integrate this category. A detailed discussion goes beyond the scope of this study and should be resumed in future research.

6.3 Diachronic Development of Polarity-reversing Affirmative Particles

In this section, I discuss the findings from the analysis of the polarity-reversing forms. The polarity-reversing forms noted for North Germanic are treated in section 6.3.1. The polarity-reversing forms observed in West Germanic are covered in section 6.3.2. The French particle *si* is discussed together with the Italic languages in section 6.3.3.

6.3.1 North Germanic: Swedish *jo*

The data collected for this study indicate that a polarity-reversing affirmative particle *jo* is found across North Germanic languages. The data indicate that, besides Swedish, *jo* 'yes.REV' is also found in Danish and Norwegian. Further, the particle *jau* in Nynorsk as well as *ju(u)* in Elfdalian, *jú* in Icelandic and *jú(s)* in Faroese have the same function (cf. table 19). This finding is in line with the observation made in previous research (see section 2.2.1).

The diachronic investigation of Swedish *jo* 'yes.REV' reveal that the polarity-reversing affirmative particle derived from the affirmative particle *ja* 'yes' found across Germanic languages. It is generally agreed in the etymological sources that the polarity-reversing forms found in North Germanic were (and still are in some varieties) formal variations of *ja* 'yes' (Hellquist

[31] According to Roelofsen & Farkas (2015), the Romanian polarity-reversing particle *ba* 'REV' is of South Slavic origin (cf.).

1980: 416, 419; Grimm 1877: 2187; Jakobsen 1921: 368). This is also in line with the account given in Hansen (1934: 232–235)

Further, the diachronic investigation of *jo* suggest a pronominal origin. In section 5.2.1, it was mentioned that the Germanic particle *ja* is suspected to trace to the Proto Indo-European pronoun **jos*, **jâ*, **jod* 'REL' through an intermediate stage of Proto-Germanic **jas*, **jô*, **ja* (Lindén 1886; Jóhannesson 1956).

6.3.2 West Germanic: German *doch* and Dutch wel

The diachronic investigation of the polarity-reversing particle *doch* in German and *wel* in Dutch show that these forms trace back to different Proto-Indo-European origins.

German *doch* The diachronic investigation of German *doch* reveal that this polarity-reversing affirmative particle derived from an adversative, which probably traces back to the Proto-Indo-European pronominal root **to-* 'DEM'. The etymological sources generally presume that the form developed from a Germanic form **þauh* (Seebold 2011: 208; Pfeifer 1989a: 294–295; Grimm 1860: 1200). These findings are in line with previous studies (cf. Hentschel (1986: 119); section 2.2.2). A similar development scenario is also proposed for the origin of Icelandic *þó* 'though' in Jóhannesson (1956: 448). Note that the etymological data collected show that Dutch *doch*, English *though* are also cognates (cf. table 25 in appendix E). Based on this, I presume that the polarity-reversing *doch* in Frisian and Walser are cognates and share a common origin (cf. table 19).

Dutch *wel* The etymological information on Dutch *wel*, *jawel* and *welles* is scarce. The data indicate that the form *wel* is found as *wale, wēle, wel* in Middle Dutch and *wala* in Old Frankish. The data further show that Dutch *wel* is cognate with English *well*, Frisian *wol*, German *wohl* as well as Norwegian *vel*, Swedish *väl*.

Only one of the sources consulted offers insight into the origin of *wel*. The hypothesis is that *wel* derived from Proto-Indo-European form **uelh*$_1$- or **uolh*$_1$- 'choose' through an intermediary stage of Proto-Germanic **welō-* (Philippa *et al.* 2009: 1137–1138). Note that a similar development is also suggested for the German cognate *wohl* in Seebold (2011: 994), Pfeifer (1989b: 1987) and Grimm (1960: 1024–1071).

The forms *jawel* and *welles* likely derive from a similar origin. The particle *jawel* appears to be an univerbation composed of the affirmative particle *ja* 'yes' and the particle *wel*, which has been described as adversative in previous studies (Hogeweg 2009; Sudhoff 2012).

6.3.3 Western Romance: French *si*

The examination of French *si* revealed that there is general consensus in the literature about the origin and development of this particle. The investigation indicate that this polarity-reversing affirmative particle derived from Latin *sic* 'thus, so', which is not only used as an adversative conjunction but as an affirmative particle as well. The examination of the latin form further indicate that the form traces to the Proto-Indo-European root **so-* 'this' (cf. Ernout & Meillet 1951: 1099, 1112–1123).

6.3.4 Origin of Polarity-reversing Affirmative Function

The diachronic investigation reveals that the North Germanic, West Germanic and Western Romance polarity-reversing forms examined do not share a common origin. The Dutch par-

ticle *wel* appears to have developed from a verbal origin. Interestingly, Swedish *jo*, German *doch* and French *si*, all appear to trace back to Proto-Indo-European pronominal forms (cf. sections 6.3.1, 6.3.2 and 6.3.3). For North Germanic, German and French, the etymological data also indicate that the polarity-reversing affirmative particles either developed from an adversative conjunction and/or from an affirmative particle. These findings suggest that the polarity-reversing function is a later innovation within Indo-European language groups.

In North Germanic, the information in the etymological sources on the origin of the polarity-reversing function is inconclusive. The etymological sources suggest that Swedish *jo* derived from an emphatic affirmative particle, e.g. Old Norse *jau-r* 'yes, surely', *jú*r 'yes.EMP' (Vries 1961: 291). In West Germanic, the polarity-reversing function of *doch* has first been attested in the 18th century (Grimm 1860: 1205). The sources consulted do not provide any insight on that matter for the Dutch particles *wel*, *jawel* and *welles*. With regard to the French particle *si*, the literature suggest that the polarity-reversing function appeared between the 15th century and 20th century.

Note that speaker of Canadian French appear not to exhibit the particle *si* 'yes.REV' in responses to negative questions (see table 20). According to Danielle E. Cyr (p.c. 2019-01-08), there is no polarity-reversing particle in Canadian French, which was disconnected from European French in the 18th century. There are two potential explanations for this: First, the polarity-reversing function of the form *si* came about after the big migration wave of French emigrants to Canada, i.e. after the 18th century. Second, the polarity-reversing function disappeared in Canadian French, possibly under the influence of contact languages (i.e. English).

From the information presented in this section, it is unclear how the function of polarity-reversing came about. On the basis of the distribution of the particle, it can be assumed that the polarity-reversing function originated within the Germanic and then spread to Western Romance and other geographically adjacent language groups.

6.4 Feature of Standard Average European

The findings of this study indicate that polarity-reversing particles appear most prominently within an area stretching from North Europe to Central Western continental Europe. This finding is striking in that this area overlaps with European linguistic areas identified in previous studies (cf. section 2.3). The distribution of polarity-reversing particles falls into the area of Standard Average European. In this study, it was noted that polarity-reversing particles are most common in Germanic and Western Romance languages. This covers precisely the Charlemagne Sprachbund proposed by van der Auwera (1998: 823–825).

According to Haspelmath (2001: 1493), a feature validates as an Europeanism, when the following criteria are met (cf. section 2.3):

- A predominant majority of the core European languages possess the feature.
- Languages which are adjacent to the core European languages lack the feature. That is the feature is infrequent in Celtic, Turkic, eastern Uralic, Abkhaz-Adyghean and Nakh-Daghestatian as well as Afro-Asiatic languages.
- Eastern Indo-European languages lack the feature. That is the feature is uncommon in Armenian, Iranian and Indic languages.
- The feature is infrequent across the world's languages.

In this study, similar trends are identified in the data on polarity-reversing affirmative particles. The results from the analysis show that a noticeable majority of Germanic as well as Gallo-Romance languages exhibit a polarity-reversing affirmative particle. The data also suggest that Insular Celtic languages as well as Eastern European languages tend not to exhibit

a special polarity-reversing affirmative form. It was further observed that polarity-reversing particles are rare across languages of the world (cf. section 6.1). Furthermore, the historical analysis of some Germanic and Western Romance polarity-reversing affirmative forms suggest that this answer strategy is not derived from a common Indo-European origin but rather is a common innovation (cf. section 6.3).

In conclusion, polarity-reversing affirmative particles indeed qualify as an Europeanism. This study thus reveals that polarity-reversing affirmative particles constitute another characteristic feature of Standard Average European.

6.5 Discussion of the Study Design

As mentioned in section 4, this study has relied on different methods for the data collection. There are advantages and disadvantages of proceeding like this. On the one hand, applying different methods result in a collection of data of varying quality. On the other hand, making use of different methods allowed me to compile a more substantial dataset.

Concerning the language sample, I noted previously that the synchronic data analyzed in this study is biased towards European languages. This is largely due to my research goals. I am aware that the language sample compiled in this study provide no insight into the cross-linguistic preferences of polarity-reversing affirmative particles on a world-wide scale. However, the data expose certain trends regarding the distribution of this answer strategy. This is the goal of this study.

In section 5.1.2, I mention that it is difficult to assess whether certain languages exhibit a polarity-reversing particle or not. Some languages (e.g. West Greenlandic) pose a challenge either due to insufficient data or because the particle used for polarity-reversing affirmative answer also exhibits other functions. In section 5.1.1, I noted that Georgian stands out among the languages spoken in Eastern Europe in that it exhibits a special particle expressing dissent to negative polarity questions. In Georgian, several particles for affirmation are noted: *diax*, *xo* or *ho*[32] and *k'i*. According to Manana Topadze (p.c. 2018-02-20), the form *diax* is more formal than the particles *xo*/*ho* and *k'i*. The latter is furthermore used as an emphatic affirmation to negative questions. This is illustrated in example (54).

(54) Georgian [kat] (questionnaire 2018)

Q. *C'vims, ara?*
rain.3SG NEG

'Isn't it raining?'

A. *k'i, rogor ara!*
yes.REV how NEG

'Yes, it is!'

The data suggest that the particles can also be found in responses to positive questions. Example (55) illustrates the Georgian particle *k'i* expressing a simple affirmation to a positive question. This use suggest that the particles in Georgian, rather than having a polarity-reversing function, express emphatic affirmation.

[32]The forms *xo* or *ho* are allomorphs in Georgian (questionnaire 2018).

(55) Georgian [kat] (questionnaire 2018)

Q. *dɣes cxela?*
today hot

'Is it hot today?'

A.1. *k'i, cxela*
yes hot

'Yes, it is.'

A.2. *ara, ar cxela.*
no NEG hot

'No, it isn't.'

In this study, I provide a classification in accordance with the data that is available to me. In the specific case of Georgian, I categorized the language on the basis of the common pattern illustrated in example (54), in spite of the variation in the use of the particle *k'i* in example (55). On this subject, note that variation in the use of the polarity-reversing affirmative particles occur, among others, also in Dutch. In the literature, three forms are mentioned to function as polarity-reversing affirmative particles: *wel*, *jawel* and *welles*. According to Ad Foolen (p.c. 2019-01-10), *jawel* is the most common form used for polarity-reversing affirmative answers in Dutch. There seems to be a debate on whether *wel* in fact is used as a polarity-reversing affirmative particle (cf. section 2.2). Language data from the query response suggest that *wel* can also be used in this way (cf. example 46 in section 6.1.2). In this study, I do not address the use of the particles in individual languages; the goal is to provide an overview of the phenomenon from a cross-linguistic perspective.

7 Conclusion

In this study, I investigate the distribution, the origin and development of polarity-reversing affirmative particles, in order to test the validity of hypotheses proposed in Moser (2018). Specifically, I seek an answer to the research questions in section 3. In the following, I resume the research questions in order of their appearance and offer a concise answer based on the findings from this study.

1. What is the distribution of polarity-reversing affirmative particles within the languages of Europe?

The findings reflect the patterns observed in Moser (2018) as well as Da Milano (2004). Polarity-reversing particles are predominantly found in North and West Germanic languages. Within the Italic language family, a North-South distribution is observed: While North-Western Romance languages, which are primarily spoken in France, exhibit a polarity-reversing particle, the Italic languages spoken in Southern Europe do not appear making use of this answer strategy. In addition, the study has put forth that polarity-reversing particles are more prominent in languages of Western Europe than in languages of Eastern Europe.

2. Are there languages exhibiting a polarity-reversing affirmative particle outside of Europe?

The results from this study suggest that polarity-reversing particles are a rare phenomenon on a world-wide scale. The distribution observed indicate that polarity-reversing particles are most prominent in an area stretching from Northern Europe to Central Western continental Europe. At the heart of this area, we find languages belonging to the Germanic and Western Romance language family.

3. What polarity-reversing affirmative particles are there? How similar in form are they?

Concerning the polarity-reversing affirmative forms, the synchronic data indicate that a number of particles documented in this study show a high degree of similarity with one another. Within Germanic and Western Romance, the similarity in form traces to genealogical relationship between the languages. In section 6.2, I speculate that the reason for the similarity in form in some cases can be explained by close language contact.

4. What is the origin and development of Swedish *jo* 'yes.REV', German *doch* 'yes.REV', Dutch *(ja)wel* 'yes.REV' and French *si* 'yes.REV'?

The diachronic investigation of Swedish *jo* 'yes.REV' revealed that this particle most likely derives from an older form of the affirmative particle *ja* 'yes' found across Germanic languages. According to the sources consulted in this study, Germanic *ja* 'yes' developed from a Proto-Indo-European pronominal root. For German *doch* 'yes.REV', it was found that the particle developed from an adversative conjunction, which in turn is suspected to trace back to a Proto-Indo-European pronominal root. Concerning Dutch *wel*, *jawel* as well as *welles* 'yes.REV', the diachronic information is scarce. The examination of etymological sources revealed that these particles likely developed from a Proto-Indo-European verbal root. For French *si* 'yes.REV', it was found that the particle derives from the Latin adverbial *sic* 'thus, so'.

5. Do these forms trace back to a common origin?

The diachronic investigation of Swedish, German, Dutch and French revealed that these polarity-reversing affirmative forms do not share a common Indo-European origin. In section 6.3.4, it was however noted that the polarity-reversing affirmative particles examined developed from affirmative particles or adversative conjunctions.

6. When did the polarity-reversing affirmative function appear?

The findings from this study suggest that the polarity-reversing affirmative function appeared first in Germanic and then in Western Romance languages. The data indicate that the function spread from Germanic to Western Romance.

Future Research

By addressing the above research questions, this study brought forth a highly interesting finding with regard to previous studies in the field of areal typology. The data from the synchronic and diachronic investigations suggest that the polarity-reversing particles qualify as an Europeanism, i.e. a feature characteristic of Standard Average European. The findings further support the reality of the Charlemagne Sprachbund. This study is an important contribution to the discussion of linguistic areas in Europe.

This study also put forth food for future research. In section 2.2, I noted that the phenomenon of polarity-reversing particles has been widely overlooked or has only been marginally treated in previous studies. Experimental as well as corpus studies on the usage of the polarity-reversing particle in individual languages could shed light into the function of this type of particle. A future study based on a stratified world-wide sample might furthermore verify the trends observed in this study. Very interesting insights could also be gained by examining in greater detail the polarity-reversing forms within the Germanic language family.

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A Appendix: Data from Linguistic Mailing Lists

Table 20: Data from query responses (2019)

Language	Code	Query response	Expert
Aïwoo	nfl	example of yes.REV	Åshild Næss
Arabic	arb	example of yes.REV	Samia Naïm
Bengali	ben	no yes.REV	Danielle E. Cyr
Bislama	bis	no yes.REV	Kilu von Prince
Breton	bre	example of yes.REV	Eve Sweetser, Mélanie Jouitteau
Danish	dan	literature about yes.REV	Eva Skafte Jensen
Dutch	nld	example of yes.REV	Hella Olbertz
French	fra	no *si* 'yes.REV' in Canadian French	Danielle E. Cyr
Hindi	hin	no yes.REV	Danielle E. Cyr
Kapalo	kui	examples of epistemic markers	Ellen Basso
Korean	kor	no yes.REV	Geofffrey Sampson
Occitan	oci	literature on yes.REV	Daniela Müller
Persian	fas	example of yes.REV	Morgan Nilsson

B Appendix: Translation Questionnaires

Questionnaire 2018

This questionnaire has been drawn up for a pilot study on the strategies used cross-linguistically to answer polarity questions. The design of this translation questionnaire is inspired by similar methods used in Dahl (1985, 2000), Floyd et al. (2016).

Language ISO-693 code/Glottocode[1]:

Participant(s)[2] Name Surname:
Age:
Gender:
Profession:
Contact information:

Instruction: Please translate the questions into your language. You will find the space for this next to the symbol [?]. Then, answer the questions in your language. Do not translate "word-for-word", but try instead to make it sound as "natural" as possible. When doable, please provide morpheme by morpheme glossing of the translated sentences or some other explanation of the different elements of the sentence. Write the possible positive answers next to the symbol [✓] and the possible negative answers next to the symbol [✗].
Please use a transcription system, if your language uses a writing system other than the latin script.

1. Is it hot today?

?	
✓	
✗	

[1] For easier identification, please provide the ISO-693 code or Glottocode of the language documented.
[2] The information provided in this section will be employed for research purposes only (age, gender and profession). Name and contact details remain confidential and are not forwarded to third parties. By taking part in this study, the participants agree to these terms.

2. Isn’t it hot today?

?	
✓	
✗	

3. Isn’t it raining?

?	
✓	
✗	

4. Do you see them?

?	
✓	
✗	

5. Wasn’t she seen by other people?

?	
✓	
✗	

6. Did John already arrive?

?	
✓	
✗	

7. Is Anna your sister?

?	
✓	
✗	

8. Do you know where the hospital is?

?	
✓	
✗	

9. They don’t speak English?

?	
✓	
✗	

10. Is the fruit ripe?

?	
✓	
✗	

11. Haven’t the insects bitten you?

?	
✓	
✗	

Comments

Should you have further comments, you may add them in the field below.

Thank you for your help!

If you have any questions, please do not hesitate to contact me (elmo7609@student.su.se).

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- Floyd, Simeon, Villermet, Marianne, & Birchall, Joshua. 2016. *Answers to polarity questions in South American languages*. Paper presented at the AMAZÒNICAS VI, Leticia, Colombia.

Questionnaire 2019

Language
ISO-693 code/Glottocode[3]:

Participant(s)[4]
Name Surname:
Age:
Gender:
Occupation:
Contact information:

Linguistic background
Are you a native speaker? If not, how did you acquire knowledge of this language?

Instruction: There are 6 questions in total. Please read the context as well as the questions and answers given in English for each item first. Then translate the questions and answers into the target language. You will find the space for this in the row beneath marked by an → arrow. Avoid translating "word-for-word", but try instead to make it sound as "natural" as possible. When doable, please provide morpheme by morpheme glossing of the translated sentences. When using a writing system other than the Roman alphabet, I also greatly appreciate a transliteration/transcription of the original script.

EXAMPLE

Anna asks Ben to pay the electricity bill. Ben pays the bill the same day. A few weeks later, Anna receives a letter of reminder from the electricity supplier.

A.	Have you not paid the bill?	B. Yes, I have!
→	Hast du die Rechnung nicht bezahlt?	Doch (das habe ich)!
gl.	have.2SG you the bill not paid	yes.REV[5] that have I

[3] For easier identification, please provide the ISO-693 code or Glottocode of the language documented.
[4] The information provided in this section will be employed for research purposes only. Name and contact details remain confidential and are not forwarded to third parties. By taking part in this study, the participants agree to these terms.
[5] The abbreviation REV indicates a polarity-reversing particle, i.e. an answer particle used in response to a negative question and expressing disagreement. This term was coined by Holmberg (2016: 6).

1. Anna asks Ben to pay the electricity bill. Ben pays the bill the same day. A few weeks later, Anna receives a letter of reminder from the electricity supplier.

A.	Have you not paid the bill?	B. Yes, I have!
→		
gl.		

2. It's autumn and it has been raining the past days. Anna is sitting in a windowless office, when Ben enters wearing shorts and sunglasses.

A.	Is it not raining?	B. Yes, it is!
→		
gl.		

3. Anna is awaiting a call from Paul and asks Ben who was home all day:

A.	Did Paul call?	B. No, he didn't.
→		
gl.		

4. Anna is awaiting a call from Paul and asks Ben who was home all day:

A.	Did Paul call?	B. Yes, he did.
→		
gl.		

5. Paul promised Anna to call Ben and tell him to water the plants, while she is away. But when Anna comes home her plants look withered. She asks Ben:

A.	Did Paul not call you?	B. Yes, he did.
→		
gl.		

6. Paul promised Anna to call Ben and tell him to water the plants, while she is away. But when Anna comes home her plants look withered. She asks Ben:

A.	Did Paul not call you?	B. No, he didn't.

→		
gl.		

Comments
I welcome further comments about the questionnaire and about this topic. Please enter them in the field below.

Thank you for your help!
If you have any questions, please do not hesitate to contact me (elemoser@gmail.com).

C Appendix: Language Sample

Table 21 shows the language sample collected for this study in alphabetical order with respect to the language name. Concerning the varieties included in the sample, note that Iraqi Arabic [acm] denotes the Gilit Mesopotamian Arabic. Frisian [frr] is represented by the variety Söl'ring spoken on the island of Sylt in northern Germany. The data for Swiss German [gsw] stems from a speaker of the Bernese variety. Note that there are two varieties of Norwegian in the list below: Bokmål [nob], which is referred to Norwegian, and Nynorsk [nno]. Further, there are two varieties of Portuguese in the list below: Portuguese [por] and Brazilian Portuguese referenced as [por-BRA]. Romansh [roh] is represented by data from a speaker of the Surmiran variety.

Table 21: Total language sample

Language	Code	Affiliation	
Afrikaans	afr	Indo-European	Germanic
Aïwoo	nfl	Austronesian	Oceanic
Akan	aka	Atlantic-Congo	Niger-Congo
Alaska Yu'pik	esu	Eskimo-Aleut	Yupik
Albanian	sqi	Indo-European	Albanian
Arabic	arb	Afro-Asiatic	Semitic
Azerbaijani	azj	Turkic	Oghuz
Basque	eus	Isolate	
Bengali	ben	Indo-European	Indo-Aryan
Bislama	bis	Indo-European	Germanic
Bosnian	bos	Indo-European	Slavic
Brazilian Portuguese	por-BRA	Indo-European	Italic
Breton	bre	Indo-European	Celtic
Bulgarian	bul	Indo-European	Slavic
Bunan	bfu	Sino-Tibetan	Bodic
Catalan	cat	Indo-European	Italic
Corsican	cos	Indo-European	Italic
Creek	mus	Muskogean	
Croatian	hrv	Indo-European	Slavic
Czech	ces	Indo-European	Slavic
Danish	dan	Indo-European	Germanic
Dutch	nld	Indo-European	Germanic
Elfdalian	ovd	Indo-European	Germanic
English	eng	Indo-European	Germanic
Estonian	ekk	Uralic	Finnic
Faroese	fao	Indo-European	Germanic
Finnish	fin	Uralic	Finnic
Fongbe	fon	Atlantic-Congo	
French	fra	Indo-European	Italic
Frisian	frr	Indo-European	Germanic
Gaagudju	gbu	Gaagudju	

Continued on next page

Table 21

Language	Code	Affiliation	
Galician	glg	Indo-European	Italic
Georgian	kat	Kartvelian	
German	deu	Indo-European	Germanic
Greek	ell	Indo-European	Graeco-Phrygian
Guaraní	gug	Tupian	Tupi-Guarani
Haitian Creole	hat	Indo-European	Italic
Hindi	hin	Indo-European	Indo-Aryan
Hungarian	hun	Uralic	Ungric
Hup	jup	Nadahup	Hup-Yuhup
Icelandic	isl	Indo-European	Germanic
Iraqi Arabic	acm	Afro-Asiatic	Semitic
Irish	gle	Indo-European	Celtic
Italian	ita	Indo-European	Italic
Jamsay	djm	Dogon	
Japanese	jpn	Japonic	Japanesic
Katso	kaf	Sino-Tibetan	Burmo-Qiangic
Khowar	khw	Indo-European	Indo-Aryan
Kirundi	run	Atlantic-Congo	Niger-Congo
Korean	kor	Koreanic	
Kuot	kto	East Papuan	Yele-Solomons-New Britain
Kurdish	kur	Indo-European	Iranian
Kwaza	xwa	Unclassified	
Langi	laj	Nilotic	
Latvian	lav	Indo-European	Eastern Baltic
Lezgian	lez	Nakh-Dagestanian	Lezgic
Lithuanian	lit	Indo-European	Eastern Baltic
Macedonian	mkd	Indo-European	Slavic
Madurese	mad	Austronesian	Malayo-Sumbawan
Maltese	mlt	Afro-Asiatic	Semitic
Manchu	mnc	Tungusic	
Mandarin	cmn	Sino-Tibetan	Sinitic
Mapudungun	arn	Auraucanian	
Mosetén	cas	Mosetén-Chimané	
Musqueam	hur	Salishan	
Norwegian	nob	Indo-European	Germanic
Nynorsk	nno	Indo-European	Germanic
Occitan	oci	Indo-European	Italic
Palula	phl	Indo-European	Indo-Aryan
Persian	fas	Indo-European	Iranian
Polish	pol	Indo-European	Slavic
Portuguese	por	Indo-European	Italic
Provençal	prv	Indo-European	Italic
Qiang	cng	Sino-Tibetan	Burmo-Qiangic
Romanian	ron	Indo-European	Italic
Romansh	roh	Indo-European	Italic

Continued on next page

Table 21

Language	Code	Affiliation	
Scottish Gaelic	gla	Indo-European	Celtic
Serbian	srp	Indo-European	Slavic
Slave	den	Athabaskan	
Slovene	slv	Indo-European	Slavic
South Sami	sma	Uralic	Saami
Southwest Palawano	plv	Austronesian	Central Philippine
Spanish	spa	Indo-European	Italic
Swahili	swh	Atlantic-Congo	Niger-Congo
Swedish	swe	Indo-European	Germanic
Swiss German	gsw	Indo-European	Germanic
Tagalog	tgl	Austronesian	Central Philippine
Tamil	tam	Dravidian	Dravidian
Thai	tha	Tai-Kadai	Kam-Tai
Tigrinya	tir	Afro-Asiatic	Semitic
Turkish	tur	Turkic	Oghuz
Udmurt	udm	Uralic	Permian
Urdu	urd	Indo-European	Indo-Aryan
Ute	ute	Aztecan	
Vamale	mkt	Austronesian	Oceanic
Vietnamese	vie	Austroasiatic	Vietic
Walser	wae	Indo-European	Germanic
Wandala	mfi	Afro-Asiatic	Chadic
Wardaman	wrr	Yangmanic	
Welsh	cym	Indo-European	Celtic
West Greenlandic	kal	Eskimo-Aleut	Greenlandic

D Appendix: Organization of Synchronic Data

Table 22 explains how the data was organized for the synchronic investigation (cf. section 5.1). The data is arranged according to seven macro-areas: *Africa*, *Asia Australia-Papua New Guinea*, *North America*, *South America*, *Southeast Asia & Oceania* and *Europe* (see section 4.1). In the rightmost column in table 22, *yes* marks that the language is included in the European sample. Note that the European sample equals to the languages categorized into the area defined as *Europe*.

Table 22: Organization of synchronic language data

Area	Language	Code	European sample
Africa	Afrikaans	afr	no
Africa	Akan	aka	no
Africa	Arabic	arb	no
Africa	Fongbe	fon	no
Africa	Iraqi Arabic	acm	no
Africa	Jamsay	djm	no
Africa	Kirundi	run	no
Africa	Langi	laj	no
Africa	Swahili	swh	no
Africa	Tigrinya	tir	no
Africa	Wandala	mfi	no
Australia-Papua New Guinea	Aïwoo	nfl	no
Australia-Papua New Guinea	Bislama	bis	no
Australia-Papua New Guinea	Gaagudju	gbu	no
Australia-Papua New Guinea	Kuot	kto	no
Australia-Papua New Guinea	Vamale	mkt	no
Australia-Papua New Guinea	Wardaman	wrr	no
Asia	Bengali	ben	no
Asia	Hindi	hin	no
Asia	Japanese	jpn	no
Asia	Khowar	khw	no
Asia	Korean	kor	no
Asia	Kurdish	kur	no
Asia	Palula	phl	no
Asia	Persian	fas	no
Asia	Tamil	tam	no
Asia	Urdu	urd	no
Europe	Albanian	sqi	yes
Europe	Azerbaijani	azj	yes
Europe	Basque	eus	yes
Europe	Bosnian	bos	yes
Europe	Breton	bre	yes
Europe	Bulgarian	bul	yes
Europe	Catalan	cat	yes

Continued on next page

Table 22

Area	Language	Code	European sample
Europe	Corsican	cos	yes
Europe	Croatian	hrv	yes
Europe	Czech	ces	yes
Europe	Danish	dan	yes
Europe	Dutch	nld	yes
Europe	Elfdalian	ovd	yes
Europe	English	eng	yes
Europe	Estonian	ekk	yes
Europe	Faroese	fao	yes
Europe	Finnish	fin	yes
Europe	French	fra	yes
Europe	Frisian	frr	yes
Europe	Galician	glg	yes
Europe	Georgian	kat	yes
Europe	German	deu	yes
Europe	Greek	ell	yes
Europe	Hungarian	hun	yes
Europe	Icelandic	isl	yes
Europe	Irish	gle	yes
Europe	Italian	ita	yes
Europe	Latvian	lav	yes
Europe	Lezgian	lez	yes
Europe	Lithuanian	lit	yes
Europe	Macedonian	mkd	yes
Europe	Maltese	mlt	yes
Europe	Norwegian	nob	yes
Europe	Nysk	nno	yes
Europe	Occitan	oci	yes
Europe	Polish	pol	yes
Europe	Portuguese	por	yes
Europe	Provençal	prv	yes
Europe	Romanian	ron	yes
Europe	Romansh	roh	yes
Europe	Scottish Gaelic	gla	yes
Europe	Serbian	srp	yes
Europe	Slovene	slv	yes
Europe	South Sami	sma	yes
Europe	Spanish	spa	yes
Europe	Swedish	swe	yes
Europe	Swiss German	gsw	yes
Europe	Turkish	tur	yes
Europe	Udmurt	udm	yes
Europe	Walser	wae	yes
Europe	Welsh	cym	yes
North America	Alaska Yu'pik	esu	no

Continued on next page

Table 22

Area	Language	Code	European sample
North America	Creek	mus	no
North America	Haitian Creole	hat	no
North America	Musqueam	hur	no
North America	Slave	den	no
North America	Ute	ute	no
North America	West Greenlandic	kal	no
South America	Brazilian Portuguese	por-BRA	no
South America	Guaraní	gug	no
South America	Hup	jup	no
South America	Kwaza	xwa	no
South America	Mapudungun	arn	no
South America	Mosetén	cas	no
Southeast Asia & Oceania	Bunan	bfu	no
Southeast Asia & Oceania	Katso	kaf	no
Southeast Asia & Oceania	Madurese	mad	no
Southeast Asia & Oceania	Manchu	mnc	no
Southeast Asia & Oceania	Mandarin	cmn	no
Southeast Asia & Oceania	Qiang	cng	no
Southeast Asia & Oceania	Southwest Palawano	plv	no
Southeast Asia & Oceania	Tagalog	tgl	no
Southeast Asia & Oceania	Thai	tha	no
Southeast Asia & Oceania	Vietnamese	vie	no

E Appendix: Results

This appendix comprises the data from the synchronic and diachronic investigation.

Synchronic Language Data

Table 23 shows the data collected on polarity-reversing particles. The languages are arranged alphabetically with respect to the language name used in this study. Column *yes.REV form* shows the polarity-reversing form(s) documented in the languages. The rightmost column provides the data source(s). The designations *questionnaire (2018/2019)* and *query response (2019)* refer to method used to collect the data (see section 4).

Table 23: Polarity-reversing affirmative particles

Language	Code	yes.REV form	Source(s)
Afrikaans	afr	*wel*	Donaldson 1993: 417
Aïwoo	nfl	*bä*	query response (2019); Næss 2017
Akan	aka		questionnaire (2018)
Alaska Yu'pik	esu		Miyaoka 2012: 169, 1522
Albanian	sqi	*posi*	Buchholz & Fiedler 1987: 403–404
Arabic	arb	*bala*	query response (2019)
Azerbaijani	azj		questionnaire (2018)
Basque	eus		questionnaire (2018)
Bengali	ben		Thompson 2012: 201, 289; query response (2019)
Bislama	bis	*si*	Crowley 2004: 147–150; query response (2019)
Bosnian	bos		Browne & Alt 2004: 57–58
Brazilian Portuguese	por-BRA		questionnaire (2018); Thomas 1974: 18; also Jones 1999: 30
Breton	bre	*geo, eo/ea, neo, deo*	query responses (2019); see also Jouitteau 2009
Bulgarian	bul		Ruselina 2017: 587, 664
Bunan	bfu		questionnaire (2018)
Catalan	cat		questionnaire (2018)
Corsican	cos		Fusina 1999: 167
Creek	mus		Martin 2011: 30
Croatian	hrv		Browne & Alt 2004: 57–58
Czech	ces		Naughton 2005: 210–212; also Jones 1999: 31f
Danish	dan	*jo*	Allan *et al.* 1995: 446f; query query response (2019)
Dutch	nld	*wel, jawel, welles*	questionnaire (2018); query response (2019)

Continued on next page

Table 23

Language	Code	yes.REV form	Source(s)
Elfdalian	ovd	*ju(u)*	Åkerberg & Nyström 2012: 495—496
English	eng		i.a. Pope 1976; Roelofsen & Farkas 2015
Estonian	ekk		questionnaire (2019); cf. Keevallik 2009
Faroese	fao	*jú(s)*	Pertersen & Adams 2009: 273
Finnish	fin		Karlsson & Chesterman 1999: 167—171
Fongbe	fon		Lefebvre & Brousseau 2002
French	fra	*si*	questionnaire (2018); cf. Da Milano 2004: 34; Roelofsen & Farkas 2015: 398
Frisian	frr	*doch*	Lasswell 1998: 285
Gaagudju	gbu		Harvey 2002: 381–382
Galician	glg		Freixeiro Mato 2006: 508—511; Álvarez & Xove 2002: 189—203
Georgian	kat	*k'i*	questionnaire (2018, 2019)
German	deu	*doch*	questionnaire (2018); cf. Sadock & Zwicky 1985: 190
Greek	ell		questionnaire (2019)
Guaraní	gug		Gregores & A. 1967: 191; Guasch 1996: 210—211
Haitian Creole	hat		questionnaire (2018)
Hindi	hin		Koul 2008: 223—224; query response (2019)
Hungarian	hun	*de*	questionnaire (2018); Rounds 2008: 267f; Farkas 2009
Hup	jup		Epps 2008: 792–794
Icelandic	isl	*jú*	questionnaire (2019); also Guðmundsson 1970
Iraqi Arabic	acm		questionnaire (2019)
Irish	gle		questionnaire (2019)
Italian	ita		questionnaire (2019)
Jamsay	djm		Heath 2008
Japanese	jpn		questionnaire (2018)
Katso	kaf		Donlay 2015: 466, 476–477
Khowar	khw		questionnaire (2018)
Kirundi	run		questionnaire (2018)
Korean	kor		questionnaire (2018, 2019); query response (2019)
Kuot	kto		Lindström 2002: 14, 123, 134
Kurdish	kur		questionnaire (2019)

Continued on next page

Table 23

Language	Code	yes.REV form	Source(s)
Kwaza	xwa		van der Voort 2004: 527–529, 604
Lango	laj		Noonan 1992
Latvian	lav		questionnaire (2018)
Lezgian	lez		Haspelmath 1993: 420
Lithuanian	lit		questionnaire (2019)
Macedonian	mkd		Friedman 2002: 42
Madurese	mad		Davies 2010: 90–92
Maltese	mlt		Borg & Azzopardi-Alexander 1997: 24—26
Manchu	mnc		Gorelova 2002
Mandarin	cmn		questionnaire (2018)
Mapudungun	arn		Zúñiga 2007: 254
Mosetén	cas		Sakel 2004: 396
Musqueam	hur		Suttles 2004: 417
Norwegian	nob	*jo*	Strandskogen 1995: 146; Rysst & Slyvester 2007: 97f
Nynorsk	nno	*jau*	Beito 1970: 325
Occitan	oci	*si*	Alibèrt 1937: 79–80; query response (2019); Jensen 1994: 282–285
Palula	phl		questionnaire (2018); Liljegren 2016: 334, 350
Persian	fas	*cerā*	Mace 2003: 145f; query response (2019)
Polish	pol		Gaszewski 2008
Portuguese	por-PRT		Perini 2002: 438—439
Provençal	prv	*si*	see Da Milano 2004: 30, 34
Qiang	cng		LaPolla & Huang 2003: 185–186
Romanian	ron	*ba*	Farkas 2011; also Roelofsen & Farkas 2015: 396
Romansh	roh	*bagn*	questionnaire (2019)
Scottish Gaelic	gla		questionnaire (2018); Lamb 2002: 61
Serbian	srp		questionnaire (2019); Hammond 2005: 293, 295; Browne & Alt 2004: 57–58
Slave	den		Rice 1989: 1124
Slovene	slv	*pàč*	Herrity 2000: 324; cf. Da Milano 2004: 31, 34
South Sami	sma	*juo, joo, jaa*	questionnaire (2019)
Southwest Palawano	plv		questionnaire (2018)
Spanish	spa		Kattán-Ibarra & Poutain 2004: 189f

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Table 23

Language	Code	yes.REV form	Source(s)
Swahili	swh		questionnaire (2018)
Swedish	swe	*jo*	questionnaire (2018)
Swiss German	gsw	*mou, mau*	questionnaire (2019)
Tagalog	tgl		questionnaire (2018); Schachter & Otanes 1972: 502
Tamil	tam		questionnaire (2018, 2019)
Thai	tha		Iwasaki & Ingkaphirom 2005: 285f, 288
Tigrinya	tir	*ʔəbba*	Leslau 1962; questionnaire (2018); also König & Siemund 2007: 322; Jones 1999: 21
Turkish	tur		questionnaire (2018, 2019)
Udmurt	udm		questionnaire (2018)
Urdu	urd		questionnaire (2019)
Ute	ute		Givón 2011: 428
Vamale	mkt		questionnaire (2018)
Vietnamese	vie		questionnaire (2019); Nguyên 1997: 149—153
Walser	wae	*doch, mol*	questionnaire (2019)
Wandala	mfi		Frajzyngier 2012
Wardaman	wrr		Merlan 1994: 324–327
Welsh	cym		King 2005: 380f; Jones 1999
West Greenlandic	kal	*naagga, naaggaluunniit, ila(ana)*	Fortescue 1984: 21–22

Diachronic Language Data

Tables 24, 25 and 26 illustrate the data collected for the diachronic investigation. The etymological and historical sources consulted for the data collection rely on different orthographic conventions. Particularly, the use of diacritics varies strongly. For the sake of accuracy, the forms are reported as they are given in the sources.

Table 24: Etymological data on Scandinavian *jo*

Affiliation	Language stage	Attested form(s)	Source
Celtic	Breton	*ya*	Vries 1961: 289
East Germanic	Gothic	*ja, jai*	Grimm 1877: 2187
East Germanic	Gothic	*ja*	Vries 1961: 289
East Germanic	Gothic	*ja, jai*	Hellquist 1980: 416
East Germanic	Gothic	*ja*	Jóhannesson 1956: 97
North Germanic	Swedish dialectal variation	*jauv, jöuv*	Vries 1961: 291
North Germanic	Danish	*ja, jo*	Grimm 1877: 2187
North Germanic	Danish	*ja, jo*	Grimm 1877: 2187
North Germanic	Danish	*já*	Vries 1961: 289
North Germanic	Danish	*jo*	Vries 1961: 291
North Germanic	Danish	*ja*	Hellquist 1980: 416
North Germanic	Early Modern Swedish	*jå*	Hellquist 1980: 416
North Germanic	Faroese	*já*	Vries 1961: 289
North Germanic	Islandic	*já*	Vries 1961: 289
North Germanic	Islandic	*já*	Hellquist 1980: 416
North Germanic	Islandic	*já*	Jóhannesson 1956: 97
North Germanic	Norwegian	*já*	Vries 1961: 289
North Germanic	Norwegian	*ja*	Jóhannesson 1956: 97
North Germanic	Nynorsk	*jau, jaug, jo*	Vries 1961: 291
North Germanic	Old Norse	*jâ*	Grimm 1877: 2187
North Germanic	Old Norse	*já, jaur, júr*	Vries 1961: 289, 291, 294
North Germanic	Old Swedish	*ia, iā*	Hellquist 1980: 416
North Germanic	Swedish	*ja, jo*	Grimm 1877: 2187
North Germanic	Swedish	*já*	Vries 1961: 289
North Germanic	Swedish	*jo*	Vries 1961: 291
North Germanic	Swedish	*ja*	Hellquist 1980: 416
North Germanic	Swedish	*jo*	Hellquist 1980: 419
West Germanic	Dutch	*ja*	Jóhannesson 1956: 97;
West Germanic	English	*yea*	Hellquist 1980: 416
West Germanic	English	*yea*	Jóhannesson 1956: 97;
West Germanic	Old English	*geâ, jâ, also ge*	Grimm 1877: 2187;
West Germanic	Old English	*iā, gēa*	Vries 1961: 289
West Germanic	Old English	*geá*	Hellquist 1980: 416
West Germanic	Old English	*géa*	Jóhannesson 1956: 97
West Germanic	Frisian	*jē*	Jóhannesson 1956: 97
West Germanic	Frisian (Eastern)	*ja, jà, jè, jo, jò*	Grimm 1877: 2187

Continued on next page

Table 24

Affiliation	Language stage	Attested form(s)	Source
West Germanic	Old Frisian	*gê, jê*	Grimm 1877: 2187
West Germanic	Old Frisian	*jē, gē*	Vries 1961: 289
West Germanic	German	*ja*	Hellquist 1980: 416
West Germanic	Middle High German	*jâ, jârâ, jâriâ also jah, joh*	Grimm 1877: 2187
West Germanic	Middle Low German	*jō, joch*	Vries 1961: 291
West Germanic	Middle Low German	*io*	Hellquist 1980: 419
West Germanic	New High German	*ja also jah, joh*	Grimm 1877: 2187
West Germanic	New High German	*ja*	Jóhannesson 1956: 97;
West Germanic	Old High German	*jâ also ja, jah, joh*	Grimm 1877: 2187
West Germanic	Old High German	*já*	Vries 1961: 289
West Germanic	Old High German	*jâ*	Hellquist 1980: 416
West Germanic	Old High German	*jā*	Jóhannesson 1956: 97
West Germanic	Old Saxon	*jâ also ja, ge*	Grimm 1877: 2187
West Germanic	Old Saxon	*já*	Vries 1961: 289
West Germanic	Old Saxon	*jâ*	Hellquist 1980: 416
West Germanic	Old Saxon	*jā*	Jóhannesson 1956: 97
West Germanic	Scots	*ja, jo*	Jakobsen 1921: 359, 368

Table 25: Etymological data on German *doch*

Affiliation	Language stage	Attested form(s)	Source
East Germanic	Gothic	*þáu, þáuh*	Grimm 1860: 1200
East Germanic	Gothic	*þauh*	Pfeifer 1989a: 294
East Germanic	Gothic	*þauh*	Seebold 2011: 208
East Germanic	Gothic	*þauh*	Jóhannesson 1956: 448
North Germanic	Danish	*dog*	Grimm 1860: 1200
North Germanic	Danish	*dog*	Jóhannesson 1956: 448
North Germanic	Icelandic	*þó*	Jóhannesson 1956: 448
North Germanic	Icelandic	*þô, þôat*	Grimm 1860: 1200
North Germanic	Norwegian dialectal variation	*do, da*	Jóhannesson 1956: 448
North Germanic	Old Danish	*do thoo*	Jóhannesson 1956: 448
North Germanic	Old Norse	*þó*	Seebold 2011: 208
North Germanic	Old Norse	*þō*	Pfeifer 1989a: 294
North Germanic	Swedish	*doch*	Jóhannesson 1956: 448
West Germanic	Old Frisian	*thāch*	Jóhannesson 1956: 448
West Germanic	Old Frisian	*thãch*	Seebold 2011: 208
West Germanic	Old Frisian	*thach, dach, doch*	Grimm 1860: 1200
West Germanic	English	*though*	Grimm 1860: 1200
West Germanic	English	*though*	Pfeifer 1989a: 294

Continued on next page

Table 25

Affiliation	Language stage	Attested form(s)	Source
West Germanic	English	*though*	Jóhannesson 1956: 448
West Germanic	Old English	*þeáh*	Grimm 1860: 1200
West Germanic	Old English	*þéah*	Jóhannesson 1956: 448
West Germanic	Old English	*þēah*	Pfeifer 1989a: 294
West Germanic	Old English	*þēah*	Seebold 2011: 208
West Germanic	Dutch	*doch*	Pfeifer 1989a: 294
West Germanic	Dutch	*doch*	Jóhannesson 1956: 448
West Germanic	Dutch	*doch*	Grimm 1860: 1200
West Germanic	Low German	*doch, dog*	Grimm 1860: 1200
West Germanic	Low German	*doch, dog*	Grimm 1860: 1200
West Germanic	Middle Dutch	*doch*	Pfeifer 1989a: 294
West Germanic	Middle High German	*doch*	Grimm 1860: 1200
West Germanic	Middle High German	*doch*	Seebold 2011: 208
West Germanic	Middle High German	*doch*	Pfeifer 1989a: 294
West Germanic	Middle Low German	*doch*	Pfeifer 1989a: 294
West Germanic	Middle Low German	*doch*	Jóhannesson 1956: 448
West Germanic	New High German	*doch*	Jóhannesson 1956: 448
West Germanic	Old High German	*doh*	Grimm 1860: 1200
West Germanic	Old High German	*doh*	Jóhannesson 1956: 448
West Germanic	Old High German	*doh, tho(h)*	Seebold 2011: 208
West Germanic	Old High German	*thoh, thō*	Pfeifer 1989a: 294
West Germanic	Old Saxon	*thoh*	Jóhannesson 1956: 448
West Germanic	Old Saxon	*thoh*	Grimm 1860: 1200
West Germanic	Old Saxon	*thŏh*	Seebold 2011: 208
West Germanic	Old Saxon	*thõh*	Pfeifer 1989a: 294

Table 26: Etymological data on Dutch *wel*

Affiliation	Language stage	Attested form(s)	Source
East Germanic	Gothic	*waila*	Grimm 1960: 1025
East Germanic	Gothic	*waila*	Philippa *et al.* 2009: 608
East Germanic	Gothic	*waíla, waila*	Pfeifer 1989b: 1987
North Germanic	Norwegian	*vel*	Grimm 1960: 1025
North Germanic	Old Icelandic	*val*	Grimm 1960: 1025
North Germanic	Old Norse	*val*	Franck & van Wijk 1912: 785
North Germanic	Old Norse	*vel*	Pfeifer 1989b: 1987
North Germanic	Old Norse	*vel*	Grimm 1960: 1025
North Germanic	Old Norse	*vël*	Franck & van Wijk 1912: 785
North Germanic	Old Norse	*vel, val*	Vries 1992: 826
North Germanic	Old Norse	*vel, val*	Philippa *et al.* 2009: 608
North Germanic	Swedish	*väl*	Grimm 1960: 1025

Continued on next page

Table 26

Affiliation	Language stage	Attested form(s)	Source
North Germanic	Swedish	*väl*	Pfeifer 1989b: 1987
North Germanic	Swedish	*väl*	Philippa *et al.* 2009: 608
West Germanic	Dutch	*wel*	Pfeifer 1989b: 1987
West Germanic	Middle Dutch	*wale*	Philippa *et al.* 2009: 608
West Germanic	Middle Dutch	*wale, wel*	Grimm 1960: 1025
West Germanic	Middle Dutch	*wel, wēle also wāle*	Franck & van Wijk 1912: 785
West Germanic	Middle Dutch	*wel, wēle also wale*	Vries 1992: 826
West Germanic	Middle Dutch	*wēle, wel*	Pfeifer 1989b: 1987
West Germanic	Old Frankish	*wala*	Franck & van Wijk 1912: 785
West Germanic	Old Frankish	*wala*	Pfeifer 1989b: 1987
West Germanic	Old Frankish	*wala*	Philippa *et al.* 2009: 608
West Germanic	Old Frankish	*wala*	Vries 1992: 826
West Germanic	English	*well*	Grimm 1960: 1025
West Germanic	English	*well*	Pfeifer 1989b: 1987
West Germanic	English	*well*	Franck & van Wijk 1912: 785
West Germanic	English	*well*	Vries 1992: 826
West Germanic	English	*well*	Pfeifer 1989b: 1987
West Germanic	Old English	*wel*	Grimm 1960: 1025
West Germanic	Old English	*wel*	Vries 1992: 826
West Germanic	Old English	*wel*	Philippa *et al.* 2009: 608
West Germanic	Old English	*wël*	Franck & van Wijk 1912: 785
West Germanic	Old English	*wel(l)*	Pfeifer 1989b: 1987
West Germanic	Frisian	*wol*	Philippa *et al.* 2009: 608
West Germanic	Old Frisian	*wel*	Grimm 1960: 1025
West Germanic	Old Frisian	*wël*	Franck & van Wijk 1912: 785
West Germanic	Old Frisian	*wel, wal*	Vries 1992: 826
West Germanic	Old Frisian	*wel, wal, wol*	Philippa *et al.* 2009: 608
West Germanic	High German	*wohl*	Philippa *et al.* 2009: 608
West Germanic	High German	*wohl*	Vries 1992: 826
West Germanic	Low German	*wull*	Philippa *et al.* 2009: 608
West Germanic	Middle High German	*wol(e)*	Grimm 1960: 1025
West Germanic	Middle High German	*wol(e)*	Pfeifer 1989b: 1987
West Germanic	Middle Low German	*wol, wal*	Grimm 1960: 1025
West Germanic	Middle Low German	*wol, wal*	Pfeifer 1989b: 1987
West Germanic	Old High German	*wëla also wala*	Franck & van Wijk 1912: 785
West Germanic	Old High German	*wela also wala, wola*	Vries 1992: 826
West Germanic	Old High German	*wela, wola*	Pfeifer 1989b: 1987

Continued on next page

Table 26

Affiliation	Language stage	Attested form(s)	Source
West Germanic	Old High German	*wela, wola, wala*	Grimm 1960: 1025
West Germanic	Old High German	*wela, wola, wala*	Philippa *et al.* 2009: 608
West Germanic	Old Saxon	*wala*	Pfeifer 1989b: 1987
West Germanic	Old Saxon	*wël(a) also wala*	Franck & van Wijk 1912: 785
West Germanic	Old Saxon	*wel(a), wala, wola*	Philippa *et al.* 2009: 608
West Germanic	Old Saxon	*wel(a), wola, wala*	Grimm 1960: 1025
West Germanic	Old Saxon	*wela, wel also wala, wola*	Vries 1992: 826

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